

The Overpopulation Fear Behind the Ban on DDT

by Donald Roberts and Richard Tren

At some point in the 1960s, David Brower, who was the executive director of the Sierra Club,¹ and who, in an interview with the *San Francisco Chronicle* in 1998, was quoted as saying that “overpopulation is perhaps the biggest problem facing us,”² encouraged Paul Ehrlich to write a book on the problems of human population growth. Ehrlich published his bestseller, *The Population Bomb*, in 1968. The main theme of his book was that human population growth was the root cause of society’s modern environmental problems.³ Ehrlich con-



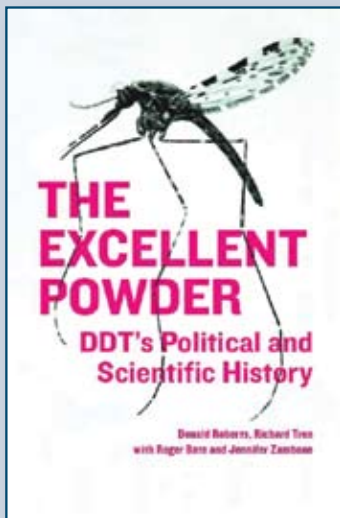
WHO/Thomas Moran

DDT came under attack because it allowed children in the developing sector to survive and not die of malaria. Here, Indonesian school children.

1. While the Sierra Club was formed in 1892, and so predates most environmental activist organizations, it definitely advanced as part of the environmental movement that came to life in the 1960s.

2. *New York Times*, “Environmental leader quits Sierra board,” May 20, 2000, <http://www.nytimes.com/2000/05/20/us/environmental-leader-quits-sierra-board.html> (accessed April 14, 2009).

3. Paul Ehrlich, *The Population Bomb*, 1971.



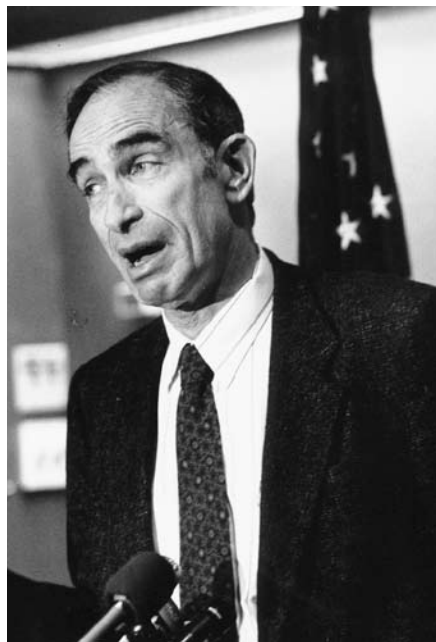
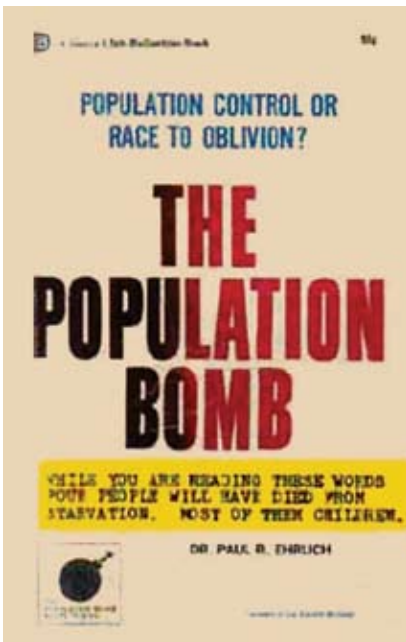
EDITOR'S NOTE

We are pleased to present this short excerpt from the new book *The Excellent Powder: DDT's Political and Scientific History*, by Donald Roberts and Richard Tren, (with Roger Bate and Jennifer Zambone). The 432-page book, launched at a Washington, D.C. press conference on April 21, 2010, is available from booksellers at \$25.00.

Dr. Roberts is a medical entomologist and researcher and Professor Emeritus of Tropical Public Health at the Uniformed Services University of the Health Services in Bethesda, Md. He was formerly chief of the Department of Entomology at the Walter Reed Army Institute of Research in Washington, D.C. Roberts has worked on DDT and malaria research since 1970, and he pioneered work on DDT's primary effectiveness as a spatial repellent and irritant.

