tant fall in the incidence of human cases from 34.1 to 5.4/100 000 over the same period. Earlier, a similar result was reported from a field trial in [the Islamic Republic of] Iran.

Q: Why hasn't house spraying been more successful in stopping the disease?

A: The vector on the Indian subcontinent is strongly endophilic (a species that remains indoors after taking a blood meal) and house spraying in the 1950s and 1960s to try to eradicate malaria was followed by a remarkable fall in the prevalence of VL. Unfortunately, when spraying was stopped, the sandfly population rapidly recovered and there were terrible epidemics in north-eastern India in the 1970s. Widespread house spraying with DDT [dichlorodiphenyltrichloroethane] is currently part of the action planned to eliminate VL in north-eastern India by the year 2015.

Q: But isn't DDT banned in most countries?

A: The choice of insecticide may indeed come as a surprise to people who remember the storm created by the publication in 1962 of Rachel Carson's *Silent Spring* that resulted in a ban on the manufacture of DDT in the United States of America and elsewhere. But its use is still permitted by the Stockholm Convention for spraying internal walls of habitations in developing countries when there is no practicable alternative. DDT is the insecticide chosen for the control campaign on the Indian subcontinent pending current investigations planned by the Convention to speed up its total ban. [Deltamethrin will be used in Bangladesh and Nepal, where DDT is banned.] There is no doubt that house spraying can work. However, it must be done properly. If not, it is almost certain that the vector will become resistant to DDT – as it did in Bihar in the 1970s. This is a real danger as indicated by a report that after five DDT spray-rounds in Bihar between 1992 and 1994, it was discovered that more than half the houses had not, in fact, been sprayed. This is a recipe for creating insecticide resistance, a risk that can be minimized by using more than one insecticide. Whatever insecticide is used, if spraying is stopped too soon, there could be a disaster: rapid recovery of the sandfly population followed by a devastating epidemic. To reduce this possibility in the north-east of the Indian subcontinent, active case detection and treatment of all cases of both VL and post kala-azar dermal leishmaniasis is planned, a tremendous undertaking.

Q: Do you believe that this disease can be eliminated?

A: Yes. But it depends what you mean by eliminated. No one likes to use the word "eradicate" with its inference of complete disappearance of an infection – a rare outcome of control. But if we go by the definition of "elimination" as control of a disease in a defined geographical area that nevertheless requires constant vigilance to detect any resurgence, in that sense, VL can be eliminated. It was done in eastern China after a campaign lasting 30 years. Domestic dogs were reservoir hosts in that part of China and control was by the total destruction of dogs, annual house spraying with two different insecticides and annual active case detection and treatment.

Q: What is required to make this happen?

A: There are five key factors that apply to all vector-borne diseases, not just VL. The first is peace: civil disturbances make it difficult to run a control programme. Second, long-term political commitment: even in the industrialized nations, health priorities change with changes of government. Third, finance: this again requires long-term commitment. Fourth, sound control methods likely to succeed are essential. And, lastly, public health education: if a mother doesn't think the disease is carried by a biting fly, why should her children sleep under a bednet? Why should she let the sprayers leave nasty spots all over her bedroom wall? Community understanding and participation increase the chances of success. Improvements in housing and standards of living will also make a big difference.

It's easy to sit in our armchairs and list the problems for the control of VL – or any other vector-borne disease. But I am optimistic: with adequate funding, long-term political support and energy coupled with a little imagination, it must be possible to tame this disease, if not get rid of it altogether. To be practical, we should remember VL has not been completely eliminated in the rich countries in southern Europe that border the Mediterranean.

Dr Killick-Kendrick was interviewed as a guest speaker of the World Health Organization's global health history seminar series. Access the seminars online at: http://www.who.int/global_health_histories/seminars/2009/en/index.html ■

Recent news from WHO

- Only 5.4% of the world's population was covered by comprehensive **smoke-free laws** in 2008, up from 3.1% in 2007, according to the *WHO report on the global tobacco epidemic 2009: implementing smoke-free environments*. Seven countries – Colombia, Djibouti, Guatemala, Mauritius, Panama, Turkey and Zambia – implemented comprehensive smoke-free laws in 2008, bringing the total to 17. This means that 154 million more people are no longer exposed to the harms of second-hand tobacco smoke in work places, restaurants, bars and other indoor public places. Read the report at: http://www.who.int/tobacco/mpower/2009
- Around 36 million people have been cured of **tuberculosis** over the past 15 years through a rigorous approach to treatment endorsed by WHO. New data, released in December 2009, show that up to 8 million tuberculosis deaths have been averted under the Stop TB Strategy.
- The *World malaria report 2009*, released by WHO on 15 December 2009, shows that significant progress has been made in delivering life-saving **malaria** nets and treatments. Increased international funding commitments (from US$ 730 million in 2006 to US$ 1.7 billion in 2009) have allowed a dramatic expansion of malaria control work, which has led to measurable reductions in malaria in several countries. However, the report estimates US$ 5 billion is required each year to ensure maximal impact worldwide. Read the report at: http://www.who.int/malaria/publications.

For more about these and other WHO news items please see: http://www.who.int/mediacentre