



PRESIDENT'S MALARIA INITIATIVE

## INDOOR RESIDUAL SPRAYING FOR MALARIA CONTROL



# Benin FY08 Work Plan

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

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Prepared for:  
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## **I. Introduction, Background and Summary of Country MOP**

The President's Malaria Initiative (PMI) and Beninese health authorities developed a plan targeting indoor residual spraying (IRS) operations with funding beginning in FY08. The sole holder of the IRS Indefinite Quantity Contract (IQC), RTI International (RTI), is supported by a consortium of four organizations: the Medical Research Council of South Africa, Liverpool Associates in Tropical Health, Crown Agents and Howard Delafield International. This work plan describes project activities taking place between October 2007 and December 2008.

Based on requests by Benin's National Malaria Control Program (NMCP), PMI will support one round of IRS in the Ouémé Department in Benin. The Ouémé Department has a population of 350,000, with approximately 70,000 houses in 4 communes: Sèmè-Kpodji, Adjohoun, Dangbo, and Akpro-Misséréte. However, entomological baseline surveys are currently in progress to confirm the extent of malaria transmission occurring in the Ouémé Department. Depending on the results, PMI may support spraying in an alternative location chosen from those shortlisted by the NMCP.

In Benin, a single round of IRS with a long-lasting insecticide is expected to reduce vector density and transmission significantly. Given the context of Benin, PMI and the NMCP will carefully evaluate the choice of insecticide and select a formulation which avoids resistance-related problems. Because IRS has not been conducted for many years in Benin, it will be particularly important for RTI to conduct community sensitization and education activities to ensure that the population knows what to expect and what to do when their house is to be sprayed.

The IRS operation is planned for May 2008 just before the beginning of the long rains, a season of major transmission and the period when households in the target area are most susceptible to malaria. Leading up to this time, RTI will conduct a range of preparatory activities, including entomological baseline surveys, environmental and logistical assessments, and spray operator and IEC mobilizer identification and training.

## **II. Overview of Strategy for IRS Country Support**

The Ministry of Health (MOH) in Benin has very limited human resource and technical capacity to implement IRS. Therefore, RTI will lead 2008 IRS activities while working to build MOH capacity to plan, implement, and monitor IRS at all levels. RTI will conduct all IRS activities, including training, ground operations, information education communication (IEC), supervision,

monitoring, and data collection in close collaboration with the NMCP, the “Direction Departmental de la Santé” of Porto Novo, the head doctors of each commune, and the “chef de post” in the Arrondissement of the four communes.

RTI will also work in Cotonou with the Ministry of Environment, the Ministry of Interior, the Ministry of Communication, Ministry of Agriculture, Ministry of Family and Social Affairs, Ministry of Foreign Affairs, Malaria Research Centre of Cotonou-Benin (CREC) and all ministry counterparts in the four communes. RTI will work in close collaboration with these local partners to inform beneficiaries, raise public awareness, and promote behavior change (including environmental management).

RTI will establish an IRS task force which will be chaired by the NMCP coordinator in order to maintain strong communication between partners. RTI will report to the task force regarding ground operations on a weekly or biweekly basis.

### **III. IRS Activities**

#### **Start-up**

The RTI Task Manager, Bijou Muhura, was in Benin to initiate office start up activities, recruit program staff, develop partner relationships, and establish standard operating procedures for the program.

RTI’s offices in Cotonou are located in Sikekodji, which is a 10-minute drive from USAID. The Cotonou office will have the following full time staff: Chief of Party (COP), Logistician, Finance Manager, Administrative Assistant, and Operations Manager. All other staff, including an IEC Coordinator, Project Assistant, M&E Officer, and Environmental Specialist will be hired on a short-term basis.

RTI will establish a regional office in Porto Novo. This office will serve the communes of Sèmè-Kpodji, Adjohoun, Dangbo, and Akpro-Misséréte. All operations will be run from the Porto Novo warehouse. Seasonal staff in the communes will include a Coordinator, Logistician, Finance Assistant, Data Clerk, Warehouse Manager, and Warehouse Clerks.

