



PRESIDENT'S MALARIA INITIATIVE



## INDOOR RESIDUAL SPRAYING FOR MALARIA CONTROL

# Ghana FY08 Work Plan

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

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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.

### July 2008

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# I. Introduction, Background and Summary of Country MOP

Ghana has been selected as one of the countries to receive funding under the President's Malaria Initiative (PMI). As part of an overarching strategy to reduce the malaria burden in the country, the U.S. Government is assisting the National Malaria Control Program (NMCP) of the Ministry of Health to make greater use of indoor residual spraying (IRS) to prevent and control malaria. During the first year, USAID and NMCP have agreed to focus IRS activities in 5 districts: Tolon/Kumbungu, Savelugu/Nanton, Karaga, Gushiegu and West Mamprusi.

## Objective & Expected Results

As indicated in the Malaria Operational Plan for Ghana, RTI will provide:

- Strategic, technical, management, and operations support to implement the NMCP and USAID's goal of reducing malaria-associated mortality in selected IRS districts during the first round of spraying activities.
- RTI, in line with the NMCP policy, will treat households with residual insecticide covering a population of approximately 500,000 during the first round of IRS.

Specific support for IRS implementation for FY08 will include:

- Procurement of the selected insecticide and equipment for IRS (e.g. spray pumps, personal protection equipment).
- Technical and financial support for IRS implementation for a population of approximately 500,000, including training of spray operators, IEC workers, store keepers, supervisors and district program managers.
- Financial and technical support for entomological monitoring, including insecticide resistance evaluations, to generate critical data for vector control decision-making.
- Support for environmental assessments and monitoring in line with United States Code of Federal Regulations CFR 216, and the establishment of capacity for best practices in the target districts for pesticide handling and usage for IRS.
- Technical support for program planning and implementation, data collection, protocols/guidelines development, IEC/BCC, and logistics capacity for IRS.

This work plan is for the period from September 2007 to December 2008.

## II. Overview of Strategy for IRS Country Support

RTI International, Inc. (RTI) is the prime contractor for USAID's Indoor Residual Spraying IQC, under which it supports IRS activities in a number of countries in Africa. Under the Indoor Residual Spraying IQC Task Order, USAID has requested that RTI provide similar support to the anticipated IRS program in Ghana.

RTI will work closely with its procurement partner under the IRS IQC, Crown Agents, to procure and deliver IRS commodities to Tamale and the targeted districts.

We understand the importance of including key stakeholders during planning and implementation and emphasize an approach that is collaborative and participatory. RTI will work in partnership with the GHS/NMCP to plan and implement IRS operations in the targeted districts. In addition, the IRS Program will collaborate with the Ghana's Ministry of Health (MoH)/GHS/NMCP, Ghana's Environmental Protection Agency (EPA) and other stakeholder institutions to establish and maintain a national IRS coordinating committee. RTI will work closely with Noguchi Memorial Institute for Medical Research to manage entomology monitoring and surveillance activities for IRS operations.

Recognizing AngloGold Ashanti's experience and expertise in managing IRS operations in Obuasi, Ghana, RTI intends to draw on the expertise and to work with AngloGold to coordinate and manage training of trainers and spray operators for IRS operations in the selected northern districts. RTI will work with AngloGold to rent its facilities for the training of trainers as well as include its experienced managers and spray technicians to support the practical aspects of the training program. AngloGold has also agreed to share its experienced technicians to support the practical aspects of training for spray operations in the northern region through a cost-share mechanism by which RTI will pay for per diem for the AngloGold technicians to support spray operations.

RTI will also work in collaboration with other USAID partners such as the Ghana Sustainable Change Project (GSCP) and other partners as directed by the USAID/Ghana mission and PMI staff to ensure comprehensive and coordinated support for the implementation of IRS. During the post round one IRS assessment, RTI will seek technical input from GSCP communications experts on IEC strategies.

The Integrated Vector Control Management Project (IVM II) will provide support for vector control capacity strengthening, particularly the development of relevant entomological competencies. The project will also seek to support the realization of the new IVM strategy by the MOH/GHS, especially in regards to integrating the gains achieved under the PMI IRS implementation within the national vector control strategy.

### **III. IRS Activities**

RTI has developed an effective methodology designed to provide the technical management and operational support to implement indoor residual spraying operations in the 5 targeted districts. RTI's methodology includes a well managed and country-tailored approach in planning and implementing IRS operations. We would thus tailor our technical and operational support to address USAID's goal of reducing malaria-associated mortality in the selected districts. Specifically, RTI will achieve this goal by creating an enabling environment at the national and district levels during the planning and implementation phase.

