# Summary of Indoor Residual Spraying in Kenya

AFM summarized indoor residual spraying (IRS) activities occurring in African countries based primarily on reports from the World Health Organization (WHO), Global Fund and the President's Malaria Initiative (PMI). Little information was available from other sources. AFM hopes IRS activities will be sustained and expanded as appropriate, and that all donor agencies supporting IRS with public funds will make available detailed and accurate reports in the future. Below is the summary of IRS activities in Kenya.

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| **Year of Initiation**[a] | 1950s |
| **Operational Coverage 2006-2007**[a] | 16% targeted structures sprayed |
| **Population Covered 2006-2007**[a] | 0.55 million people (2.5% of population at risk) |
| **Insecticide(s) Used**[a,b] | Lambdacyhalothrin, deltamethrin, PYMOS (natural pyrethrum), bifenthrin |
| **PMI FY08 Population Targeted**[b] | 250,000 households (population targeted unknown) |
| **PMI FY08 IRS Budget**[b] | $4,050,000 (20% of FY08 PMI budget) |
| **PMI FY08 IRS Operational Research**[b] | N/A |
| **Global Fund Support**[c] | Round 4 |

a. Implementation of Indoor Residual Spraying of Insecticides for Malaria Control in the WHO African Region Report: http://www.afro.who.int/vbc/reports/report_on_the_implementation_of_irs_in_the_african_region_2007.pdf
b. President's Malaria Initiative, Malaria Operational Plans: http://fightingmalaria.gov/countries/mops.html
c. The Global Fund to Fight AIDS, Tuberculosis and Malaria: http://www.theglobalfund.org/en/

A Round 2 Global Fund malaria grant was awarded in 2003. The Original Proposal did not request funding for IRS. A Round 4 Global Fund grant was awarded in 2006. According to the Original Proposal, support was requested for the implementation of IRS in 16 epidemic prone districts focusing on high risk areas as well as establishing three IRS teams in each district. According to the Grant Performance Report, targeted spray men were trained and targeted houses were sprayed.

The Kenyan National Malaria Control Program has targeted one million households for spraying in 2008, covering approximately five million people or 22% of the 23 million people at risk for malaria. Year 1 PMI IRS activities have targeted 250,000 households in four districts (two of the previous districts and to two additional neighboring endemic districts). Three pyrethroid insecticides are currently approved for IRS in Kenya; however, pyrethroid resistance has been detected and as a result, the use of non-pyrethroid insecticides is being considered.

Proposed PMI Year 1 activities include providing technical assistance to the National Malaria Control Program; supporting surveillance and monitoring of targeted districts; monitoring for insecticide resistance; evaluating the half-lives of non-pyrethroid insecticides; and evaluating integrated vector control with both IRS and insecticide-treated nets in high and low transmission areas. The proposed PMI funding for Year 1 is $20 million, of which 20% or $4,050,000 will go toward IRS.

According to the WHO's 2006-2007 summary of IRS activities in Kenya, *Anopheles funestus* disappeared as a result of the Pare Taveta IRS project implemented between 1955 and 1959. However, when the Pare Taveta project ceased, both vector abundance and the malaria

transmission rate increased. A pilot spraying project took place in Kisumu from 1973-1975. Its cessation was followed by a rebound of malaria transmission and burden. In 2003, the National Malaria Control Program decided to implement large-scale IRS to prevent and control epidemics but small-scale implementation continued until 2004 due to limited financial and technical resources. Since 2005, progressive capacity building at the district level has resulted in the training of 30 District Trainers and 1700 spray operators. There is a strong government and partner commitment to scale up quality IRS. However, overall program management and system capacity at the implementation (district) level needs to be strengthened. Some areas have very low operational coverage. Technical capacity in malaria entomology and vector control is available at the national level and should be used effectively to build capacity within the district health teams. Supervision and monitoring the quality of IRS needs special attention. The impact of IRS on the vector population density and malaria transmission in terms of sporozoite positivity rate is not being assessed, nor has malaria burden been evaluated in relation to IRS to guide program planning and implementation. Urgent attention should be given to strengthening the ties between the operational malaria control programs and the research institutions to provide support in resistance monitoring and evaluation.