RTI will open a corporate bank account to facilitate transaction of funds to villages in a safe manner. The bank will be chosen based on the proximity of its branches to targeted sites.

The Task Manager and the COP will create supportive links with the RTI home office in Washington, D.C. and the IRS IQC regional office Nairobi, Kenya.

## Planning and Assessment

- Logistics assessment: The logistics assessment in Benin was conducted November 11-23, 2007 by the PMI IRS Senegal Project's Logistics Manager, Mamadou Diallo. During the assessment, he gathered key data to help the IRS IQC Operations Director, Kim Canelas, develop the budget and operational plan. The Task Manager accompanied Mr. Diallo during his assessment trip and introduced him to local officials. The operational findings were intended to determine if the population targets set forth in the MOP are accurate and if the MOP budget is sufficient to support planned activities. The operations findings were also used to determine the number of seasonal staff required to support spraying and IEC.
- Environmental assessment and compliance: The environmental compliance visit was conducted January 20-February 3, 2008 by RTI Environmental Specialists Tito Kodiaga and Jeanne Chabrier. They were accompanied by the IRS Benin COP, Seydou Doumbia. Information for the assessment was gathered from the MOH, the Departmental Direction for Health (DDS), the NMCP, CREC, the Ministry of Agriculture and Phytosanitary Studies, the National Committee of Accreditation and Control (CNAC), the Ministry of Agriculture, and the Ministry of Environment.

The information gathered enabled RTI to draft the supplemental environmental assessment (SEA), which includes:

- Information on pesticide use in the country and regulatory guidelines pertaining to its use, misuse, storage, and disposal.
- Background documentation and statistics related to the geography, hydrology, agriculture, environment, demography and health of Benin, and particularly of the department in question.
- An assessment of field conditions and possible storage facilities, along with any possible risks and concerns.
- Information on agricultural use and production in the four communes of Ouémé, including fishing activities and aquaculture; hydrology mapping; rainfall data; soil type; health statistics; the locations of health services in the four communes; agricultural export products; socioeconomic demographic statistics by commune; and types of vegetation and ecological zones (such as wetlands and elevation).

This information was analyzed to identify sensitive areas where special attention must be given in the preparation for IRS. The information gathered was used to design the Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP), which is an integral part of the SEA, and IEC methods that will be most appropriate for each of the four communes.

As part of the process to review the environmental assessment, RTI held meetings with:

- Key representatives of the department of Ouémé and the four communes
- CREC entomology experts to obtain more information on the process of pesticide selection

- NMCP
- Ministry of Environment
- Permanent secretary to CNAC
- Ministry of Agriculture
- Other relevant stakeholders and partners.

Health concerns will be addressed by the implementation of World Health Organization (WHO) and Food and Agriculture Organization (FAO) protocols and the training of IRS operators in these protocols. This information will also be disseminated to target populations through the IEC program. The team will comply with Benin’s national environmental regulations and will submit an environmental impact study (Etude d’Impact sur l’Environnement), if necessary.

- Pesticide selection: Pesticide selection in Benin will be completed by the NMCP in collaboration with CREC. CREC will be required to conduct a baseline survey. An evaluation of IRS insecticide formulations will be conducted in Akron, a peri-urban locality of Porto-Novo where *An.gambiae* is the main malaria vector. During the evaluation, five insecticides will be tested and sprayed in experimental huts. The insecticides will be applied using a hand-operated compression sprayer. The following insecticides will be compared to show their effects:
  - **Two Pyrethroids:** K-Othrine WG 250 (Deltamethrin 250g/kg) and Fendona 5WP (alpha-cypermethrin 50g/kg),
  - **Two organophosphates:** Sumithion 40 WP (Fénitrothion) and Master Quick ZC (mixture chlorpyrifos 250g/l + deltamethrin 12g/l)
  - **One Carbamate:** Ficam M (Bendiocarb 800g/kg).

