

Malaria and the environmentalists

In favour...

Three Nobel laureates in medicine have started a debate by signing a controversial letter calling for continued global use of DDT, the pesticide so vilified by environmentalists the world over.

At stake are the lives and well being of millions of people, mostly in poor countries, at risk from malaria.

...and against...

The United Nations Environment Programme (UNEP) conference may vote to ban DDT and 11 other persistent organic pollutants. If they succeed, DDT could be banned internationally by the year 2007.

...in the debate.

While there could be valid reasons for banning many of the persistent organic pollutants, there are very compelling reasons for not banning DDT.

Malaria is carried by mosquitoes. The most cost-effective method of controlling malaria is to control mosquitoes by spraying the walls on which they rest with DDT, a chemical which is toxic to these insects but not to humans.

South African evidence...

The use of DDT has ensured that South Africa's malaria areas are now one-fifth the size they were before the Second World War. The disease however, has been on the rise in South Africa and throughout the region. This is partly because of a reduction in DDT use, as well as higher rainfall in recent years and increased migration of people between South Africa and other highly malarial countries such as Mozambique.

There has been a 500% increase in malaria cases in South Africa in recent years. Malaria kills about 2,7 million people worldwide and leaves another 500 million chronically ill every year.

...is in line.

DDT is recognised by nearly all scientists and researchers involved with malaria to be the most effective pesticide in malaria control.

Donald Roberts of the Uniformed University of Health Sciences in the United States has studied the relationship between malaria and DDT use and has found a strong negative relationship: the more DDT is used, the lower are malaria rates.

In South America he showed that all malarial countries experienced sharply rising rates of malaria once they reduced DDT use. Ecuador, which increased its use of DDT, experienced a 60% decline in malaria cases. Bolivia, Paraguay and Peru, on the other hand, stopped DDT spraying altogether in 1993 and subsequently saw new cases rise by more than 90%.

What went wrong?

In 1962 Rachel Carson published her book, *Silent Spring*, and launched the attack against DDT, which resulted in its banning for agricultural use in the 1970s.

Many of the studies against DDT were, however, scientifically flawed and have subsequently been refuted. DDT, for example, is not a human carcinogen. Bird species actually rose during the period that DDT was used in the United States.

In any event, no one is proposing that DDT be widely sprayed over agricultural fields and wetlands, as it was in the past, but that it is allowed to be sprayed in limited quantities inside dwellings. The amount of DDT that a US cotton farmer would have used on a 100-acre crop in 1968 is enough to protect every high-risk house in Guyana for a year or more.

Apart from being a humanitarian disaster, malaria imposes enormous economic costs, mostly on the world's poorest nations.

A recent study I just completed for the United Kingdom-based Institute of Economic Affairs estimated that the annual costs of malaria (made up by the cost of treatment and lost productivity through illness) in selected southern African countries exceeds \$1bn, or 4% of their combined gross domestic product.

Given the human and economic cost of malaria, it is understandable that many countries are keen to continue their use of DDT.

Unfortunately though, DDT is now difficult to get hold of and countries that would prefer to use it in malaria control, such as Botswana and Tanzania, are forced to use more expensive alternatives.

Zimbabwe has come under pressure from, among others, tobacco farmers to cut back on DDT use. This is because exports might be affected if developed countries find any trace of DDT on tobacco. The fact that tobacco contains numerous carcinogens and that DDT has been proven not to be a carcinogen seems to have been conveniently forgotten.

Northern countries are increasingly using environmental standards as trade barriers against the south. As a result, in this case, millions of lives are directly being put at risk.

The Malaria Foundation International, which is made up of more than 350 physicians, including the medical laureates mentioned above and malariologists, published an open letter to the Unep delegates urging them not to ban DDT until an affordable alternative is available.

The alternatives now available – synthetic pyrethroids – are significantly more expensive than DDT and more complicated to administer and monitor.

The World Wide Fund for Nature says that the banning of DDT will concentrate minds in order to find a cost-effective alternative by 2007. This seems like an unbelievably flippant attitude to the lives of the millions that are at risk from malaria. The World Health Organisation previously supported the use of DDT in vector control. However, its new high-profile malaria initiative, Roll Back Malaria, does not even mention house spraying and prefers to promote the development of new drugs and a vaccine.

Because of these pressures there is no great hope...

Efforts to develop a vaccine and new drugs are woefully underfunded. In addition, because profits in fighting malaria are limited, private sector research is minimal when compared with research into fighting other diseases. Even if a successful vaccine is found in the short term it is likely to be unaffordable to most developing nations.

The DDT debate neatly illustrates how the environmental ideals of so-called civilised countries are pursued at the expense of developing nations that have little or no say.

One can only hope that the recent report that two 11-year old Boy Scouts in Long Island, New York, contracted malaria at a scouting camp will bring home to the north the cost that malaria imposes on the south.

...unless the legislators buzz off.

The banning of DDT must not go ahead and environmentalists must be stopped from putting their sensibilities ahead of the lives of people in malarial countries.

Further reading

Tren, R (1999) *The economic costs of malaria in South Africa – Malaria control and the DDT issue*, Institute of Economic Affairs (IEA), London (www.iea.org.uk/env/malaria.htm).

This Briefing Paper was written by Richard Tren a South African environmental economist and research fellow at the Institute of Economic Affairs, London.

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