Richard Tren is an economist and co-founder and chairman of Africa Fighting Malaria, a malaria policy and advocacy group with offices in South Africa and Washington, D.C. He co-founded AFM during the negotiations of the Stockholm Convention, and, by working with malaria scientists from around the world, helped to secure an exception for DDT's continued use in malaria control.

We have slightly edited this excerpt, adding some notes as indicated, and photos and captions. A review of *The Excellent Powder* appears on p. 52 of this issue.



Stuart Lewis/EIRNS

“Instant death control” is Malthusian Paul Ehrlich’s view of the role of DDT in saving lives from malaria, as presented in his 1968 alarmist book, *The Population Bomb*.

jured public fear by predicting dire scenarios of worldwide famines between 1970 and 1985 (none of which came true then or since).⁴ Perhaps overlooked by many who read the

4. Michigan State University, “Founder of Zero Population Growth to speak at Michigan State’s advanced degree ceremony,” MSU press release, Jan. 13, 2007, <http://newsroom.msu.edu/site/indexer/2743/content.htm> (accessed April 14, 2009).



The Environmental Defense Fund made its name (and its funding) litigating to stop DDT.

Wisconsin Senator Gaylord Nelson (1916-2005), the founder of Earth Day in 1970, helped win the ban on DDT in Wisconsin.



book, Ehrlich also picked up Rachel Carson’s anti-DDT theme. In a May 1970 issue of *Audubon*, Ehrlich even warned that DDT and other chlorinated hydrocarbons may have substantially reduced the life expectancy of people born since 1945.⁵ Fear tactics proved to be just as important in scaring people about population growth as they were in the war on pesticides. Ultimately, *The Population Bomb* promoted concerns that DDT caused rapid population growth as it reduced the burdens of malaria.

Ehrlich and David Brower were not alone in working against population growth and DDT. Attorney Dick Bower, Ehrlich, and Charles Remington formed the Zero Population Growth (ZPG) organization in 1968.⁶ In Michigan, Dr. Lewis Batts, a medical doctor and bird-lover worked to achieve a DDT ban. Like Charles Wurster, Batts was one of the founders of the Environmental Defense Fund (EDF). He was also a member of ZPG.⁷ Batts pledged \$10,000 to

5. R. Bailey, “Earth Day, then and now,” *Reason*, May 2000, <http://reason.com/news/show/27702.html> (accessed April 14, 2009).

6. B. Ryerson, “Visionary co-founder of population connection dies,” *The Reporter*, Vol. 39, No. 2, Fall 2007.

7. Zero Population Growth was an organization dedicated to reducing the rate of growth in human populations to zero. In other words, the rate of human births



Zero Population Growth, which was co-founded by Paul Ehrlich, changed its name to *Population Connection*, but as this recent cover of its magazine shows, its message is still that of overpopulation.

Too Many Malthusians!

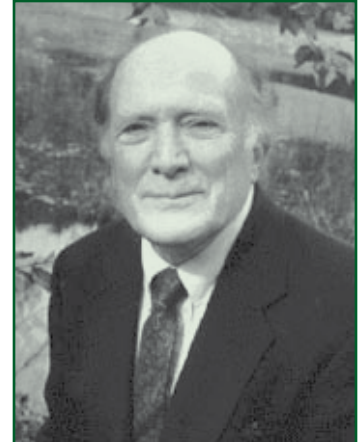


Santa Clara University

Sierra Club executive director David Brower (1912-2000) encouraged Paul Ehrlich to write *The Population Bomb*.



Garrett Hardin (1915-2003) was against sending food to Ethiopia during the 1974 famine, because it would encourage population growth.



Anti-population extremist George Woodwell admitted under oath that he had overestimated the amount of DDT in the soil, but he refused to correct his Science article.

support legal action against DDT and another chlorinated hydrocarbon, dieldrin.