The effect of each treatment on the mosquitoes will be expressed through:

- *Deterrency effect*: percentage reduction in the number of mosquitoes caught in treated huts versus those caught in a control hut.
- *Exophily*: percentage of total mosquitoes caught in a veranda trap versus the total number caught in a hut.
- *Blood feeding rate*: percentage of blood fed mosquitoes caught in a hut.
- *Overall mortality*: total number of dead mosquitoes in a hut identified as dead immediately versus those with delayed mortality (following 24 hours observation).

*(Bendiocarb has been selected to be used in IRS operations)*

## Procurement and Logistics

- Procuring pesticides and related supplies: Below are the quantified items that will be procured for the 2008 spray round.

**Table 1: Pesticides and Related Supplies to be Procured**

#	Name	Quantity
1	4 gallon/15 liter Spray pumps	400
2	Spray pump-repair kits (spare kits should contain TEE JET 8001 HSS nozzles)	50
3	TEE JET 8001 HSS Spare nozzles	550
4	Spare filters	750
5	Gloves - Latex Nitrile	3,000
6	Masks	20,000
7	Overalls (total 1200)	XL 60 L 120 M 840 S 180
8	Gum Boots (total 550)	L 82 M 385 S 83
9	Helmets/face shields	550
10	Pregnancy test kits (with French/English labels)	180
11	Reflective jackets - Green (lime)	65
12	Reflective jackets - Red or Orange	35
13	First Aid Kits (each kit to serve 10 people with French/English labels)	36
14	Insecticide: Bendiocarb	4,400 Kg or 32,500 Sachets of 125 grams

- Managing pesticides and related supplies: All pesticides and related supplies will be stored in the Porto Novo warehouse. Records of entry and exit will be maintained by warehouse staff.

## IEC Development and Implementation

- Training of IEC mobilizers: The training of IEC mobilizers will be conducted in close collaboration with the NMCP and DDS. RTI will work with the head doctors, “chefs de poste,” mayors, and village leaders to identify IEC mobilizers and to leverage existing community communication channels.

The IEC training will be held at the warehouse in Porto Novo. The health system in Benin already has “relais” (or intermediaries), who have been trained in malaria prevention methods. Therefore, RTI will work with this team and will train 150 relais from the four communes. RTI will implement a system of “cascade training” (or training of trainers [TOT]) that will allow all relais to be involved.

The training of mobilizers will be supervised by an RTI IEC consultant, the IEC coordinator from the NMCP, DDS, and the chef de poste in the each arrondissement.

- IEC campaign implementation: The implementation plan for the IEC campaign will be based on the information gathered by the RTI team during the logistics assessment and on discussions held with various stakeholders in Cotonou, Porto Novo, and the four communes to be sprayed and protected.

Brochures will be distributed to each household and banners will be placed in public areas, such as in marketplaces or at the entry of communes, to remind people that IRS is occurring.

IEC supervisors and mobilizers will establish initial contact and brief village leaders, religious leaders, and other organizations and associations operating in the area. They will then organize village gatherings and conduct door-to-door visits to explain to household members the purposes, benefits and precautions associated with the intervention, answer questions, and deliver simple pamphlets to the households.

- Illustrative media for disseminating IEC messages:
  - Community Radio – Highest reach based on “listenership” survey
  - Micro programs will be carried out to support quality of the IRS
  - Posters, banners and pamphlets.
  - Public information campaigns at strategic places

- Team Branding – Immediate recognition / acceptance by local authorities, religious associations, market place and youth and women’s associations
- Feedback from watch “groups”: women’s groups, youth groups

**Table 2: IEC Illustrative Media**

<b>Formal</b>	<b>Informal</b>	<b>Mass media</b>	<b>Group media</b>	<b>Interpersonal Media</b>	<b>Traditional &amp; Popular Media</b>
Government structure at national and village level  health, educational system networks  Development projects	NGOs  Traditional author  Religious groups  Women’s and youth clubs	Radio  Folders  Posters  Banners  Pamphlet	Images being taken for all events  Meetings	Home visits	Group gatherings

- Coordination with spraying operations: A geographical reconnaissance map will be created by the Logistics Manager and regional district officers. This map will enable the IEC mobilizers to know exactly where spray operations will be taking place in order to notify homeowners one or two days prior to the actual spraying.