#### **IRS Program Start Up**

At the onset, RTI's Task Manager will spend 5 days conducting background research of the country through the review of the Malaria Operational Plan for Ghana, documents, reports and available literature on malaria prevention and control in Ghana. RTI's Task Manager will initiate preliminary discussions with USAID/Washington's PMI Cognizant Technical Officer (CTO), PMI Ghana Health Advisor and the mission Cognizant Technical Officer to discuss the IRS scope of work and schedule a country visit to meet with the mission, National Malaria Control Program and other relevant key stakeholders.

In Accra, the Task Manager will discuss the generic timeline for implementation of IRS, schedule required needs assessments (environmental and logistics assessments) and RTI's scope of work. The Task Manager will also schedule a visit with the National Malaria Program to discuss planning for upcoming spray operations and provide additional briefings and presentations on implementation of IRS operations in PMI countries, the IRS scope of work in Ghana and key objectives of the program as the provision of strategic and technical support to build in-country capacity at all levels to ensure the correct application of IRS and sustainability of IRS operations.

During the first and second quarters of the program planning phase, the Task Manager's visit will also focus on a number of program administrative startup activities including:

- Recruitment of key personnel including the IRS Chief of Party, Finance Officer, Logistics Officer, IEC Officer and Office Manager
- Setup of IRS program office in Accra and Tamale
- Setup of IRS bank accounts and financial management systems
- Initiate recruitment process of District Operations Team

## **Planning and Assessment**

RTI will conduct environmental and logistics needs assessments.

- Logistics assessment: Based on the logistics assessment, RTI will determine the material, logistical, and financial support required for the IRS program and associated environmental compliance activities. The logistics assessment will include site visits to the selected targeted districts to meet with regional and district authorities, assessments of storage facilities, human resource requirements for the implementation of spray activities, operational arrangements, and determination of financial resources required for the implementation of spray operations.
- Environmental assessment: The environmental assessment will satisfy the regulatory requirements of Ghana's Environmental Protection Agency and of 22 CFR 216. The Environmental Assessment (EA) will document results of the review and will detail procedures that must be followed to minimize potential risks to human health and the environment from the use of pesticides in IRS. The EA will be prepared in close collaboration with designated staff and officials of cognizant Ghanaian ministries, e.g. Health, Agriculture, and Environment. The review will also identify any specific legal requirements that must be met under Ghana law before the IRS program can proceed.

- Pesticide selection: RTI will also work closely with the GHS/NMCP, the Noguchi Memorial Institute for Medical Research and other key stakeholders to select the insecticide that will be used for IRS in the targeted northern districts.

The following threshold criteria will be recommended for the selection of the insecticide:

- Pesticide registration in Ghana
- Acceptability of the pesticide to the NMCP
- Risk to human health: Pesticide(s) must be approved by WHO and should be preferred based on their safety as described in USAID's Programmatic Environmental Assessment for Integrated Vector Management
- Risk to environment, livestock and/or agricultural trade

Additional technical and logistics considerations include:

- Vector susceptibility/resistance
- Appropriateness of surface for spraying
- Duration of effectiveness (and implications for cost)
- Cost of insecticide
- Ghana capacity to prevent pilferage

## **Procurement and Logistics**

- Procurement: Following the approval of budgetary requirements, approval of the environmental assessment, selection of insecticide of choice for IRS operations, and IRS commodity requirements generated from the logistics assessment, RTI will arrange all procurement, shipping, delivery, and storage of compression sprayers, spare parts, sprayer maintenance kits, insecticides and personal protection equipment. RTI will work with its partner Crown Agents to ensure the delivery and clearance of IRS commodities to Tamale.

## **Mobilization of IRS District Teams and Training**

- Mobilization of district teams: RTI will recruit and train the district operations management team consisting of a district operations manager, IEC Assistant, Logistics Assistant, and Finance Assistants to setup IRS operational sites within each district. The Districts Management Team will ensure that environmental mitigation activities such as setup of soak pits, progressive rinse systems, secure dedicated storage facilities and detail planning to retrieve and store empty insecticide sachets are instituted within each district. In addition, the district management team will oversee logistics management and transport arrangements to support spray activities. RTI will provide District Authorities with the selection criteria for spray operators. Spray operators will be recruited within the targeted districts by district health authorities, local leaders and other key stakeholders based on the operational requirements of each district. RTI will conduct medical check-ups for spray operators selected for training.
- Training: RTI will lead a training of trainers in collaboration with AngloGold Ashanti at its Malaria Centre to provide training on IRS operations to district health authorities,

environmental officers, disease control officers, and central and regional level officers within the Ghana Health Service/NMCP. The training of trainers will be followed by training of spray operators 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 trained in application techniques including environmental monitoring and compliance, use, and maintenance of spray equipment.

The training and final selection of spray operators will precede the start of IRS operations in all districts.