When the Michigan Department of Agriculture decided to spray dieldrin against the Japanese beetle, a highly destructive plant pest, DDT opponents, including the EDF, used the occasion as a pretense to carry out legal action against DDT. They achieved a statewide ban against most uses of DDT in April 1969.⁸

In Wisconsin, the court battle over DDT started Dec. 2, 1968. Senator Gaylord Nelson was the opening speaker against the use of DDT. According to Hugh Iltis, a professor of biology and long-time supporter of Nelson, the hearings “dragged on for a year and [led to] the eventual banning of DDT in Wisconsin and four years later to victory in the banning of DDT nationwide.”⁹ Senator Nelson went on to be recognized as founder of Earth Day,¹⁰ an event first held on April 22, 1970. He was also an avid believer that the major problem facing the world was uncontrolled growth in human populations. In his own words,

The same powerful forces which create the crisis of air pollution also are threatening our freshwater resources, our woods, our wildlife, and the scenic beauty of the nation. These forces are *the rapid increase in population,*

industrialization, urbanization and *scientific technology* [emphasis added].¹¹

In this statement, Nelson enunciates some of the main themes of environmentalism. One is to reduce population growth, and another is opposition to technology. Given DDT's association with both population growth and technology, it seems clear why the environmental movement would dedicate itself to DDT elimination. Though many environmentalists may have done a lot of good in exposing serious problems of pollution and endangered wildlife, there were some highly influential individuals within the movement that used their power and influence to campaign on population growth and specifically against DDT on those grounds.

The issue of withdrawing spray programs as a means of population control was broadly discussed and debated. Garrett Hardin, a leader in population control, believed that “every life saved this year in a poor country diminishes the quality of life for subsequent generations.”¹² Likewise, in the prologue of *The Population Bomb*, Ehrlich announced with great authority: “In the 1970s and 1980s hundreds of millions of people will starve to death in spite of any crash programs embarked upon now. At this late date nothing can prevent a substantial increase in the world death rate.”¹³ We are now more than forty years past the publication date of Ehrlich's book. Hundreds of millions of people did not starve to death as Ehrlich predicted. Today, with a global population approaching seven billion, enough food is still being produced (although there are problems and inequities in

would be equal to the rate of human deaths.

8. Michigan Environmental Council. “Lew Batts: Key player in Michigan's environmental turnaround,” <http://www.mecprotects.org/lewbatts.html> (accessed April 14, 2009).

9. H.H. Iltis, “Gaylord Nelson: Fighter for the environment, defender of the Wild Ones, visionary of living within limits,” <http://www.for-wild.org/wchf/html/GaylordNelsonIltis.htm> (accessed April 14, 2009).

10. D.J. Webber, “Senator Gaylord Nelson, Founder of Earth Day,” University of Missouri, 1996, <http://web.missouri.edu/~polidjw/Nelson.html> (accessed April 14, 2009).

11. H.H. Iltis, “Population prophet,” FightingBob.com, Dec. 4, 2005, <http://fightingbob.com/article.cfm?articleID=462> (accessed April 15, 2009).

12. G. Hardin, “Stalking the wild taboo.”

13. Ehrlich, *The Population Bomb*, p. xi.

food production, distribution, and sales).¹⁴

At the end of his chapter on “the problem,” Ehrlich concludes that

there are only two kinds of solutions to the population problem. One is a “birth rate solution,” in which we find ways to lower the birth rate. The other is a “death rate solution,” in which ways to raise the death rate—war, famine, pestilence—find us. The problem could have been avoided by population control, in which mankind consciously adjusted the birth rate so that a “death rate solution” did not have to occur.¹⁵

The last sentence is written in the past tense, as if there is no longer a solution other than a “death rate solution.” As background to this conclusion, Ehrlich argues that use of medical science in reducing death rates in developing countries contributes to the problem of population growth, stating that

The development of medical science was the straw that broke the camel’s back. While lowering death rates in the ODCs [overdeveloped countries] was due in part to other factors, there is no question that “instant death control,” exported by the ODCs, has been responsible for the drastic lowering of death rates in the UDCs [underdeveloped countries].

As Ehrlich goes on to explain, the export of death control that he refers to is the use of DDT for malaria control.

