



PRESIDENT'S MALARIA INITIATIVE

INDOOR RESIDUAL SPRAYING FOR MALARIA CONTROL



Zambia FY08 Work Plan

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

June 2008

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

Prepared for:
United States Agency for International Development

Prepared by:
RTI International
3040 Cornwallis Road
Post Office Box 12194
Research Triangle Park, NC 27709-2194

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.

April 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

Zambia is implementing indoor residual spraying (IRS) for malaria control as part of an integrated vector control management (IVM) strategy. Spraying began in 2003 following the success of IRS by the private sector (Konkola Copper Mines). The spraying program is under a five-year (2006-2010) National Malaria Strategic Plan, which has an overall objective of reducing malaria incidence by 75% by 2010. IRS is implemented by the National Malaria Control Centre (NMCC) of the Ministry of Health. Additional resources and technical support are mobilized through a number of external partners, including the United States Agency for International Development (USAID), Roll Back Malaria partnership, Malaria Control and Evaluation Partnership in Africa (MACEPA), World Health Organization (WHO), Global Fund for HIV/AIDS TB and Malaria (GFATM), and the World Bank.

USAID under the President's Malaria Initiative (PMI) awarded RTI International (RTI) a contract to work with Zambia's Ministry of Health (MOH) and its National Malaria Control Centre to provide technical assistance and support to IRS and other malaria control and prevention activities in Zambia. In 2006, the Zambian Ministry of Health, with the support of USAID, implemented spray rounds in fifteen of the 72 districts in Zambia using DDT, lambda-cyhalothrin, and alpha-cypermethrin. By December 3, 2007, spraying covered 604,984 households. The MOH plans to expand IRS to 21 more districts in 2008.

The PMI will continue to support IRS through the IRS IQC in FY2008 in the 15 districts already supported by assisting in procurement of pesticides, continuing support to ensure that environmental safeguards are in place and the program adheres to environmental regulations, and refurbishment of storage facilities. This work plan and accompanying budget describes those activities, their associated milestones, implementation plan, and costs.

This work plan covers the period from January 1 to December 31, 2008.

II. Strategy for IRS Country Support

The overall objective of the PMI IRS Project in Zambia is to help the MOH and the NMCC provide IRS to 85% or more of the targeted population, thereby contributing to a 75% reduction in malaria. RTI will work in support of and in full collaboration with the NMCC to support IRS campaign as an integral part of the government's malaria control program.

The project's proposed activities for fiscal year 2008 will be:

- Procure pesticides (DDT and pyrethroids) for use in fifteen districts.
- Upgrade storage/staging facilities used in IRS to bring them into compliance with environmental regulations as specified in the Supplemental Environmental Assessment (SEA).
- Support the Environmental Council of Zambia (ECZ), and the Chemistry Department, University of Zambia, in efforts to monitor for DDT in the environment.

III. Activities

Procurement

RTI's partner for procurement, Crown Agents USA, will support the pesticide procurement component of the PMI IRS Project in Zambia as it did in 2007. Necessary pesticides and other equipment will be procured, delivered in country, and in place in the districts in time for the annual spray season in early September.

Environmental Assessment and Compliance

Zambia was one of the first of the fifteen PMI countries in Africa to make extensive use of DDT to fight malaria. This pesticide has a long history around the world, having been used in the fight against malaria and other vector borne diseases for over five decades. It is also a persistent organic pollutant, and as such requires more numerous and more complex steps to mitigate risk and assure the health of sprayer operators and household residents. RTI was therefore tasked to develop a Supplemental Environmental Assessment (SEA) for Zambia, including a safer use action plan in accordance with US environmental compliance requirements (22 CFR Part 216) and Zambian regulations. This year this will include a pre-spray inspection as well as an environmental compliance inspection during spray operations.

- Environmental Plans for Zambia for 2008
 - RTI will construct evaporation tanks for disposal of DDT waste in districts that do not meet the requirements for DDT disposal. A technical specialist, Edwin Katota, has been hired to identify contractors to construct the evaporation tanks in all the districts. Tenders will be awarded competitively to different contractors who will execute the works simultaneously before the end of July 2008. Mr. Katota on the ground will supervise and oversee the construction works.
 - RTI will construct washroom facilities for the spray teams in the districts that do not meet the requirements for ensuring that human health and safety requirements for DDT handling are met. As above, Edwin Katota will specify the work to be done, and competitively bid the work as well as provide oversight of the construction work.
 - RTI's environmental inspectors will undertake pre-spray inspection as well as inspection during the actual spraying to verify compliance with the mitigation measures proposed in the SEA.
 - Revise and amend the SEA for 2008, to be submitted by May 1.
 - Commence monitoring of DDT level on the environment by undertaking regular monitoring studies and tests on different aspects of the environment including soil, water, invertebrates, crops and other environmentally sensitive ecosystems. RTI will work jointly with the University of Zambia in developing capacity of the local staff to undertake compliance monitoring for DDT.
 - Recruitment of an environmental specialist to be based in Zambia and work with the IRS partners regularly to ensure compliance and monitoring is achieved.

