



PRESIDENT'S MALARIA INITIATIVE



## INDOOR RESIDUAL SPRAYING FOR MALARIA CONTROL

# Malawi FY08 Work Plan

Indoor Residual Spraying (IRS) Indefinite Quantity Contract (IQC)  
Task Order 1

Submitted September 2008

Contract GHN-I-00-06-00002-00

Prepared for:  
United States Agency for International Development

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RTI International is dedicated to conducting research and development that improves the human condition by turning knowledge into practice. With a staff of more than 2,500, RTI offers innovative research and technical solutions to governments and businesses worldwide in the areas of health and pharmaceuticals, education and training, surveys and statistics, democratic governance, economic and social development, advanced technology, energy, and the environment. The second largest independent nonprofit research organization in the United States, RTI maintains nine offices in the U.S., five international offices, and one international subsidiary, as well as project offices around the world.

RTI International is a trade name of Research Triangle Institute.

### Submitted September 2008

This publication was produced for review by the United States Agency for International Development. It was prepared by RTI International. The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

# I. Introduction

The United States Agency for International Development (USAID) under the President's Malaria Initiative (PMI) awarded RTI International (RTI) a contract to work with the Malawi Ministry of Health (MOH) and its National Malaria Control Program (NMCP) to implement indoor residual spraying (IRS) in Malawi. RTI has previously assisted the NMCP with its IRS program by overseeing spraying in Nkhosakota District in 2007-08. In accordance with the FY08 Malaria Operating Plan (MOP) for Malawi, PMI and NMCP would like to conduct a second round of IRS in Nkhosakota District in summer of 2008. This work plan and accompanying budget describe this activity and the associated milestones, implementation plan, and costs for the period from March 2008 to February 2009.

RTI is the prime contractor for USAID's Indoor Residual Spraying Indefinite Quantity Contract (IRS IQC), under which it has supported IRS activities in Angola, Ethiopia, Madagascar, Rwanda, Uganda, Zambia, Mali, Benin, Ghana and Kenya. Under the IRS IQC Task Order 1, USAID has requested that RTI provide similar support to the IRS program in Malawi.

Between November 2007 and January 2008, RTI and the District Health Medical Team sprayed 27,125 (preliminary count) households in Nkhosakota District. A "mop-up" round was conducted after the end of the main spray round, spraying an additional 1,183 households for a total of 28,308 households. A total of 3,280 households on the area were not sprayed, resulting in a coverage rate of 89.6 percent. The spray operation used ICON 10CS pyrethroid insecticide.

# II. Strategy for IRS Country Support

## Objective

The objective of this activity is to transfer capacity to the NMCP, DHMTs and local organizations on how to conduct an IRS spray round in Malawi. Specific activities include:

- Partnership and Collaboration: Collaborate with Malawi's NMCP, the Nkhosakota District Health Management Team (DHMT), Dwangwa Estates, PMI/CDC, USAID-Washington and USAID-Malawi to define an efficient planning process.
- Environmental Compliance: Ensure the establishment and compliance with 22CFR 216, local environmental laws and regulations. Implement an environmental monitoring and compliance program.
- Logistics Planning and Procurement: Determine the material, logistical, and financial support required for the IRS program and associated environmental compliance activities. Procure, distribute and manage use of sprayers, insecticides, and all other supplies required to carry out the proposed IRS activities, in compliance with Malawi's national policies, WHO guidelines, and the best locally available technical information.
- Capacity Building: Develop operational capacity of Malawi's NMCP and the DHMT(s) and their designated implementing partners to conduct effective, safe and well-managed future IRS operations. Increase technical skills and capability of Malawi NMCP staff through short-term and long-term technical assistance.
- Implementation of IRS Programs: Provide operational management support of IRS activities (including field oversight, planning, and day-to-day management) and technical

assistance. Establish an effective and lean management structure in Malawi to efficiently implement the IRS program with quality control measures and conform to international standards as described in WHO guidelines on IRS.

