

THE ENVIRONMENTAL IMPACTS OF TOBACCO

From growing the tobacco plant to disposal of butts and packaging, the whole life cycle of a cigarette takes a heavy toll on the environment. This is little discussed, probably because the ecological impacts of tobacco are overshadowed by its devastating effects on human health. However, if associated with a less controversial crop, these impacts would no doubt be considered a cause for concern in their own right.

TOBACCO GROWING

"The companies have vast resources, agronomists and cars and visit farmers once a week."[\[1\]](#)

Tobacco, as a crop, is responsible for damage to ancient forests, soil depletion and pollution from pesticides and fertilisers. It is in some of the world's poorest countries that these effects are felt, as over four-fifths of the global tobacco crop is grown in the developing world[\[2\]](#). Recent decades have seen a shift by tobacco companies to sourcing tobacco from these countries, where there is cheap labour and easy access to natural resources. Much effort is put into encouraging farmers to grow tobacco.

The world's top tobacco producers, in order, are: China (produces over a third); the USA, India, Brazil, the EU and Zimbabwe.[\[3\]](#)

- Damage to forests: a great deal of wood is used to dry tobacco, mostly as fuel but also as poles for building curing barns. Virginia tobacco, the type found in common cigarette brands, is "flue-cured": in other words, dried by passing air heated by the controlled burning of wood, coal or oil through the harvested leaves, using flues or pipes.

The level of damage to ancient forests from curing varies widely depending on country. China, for instance, uses mostly coal; however in Africa, around 5% of all deforestation is caused by tobacco.[\[4\]](#) In Malawi, where the ancient dry forests of the miombo highlands are particularly under threat, tobacco accounts for 20% of deforestation.⁴ Once forest is cleared, soil erosion and flooding can result, thus damaging nearby agricultural land.

Faced with dwindling natural sources of wood, the tobacco industry has attempted to address the problem by encouraging farmers to plant their own trees for use as curing fuel. However, this presents difficulties for farmers on smallholdings, who need their non-tobacco growing land for food production and cannot afford to wait at least five years for trees to grow. In any case, replacing the biodiversity of ancient forests with largely monoculture plantations of non-indigenous species like eucalyptus, which draws heavily on underground water, is no solution to deforestation.[\[5\]](#) As one ex-BAT employee put it: "The company is shouting about massive tree planting but this I'm afraid is nothing less than an outrageous attempt to veil the whole problem."²

- Pesticides and herbicides: Tobacco is a sensitive plant prone to many diseases. It therefore requires huge chemical inputs: up to sixteen applications of pesticide are recommended during one three-month growing period. Aldrin and Dieldrin, phased out in Britain in 1969, and DDT are among the chemicals used.² Methyl bromide, widely used as a fumigant in developing countries, contributes significantly to ozone depletion.^[6]

As well as being hazardous to users, chemicals may run off into water courses, contaminating local water supplies.² There are also concerns about high levels of pesticide use leading to the development of resistance in mosquitoes and flies, making the control of diseases such as malaria more difficult.^[7]

- Soil depletion and erosion: According to one world expert on soil conservation, "soil loss from tobacco growing is often extremely serious".^[8] Tobacco depletes soil nutrients such as nitrogen, phosphorus and potassium at higher rates than any food crop and in most cases higher than cash crops such as coffee, tea and cotton. It is particularly potassium-hungry, absorbing up to six times as much as other crops.⁴ One of the reasons for tobacco's high uptake of soil nutrients is the practice of topping the plants to stimulate leaf growth and ensure a higher nicotine content.⁴

Nutrient depletion hastens the erosion of the soil, especially where tobacco is grown on hilly land, as it often is in Malawi, Sri Lanka, Zambia and Zimbabwe. Once soil fertility is lost, tobacco companies may simply move on to new growing areas.