Facilities Refurbishment

The 2007 SEA and previous compliance evaluations highlighted the need for improving the storage and other facilities in the IRS service points to enhance human health and environmental safety linked to IRS implementation and to achieve full compliance with SEA requirements. With the concurrence of USAID/Zambia, an assessment of existing facilities was undertaken and needs prioritized. A basic minimum upgrade will make it possible for each of the 15 districts plus an additional service point in Lusaka district to improve compliance with relevant parts of the SEA.

RTI has defined the standards to be met for compliance, and engaged the services of a consultant, Edwin Katota, to evaluate and prioritize repairs and refurbishments needed to bring facilities into compliance. Based on his assessment, Mr. Katota will write specifications for bids on the work to be done, collaborate on evaluating bids received, and participate in oversight of work. This is a high priority activity. RTI's contracts and finance specialists will review all steps of the contracting process to assure compliance with USAID regulations.

Environmental Monitoring

In order to minimize risk to human health and livelihood and to assure that DDT is not entering into the environment above recommended levels it is necessary to conduct systematic monitoring of soil and other media where DDT residue might be found. RTI will support the Chemistry Department, University of Zambia, in efforts to monitor for DDT in the environment. This support will include:

- Adapting RTI's environmental monitoring Quality Assurance Project Plan to the IRS situation in Zambia, in close collaboration with the University of Zambia.
- Assessing the University of Zambia lab and determining any additional needs for quality sample analysis.

Additionally, RTI will support the University of Zambia to determine the appropriate sampling media and locations on an as-needed basis. This activity will support quality decision-making in malaria vector control interventions in Zambia and fulfill USAID's requirement for environmental monitoring under 22 CFR 216.

IV. Management Plan

Staffing and Organization

Because operational aspects of IRS in Zambia are implemented by the HSSP project, RTI has not posted any resident staff in Zambia so far. Due to the increasing scope, quantity and complexity of environmental compliance tasks the project would like to field an Environmental Compliance Specialist/Chief of Party to work with and within NMCC and ECZ to assure that IRS activities supported by PMI in Zambia are in compliance with relevant regulations are held to the highest possible standards.

In order to maintain the highest integrity and standards of the procurement and contracting process, the project will recruit and post a Finance Specialist to oversee the financial

management of the facilities refurbishment activity. This will be a local hire, and may be a temporary position, a minimum of six months.

Barbara Kennedy (North Carolina) serves as Interim Project Director. Mr. Abrar Sattar (North Carolina) serves as Project Administration Specialist. Jake O'Sullivan (Washington) serves as country Task Manager for Zambia. Environmental Compliance is overseen by Tito Kodiaga in Washington and Autman Tembo in Nairobi with assistance from Jacob Williams in Washington and Jeffrey Nichol in North Carolina.

The following table represents RTI's plan for providing technical assistance:

Table 1: Strategic Technical Assistance and TDY Plan

Name	Type of TA (consultant, RTI employee, local, international)		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	1 (two weeks)
Chandana Mendis	RTI employee	Mozambique	Technical and administrative support in all aspects of IRS	2 (1-2 weeks each)
Tito Kodiaga	RTI employee	USA	Supplemental Environmental Assessment Amendment	1 (two weeks)
Environmental Compliance Specialist	RTI employee	Nairobi	Environmental monitoring and compliance support. Environmental monitoring plan development, trainings and assessments	2 (two weeks each)
Abrar Sattar	RTI employee	USA	Financial and Administrative oversight	1 (one week)
Sam Mesfin	RTI employee	Nairobi	Financial and Administrative oversight	1 (one week)
Environmental Scientist (DDT monitoring specialist)	RTI employee	USA	Set up environmental monitoring program, work with University of Zambia to define and implement DDT monitoring.	1 (two weeks)