- Technical and Financial Support: Provide support for IRS implementation, including training of spray operators, IEC workers, store keepers, drivers, supervisors, district program managers and clinicians.
- IEC Campaign: Carry out community mobilization, education and promotion of spraying activities in coordination with IRS operations.
- Entomological Surveillance: Provide operational support to CDC and the Malaria Alert Centre and national partners for the assessment of the entomological situation in Malawi.

RTI will also work in collaboration with other USAID partners as directed by USAID/Malawi and PMI staff to ensure comprehensive and coordinated support for the implementation of IRS. In the first round the involvement of a Peace Corps Volunteer in Nkhotakota contributed to the success of IRS there. RTI hopes that any Volunteers posted in this and future IRS areas will participate in trainings and implementation as their duties allow.

Our partner for procurement is Crown Agents USA, which will support the equipment procurement component of the PMI IRS Project in Malawi. Crown Agents has a long history of working in Africa, including providing similar services to Malawi 2007 as a subcontractor to RTI through the IRS IQC. Crown Agents is currently working in more than 100 countries to support the procurement needs of a wide array of international development agencies and institutions.

RTI is committed to delivering and maintaining the highest quality services and technical standards for the PMI IRS Project in Malawi. All IRS activities are conducted strictly within the limits of relevant environmental law and treaties (22 CFR 216, Malawian laws and regulations, and regional and international treaties such as the Basel Convention and Stockholm Convention) using open and transparent procedures for pesticide selection, mitigating risks, ensuring safe storage and inventory control of pesticides, safe disposal of waste, and thorough monitoring of all spray activities to protect the health of IRS program staff and community members.

### **III. IRS Activities**

#### **Planning and Assessment**

##### ***Logistics Assessment***

Round two of IRS in Nkhotakota will target the same area and population as round one, around 28,000 households. Because this territory has been visited extensively, planning and quantification for round two will be better informed and can build on lessons learned in round one. Facilities needed to accomplish the spray round are already identified and have been brought into compliance before and during round one. Some improvements and modifications have been recommended by field staff following round one and these will be incorporated into the planning for round two. Most IRS programs in Africa see an increase in acceptance and coverage rates in subsequent spray rounds. Malawi should be the same and the project will plan accordingly.

##### ***Environmental Assessment and Compliance***

To support the launch of PMI Year 1 activities in Malawi in 2007, RTI developed a Supplemental Environmental Assessment (SEA) for IRS activities in Malawi. This SEA was approved by USAID and contains information on public health pesticide management activities in Malawi; pesticide requirements and the current regulatory status of proposed insecticides; and proposed mitigation and M&E activities in Malawian malaria control programs and explores other topics as required by US Code of Federal Regulation Title 22 Section 216 (22 CFR 216) concerning pesticide use.

RTI also conducted an environmental compliance visit to Malawi during the 2007/08 spray round in December 2007. This compliance report noted areas of excellence as well as areas needing improvement and specified measures to be taken in response. These recommendations were addressed and all issues were brought into compliance. All environmental compliance recommendations from round one will be incorporated into round two.

## **Procurement and Logistics**

### ***Procurement of Pesticide and Related Supplies***

Following the first round of spray operations, RTI will conduct a logistics needs assessment to determine additional IRS commodities required for spray operations in round two. RTI will arrange all procurement, shipping, delivery, and storage of compression sprayers, spare parts, sprayer maintenance kits, insecticides and personal protective equipment. Procurement quantification and specifications will be completed by early June and provided to PMI/Malawi for review. Orders will be placed in June.

## **IEC Development and Implementation**

### ***IEC Material Design and Production***

The PMI IRS Project in Malawi will adapt and modify the IEC materials used in round one based on input from the DHMT and input gathered from householders and community meetings. All materials will be in local language and suited to local customs and culture. Round two will make more extensive use of Village Health Volunteers for community-based, door-to-door outreach as this proved to be very effective in round one.

