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## Battling Insects, Parasites and Politics

By DONALD G. McNEIL Jr.

SOMJI, Nigeria—The reason for all the excitement, one public health doctor after another trooping into her mud-walled room to have a look, was that Patience Solomon had correctly hung her new royal blue mosquito net over the bed she shared with her 2-year-old son, James.

Mosquito nets are not terribly complicated, as long as you have something to suspend them from—in Mrs. Solomon's case, a hand-hewn rafter just at head-knocking height beneath her corrugated iron roof.

Permeating the nets with insecticide does take a little concentration.

A state health worker had just given a demonstration beneath the village's central baobab tree: take half a Coke bottle full of water and a big enamel bowl, mix in the sachet of white powder, dunk the net, and let dry. Remember to rinse out the bowl before making food in it. (If you forget, it's not a disaster; the lambda-cyhalothrin is more lethal to bugs than to children.)

Mosquito nets are technically very simple but in their own mundane way, in rural Africa, they are highly political objects.

Somji, a hot, dry collection of mud compounds in the sorghum and millet fields of Nigeria's central plateau, is one of the special weapons and tactics laboratories in the global struggle over mosquito net policy—a “piggybacking village.”

“This is the first place in the history of the country where we're combining the distribution of bed nets with the distribution of drugs,” said Dr. Emmanuel Miri, chief of Nigerian operations for the Carter Center in Atlanta.

The drugs are for lymphatic filariasis, a disease caused by eight-inch worms that ball up and nest in the lymph glands, clogging them until victims' legs swell to the thickness of an elephant's. There is no cure for the leg, nor do the worms die, but, given once a year to everyone in the village, the drugs Mectizan and Albendazole, donated by Merck and GlaxoSmithKline, kill the worms'

### CASES WITHOUT BORDERS

microscopic progeny as they circulate in the blood.

Unable to reproduce, the infestation dies out when the adult worms shrivel up of old age, in about five years. But

could not read. It turned out to be a local brand of Tylenol, meaning that James had already had a serious stroke of luck with one fatal disease.

The Carter Center, a health and peace organization founded by former President Jimmy Carter, has been handing out de-worming drugs in Nigeria since the 1980's. It has no budget for mosquito



Photographs by Vanessa Vick for The New York Times

Patience Solomon and her son James sit under the mosquito net they recently received.

there is an exception: the drugs cannot be given to children under 5 or to pregnant women.

Normally, they go unprotected, hoping to shelter under the umbrella of “herd immunity” created when the rest of the village is de-wormed. (When herd immunity works, the uninfected have benefited from a combination of preventive medicine and dumb luck.)

But pregnant women and children under 5 are also the most likely to die of malaria. And malaria, like lymphatic filariasis, is spread by mosquitoes.

James had already had malaria once, Mrs. Solomon said.

Asked what she gave him for it, she produced a bottle whose label she

nets. But Roll Back Malaria, a World Health Organization campaign started in 1998, does, has some money because malaria is relatively “hot” at the moment, thanks to the Global Fund to Fight AIDS, Tuberculosis and Malaria. So in Somji, the two programs are piggybacking, meaning everyone in each family should get either Carter drugs or a W.H.O. net.

But that requires juggling layers of bureaucracy, since the W.H.O. sends its donation through the Nigerian federal government, which filters the nets down to state governments, which send out workers to do demonstrations. In the two central states where the program is centered, Niger and Plateau, three million people get the drugs. The two states



Far left, a Nigerian child is measured to determine the right dosage of treat lymphatic filariasis, a disease caused by worms that nest in the lymph glands. A Ministry of Health worker, below left, shows residents how to treat their mosquito nets with insecticides. Left, another worker provides information about treating lymphatic filariasis.



received only 60,000 nets. (Nigeria has more than 100 million people, and no national program.)

What will happen when those run out? “That is why we are begging you people to come to our aid,” said Rachel Titi Bitrus, the net-dunking Health Ministry demonstrator. “We pray maybe we will get some more.”

Equally good nets are sold at roadside markets, but they are several hours away on foot and cost from \$6.50 to \$14, she said, adding, “Many complain that that is too dear.”

Big donors and their consultants are deeply divided on whether mosquito nets, like condoms, should be distributed by “social marketing” in which donated goods are not distributed free, but advertised as rival brands with catchy names and sold for nominal sums.

Some economists argue that poor Africans value and use only things they have paid for. Others retort that such schemes benefit only the “richest of the

poor,” like city dwellers who can afford cigarettes, while the poorest poor — peasant farmers in dirt-track villages like Somji, who bear the greatest burden of mosquito diseases — die for lack of items the West can mass-produce for pennies.

Officials from the United States Agency for International Development favor social marketing of nets; those from the Centers for Disease Control and Prevention oppose it. Unicef favors it; W.H.O. opposes it.

And even if the macroeconomic disputes are resolved, there are micro problems. Somji is a two-hour drive from the regional capital, Jos, but Mrs. Bitrus has only occasional use of a truck. The Carter Center program relies on a network of volunteers from thousands of tiny villages, the kinds of places where ownership of a bicycle or a radio puts the owner in an upper-income bracket.

“The same guy who used to ride his bike to pick up a box of meds now has to somehow pick up a ton of bed nets,” said Dr. Frank O. Richards Jr., a parasitologist at the C.D.C. who advises the Carter Center. “They’ve got to figure that out.”

Dr. Richards was watching the volunteers juggle the new complexities. With pigs rooting at their feet, they stood outside a compound, called out each resident by name, and spooned out pills.

One 5-year-old gagged on his fat Albendazole tablet. “Let him chew it! Tell him he can chew it!” Dr. Richards shouted, trying to get his words translated from English to Hausa to the village language.

“What about the baby?” he asked aloud, when the volunteers had dosed a nursing mother and said they were finished. “He’s supposed to get a net,” he muttered. “This is the crucial thing. They didn’t even think about babies before.”

The volunteers explained that they wanted to do that later in the day. Their data-recording system consisted of two

lined primary school notebooks, one for pills and one for nets, and doing both at once would sow confusion.

Hence the eventual excitement about Mrs. Solomon. The successful hoisting of her net — made in Kenya, paid for in Geneva, arranged for in Atlanta, demonstrated in Somji — was no simple matter.

The next move, Dr. Richards said, would be a surprise visit in a few weeks. Now that nets had value, he said, “we’ll want to see if the right people are using them — or if all the fathers are sleeping under them.”

As the team climbed into its trucks to leave, a loud argument broke out. A visitor from another village was shouting at a Carter Center volunteer, accusing him of handing out nets free here while dignitaries were watching, but charging his village 80 cents each. Dr. Miri stepped out of his truck, questioned the volunteer, fired him on the spot and asked the village chief to pick another.

The team left; the politics went on.

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