Attachment 1: Zambia Implementation Plan and Timeline

For Period from January 1 to December 31, 2008

Component	Activity	Person/ partner Responsible	Project Month												Key Milestones		
			J	F	M	A	M	J	J	A	S	O	N	D			
Planning and Assessment	Discussions with USAID and government on pesticide selection	RTI (Jake O'Sullivan), USAID, NMCC			X	X											SEA approved. Pesticide selected.
	Conduct Supplemental Environmental Assessment	Tito Kodiago				X											
	SEA approved by USAID	USAID					X	X									
Procurement and Logistics	Develop Quantification and Specification	NMCC				X	X										Technical specifications released. Vendors selected. Insecticide, PPE and equipment delivered
	Develop and release technical specifications for tenders	CROWN AGENTS					X	X									
	Review and complete vendor selection and procurement	CROWN AGENTS						X	X								
	Accept delivery of commodities	NMCC									X						
	Insecticide and PPE delivered	CROWN AGENTS									X						
Facilities refurbishment	Engage consultant to evaluate and prioritize repairs	RTI (Jake O'Sullivan)	X	X	X	X	X	X	X	X	X						Specifications itemized Tenders issued Bid evaluation complete and contractors selected Work begun Work completed
	Develop and release bid tenders specifying the work to be done, location, quantity and timeline	RTI (Edwin Katota)			X												
	Issue tenders to qualified bidders	RTI (Edwin Katota)					X										
	Establish minimum standards for contractors						X										
	Investigate qualifications, licensing, insurance, references, etc. of bidders	RTI (Edwin Katota)					X										
	Perform a bid analysis of acceptable bids	RTI (Edwin Katota, Abrar Sattar)					X										
	Develop schedule of operations so that facilities will be operable in time for 2008 spray round	RTI					X										
	Construction	Contractors					X	X	X	X	X						
IRS Operations	Spray season									X	X	X	X				
Environmental monitoring	Recruit and hire an environmental specialist to be based in Zambia	RTI						X									Specialist hired and in place MOU with U of Zambia signed Quality Assurance Plan revised Monitoring/sampling and analysis ongoing
	Work with University of Zambia staff, the NMCC and ECZ to refine and adopt monitoring plans and protocols	RTI (Jeffrey Nichol)					X	X									
	Evaluate U of Zambia lab to assess testing	RTI (Jeffrey Nichol)					X	X									

Component	Activity	Person/ partner Responsible	Project Month												Key Milestones	
			J	F	M	A	M	J	J	A	S	O	N	D		
	infrastructure, including trained personnel, facilities, support systems, and quality assurance processes and procedures															Environmental Compliance inspections complete and reports submitted
	Revise Quality Assurance Project Plan.	RTI (Jeffrey Nichol), University of Zambia					X	X								
	As needed, provide technical assistance on sample sites, sample media, collection frequency, and sample size	RTI (Jeffrey Nichol)					X	X	X	X	X	X	X	X	X	
	Revise and finalize the Zambia plan for Quality Assurance	RTI (Jeffrey Nichol) University of Zambia						X								
	Conduct inspections prior to and during spray operations to verify compliance with the mitigation measures proposed in the SEA	University of Zambia								X			X			

Attachment 2: Zambia Countdown Calendar

For Period from January 1 to December 31, 2008

Component	Key Milestone	Date to be Completed	Status	Antecedent to:
Planning and Assessment	Agreement reached with USAID and government on pesticide selection	April 2008		Procurement
	Supplemental Environmental Assessment completed	May 2, 2008		Finalization of SEA and approval
	SEA approved by USAID	June 20, 2008		Permission for spray operations
Procurement & Logistics	Quantification and Specification completed	May 16, 2008		Ordering pesticides and equipment
	Technical specifications for tenders approved and released	June 9, 2008		Ordering pesticides and equipment
	Vendor selection and procurement process completed	July 7, 2008		Delivery of supplies for spraying
	Compression sprayers delivered	August 15		Spray operations
	Insecticide and PPE delivered			Initiation of spray operations
Facilities Refurbishment	Develop bid tenders specifying the work to be done, location, quantity and timeline	March 2008		Request for tenders
	Issue tenders to qualified bidders	May 2008		Commencing construction
	Establish minimum standards for contractors	May 2008		Commencing construction
	Investigate qualifications, licensing, insurance, references, etc. of bidders	May 2008		Commencing construction
	Perform a bid analysis of acceptable bids	May 2008		Commencing construction
	Develop schedule of operations so that facilities will be operable in time for 2008 spray round	May 2008		Commencing construction
	Begin construction	May/June 2008		Completing construction
	Construction completed	September 2008		Being in Compliance with environmental regulations
Environmental Monitoring	Work with University of Zambia staff, the NMCC and ECZ refine and adopt monitoring plans and protocols	May 2008		U of Zambia having capacity to conduct environmental sampling and testing
	Evaluate U of Zambia lab to assess testing infrastructure, including trained personnel, facilities, support systems, and quality assurance processes and procedures	May 2008		
	Revise Quality Assurance Project Plan	May 2008		
	Provide any technical assistance on sample sites, sample media, collection frequency, and sample size, etc. as needed	May 2008		
	Revise and finalize the Zambia plan for Quality Assurance	June 2008		U of Zambia implementing Environmental monitoring