The introduction of DDT in 1946 brought rapid control over the mosquitoes which carry malaria. As a result, the death rate on the island [Ceylon] was halved in less than a decade. The death rate in Ceylon in 1945 was 22 [per 1000]. It dropped 34% between 1946 and 1947 and moved down to ten in 1954. Since the sharp postwar drop it has continued to decline and now stands at eight. Although part of the drop is doubtless due to the killing of other insects which carry disease and to other public health measures, most of it can be accounted for by the control of malaria.¹⁶

Most people would consider such a dramatic reduction in a country’s death rate to be a marvelous outcome of an effort to



Benoist Carpentier/WHO

The reality of Paul Ehrlich’s “death rate solution” to population control: A young girl suffering from cerebral malaria in a Benin hospital.

reduce the disease and suffering of poor people. Most people could recognize that any population-growth problem is a separate problem, which should be dealt with separately from working against the use of DDT for control of malaria. That does not appear to be Ehrlich’s point of view. He sheds more light on his perspective in comments about malaria and population control in the South American country of Colombia.

Death control [DDT use] did not reach Colombia until after World War II. Before it arrived, a woman could expect to have two or three children survive to reproductive age if she went through ten pregnancies. Now, in spite of malnutrition, medical technology keeps seven or eight alive. Each child adds to the impossible financial burden of the family and to the despair of the mother.¹⁷

Ehrlich shows no insight into the despair of a mother or father from the loss of a child. Perhaps he has never known of a woman who has watched as all her children and husband die

14. S. Leahy, “Population: Global food supply near the breaking point,” Internet Press Service News Agency, Feb. 1, 2007, <http://ipsnews.net/news.asp?idnews=33268>.

15. Ehrlich, *The Population Bomb*, p. 17.

16. *Ibid.*, p. 16.

17. *Ibid.*, p. 22.

from malaria. Regardless, it was against this background of hysterical concern about growth in human populations that the environmental movement carried out its litigation and publicity wars against any and all uses of DDT.

Both *Silent Spring* and *The Population Bomb* criticized the use of DDT. Carson claimed that the justification for public-health use of DDT didn't make sense, that DDT quickly became ineffective and only made problems worse. Her basic thesis was any use of insecticide would select for resistance and the insecticide would lose its effectiveness. She claimed that it would select for "tough, resistant strains,"¹⁸ so that more chemical would be required to get the same level of kill or else a more poisonous chemical would need to be developed. Carson was wrong on both claims. Resistance is not dealt with by using more of a public health insecticide. Furthermore, resistance signals a

need for another mode of chemical action, not a more toxic chemical. Ehrlich, on the other hand, claimed that public-health use of DDT was so effective that it was an unacceptable contribution to limiting death, which in turn contributed to rapid population growth. Remarkably, the anti-DDT movement has been largely based on two entirely contradictory statements by Carson and Ehrlich. But contradictions aside, both books figure prominently in the creation of the modern environmental movement and, to this day, the two books stand as pillars of environmental theology.

[Editor's note: Elsewhere, the authors stress that DDT's effectiveness in malaria control is not because it kills mosquitoes, but because it repels or irritates them, driving them away from sprayed houses. This holds for all mosquitoes, including those that are resistant to DDT. Also, without the killing of mosquitoes, specific resistance to DDT in the mosquito population will not develop.]

If U.S. activism against DDT had stopped at U.S. borders, we might be inclined to assume that environmentalist motivations were directed at improving environmental conditions in the United States alone. However, as we will show later, and as exemplified in the international negotiations at the Stockholm Convention on Persistent Organic Pollutants, the environmental movement was hell-bent on eliminating DDT from malaria-control programs worldwide.

Anti-DDT Litigation

The 1960s legal actions against DDT by environmental groups in New York, Wisconsin, Michigan, and elsewhere cul-



President Nixon (left) and Chief Justice Warren Burger (right) at the swearing in ceremony for William Ruckelshaus as administrator of the Environmental Protection Agency. Two years later, Ruckelshaus, a member of the EDF, banned DDT in the United States, without regard to the scientific evidence.

minated in the 1972 EPA ruling banning DDT (see Appendix 5 for more detailed accounts of the legal actions against DDT). These attempts to gain through the courts what could not be achieved through science were an exercise in emotive fear tactics and environmental politics. The most significant of these, the EPA's consolidated hearing, started in 1971 and continued until April 1972. Analyses of hearing records by Robert Ackerly, the chief trial counsel from the DDT industry, and Dr. J. Gordon Edwards, a highly respected professor of entomology at San Jose State University, show that key witnesses for the EPA and the EDF did not present credible testimony. As a result of that testimony, Hearing Examiner Edmund Sweeney filed his opinion, recommending that DDT not be banned:

DDT is not a carcinogenic hazard to man. DDT is not a mutagenic or teratogenic hazard to man. The uses of DDT under the registration involved here do not have a deleterious effect on freshwater fish, estuarine organisms, wild birds or other wildlife. The adverse effect on beneficial animals from the use of DDT under the registrations involved here is not unreasonable on balance with its benefit. The use of DDT in the United States has declined rapidly since 1959. The Petitioners have met fully their burden of proof. There is a present need for the continued use of DDT for the essential uses defined in this case.¹⁹

19. E.M. Sweeney, "EPA hearing examiners recommendations and findings concerning DDT hearings," April 25, 1972, 40 CFR 164.32. [Ed. note: A photocopy of excerpts from this can also be found at http://www.21stcenturyscientech.com/Articles%202007/ddt_hearing.pdf]

18. R. Carson, *Silent Spring*, 1972, p. 237

The hearing examiner offered his opinion on the value of cross-examination:

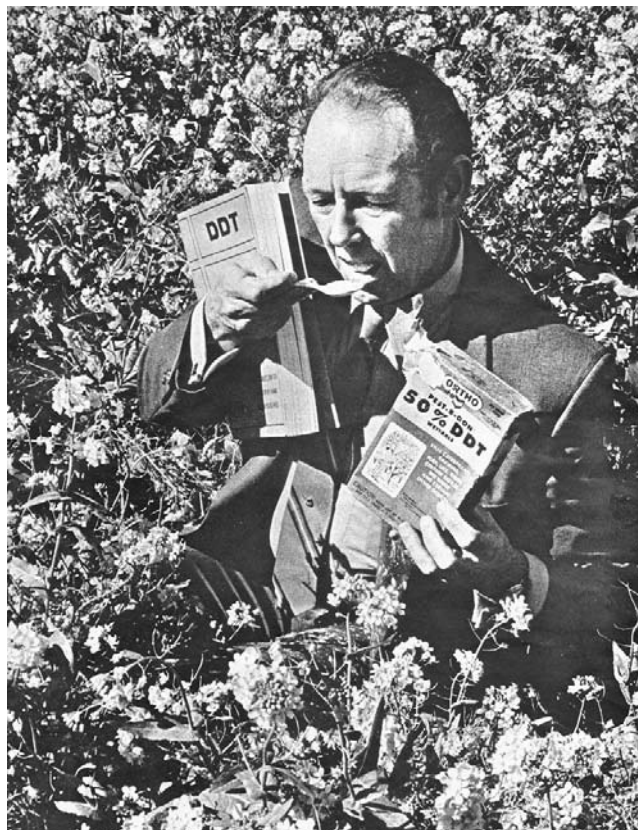
I think the right of cross-examination spurred a genuinely sober assessment of the facts available, particularly on the question of the benefits and risks of DDT; and it exposed those few instances where the purpose was to generate more heat than light on the subject.²⁰

The judge also offered his opinion on the chemicals that might be considered as DDT replacements if DDT were banned:

Although it was not in issue here, there was ample evidence to indicate that DDT is not the sole offender in the family of pesticides; and that necessary replacements would in many cases have more deleterious effects than the harm allegedly caused by DDT.²¹

The judge also commented on the credibility of the witnesses, noting that “there were some appalling instances of incredible inactions such as the publication of a paper containing faulty information which, after discovery, was never corrected and, apparently, is still being relied upon.”²² This appalling instance was a paper by George Woodwell published in *Science* magazine in 1967.²³

Judge Sweeney presented his opinion in April 1972 after eight months of trial, “during which time the Examiner called 125 witnesses, entered 365 exhibits into the record and presided over a proceeding that produced a 9,312-page transcript. This was an extraordinarily thorough hearing.”²⁴ Yet, two months later, on June 2, 1972, the EPA’s administrator, William D. Ruckelshaus, issued his opinion,²⁵ ignoring the results of the hearing and canceling all uses of DDT for crop production and non-health purposes in the United States, strongly implying in his opinion that DDT was almost assuredly toxic to humans.²⁶ While the EPA reserved the use of



Entomologist J. Gordon Edwards (1919-2004), championed the use of DDT to save lives, and fought the lies promoted by the Malthusians. This photo, from the September 1971 issue of Esquire magazine, shows Edwards eating a spoonful of DDT, which he regularly did to demonstrate its non-toxicity.