RTI will engage Ghanaian staff and NMCP/MOH officials through the planning phase, capacity building activities (such as training of trainers), and supervision to help them succeed in their duties. This is referenced with detailed roles and responsibilities of RTI and GHS/NMCP in the scope of work for Ghana IRS activities and the Environmental Assessment for IRS operations in Ghana.

RTI will work with the NMCP to conduct training on the management of pesticide poisoning for selected physicians and other health workers in the district. The training will focus on early recognition and management of pesticides poisoning. District reference hospitals will be designated to treat incidents of poisoning.

## **IEC Development and Implementation**

A critical aspect of the IRS program is Information, Communication, and Education (IEC), which informs beneficiaries about the IRS program, about what they should expect, how it is beneficial to them and their family's health, and what precautions they need to take. The intent of the program is to prepare households and ensure their willingness to have their houses sprayed. To that end, RTI will lead efforts in community mobilization, conduct focus group discussions for the development of IEC materials, and manage education and training programs for the promotion of spraying activities. RTI will work closely with the NMCP and the Health Promotion Unit of the MOH to identify existing mechanisms within the communities such as collaborating with community health workers, educate the community, and distribute IEC material.

Recognizing that Ghana has a well established system of local governance through which public health campaign messages are frequently communicated, the effectiveness of this system depends in part on District Assemblies and local leaders.

Specific objectives of the IRS IEC campaign are to:

- Create long term sustainability of the program by involving and engaging key stakeholders;
- Inform the beneficiaries about the positive benefits of IRS in controlling and preventing malaria and malaria related deaths;
- Inform the beneficiaries about their role before, during and after the spray operations; and

- Inform the key stakeholders and beneficiaries about the environmental safety issues and allay fears related to environmental and health effects of using the chosen insecticide.

The IEC campaign for Ghana will begin at least two to three months prior to the start of the spray operations. RTI will utilize the following channels of communication: print media, radio communication, mobile vans, and interpersonal communications. Materials developed for print and radio will be reviewed and approved by the PMI Ghana Team, NMCP, and the Health Promotion Unit within the Ministry of Health. Materials and radio spots will be primarily in English and/or Dagbani.

RTI, with assistance from the NMCP, will involve the Northern Regional Health Promotion Unit, Northern Regional Health Authorities, District Assemblies, Department of Community Development, Department of Women's Affairs, Department of Education and Department of Children's Affairs to:

- Sensitize the local leaders and government functionaries. The IEC team will work with districts and local chiefs to mobilize communities and educate them about IRS.
- Make arrangements for a series of briefing meetings at the regional and district levels since this is the first time an IRS program is being implemented in the northern region.
- Facilitate the selection and use of community volunteers as IEC implementers.
- Facilitate community meetings with local leaders, arrange for gong gong beatings, announcements, radio discussions, and mobile vans.

Use of IEC Implementers: RTI will work with District Authorities to recruit community volunteers experienced at mobilizing communities and sharing district related health activities. These community volunteers will serve as full time IEC implementers trained by the RTI IEC Officer to conduct door-to-door communication about the IRS program and the preparatory activities required of the community. These IEC implementers will be divided into several teams by the RTI IEC Officer and District Authorities based on systematic grouping of communities within each district. Each IEC implementer will be requested to target at least 30 households per day and will serve as a part of an IEC team supervised by a team leader/supervisor. The supervisor will report to the IEC Assistant and will be responsible for the scheduling, route planning, and monitoring of the activities of the IEC implementers. IEC Assistants in each district will be responsible for maintaining oversight of IEC activities at district level and ensuring coordination of spray operations with IEC activities.

A week in advance of the arrival of the spray team IEC implementers will intensify door to door communications in coordination with the spray operational plan. IEC implementers will conduct door-to-door dissemination of IEC messages, reminding targeted spray communities 3 days, 1 day and a few hours before spraying operations. IEC implementers will continue to work in this capacity throughout the duration of the spray operations.

## **IRS Spray Operations**

RTI will divide spray operators into teams of 4 spray operators and 1 team leader to ensure strict supervision during the implementation phase. Spray teams will be managed and monitored by Supervisors and Operational Site Managers within each district. Operational Site Managers and

spray teams will in turn be supervised by the Districts Management Team 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. Each district will maintain an operational spray plan indicating sub districts and communities to be sprayed during spray operations. During the first week, spray leaders at each operational site will meet at the end of the day to discuss the day's events, challenges faced, and recommendations for resolving problems. The operational site leadership team will continue to have these meetings frequently and will meet at the end of each week, to review the week's achievements as well as plan for the following week. Where necessary the spray leadership team will make adjustments to the spray operational plan. 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.

RTI will host a post-IRS evaluation meeting with key stakeholders including USAID, NMCP, Noguchi, and Regional and District Authorities to discuss results from the spray operations, key achievements, challenges faced, and lessons learned.