IEC materials will be revised in collaboration with the DHMT IEC Officer and staff, with inputs from CDC and NMCP. Translations will be done in Nkhotakota and approved by NMCP before use.

### ***Training of IEC Mobilizers***

The IEC mobilizer training in round two will be expanded and improved, and will incorporate the use of Village Health Volunteers. Building on the lessons of round one, the training will carefully review any communications issues found in the first round and take the necessary steps to assure smooth operations and an informed populace.

### ***IEC Campaign Implementation***

The IEC campaign will be implemented in two phases. During the first phase before the start-up of IRS, the IEC mobilizers will visit villages, chiefs, local leaders, and to the extent possible, individual households within the spray area to announce the upcoming spray activity and to inform residents about IRS and how to cooperate with the IRS teams. During the second phase, and one day before the

IRS operators move into the designated area, the mobilizers and Village Health Volunteers will again announce the activity and visit each household to inform residents about spraying. During the actual spraying Village Health Volunteers will assist householders with any questions they may have and with complying with the requirements of spraying (furniture removal, staying outside for four hours, etc.) During contacts, the IEC mobilizers will distribute pamphlets about IRS and how to comply with IRS operations. A radio campaign educating the public about IRS operations and announcing dates will support the community based IEC.

## **IRS Operations**

Round two IRS in Nkhotakota is scheduled to begin October 1, 2008. CDC and Medical College are monitoring the residual efficacy of the pesticide used in round one (and other entomological indicators) to ascertain the duration of residual action on the local substrates. This will help fine tune the timing of round two, which will be adjusted if necessary after consultation with relevant partners and stakeholders.

### ***Training***

RTI will lead a training of trainers in collaboration with the NMCP, Nkhotakota DHMT and the staff of the Dwangwa Sugar Estates to provide DHMT staff and supervisors with information on IRS operations. The training of trainers will be followed by training of spray operators, who will be recruited within each district. The training of trainers and spray operators serves as a critical aspect of the program to ensure trainers and spray operators are knowledgeable in application techniques including environmental monitoring and compliance, use, and maintenance of spray equipment.

Similarly, RTI, in collaboration with the Nkhotakota DHMT, will conduct training for IEC mobilizers and subsequently Village Health Volunteers on the communications requirements and skills for IRS.

Cleaning workers who wash personal protective equipment (PPE) and other equipment will also receive training on safety and quality aspects of their tasks. Drivers, storekeepers and any staff who will come into contact with pesticide will be trained in personal and environmental safety as it relates to their duties.

The training of spray operators will lead into the start of IRS operations in all districts. One hundred twenty-five spray operators will be divided into teams of 5 comprising 5 spray operators and 1 team leader. Spray teams will be managed and monitored by Supervisors and a field Operations Coordinator to ensure RTI's goal of providing day-to-day operational management and support for IRS implementation, including all aspects of monitoring and quality assurance. RTI will maintain records of program performance reports which demonstrate adherence to WHO technical standards, quality of training and supervision, procurement activities, and environmental compliance.

## **Other Activities**

### ***Environmental Compliance***

The Malawi SEA was completed during the implementation of the first spray round to satisfy the regulatory requirements of the National Environmental Council and 22 CFR 216. The SEA covers round two in Nkhotakota. The Environmental Council has asked to be included in inspections of future IRS operations. This request will be honored and full cooperation will be extended to the

council to facilitate their role in environmental protection. During spray operations, RTI will conduct an Environmental Compliance Inspection to assure that all requirements of the SEA are met.

### ***Capacity Building***

All IRS activities are done with the aim of developing the capacity of NMCP and DHMT staff to plan, implement, and monitor IRS on their own. Members of the Nkhokotakota DHMT have developed impressive expertise in running spray operations. Malawi intends to expand IRS into six more districts and this will require developing the capacity in these districts to implement IRS.