DDT for emergencies, particularly public-health emergencies, this ban effectively ended the use of DDT in the United States and compromised its use in the rest of the world.²⁷

Dr. J. Gordon Edwards described the administrator’s lack of attention to the administrative hearing and the

20. R.L. Ackerly, “DDT: A re-evaluation. Part II,” *Chemical Times and Trends*, 1981, p. 52.

21. *Ibid.*

22. *Ibid.*

23. *Ibid.*

24. Edmund Sweeney, “Introduction to the Examiner’s Report” (1972). Sweeney said: “[N]o Hearing Examiner will ever enjoy the privilege that I had in listening to so many leaders in the field of scientific and medical achievement . . . No restrictions were placed on the number of witnesses they could present, other than the necessary exhortations concerning relevance and materiality. The pros and cons of DDT have been well aired. I think the right of cross-examination spurred a genuinely sober assessment of the facts available, particularly on the question of the benefits and risks of DDT.” EPA, “Consolidated DDT Hearing, Hearing Examiner’s Recommended Findings, Conclusions, and Orders” (40 CFR 164.32) April 25, 1972, p. 16.

25. Consolidated DDT Hearings. I.F. & R. Docket Nos. 63, et al. United States Environmental Protection Agency, Environmental Appeals Board. In *The Matter of Stevens Industries, Inc., et al. Before the Administrator, U.S. Environmental Protection Agency*; Opinion by William D. Ruckelshaus. June 2, 1972.

26. 37 Fed. Reg. 13369 (July 7, 1971). Nixon was apparently furious about the decision to ban DDT. “I completely disagree with this decision,” he wrote, and

declared that he wanted “plenty of effort to get it reversed.” J. Brooks Flippen, *Nixon and the Environment* (Albuquerque: University of New Mexico Press, 2000), p. 172.

Nixon clearly gets no points for consistency, having initially supported the moves to ban DDT.

WHO proved prescient in its fear that the U.S. actions on DDT would affect world use. The EPA didn’t think it would be a problem. Ruckelshaus’s attitude concerning use of DDT and global public health was formed even before the consolidated hearings on DDT conducted by Edmund Sweeney and is revealed in a 1971 EPA document: “nonetheless, this Agency will not permit the triumphs of public health achieved in the past to be a continuing justification for use of a particular substance in a future. To this extent, the requirements for use of economic poisons in a relatively developed country such as the United States may force a divergence from what is permitted in the developing countries where the public health impetus for control of such disease as malaria may require continuing use of pesticides whose side effects would no longer be tolerable here.” Environmental Protection Agency, “Reasons underlying the registration decisions concerning products containing DDT, 2,4,5-T, Aldrin, and Dieldrin.” March 18, 1971, EPA, Washington D.C., p. 8.

27. Other governments, especially European ones, had already banned the use of DDT.

trial transcript:

EPA Administrator William Ruckelshaus did not attend a single day of the seven months of EPA hearings on DDT, and aides reported that he did not even read the transcript (*Santa Ana Register*, 23 July 1972).²⁸

Ruckelshaus's opinion was entirely contradictory to the scientific findings of seven months of testimony. For example, Ruckelshaus found that DDT presents a carcinogenic risk.²⁹ Based on animal-test data, he concluded that DDT "should be considered a potential carcinogen."³⁰ In contrast, Sweeney concluded that DDT is not a carcinogenic hazard to man.³¹ On the subject of possible replacements for DDT, Sweeney concluded that leading replacement chemicals were more dangerous than DDT. Ruckelshaus's opinion addressed the issue of a replacement chemical differently. He recognized methyl parathion as the chemical that would be the primary DDT replacement, and he acknowledged that deaths had resulted from operational use of methyl parathion. (In comparison, no human deaths or even illnesses had resulted from the operational use of DDT.)

