

Material Gain: Bednets Treated with Insecticides Improve the Lives of Tanzanians

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Tanzanian factories have started producing insecticide treated bednets. (IDRC Photo: J. Pepall)

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Inside the factory of the Textile Manufacturers of Tanzania Limited (TMTL) in Dar-es-Salaam, the hum of 50 sewing machines is as insistent as the drone of insects. Tailors are stitching together blue, green, and white netting that has been woven on the factory's looms. The men and women are part of a 180-strong workforce that produces up to 700 mosquito nets each day, marketed under brand names such as "Health Net" and "Sweet Dreams."

For 10 years, this textile factory was mothballed, put out of business by the second-hand clothing market and currency devaluation. Now it has found a second life as one of three factories in Tanzania producing mosquito nets; one in the northern city of Arusha has recently become one of the largest net manufacturers in the world.

R&D results

The research and development (R&D) that stimulated this private sector activity has come from the public sector and the donor community, including the International Development Research Centre (IDRC). This R&D has shown that nets impregnated with pyrethroid insecticide are effective at preventing malaria. Programs by non-governmental organizations (NGOs) have promoted the use of insecticide-treated nets (ITNs) in several districts of Tanzania, and the government has adopted tax policies designed to make nets more affordable. Today, Tanzania is poised to become the first country in Africa to introduce a national strategy to ensure that more people get a safe night's sleep under ITNs.

These advances were accomplished in a remarkably short time. "In 1990, we had not even designed the trials to tell us that bednets were any good at saving lives," says [Don de Savigny](#), Research Manager of the [Tanzania Essential Health Interventions Project \(TEHIP\)](#), a joint initiative of IDRC and the Tanzania Ministry of Health.

Early research

IDRC began investing in research on ITNs in 1989, recognizing their potential to prevent one of the main causes of death and illness in the developing world. The Centre's first ITN project was in Tanzania: it explored the possibility of using sacking material manufactured for agricultural products to make impregnated bed curtains. In 1994, Tanzania hosted the first international conference on ITNs, co-organized by IDRC and the World Health Organization (WHO) with support from the Canadian International Development Agency (CIDA). It forecast research needs related to the use of ITNs for malaria control. The new agenda was published in 1996 in the IDRC/WHO book [Net Gain — A New Method for Preventing Malaria Deaths](#), which that showed the use of ITNs could reduce child mortality by 17 to 63 percent. In 1997, IDRC supported the creation of the Net Gain for Africa Task Force, which aimed to increase the availability of ITNs across the continent. Other IDRC/CIDA-supported projects on ITNs included the development of the first "do-it-yourself" dipping kit.

In Tanzania, where research on this kit was pioneered, IDRC has seen its initial investment pay dividends in the work of Population Services International (PSI), an American NGO. PSI uses commercial marketing techniques to meet public health objectives, known as social marketing. The kit is one of the key elements of PSI's Social Marketing of Insecticide-Treated Nets (SMITN) project in Tanzania, launched in 1998. This project, funded by

the UK's Department for International Development, is designed to create demand for mosquito nets and insecticide treatment, particularly in rural areas.

Net sales

After SMITN's first year, the number of households buying nets has doubled. The three manufacturers produced more nets to sell commercially and, in 1999, they posted combined sales of 1.5 million nets. The increased competition, along with the removal of taxes and tariffs on nets and netting material, brought prices down. Before social marketing, large family nets were selling for the equivalent of about US\$10. Now the same net is US\$4, with single nets retailing for as low as \$2. "Without the social marketing experiences and related research projects by PSI, TEHIP, and KINET (a program of the Swiss Tropical Institute and the Ifakara Health Research and Development Centre), I don't think Tanzania would have had enough evidence to make its recent decision to go to national scale for ITNs," says Dr de Savigny.

The national scale-up is aimed at creating an equitable system so that everybody living in malaria-prone regions of the country can afford to buy a net. SMITN and other donors have shown that demand creation can work, but to date, ITN activities have been restricted to project and program areas.

National strategy

The national strategy will work to change this by involving the full range of ITN stakeholders: the public and private sectors, donors, NGOs, and the research community. Its goal is to see 60 percent of children and pregnant women protected by a treated net by 2005. The Ministry of Health has approved the strategy's basic framework and has struck an official steering committee. The Ministry has also invested US\$400,000 to take the process forward, and the donor community is expected to provide additional funding.

Dr Christian Lengeler, a malaria specialist with the Swiss Tropical Institute, was part of the consultancy team that helped develop the national strategy. He was also, along with Dr de Savigny, one of the co-editors of *Net Gain*. After the bednet mortality results were publicized in 1996, Dr Lengeler commented in an interview that: "A public health intervention is not 'mature' when the science is completed, i.e. when it is proved that it works well and that it is cost-effective in the frame of scientific trials. That is only the first stage. The second stage belongs to managers, implementers and communities, who have to ensure that such an intervention is introduced on a large scale. This is often less glamorous, but a much bigger challenge."

In Tanzania, the challenge is well underway.

Jennifer Pepall, a Senior Writer in IDRC's Communications Division in Ottawa, recently traveled to East Africa.

For more information:

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