## **Round II Planning**

During the initial planning stages for round two spray operations, RTI's Technical Director and Chief of Party will hold a series of technical meetings with NMCP, Noguchi, PMI/Ghana and other key stakeholders to discuss and re-assess the current approach of conducting spray operations once a year based on transmission cycles, entomological surveillance results from round one spray operations and duration of the effective action of the insecticide of choice.

RTI's Chief of Party, Napoleon Graham, will build on best practices and lessons learned from round I spray operations to initiate discussions and planning for selected districts for round II spray operations with the PMI Ghana Team, NMCP, and Regional and District Authorities. During the program planning phase, the COP will conduct field visits to the targeted districts to meet with the District Management Team and District Authorities. Discussions at the central and district level will lead to the development of work plans for IRS operations in the targeted districts and agreement of launch and start of IRS operations.

Using information from the first round of spray operations in 2007, RTI will conduct a logistics needs assessment to determine additional IRS commodities required for spray operations in 2009. The logistics needs assessment will include assessments of additional storage facilities required, human resource requirements for the implementation of spray activities, operational arrangements and determination of financial resources for the implementation of spray operations. In country arrangements for safe transport of the insecticide of choice from Accra to targeted IRS districts in the northern region will be reviewed by the Ghana IRS Team and key stakeholders (NMCP, EPA and PMI/Ghana).

## **IV. Management Plan**

RTI will establish an effective but minimal management structure in Ghana to efficiently implement the IRS program with quality control measures, in conformity with international standards as described in WHO guidelines on IRS. RTI has identified a Chief of Party, Mr.

Napoleon Graham who will ensure that all of USAID and RTI's corporate systems and procedures are mobilized appropriately to support management of this project. Mr. Graham will be the principal point of contact with USAID and will bear ultimate responsibility for all project management tasks, including quality and cost control, performance monitoring, reporting, and client relations. He will be based in Accra and in Tamale during the peak planning and implementation of IRS operations. He will retain overall responsibility for managing RTI and partner activities in Ghana coordinate with USAID and NMCP on project performance and implementation issues. Mr. Graham will be supported by a Logistics Officer, Finance Officer, Office Manager/Accra Liaison, Tamale Administrative Assistant, M&E/Environmental Officer and IEC Officer. All key IRS personnel will be based in Tamale during the peak IRS planning and implementation phase to manage IRS operations in the targeted districts. The Accra Office will serve as the liaison office for coordination and partner activities with USAID, NMCP, other key stakeholders and partners.

The Noah Agbedor, the IRS *Logistics Officer* will manage procurement and logistics requirement for the IRS Program. He will ensure rational and timely procurement, storage, and distribution of insecticides and IRS related commodities. In addition, the Logistics Officer will monitor the distribution of insecticides and other IRS related commodities to warehouses and other storage facilities. He will ensure adherence to RTI's standard procurement operating procedures for IRS related commodities ordering and distribution

Mr. Samuel Boateng, RTI's *Finance Officer* will assume responsibility for financial management of the IRS project and ensure compliance with RTI and USAID's financial procedures.

Mr. Shamwill Issah, *IEC Officer* will oversee a well coordinated and effective community mobilization, education, and promotion campaign of spraying activities utilizing already existing community mobilization mechanisms in the targeted districts. He will design a community outreach/communication strategy and IEC materials for a malaria control campaign focused on IRS in collaboration with the Ghana Health Service/NMCP, and District Authorities. He will spearhead the implementation of the community outreach programs and communication interventions (developing materials and identifying the most impactful channels and mobilization efforts) within the targeted districts. The IEC Officer will manage the IEC campaign prior, during, and post spray operations and ensure collaboration with spray operations. He will maintain overall oversight of IEC activities and will be supported by IEC Assistants at the district level.

RTI will also hire District Operations Managers for each district supported by District Logisticians, Finance Assistants, IEC Assistants, and Data Managers as key staff responsible for each operational location. Since the targeted districts are located in the northern region, the Chief of Party will maintain a liaison office in Accra for coordination of activities with the NMCP and USAID/Ghana. District Operations Managers will be hired for the duration of each IRS round, unless other on-going district activities require their full time presence. The Ghana IRS Program is expected to operate with at least 6 full time staff (Chief of Party, M&E Officer, Logistics and Finance Officer, Office Manager and IEC Officer) all year round. RTI intends to recruit Ghanaian citizens for all in-country positions. RTI will work to ensure that each level within the IRS structure is connected with counterparts within the Government of Ghana (GoG). The Chief of Party will interface with top level staff at NMCP and other GoG agencies, District Operations

Managers will work directly with local authorities, health officials and community leaders. The in-country team will also receive technical and administrative support from RTI staff in Nairobi and Washington. Anna Thompson (RTI/Washington) will serve as Task Manager and will provide home-office backstop functions.