### **Indoor Residual Spraying Operations**

- Geographic planning, recruitment and orientation for district leadership/administration: Geographic planning will be conducted in close collaboration with the regional health officers. Recruitment, however, will not take place, as RTI will be utilizing the system already in place in Benin. “Service d’Hygiene” (Hygiene Service) staff from health centers or department health offices will supervise spray operations.
- Environmental mitigation set-up: RTI will work closely with the department offices of the Ministry of Environment and the Ministry of Agriculture to provide qualified staff for monitoring environmental safety and compliance with the environmental guidelines of their respective agencies, as well as those of RTI and the USAID. These individuals will be tasked with monitoring the safe handling of insecticide, the proper use of protective gear, and the proper construction and marking of areas

designated for washing equipment, disposal of rinse water, etc. This important function is also incorporated into the duties of our RTI Quality Control (QC) Monitors.

To mitigate adverse impacts during spray operations, RTI will:

- Anticipate adverse impacts on human health and livestock to avoid, minimize, mitigate, compensate and correct before cumulative effects are experienced.
- Provide WHO-standard personal protective equipment (PPE) to all spray teams for IRS activities.
- Train all spray teams and drivers on good spraying techniques and how to respond in cases of emergency.
- Create awareness and sensitize targeted populations to the “do’s and don’ts” before and after spraying to reduce exposure incidents.
- Undertake pregnancy testing for all female spray candidates and general physical testing for all spray teams.

RTI will conduct training for all surrounding health care facility personnel on emergency response to acute pesticide poisoning and equip surrounding health facilities with the recommended antidotes for pesticide poisoning. RTI will also locate storage facilities in environmentally sound sites and ensure that they are secured to avoid incidences of pilferage. The team will ensure the sound disposal of after-spray pesticide residue and that all empty pesticide sachets and un-used pesticides are locked securely until an appropriate disposal mechanism has been identified, such as shipping the sachets back to the manufacturer.

- Recruitment and training for spray teams: RTI will not recruit spray operators but will rely on the head doctor of each commune to recruit them. Training of spray operators will be conducted in a similar fashion to the IEC mobilizers. Spray operators will be selected at the commune level and organized into teams. The number of operators and teams will vary based on the number of villages, population, and households to be sprayed within the time frame of the operation – in this case, about 40 actual work days. As with the IEC training, a TOT will be conducted for five days by RTI in conjunction with personnel from the NMCP, department of Ouémé, and the Ministry of Environment. Training of operators will also be conducted in five days. The teams will be subdivided into smaller groups, but all groups will be trained together at the Porto Novo warehouse.
- Logistics support for spray operations: It will be a major logistical effort to protect 62,160 homes, protect 299,402 people, and provide logistics support to 150 mobilizers and 315 spray personnel for 40 days while working in a challenging environment. To facilitate this operation, RTI will locate a warehouse space in Porto Novo. Porto Novo is close to the four communes, thus will facilitate centralized operations.

RTI will identify a source of adequate numbers of vehicles to transport spray teams. Team vehicles will be based at the Porto Novo warehouse and every morning teams will be transported to various villages in the communes. There will be also be provisions for transportation for supervisors involved in the duties of program monitoring.

Initial commodities will be delivered by Crown Agents and sent directly to Porto Novo. The Porto Novo warehouse has been divided into four sections each section represents a commune. Therefore each commune/section will have its own warehouse manager who will manage its stock. The COP, Operations Coordinator, and Logistics Officer will make arrangements for an inventory and for the storage of items in the warehouse.

All materials and equipment will be subject to a strict control process with particular emphasis on the chain-of-custody of insecticide. RTI has developed a process for insecticide control that will be implemented in Mali as well. A standard operations plan for the security and chain of custody for insecticide will be included in the operations plan.