To begin, the project will bring representatives from Karonga, Nkhata Bay, Salima, Mangochi, Chikawa and Nsanje to participate in spray operator training and to engage in hands-on spraying and day-to-day management of operations. This will provide actual experience in operations and allow the visitors to learn what goes into IRS firsthand. This is a new activity not included in round one and is listed separately in the budget as a special activity.

Following the end of the Nkhokotakota spray round, RTI Logistics Advisors will visit each of the Districts where IRS will be implemented. They will work with the District Health Management Teams to plan the following activities necessary to implement IRS:

- Logistics Assessment, including storage facility inspection and upgrade planning, and environmental compliance planning
- Geographic Reconnaissance, including area mapping and spray team scheduling
- Training Needs Assessment and training plan
- IEC and Community Mobilization planning

### ***Lessons Learned***

The District Health Management Team with RTI support conducted community meetings in March/April, 2008 in the spray area of Nkhokotakota District to assess and record community views and responses to round one of IRS. This activity will be repeated for round two.

The project will conduct a “lessons learned” workshop in Lilongwe to review the lessons of round one and build broader participation for round two.

## **IV. Management Plan**

### **Staffing and Organization**

For round two, RTI will recruit and post a Chief of Party (COP) to supervise and coordinate all aspects of the program. Based in Lilongwe with considerable travel to the field, the COP will retain overall responsibility for managing RTI and partner activities under this project. S/he will serve as the first point of contact for USAID on project management and performance and will provide guidance and on-site supervision for all IRS project activities in Malawi. S/he will coordinate with USAID and the NMCP on project performance and implementation issues and provide quality control and technical guidance to the provincial team’s malaria control activities.

The project will maintain a lean staffing presence in Malawi but maintain quality operations. Charity Mauluka will continue as Office Manager. The project will engage a Finance Specialist and an Environmental Compliance Specialist for round two. As in round one, the project will engage spray

operators, team leaders, supervisors, store keepers, cleaning staff, drivers, data entry workers, and other field staff as necessary during spray operations. Round two will use fewer operators over a longer period of time, around 125 operators.

Ms. Barbara Kennedy (North Carolina) serves as RTI’s IRS IQC Acting Project Director. Mr. Abrar Sattar (Research Triangle Park, NC) serves as Project Administration Specialist. Jake O’Sullivan (Washington, DC) serves as Home Office Technical Manager for Malawi. Environmental compliance is overseen by Tito Kodiaga in Washington, DC and Autman Tembo in Nairobi, Kenya.

The table below (page 7) represents RTI’s plan to provide technical assistance.

**Table 1: Strategic Technical Assistance and TDY Plan**

Name	Type of TA (consultant, RTI employee, local, international)	Coming from (USA or Nairobi)	Tasks to be undertaken or activities to be supported	Number of visits
Jake O’Sullivan	RTI employee	USA	Technical and administrative support under the role of country task manager to include work plan and budget development, overall project management and operations assistance	3
John Chimumbwa	RTI employee	Nairobi	Technical support under the role of technical director for the IRS program to include training of trainers and key national technical meeting attendance	2
Environmental Compliance Specialist	RTI employee	Nairobi	Environmental monitoring and compliance support under the role of environmental scientist for the IRS program to include environmental monitoring plan development, trainings and assessments	2
Francis Kithuku	RTI employee	Nairobi	Financial management support under the role of finance manager for the IRS program	2
Sam Mesfin	RTI employee	Nairobi	Financial and administrative oversight	1
Logistics Advisor	RTI employee	Nairobi	Logistics Assessments and other planning in the six districts planning on implementing IRS in 2009	3

## V. Monitoring and Evaluation

M&E systems are crucial to good project management and maximizing project impact. The RTI team will collect, analyze, and report M&E data internally and externally to inform the MOH, NMCP, USAID, and other implementers and partners of the progress and results of project activities.