To allow for the increase in toxic risk from the use of methyl parathion, the EPA allowed a six-month waiting period before the full weight of the opinion would come into effect, meaning the order would not be effective until December 31, 1972. This waiting period was meant to allow time for the USDA and the EPA to provide training for operators of spraying equipment and others to use a much more dangerous insecticide.³² This part of the ruling, more than any other aspect, shows how the EPA opinion was designed to hand a political victory to the environmental activists. At the time of the Ruckelshaus opinion, the EPA knew, from almost twenty-seven years of widespread DDT usage, that DDT was not known to cause human deaths or even human illness. In 1972, the EPA also knew, and openly admitted, that methyl parathion was a documented cause of human deaths.

In 1975, the EPA submitted an assessment to the U.S. House of Representatives of the scientific and economic aspects of its decision to delist DDT for use in agriculture. In its assessment of poisonings associated with accidental exposures to parathion and methyl parathion, they found that

parathion and methyl parathion are the pesticides most frequently cited in incidents involving accidental exposure to pesticides. Preliminary data from the EPA Pesticide Accident Surveillance System (PASS) shows that parathion is the third and methyl parathion is the fifth most frequently cited pesticide in 1973. Based on

an analysis of PASS data, Osmun (1974) stated that for 1972 and 1973, parathion and/or methylparathion were connected with 78% of the reported episodes relating to agricultural jobs, particularly those involving fields sprayed with pesticides for which safe reentry times for workers had been set.³³

Not until twenty-seven years after promoting methyl parathion as a substitute for DDT did the EPA finally come to terms with the risks of methyl parathion. The Agency accepted voluntary cancellation of many registered uses of methyl parathion in 1999 with an assessment that

methyl parathion is hazardous to workers—people who handle or apply the pesticide as part of their occupation, and people who work in fields to harvest treated crops. *Protective clothing and equipment are not sufficient to reduce the risks to workers to acceptable levels [emphasis added].*³⁴

So, twenty-seven years after being forced to use methyl parathion, history has proven that Sweeney was right—DDT is not a human carcinogen, and the primary replacement insecticide was truly more dangerous than DDT. The EPA's tradeoff was clear: risk of poisoning and death for innocent Americans in exchange for a victory of environmental activism.

Until very recently, U.S. development policy completely ignored this risk-risk consideration, arguing that the United States can't support the use abroad of any substance that it doesn't use at home, even if the risks are completely different, and even if the substance is much safer to use than people think. "For us to be buying and using in another country something we don't allow in our own country raises the specter of preferential treatment," said E. Anne Peterson, Assistant Administrator for Global Health at USAID. "We certainly have to think about 'What would the American people think and want?' and 'What would Africans think, if we were going to do to them what we wouldn't do to our own people?'"³⁵

Many years after his decision to ban DDT, Ruckelshaus, in an interview with the *New York Times*, reported to be mystified by this position:

But if I were a decision maker in Sri Lanka, where the benefits from use outweigh the risks, I would decide differently. It's not up to us to balance risks and benefits for other people. There's arrogance in the idea that everybody's going to do what we do. Were not making these decisions for the rest of the world, are we?³⁶

28. J. Gordon Edwards, "Pesticides in medicine and politics," Prepared for address to Doctors for Disaster Preparedness, San Diego, Calif., 14 June 1997. Copy on file with authors, p. 36.

29. R.I. Ackerly, "DDT: A re-evaluation," p. 53.

30. T.R. Dunlap, *DDT: Scientists, citizens, and public policy* (Princeton, N.J., Princeton University Press, 1981), p. 234.

31. Ackerly, "DDT: A re-evaluation," p. 51.

32. Consolidated DDT Hearings, 1972.

33. Environmental Protection Agency (EPA), "DDT, A review of scientific and economic aspects of the decision to ban its use as a pesticide." Prepared for: Committee on Appropriations, U.S. House of Representatives. Washington, D.C., July 1975.

34. EPA, "Methyl parathion risk management decision," Aug. 2, 1999, <http://www.epa.gov/pesticides/factsheets/chemicals/mpfactsheet.htm> (accessed April 14, 2009).

35. T. Rosenberg, "What the World Needs Now Is DDT."

36. *Ibid.*