In addition to programmatic oversight within the RTI Team, RTI will work with the Ghana's Ministry of Health (MoH)/GHS/NMCP and other stakeholder institutions to support the establishment of a national IRS coordinating committee that will provide oversight of IRS operations as one of its mandates.

### **Strategic Technical Assistance**

The in-country team will also receive technical and administrative support from RTI staff in Nairobi led by RTI's IRS Technical Director, Dr. John Chimumbwa. Anna Thompson will serve as Task Manager and will provide home-office backstop functions from RTI/Washington.

Dr. Chimumbwa will provide overall technical oversight of the IRS program in Ghana. In his capacity as Technical Director, Dr. Chimumbwa will participate in technical discussions regarding the selection of sites for round I IRS operations. He will provide technical assistance remotely during the preparatory phase as well as during the implementation of spray operations. Dr. Chimumbwa will also provide on the ground support to the Ghana team during the training of trainers in April. He will also conduct a technical management visit to the targeted districts during spray operations to monitor spray operations and provide recommendations as needed.

Ms. Thompson, Task Manager, will provide overall financial and program management support to the Ghana Team. As a first round country, an effective and efficient start up operations requires on the ground support from RTI Nairobi, Washington staff, and RTI staff in other PMI-IRS supported countries in the following areas: programmatic support, financial and logistics management support, environmental support, training, and technical management. To that end, several STTA visits (indicated below) will be proposed and arranged by Ms. Thompson. In addition, Ms. Thompson will visit Accra, Tamale and the targeted IRS districts to provide on the ground orientation to the Ghana IRS team as well as programmatic support and technical assistance during the planning and implementation phase. She will visit the targeted districts prior to the commencement of spray operations to provide additional technical and management support. Throughout FY 2008, Ms. Thompson will work with the Ghana Team to address the PMI and NMCP's concerns.

Dr. Jacob Williams will visit the Ghana IRS Program to meet with key stakeholders at central, regional, and district levels as well as conduct field visits for the environmental assessment for IRS operations in Ghana. Dr. Williams will also visit the targeted districts to inspect pre—operational planning on environmental mitigation activities at the district level and provide technical guidance to the in-country Team and recommendations for improvement as needed.

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
John Chimumbwa	RTI employee, international	Nairobi	IRS Planning visit - November 26- 30 <sup>th</sup> , 2007 Training of Trainers (Obuasi) - 14- 19 <sup>th</sup> April 2008 Post IRS Evaluation meeting- August/September 2008	3
Jacob Williams	RTI employee, international	USA	Environmental Assessment- November 2007 Pre-inspection - April 2008	2
Kim Canelas	RTI employee, international	Nairobi	Logistics and operational assessment- February 2008	1
Valens Kayumba	RTI employee, international	Rwanda	Logistics management support during the start up of IRS operations – March 2008	1
Augustin Hatiuginamana	RTI employee, international	Rwanda	Logistics management support during the start up of IRS operations – April 2008	1
Anna Thompson	RTI employee, international	USA	IRS Planning Visit IRS Start Up Program Management support visit IRS round II planning visit	4
TBD	AngloGold IRS staff	Ghana	IRS training of trainers and spray operators – April 2008	1
Tito Kodiaga	RTI employee, international	USA	Environmental compliance visit – May/June 2008	1

## V. Monitoring and Evaluation Plan

RTI will plan, implement, and document a monitoring and evaluation component for IRS operations. RTI will review indicators, methods, and data sources for monitoring and evaluation of IRS operations with the PMI Ghana Team, Noguchi Memorial Institute for Medical Research and MOH/NMCP. The M&E Plan will focus on the following key elements:

- Baseline assessment and entomological surveillance: RTI, in collaboration with Noguchi Memorial Institute for Medical Research, will provide technical support for an entomological assessment and provide operational support for entomological surveillance within the targeted districts during and post spraying.
- Spray operations: RTI will maintain records of program performance reports which demonstrate adherence to WHO technical quality standards for training and supervision, procurement activities, and environmental compliance.
- Environmental compliance monitoring: RTI will conduct an “internal” inspection to determine compliance with the environmental assessment.
- Capacity building of host country counterparts: RTI will train government counterparts and key stakeholders at the central, regional and district level on application of IRS operations and supervision of spray operations to ensure the quality of technical application and environmental compliance.

Spray forms for the collection of household level data by spray operators will be assessed and validated by key stakeholders and the data collection process monitored and reported on a daily basis during spray operations.

RTI will establish routine reporting procedures, expected formats, and deadlines for submission with the CTO and GHS/NMCP. Due to the complexities of managing IRS programs, RTI will ensure program reports document operational, technical, and financial management of IRS activities. RTI will also submit end of spray round performance reports documenting the planning and implementation process, key achievements, challenges faced, best practices utilized, and lessons learned.