Currently RTI relies on data that we generate routinely as part of IRS programs in the form of Household Spray Cards. These cards are completed by individual spray operators to record the number of households they spray each day, their consumption of insecticide sachets, the number and gender of household residents, the number of rooms sprayed, the total number of rooms in the building(s) that comprise the household, and the presence and use of insecticide-treated nets.

Malawi uses the Household as the basic unit of analysis for most health studies and MIS. PMI uses Structures. For IRS the Daily Spray Cards have been redesigned in consultation with CDC and NMCP to cover both of these and also to collect the number of rooms sprayed. This will allow for

disaggregation at the Household, Structure and Room levels for analysis and reporting. Data compiling and analysis will be done in close cooperation with CDC during round two.

From these data sources, we report the following outcome indicators:

- Total number of households, structures and rooms sprayed
- Total number of people protected, with subtotals for women and children under five
- Percentage of households sprayed
- Number of people trained to deliver IRS

## Reporting

RTI views reporting deliverables as critical tools to evaluate program performance and maintain communication channels with the program’s stakeholders. During spray operations, the project will submit weekly updates to USAID and the NMCP detailing operational progress. RTI will participate in regular IRS taskforce meetings and other meetings as required by USAID, PMI and NMCP. Upon approval of this work plan, the project will consult with the CTO and NMCP managers to confirm routine procedures for satisfying the following reporting requirements:

- Financial reporting in accordance with 22 CFR 226 and quarterly reports of pipeline status and funds usage (“burn rate”)
- Performance monitoring and reporting, to include:
  - Quarterly performance reports
  - An annual work plan (including implementation plan, management plan, and budget)
  - Response reports and presentations
  - Final report

RTI will establish routine reporting procedures, expected formats, and deadlines for submission. Due to the complexities of managing IRS programs, RTI will ensure that the reports document operational, technical, and financial management of IRS activities, including achievements to date, programmatic impacts, and lessons learned. In addition to meeting USAID’s reporting requirements, RTI proposes to submit spraying performance reports at the end of each round of spraying with a full assessment of the quality of work done, operational measures taken, environmental impact, and cost analysis of spraying activities.

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# Attachment % Malawi Implementation Plan and Timeline

For period from March 2008 to February 2009

Component	Activity	Person/ partner Responsible	Project Month												Key Milestones	
			M	A	M	J	J	A	S	O	N	D	J	F		
<b>Project Start-up/ Mobilization</b>	Work plan submitted	RTI (Task Manager)			X											Country work plan approved by USAID.
	COP recruited	RTI (Task Manager)				X	X									
	Finance Specialist recruited					X	X									
<b>Planning and Assessment</b>	Discuss implementation timeline and workplan with USAID Mission and PMI partners					X										Plans approved.
	Discuss upcoming spray operations, IRS program with NMCP, Environmental Council, DHMT, Dwangwa Sugar Estates			X			X	X	X							
	Update logistics needs assessment							X								
	Update geographic reconnaissance							X	X							
	Conduct lessons learned workshop							X	X							
<b>Procurement and Logistics</b>	Develop technical specifications	RTI Environmentalist	X	X	X											Technical specifications released. Vendors selected. Insecticide, PPE and equipment delivered
	Quantify procurement needs	RTI				X										
	Release tender notice for procurement	Crown Agents				X	X									
	Receive pesticide, PPE and equipment, secure storage	Crown Agents--RTI						X	X							
<b>IEC Development &amp; Implementation</b>	IEC lessons learned and planning workshop, Nkhotakota	RTI and DHMT						X								Workshop complete. IEC materials designed and tested. Training completed. Campaign launched.
	New/revised materials designed and tested	RTI and DHMT					X									
	IEC TOT	RTI and DHMT					X									
	Recruit and train mobilizers	RTI and DHMT							X							
	Train village health volunteers	RTI and DHMT							X							
	Conduct IEC in coordination with IRS	RTI and DHMT							X	X	X					
<b>Spraying Operations</b>	Identify and recruit supervisors, team leaders															District staff recruited and trained. Medical check-ups completed. Training completed. Spraying launched. Spraying completed. Equipment and supplies recaptured.
	Conduct TOT						X									
	Conduct spray operators training							X								
	Conduct storekeeper, driver, cleaning staff, training							X								
	Conduct clinicians training	RTI, DHMT, Dwnagwa Estates Clinic							X							
	Spray									X	X					
<b>Monitoring &amp; Evaluation</b>	Spray reports during operations	RTI (COP)								X	X					Reports submitted to USAID. Post-round evaluation completed.
	Post-spray evaluation report	RTI (COP)												X		
	MORA and other routine indicator reporting			X			X			X						
<b>Post Spray Operations</b>	Medical check-up of operators									X	X					Equipment safely stored and/or handed over Meetings held
	Equipment recapture, maintenance, and inventory										X	XX				
	Community assessment meetings												X			
<b>Capacity Building in new districts</b>	Planning Visits for Logistics Assessments, Geographic Reconnaissance and other preparatory capacity building in six districts implementing IRS in 2009	RTI Logistics Advisors, COP									X	X	X	X	Districts have IRS LA, GR, IEC, Training, and Enviro-Compliance plans.	

