Case 13

In 1939 when DDT was introduced as an insecticide, it was widely believed to have little toxic effect on plants and animals. Over the following two decades, DDT was used widely worldwide to control disease carrying insects, particularly mosquitoes and typhus-transmitting lice, as well as insects that cause crop devastation. However, after about a quarter century of use, it was recognized that DDT causes severe accumulated environmental damage, including disruption of the life cycles of plants and animals, high toxicity in fish, decline of bird-life, as eggshells became too fragile to withstand the mother's weight, proliferation of resistant insect species, and effects on human endocrine, immune, and nervous systems. The Center for Disease Control identifies tremors, seizures, reduced duration of lactation, and increased premature birth as some of the risks DDT poses to humans. In the 1970'S, many countries banned DDT.

Malaria is the most widespread disease in the world, striking about 500 million people a year, and killing about 2.7 million, mostly children. In Africa alone, over a million children under the age of 5 die annually from malaria. Many adults who are stricken with the disease are unable to work or care for children. Malaria is a chronic parasitic infectious disease, passed to humans through the bite of one of about 35 different species of malaria-transmitting mosquito. Malaria also is transmitted through tainted blood transfusion and shared needles. It is passed from pregnant women to the fetus, causing the placenta to become infested with the parasite. Control of malaria is difficult due to the complex interactions of the numerous, genetically variable, parasites and disease-transmitting mosquitoes, local ecologies, and human hosts.

The most effective, cost efficient method of fighting malaria is DDT, applied twice yearly to interior walls of homes. The female anopheles mosquito, whose bite transmits malaria, feeds on humans mainly at night, when people tend to be at home. Non-resistant mosquitoes die quickly upon exposure to DDT. DDT is also irritating to resistant mosquitoes, however, which respond, when exposed to it, by flying outside to avoid the irritation.

The goal of treaty negotiations of the United Nations Environmental Program (UNEP) is to eliminate DDT because of the environmental damage it causes. Although the twice-yearly application of DDT to the interior of homes has only minor environmental impact, it would be banned under the treaty. Most wealthy countries support the ban. It is opposed, however, by many poor countries, in which malaria is a serious problem, that lack the scientific and technical resources to develop alternatives to DDT.