**Table 2: Reporting Indicators**

Indicator	Disaggregate	Frequency	Baseline (BL); Y1 Target
<b><i>Project Objective 1: Protection from malaria in target areas increased</i></b>			
<b>1.A:</b> Anopheline resting density	indoor, outdoor	semi-annual	TBD
<b>1.B:</b> Measured resistance of mosquitoes to insecticide on treated surfaces	n/a <sup>1</sup>	semi-annual	TBD
<b>1.C:</b> Percentage of focus group participants who correctly understand safe household use of anti-malaria insecticides	male, female	annual	TBD
<b><i>Intermediate Result 1.1: National collaboration on malaria prevention and control efforts improved</i></b>			
<b>1.1.A:</b> Number of national and local health officials who participated in leadership roles for IRS planning or implementation during the last reporting period	male, female	annual	
<b>1.1.B:</b> Percentage of targeted malaria stakeholder organizations that participated in each of the three most recent coordination meetings during the last reporting period	n/a	annual	
<b><i>Intermediate Result 1.2: IRS programs safely implemented in targeted areas</i></b>			
<b>1.2.A:</b> Number of houses treated with anti-malarial insecticide (indoor residual spraying) with USG support	target districts	annual	0; 100,000
<b>1.2.B:</b> Percentage of targeted rooms treated with anti-malarial insecticide (indoor residual spraying) with USG support	Target districts	annual	0; TBD

<sup>1</sup> Indicators 1 A and B will be managed through a sub contract to Noguchi Memorial Institute for Medical Research.

Indicator	Disaggregate	Frequency	Baseline (BL); Y1 Target
<b>1.2.C:</b> Value (USD) of anti-malarial commodities (insecticide and related commodities) purchased by USG for use in PMI or USAID supported efforts	insecticide, spray equipment and personal protective equipment	annual	TBD
<b>1.2.D:</b> Number of sector assessments related to anti-malarial efforts conducted by projects supported by the USG during the last reporting period	Environmental/ Ghana Environmental Assessment	annual	0; 1 0; 1
<b>1.2.E:</b> Average number of insecticide sachets used per household sprayed	n/a	annual	0; TBD
<b>1.2.F:</b> Average percentage of IRS oversight checklist items that met requirements for compliance	target districts	monthly	0; TBD
<b>1.2.G:</b> Percentage of trained spray operators tested using the Spray Operator Test who met or exceeded minimum acceptable scores	male, female	monthly	0; TBD
<b>1.2.H:</b> Ratio of insecticide used (actual) to (estimated) insecticide needed	n/a	monthly	0; TBD
<b>1.2.I:</b> Ratio of dosage applied to application rate recommended	n/a	monthly	0; TBD
<b>1.2.J:</b> Percentage of targeted and visited households that do not participate in an IRS cycle	refusals, absentees	monthly	0; TBD
<b><i>Intermediate Result 1.3: Capacity in malaria prevention and control improved</i></b>			
<b>1.3.A:</b> Number of Zones with all planned IRS staff hired and trained	target districts	annual	0; TBD
<b>1.3.B:</b> Percentage of households sprayed and observed that had all persons, food, and goods outside of the house and furniture correctly covered	target districts	annual	0; TBD
<b>1.3.C:</b> Percentage of people surveyed in targeted communities who report accurate knowledge provided in IRS IEC messages	target districts	Semi-annual related to IRS)	0; TBD
<b><i>Sub IR 1.1.1: Skills of organizations and individuals supporting national anti-malaria efforts improved</i></b>			

Indicator	Disaggregate	Frequency	Baseline (BL); Y1 Target
1.3.1.A: Number of people who received training in malaria prevention with Presidential Malaria Initiative (PMI) or USAID malaria support in the last reporting period	male, female; spray operators; other training	annual	0; TBD

RTI anticipates preparing the following deliverables and will consult with USAID/Ghana, the NMCP, and USAID’s CTO for the IRS IQC to confirm the formats and schedule for the following reports:

- Pre-Operational Period
  - Environmental Assessment
  - Scope of Work including an annex that documents environmental compliance requirements; to be agreed among USAID, RTI and cognizant Ghanaian ministries (e.g., MOH/GHS/NMCP and Environment)
  - Logistics Assessment
  - IRS Work Plan, including:
    - Operations Schedule
    - IEC Program
    - Performance Monitoring Plan (M&E)
- Operational Period
  - Weekly progress reports
- Post-operational Period
  - End of Round Spraying Performance Report

The COP and Finance Officer will review all financial data monthly and inform the Task Manager of budget constraints and variances based on monthly financial analysis.