About 30% of the houses will not be sprayed given their location in an ecological zone. RTI will instead train teams to distribute and hang LLINs in these houses. The goal is to distribute two LLINs per house, and RTI will distribute LLINs upon receipt of LLINs from the PNLP.

- Post-spraying operations: Post spray operations will be conducted in collaboration with the NMCP and the Ministry of Environment. The data collected during spray operations will be presented to the IRS team and all relevant partners. An end of spray round report will then be submitted to USAID.

All equipment will be stored in the Porto Novo warehouse. All PPE will be cleaned, fixed, and stored for use in the following round.

Remaining pesticide will be stored based on the instructions from the USAID team in Benin, NMCP, and the Ministry of Environment.

Immediately after the end of a spray round, RTI staff will begin to work in collaboration with NMCP and CREC in preparation for the next spray round. Preparations for a spray round and IRS planning activities should start at least 6 months before the next round.

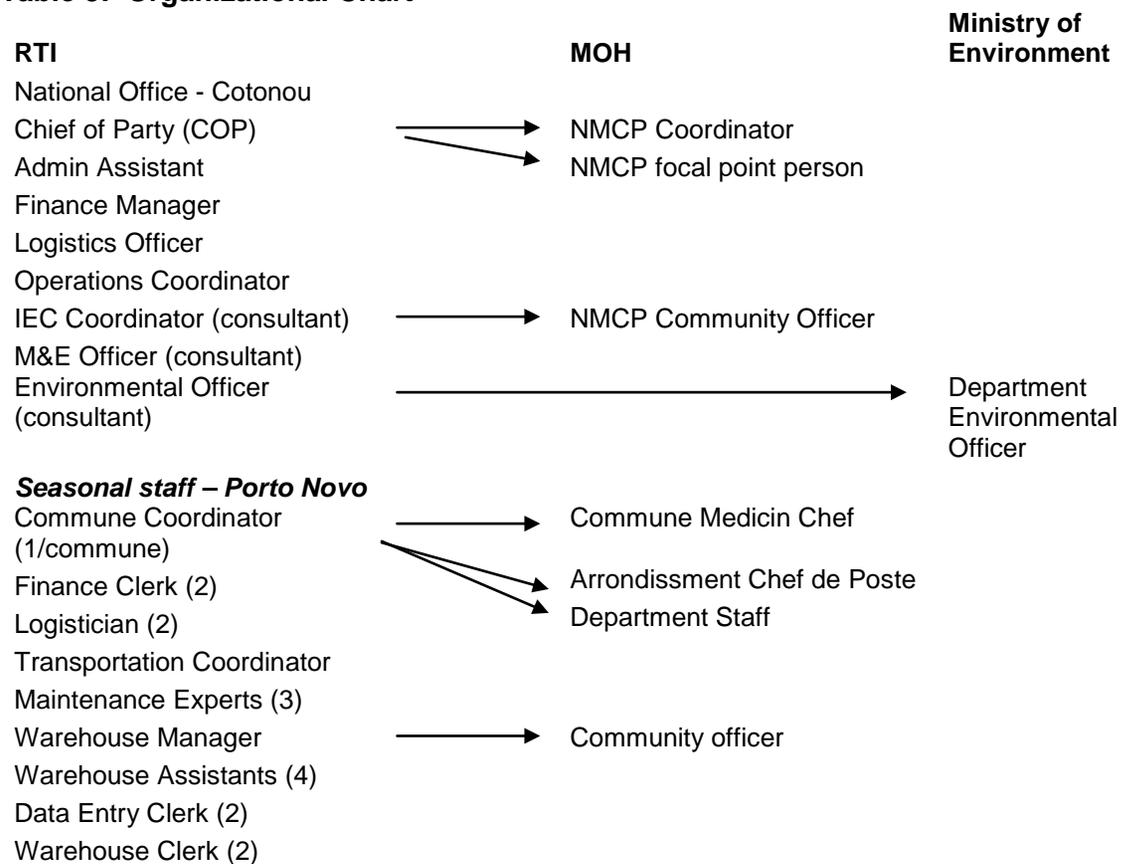
## **Other Activities**

- Environmental compliance: Environmental compliance will be monitored by the RTI environmental inspector, working in close collaboration with the Ministry of Environment.
- Entomological monitoring: Entomological monitoring will be carried out by the NMCP.
- M&E capacity building: Each commune will have a combination of monitors: a number of field monitors from DDS, health sector personnel, NMCP staff, and as necessary, additional QC monitors from RTI to augment this vital component. These individuals will be tasked with monitoring the quality of the IEC campaign, the quality of the spraying performed by the operators, and the proper use of protective gear. They will provide on-the-spot corrections and/or dismiss personnel when necessary for serious issues. In addition, they will perform unannounced roll calls to ensure everyone is present and audit spray cards against homes recorded. They will also interact with the population served and determine the level of service satisfaction in areas of IEC and spraying.

## IV. Management Plan

### Staffing & In-country Structure, Roles and Responsibilities

**Table 3: Organizational Chart**



**Table 4: Total Spray Personnel**

<b>Commune</b>	<b># villages</b>	<b>Estimated population</b>	<b>Estimated households</b>	<b>Est rooms</b>	<b># IRS Operators (36 days)</b>	<b># Team leaders</b>	<b># Supervisors</b>	<b>Monitors</b>	<b>Total Spray personnel</b>
Akpro Misserete	57	81,573	15,482	38,706	63	11	4	1	78
Dangbo	41	60,521	13,242	33,105	54	9	3	1	67
