



# MALARIA CONTROL IN MAINLAND TANZANIA

PRESIDENT'S MALARIA INITIATIVE



## TANZANIA MAINLAND PROGRAM AT A GLANCE OCTOBER 2009

### Introduction

The President's Malaria Initiative (PMI) represents a historic, five-year, \$1.2 billion U.S. Government effort dedicated to reducing malaria deaths by 50% in 15 priority countries. This will be achieved by expanding coverage of highly effective malaria prevention and treatment measures, including insecticide-treated mosquito nets (ITNs), intermittent preventive treatment for pregnant women (IPTp), artemisinin-based combination therapy (ACT), and indoor residual spraying (IRS) with insecticides. IRS is the organized, timely spraying of an insecticide on the inside walls of structures or dwellings.

It is designed to interrupt malaria transmission by killing adult female mosquitoes inside structures before they can transmit malaria to another person. IRS has been used for decades, helping eliminate malaria from many areas of the world, particularly where malaria vectors are indoor-resting. In all PMI priority countries, the IRS program involves a number of activities, including environmental assessments, training of spray teams, procurement of insecticide and equipment, and developing and evaluating spraying activities<sup>1</sup>.

### Country Profile

Approximately 14–18 million clinical malaria cases in Tanzania are reported annually by public health services. Over 40% of all out-patient attendances are attributed to the disease. According to the health management information system, malaria is responsible for more than 50% of deaths among children under five years of age in health facilities and up to one-fifth of deaths among pregnant women<sup>2</sup>

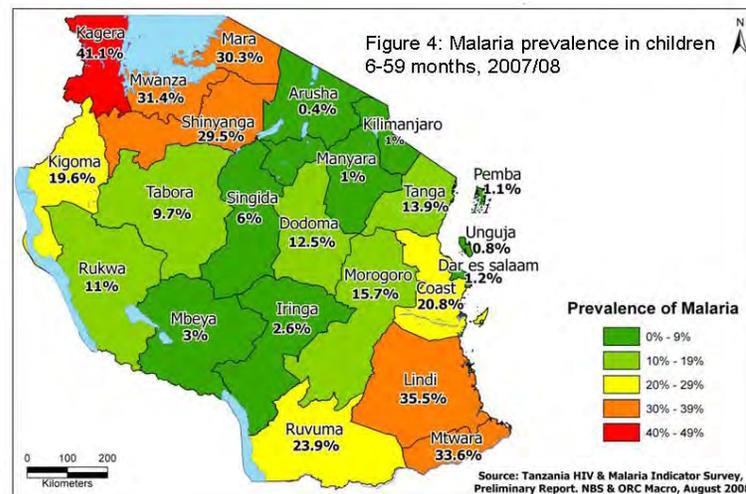
### Highlights from 2009 Spray Campaign:

- Between January–February, sprayed 145,442 structures (94% of target) and protected 680,000 people.
- In Muleba and Karagwe districts, trained 444 spray staff in support of campaign.
- From August–October, sprayed five additional districts, targeting 283,919 structures.

Since Tanzania was announced as a PMI country in June 2005, PMI has collaborated with the Tanzania National Malaria Control Programme (NMCP) on a number of interventions aimed at controlling malaria.

### Implementing Vector Control Interventions

The NMCP, with PMI support, began IRS operations in 2007 in Muleba and Karagwe districts, in the Kagera Region. In the first IRS round of 2009, over 55,991 houses in Muleba were sprayed and 89,451 houses in Karagwe, achieving 90% and 97% coverage, respectively. The second round of IRS for 2009 will target the districts of Biharamulo, Bukoba, Chato, Kagera, Misenyi, and Ngara.



<sup>1</sup>United States Agency for International Development (USAID) Web site.

<sup>2</sup> PMI Year Four, Fiscal Year 2009 Malaria Operational Plan for the United Republic of Tanzania.

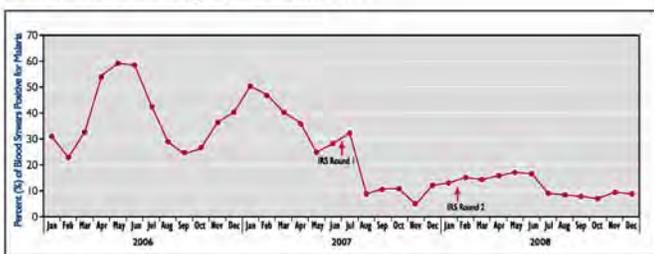
The IRS project manages a larviciding component through the Urban Malaria Control Programme in Dar es Salaam. Bio-larvicide, naturally occurring bacteria that eat larvae, is placed in small amounts of standing water to prevent disease-carrying larvae from developing into adult mosquitoes. This program is one of the few malaria control efforts focused on urban areas, where IRS campaigns are usually less effective due to the presence of insecticide-resistant mosquitoes. Urban populations also tend to go to sleep later, which reduces the effectiveness of long-lasting insecticide treated nets. In 2009, the IRS project will double larviciding activities from 15 to 30 targeted wards, covering an estimated population of over 1.4 million people in the city.

### Detecting Outbreaks through Surveillance

*Sentinel surveillance.* A series of sentinel sites were established to report confirmed malaria diagnoses and track malaria incidence to assist in long-term planning for malaria interventions. Sites include Rubya Hospital in Kagera Region, Dareda Hospital in Manyara, Mpwapwa Hospital in Dodoma, and Utete Hospital in Rufiji. In 2009, two new sentinel sites were established in Chunya and Masasi health facilities. Ongoing monitoring of new malaria cases shows a significant decrease in malaria transmission in the targeted areas.

Surveillance data from Rubya Hospital, the main hospital for Muleba District, show a steep decline in the blood slide positivity rate among out-patients after the first round of IRS (June-July 2007) and a continued low level after the second round (January-February 2008) (see graph).

Decline in Proportion of Blood Smears Positive for Malaria, Muleba District Hospital, Tanzania, 2006–2008



*Entomological monitoring.* The National Institute for Medical Research Mwanza (NIMR), a partner organization, conducts entomological monitoring in

Karagwe and Muleba districts. NIMR will begin entomological monitoring in an additional five districts in 2009.

*Monitoring system for rapid diagnostic tests (RDT) implementation.* The NMCP, through support from Global Fund for AIDS, Tuberculosis, and Malaria, has recently begun to scale-up the use of RDTs in all levels of Tanzania’s health care system. The IRS project, in collaboration with the Joint Malaria Programme, designed a monitoring system for RDT implementation. The project has been implemented in two districts, Hai and Handeni.

### Capacity Building and Training

Efforts to build local capacity for IRS activities have been ongoing in partnership with the NMCP. Local staff are involved throughout the IRS planning process, such as by conducting logistical assessments to accurately estimate the required quantities of materials, human

The IRS project also works with NIMR and NMCP to build capacity to conduct entomological surveys and surveillance. This includes establishing and operating laboratory facilities, performing analyses, and conducting sentinel surveillance, as well as supporting the training of health workers in RDT use to detect malaria infections.

The Malaria Control project in Mainland Tanzania and Zanzibar is a cooperative agreement led by RTI International with support from the National Institute of Medical Research, and Selcom under USAID cooperative agreement 621-A-00-07-00009-00, Jan-Dec 2009.

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