## VI. Branding and Marking

RTI will develop and submit a branding and marking plan to the Mission CTO for approval. The branding plan will outline a proposal in which the IRS program adopts the PMI logo as the official project brand and project title “Indoor Residual Spraying for Malaria Control.” The branding and marking plan will focus on program communication and publicity, including the marking plan for materials to be produced, promotional activities and increasing awareness of the President’s Malaria Initiative.

Since the IRS Program includes direct involvement of government agencies and counterparts, RTI will tailor its branding plan to include the host government agencies logos or branding as deemed necessary and per the CTO’s approval.

# Attachment % Ghana Implementation Plan and Timeline

For period from September 2007 to December 2008

			S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
<b>Round I Planning and Assessment</b>	Conduct background research	Task Manager	X																Country scope of work approved. Logistics & baseline entomology assessments completed. Supplemental Environmental Assessment approved. Pesticide selected.
	Initial planning visit to discuss IRS target areas	Task Manager	X																
	Hold discussions with USAID/Washington's PMI CTO, PMI Ghana Health Advisor and the Mission CTO on IRS scope of work	Task Manager	X																
	Discuss implementation timeline and RTI's scope of work and schedule needs assessments with the Mission	Task Manager	X																
	Discuss upcoming spray operations, IRS scope of work, and program objectives with NMCP, Regional and District Authorities	Task Manager, IRS Technical Director	X																
	Conduct logistics needs assessment	RTI				X	X	X											
	Conduct environmental needs assessment and submit Environmental Assessment	RTI/ Environmentalist			X	X	X	X											
	Select pesticide	NMCP/PMI/RTI					X	X											
<b>Project Start-up/Mobilization</b>	Deploy key personnel - IRS Chief of Party, Finance, Logistics & IEC Officers etc.	Task Manager,					X	X											In-country team recruited and program office set up in Accra and Tamale
	Establish main office in Accra	Task Manager						X	X										
	Establish satellite office in Tamale	Task Manager							X										
	Set up IRS bank accounts and financial management systems	Task Manager					X	X											
	Work plan submitted	Task Manager					X												
<b>Procurement and Logistics</b>	Develop technical specifications	RTI				X	X												Technical specifications released. Vendors selected. Insecticide, PPE and equipment delivered
	Release tender notice for procurements	Crown Agents					X												
	Review and select vendors	Crown Agents/RTI					X	X											
	Receive insecticide, PPE, and equipment	Crown Agents/RTI								X	X	X							
	Transport equipment and materials to storage facilities	Crown Agents/RTI										X							

			S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
<b>IEC Development &amp; Implementation</b>	Conduct focus group discussions for the development of IEC materials	RTI IEC								X									IEC needs assessment completed. IEC materials produced. Training completed. IEC Campaign launched.	
	Develop IEC materials and submit for review by PMI Ghana Team, NMCP and the Health Promotion Unit within the MOH	RTI/ Ghana COP							X	X										
	Recruit and train IEC implementers at community level	RTI IEC Officer								X	X									
	Disseminate IEC messages via print media, radio, mobile vans, and interpersonal communication	RTI IEC Officer							X	X	X									
	Conduct briefing meetings at the regional and district levels	RTI IEC Officer, COP							X	X	X	X	X							
	Conduct IEC in coordination with IRS										X	X	X							
<b>Spraying Operations</b>	Recruit and train District Operations Managers	RTI Task Manager & COP							X	X									District staff recruited and trained. Medical check-Up completed. Training completed. Spraying launched. Spraying completed.	
	Recruit district operations teams	RTI COP							X	X										
	Conduct training of trainers for district health authorities, environmental officers, disease control officers, and Ghana Health Service and National Malaria Program officers	RTI COP, IRS Technical Director, AngloGold Ashanti								X										
	Conduct training of spray operators, store keepers and drivers	RTI District Managers, COP, AngloGold Ashanti, District Authorities								X										
	Conduct physician training	RTI										X								
	Conduct spray operations	RTI									X	X	X							
	Initiate & participate in IRS oversight committee meetings	RTI									X	X	X	X						
	Inventory and operational assessment	RTI Districts Logistics Team									X	X	X	X	X					
<b>Monitoring &amp; Evaluation</b>	Meet with PMI Ghana Team, Noguchi Memorial Institute for Medical Research, and MOH/NMCP to discuss and plan entomology surveillance	RTI and Noguchi	X	X															Environmental Compliance, Baseline and post IRS surveillance reports submitted to USAID.	
	Conduct and submit Baseline Assessment	Noguchi			X	X	X													
	Conduct post IRS entomology										X	X	X	X				X		