## Attachment 2: Malawi Countdown Calendar

For period from March 2008 to February 2009

Component	Key Milestone	Date to be Completed	Status (e.g., date achieved)	Antecedent to:
<b>Project Start-up/ Mobilization</b>	Country work plan approved by USAID	June 2008	Submitted, reviewed June 08	Operations
	Recruit and orient Chief of Party	June/July 2008		Project implementation
<b>Planning and Assessment</b>	Logistics assessment updated for round two	August 2008	Logistics needs completed.	Planning scope and scale of operations and procurement to be required
	Agreement reached with USAID and government on pesticide selection	January 2008	Achieved	Procurement
	Supplemental Environmental Assessment completed	Round one	Done	Finalization of EA and approval
	SEA approved by USAID	Round one	Done	Permission for spray operations
	EIA approved by National Environmental Council	March 2008	Letter signed 13 March 08	Procurement and operations
	Lessons learned workshop	Aug/Sept 2008		Institutional learning and round 2 planning
<b>Procurement &amp; Logistics</b>	Technical specifications for tenders approved and released	June 2008		Ordering supplies for spraying
	Vendor selection and procurement process completed	July 2008	4/17/08	Delivery of supplies for spraying
	Insecticide and PPE delivered	August/September 2008		Initiation of spray operations
<b>IEC Development &amp; Implementation</b>	IEC implementation plan completed	July 2008		IEC material design/update
	IEC material designs and implementation plan approved	July 2008		Production of materials
	IEC materials produced and delivered to project	August 2008		Training of IEC implementers
	Training of IEC mobilizers/village health volunteers completed	September 2008		Implementation of IEC campaign
	IEC campaign launched	September 2008		Spraying operations
<b>Spraying Operations</b>	Geographic reconnaissance completed	August Sept 2008		Team assignments and logistics arrangements
	District staff recruited, oriented and trained	August/Sept 2008		Training and operations
	Operational logistics and environmental mitigation set up at operational sites	August 2008		Spraying operations
	Medical check-ups (including pregnancy tests) for sprayers, supervisors, warehouse staff, cleaners, etc. completed	1-2 weeks prior to operations and post spray		Permission to spray
	Training of spray operators completed	End Sept 2008		Spraying operations
	Spray operations launched	Oct 1. 2008		
	Spraying operations completed	End November 2008		Recapture and proper management of equipment and supplies
	Equipment and supplies recaptured and securely disposed or stored	End November 2008		Environmental compliance
	Post-spraying evaluation conducted	December 2008		Final report production
	Final report produced and submitted to USAID	February 2009		