- Social impacts: In developing countries, local producers are often under contract to tobacco companies, who buy the cured tobacco at a price they set themselves. Growers have little recourse if the earnings are too low, and according to Bishop Luiz Prado of Brazil's Santa Cruz do Sul region, they "are always having trouble with the price of their product". Yet once a farmer commits to tobacco, it is hard to diversify. As the Bishop explains: "When farmers opt to grow tobacco they do it fully - turn all their land over to it. The result is monoculture. Farmers become dependent on tobacco - even to eat."¹

MANUFACTURING PROCESSES

Cigarette and cigar making produces large quantities of waste in the form of tobacco slurries, solvents, oils and greases, paper, wood, plastics, packaging materials and airborne pollution - as well as toxic chemical waste. In the United States, the tobacco industry ranks 18th among all industries in the production of chemical waste.^[9]

- In 1995, the global tobacco industry produced an estimated 2,262 million kilogrammes of manufacturing waste and 209 million kilogrammes of chemical waste.⁹

- Among the many waste products of the tobacco industry which are considered toxic by the USA's Environmental Protection Agency, is nicotine, from the production of low-nicotine cigarettes. Around 300 million kilogrammes of nicotine waste are produced annually by the global tobacco industry.⁹

TOBACCO USE

- Indoor air pollution: cigarettes are the main source of indoor air pollution in the developed world. Tobacco smoke contains about 4,000 chemicals, some cancer causing.

Cigarette smoke also contains polonium 210, a radioactive element. One study shows that a person who smokes 20 cigarettes a day receives a dose of radiation each year equivalent to about 200 chest x-rays.^[10]

Exposure to tobacco smoke is of particular concern for children, who are at higher risk of developing a range of disorders including bronchitis, pneumonia and asthma. Almost half the world's children are regularly exposed to tobacco smoke and most have no choice in the matter.^[11]

- Litter: A survey by the Tidy Britain Group found that cigarette ends account for about 40% of items of litter on the UK's streets.^[12] Every day, UK smokers throw away about 200 million butts and 20 million packets, many of which end up on the ground. All around the world, beaches are littered with cigarette butts. They are the leading item found during the annual International Coastal Cleanup Project, accounting for almost one in five pieces of litter retrieved.⁹ Cigarette filters last in the environment for 18 months or more.⁹
- Fire hazard: cigarettes and matches are the most common source of ignition causing deaths from fire.^[13] The tragic King's Cross tube station fire in 1987 is believed to have been caused by a dropped match.

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^[1] Bishop Luiz Prado of Santa Cruz do Sul, Brazil, quoted in International Agricultural Development, Nov/Dec 1998.

^[2] Madeley, J. British American Tobacco: the smokescreen, in Hungry for Power. UK Food Group, 1999.

^[3] Africa Tobacco. International Tobacco Growers' Association, 1999.

^[4] Geist H. Tobacco: A Driving Force of Environmental Change in the Miombo Woodland Zone of Southern Africa. Paper presented at African Environments: Past and Present, Oxford University, July 1999.

- [5] Tobacco: the smoke blows south. Panos, 1994.
- [6] Watts R. Tobacco: time to branch out. African Farming, September/October 1998.
- [7] Barry M. The influence of the US tobacco industry on the health, economy and environment of developing countries. New England Journal of Medicine, March 1991.
- [8] Hudson D.N. cited in Watts R. 1998. op. cit.
- [9] Novotny T., Zhao F. Consumption and production waste: another externality of tobacco use. Tobacco Control, 1999; 8: 75-80.
- [10] Winters T.H. Radiation in Tobacco Smoke. New England Journal of Medicine, 1982; 306; 364-5.
- [11] Tobacco Free Initiative. International Consultation on Environmental Tobacco Smoke (ETS) and Child Health. WHO, January 1999.
- [12] Inkpen Litterbug Report. Tidy Britain Group, 1995.
- [13] Fire Statistics United Kingdom, 1999. Home Office Research, Development and Statistics Directorate, Nov. 2000.