			S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
	surveillance										X	X							
	Conduct internal inspection to determine compliance with the environmental assessment <b>pre-spray</b> operations	RTI Environmental Specialist								X									
	Conduct internal inspection to determine compliance with the environmental assessment <b>during</b> spray operations											X							
<b>Post Spray Operations</b>	Closing Ceremony	NMCP, RTI, USAID												X	X				
	Conduct medical check up of spray personnel and demobilization of spray team	RTI Districts Team												X					
	Maintenance of equipment	RTI Districts Logistics Team												X	X				
	Inventory assessment	RTI Districts Team												X	X				
	Hazardous waste disposal	RTI													X	X			
	District & Regional Meetings- post evaluation	Regional, District Authorities & RTI													X	X			
	Demobilization of short term district person	RTI															X		
	Debrief with NMCP and USAID	RTI, NMCP and USAID													X	X			
	Submit end of spray round performance reports	RTI COP															X		
<b>FY 09 Round II Planning and Assessment</b>	Discuss upcoming spray operations, IRS scope of work, and program objectives with NMCP, Regional and District Authorities	COP, Task Manager													X	X			
	Discuss implementation timeline and RTI's scope of work and schedule needs assessments with the Mission	COP													X	X			
	Conduct logistics needs assessment	Logistics Team														X	X		
	Select pesticide	NMCP, Noguchi, RTI, PMI														X	X		
	Develop technical specifications	Logistics Team																X	
	Conduct initial planning visit to round II targeted sites	RTI Ghana																X	

# Attachment & Ghana Countdown Calendar

For period from September 2007 to December 2008

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	1/08	Submitted -1/10/08	Producing country scope of work
	Scope of work agreed with government and/or key partner	3/08	Submitted	Initiating planning activities with government and/or key partners
<b>Planning and Assessment</b>	Logistics assessment completed	1/08	Logistics needs completed.	Planning scope and scale of operations and procurement to be required
	Baseline entomology assessment completed <sup>2</sup>	3/08	Pending	Pesticide selection
	Agreement reached with USAID and government on pesticide selection	3/08	Achieved	Permission for spray operations
	Supplemental Environmental Assessment completed	2/08	3/5/08-1 <sup>st</sup> draft	Finalization of EA and approval
	SEA approved by USAID		4/26/08 <sup>3</sup>	Permission for spray operations
	EIA approved by national environmental agency	2/08	Approval to be formalized	Procurement
<b>Procurement &amp; Logistics</b>	Technical specifications for tenders approved and released	2/08	2/27/08	Ordering supplies for spraying
	Vendor selection and procurement process completed	3/08	4/17/08	Delivery of supplies for spraying
	Compression sprayers delivered	3/31/08	4/15/08	Spray operator training
	Insecticide and PPE delivered	3/31/08	4/08 <sup>4</sup>	Initiation of spray operations
<b>IEC Development &amp; Implementation</b>	IEC implementation plan completed	3/08	3/12/08	IEC material design
	IEC material designs and implementation plan approved	3/08	Approved	Production of materials
	IEC materials produced and delivered to project	3-4/08	4/08	Training of IEC implementers
	Training of IEC implementers completed	3/24-25	3/29-4/21 <sup>5</sup>	Implementation of IEC campaign
	IEC campaign launched		4/08	Spraying operations
<b>Spraying Operations</b>	Geographic reconnaissance completed	12/08	12/08	Team assignments and logistics arrangements
	District staff recruited, oriented and trained	3-4/08	3-4/18/08	Completion of operational logistics

<sup>2</sup> The baseline assessment was contracted through Noguchi

<sup>3</sup> Mission approval received on 4/9/08 and USAID/Washington approval received on 4/26/08

<sup>4</sup> PPE was delivered and insecticide delivered on 4/28/08- following final approval of EA

<sup>5</sup> Training and re-training of over 100 IEC mobilizers were conducted several times within different communities in the targeted districts due to the decentralized set up of the operations

				and EM set up
	Operational logistics and environmental mitigation set up at operational sites	3-4/08	3-4/08	Spraying operations
	Medical check-ups (including pregnancy tests) for sprayers, supervisors, warehouse staff, cleaners, etc. completed	4/7-18	4/25	Permission to spray
	Training of spray operators completed	4/21-4/25	4/28-5/2	Spraying operations
	Spray operations launched	4/28	5/5	
	Spraying operations completed	7/31/2008		Recapture and proper management of equipment and supplies
	Equipment and supplies recaptured and securely disposed or stored	8/08		Environmental compliance
	Post-spraying evaluation conducted	8-9/08		Final report production
	Final report produced and submitted to USAID	10/08		
<b>Round II Planning</b>	Round II work plan and timeline approved by USAID and NMCP	10/08		Agreement of targeted districts and permission to spray
	Scope of work and targeted sites agreed with government and/or key partner	10/08		Initiating planning activities with government and/or key partners