



[Vol. 22, No. 4 \(January 1995\)](#)

Malaria Control in a Nutshell

by Antonio Zighelboim

"We hear that there are new ways to control malaria but that is hard to believe", says Hernan Hermosilla, a farmer in Piura, 650 miles north of Lima. And coming from a woman makes it very difficult to accept.

Skeptical comments such as these are familiar to Palmira Ventosilla, a 35-year-old Peruvian microbiologist who, with her team of researchers, has developed a new way of controlling malaria through biological control of mosquito larvae.

Piura is a neo-tropical region, and Salitral, the town where Ventosilla's program is based, has a humid rainy season when ponds form everywhere and act as breeding grounds for anopheles mosquitoes. Inhabitants have learned to live with the fever, chills, nausea, and muscle pain of the malaria, but now many are also dying of it. A lethal variety of malaria, *Falciparum*, has been found in the area.

Ventosilla's new scientific breakthrough emerged from her proposal for a community-based method of controlling anopheles mosquito populations, which was funded by IDRC. Ventosilla and her colleagues at the Alexander von Humboldt Tropical Medicine Institute in Lima began their research and soon learned about *Bacillus thuringiensis* var. *israeliensis* H-14 (Bti), a naturally occurring bacteria that is harmless to humans and animals but kills anopheles larvae. It is commercially available but its cost can be prohibitive for developing countries. The team found a cheap way to produce Bti: growing it in coconuts and then releasing it into ponds where mosquito larvae flourish.

After the method was tested and perfected, the challenging task of local community implementation began. "This area lacks basic services; hygiene and health standards are rudimentary", Ventosilla recounts. "People here do not like to hear foreigners tell them how to change their lifestyles. In our dealings with the local community, we have learned to proceed with understanding and care."

This sensitivity and concern for others has been part of Ventosilla's makeup from an early age. Born in Lima in 1959, Palmira travelled to Cerro de Pasco, in the Peruvian sierra, when she was seven years old. Memories of the poverty of the rural folk remained with her. When she chose biology as a major, a key factor in her decision was her desire to help the people she had met as a child.

While adults in Piura were skeptical about participating in the new program for malaria control, Ventosilla found that their children were much keener. An educational program using comics, posters and games developed by Ventosilla's colleague Jorge Valez provided the children with clear information about the malaria and the anopheles mosquito breeding cycles and Bti production. Two other team members Lucy Harman and Mark Snyder worked on information sessions designed to reach the adult population. But the adults were not eager to accept the fact that malaria could be controlled by limiting anopheles larvae populations.

Children, on the other hand, proved to be brilliant teachers. After learning the technique, they

demonstrated to their families its effectiveness and low cost in time and money. Eventually, parents began to pitch in and help. Several short videos were produced and used to animate community meetings.

The entire community has now been reached, and all three major schools of Salitral are ready participants. "Next year, we would like to cover more schools, more towns and more ponds. Other communities are very interested in participating in this type of project", says Ventosilla. "We cannot hope to wipe out malaria completely from our country because of the prevailing climate and terrain but if local families are able to kill the mosquitoes in their backyard, the chances of them or their families contracting malaria become slimmer, says Ventosilla. We need to prevent an epidemic, and the solution is in our hands, and in that of the community."

Unless otherwise stated, all articles and photos may be freely reproduced providing suitable credit is given.

ISSN 0315-9981. This magazine is listed in the Canadian Magazine Index.

- [Subscription information](#)
- [Return to the IDRC Reports homepage](#)
- [Return to the IDRC homepage](#)

Copyright © International Development Research Centre, Ottawa, Canada
Please send your comments to [editor of Reports](#).