

**December 23, 2008**

GLOBAL UPDATE

## In Poor Villages, Low-Tech Efforts Can Help Prevent Insects and Disease

By [DONALD G. MCNEIL JR](#)

It has long been known that [malaria](#) can be fought by draining swamps and paving streets. But a new study by scientists at the [Massachusetts Institute of Technology](#) suggests that simpler remedies by villagers too poor to afford bulldozers or cement can also have an impact.

Mosquito populations can be curbed by measures like using shovels to fill in low spots where water collects during the rainy season and digging drainage ditches so standing pools empty in less than the 7 to 10 days it takes for larvae to mature, said Elfatih Eltahir, a professor of environmental engineering.

Pools 10 to 20 yards across are the biggest problem, he explained. Smaller ones dry up more quickly, and bigger, permanent ponds support predators like larvae-eating beetles.

Plowing the ground so the water drains quickly into the soil is also effective, but more labor-intensive.

The team also found that scattering ground-up neem-tree seeds in ponds twice a week cuts mosquito populations by half. In the United States, neem oil is sold as an organic pesticide for houseplants and is considered safe enough to use as dog shampoo.

For the last four years, Professor Eltahir's team has tested its computer models in two villages near Niamey, the capital of Niger. Neem trees originated in India but "are all over these villages," he said.

The models compare antimalaria strategies, like mosquito nets, drugs, vaccines and [insecticide](#) spraying.

"We advocate simple, low-tech environmental strategies that can be added to other approaches," Professor Eltahir said.

Copyright 2008 The New York Times Company

[Privacy Policy](#) | [Search](#) | [Corrections](#) | [RSS](#) | [First Look](#) | [Help](#) | [Contact Us](#) | [Work for Us](#) | [Site Map](#)