Seme Kpodji	38	105,583	22,442	56,106	92	15	5	2	114
Adjohoun	55	51,725	10,993	27,484	45	7	2	1	56
Total	191	299,402	62,160	155,400	254	42	14	4	315

## Strategic TA and TDY plan

- Home Office Technical Manager (HOTM) Bijou Muhura will undertake 6 trips to include office set up, facilitation of logistics and environmental assessments, orientation for new staff, relationship building with stakeholders and partners, facilitation for spray operations, management activities, and participation in the end of spray round.
- Mamadou Diallo will conduct one trip to work on the logistics assessment and Kim Canelas will need to conduct one trip (separately) to do a second logistics assessment because the original selected sites changed following the first logistics assessment.
- Environmental Specialists Jeanne Chabrier and Tito Kodiaga will undertake one trip each to work on the environmental assessment.
- Crown Agents Specialist Ronald Hooper will undertake one trip to research customs rules and facilitate the transportation of pesticide to final warehouses when it arrives in country.
- Finance Manager of Rwanda Augustin Hatungimana will undertake one trip to train the new Benin Finance Manager on rules and regulations. Additional trips will have to be budgeted for audits.
- Chief of Party (COP), Dr. Seydou Doumbia will undertake one trip go to Senegal to observe and learn IRS operations process. This experience will facilitate the COP to organize IRS operations in Benin and follow compliance rules and regulations.
- Technical Director John Chimumbwa will undertake one trip to participate in the end of spray round activities. As John Chimumbwa was unable to do the TOT, he was replaced by Dr. Ngayo Sy and Dr. Ousmane Boye of MOH/Senegal to conduct the training whom undertook one trip each.
- Environmental Inspector Gaspard Bikwemu will undertake two trips to conduct the pre- and post-environmental inspection.
- Jacob Williams will conduct two trips. One trip with the HOTM during initial country set up and a second trip to facilitate in the building of soak pits, renovation of Porto Novo warehouse and make sure that the program is following compliance rules

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

**Table 5: Strategic Technical Assistance and TDY Plan**

<b>Name</b>	<b>Type of TA (consultant, RTI employee, local, international)</b>	<b>Coming from (USA or Nairobi)</b>	<b>Tasks to be undertaken or activities to be supported</b>	<b>Number of visits</b>
Bijou Muhura, Task Manager	RTI Employee, international	USA	Office set up, facilitation of logistics and environmental assessments, orientation for new staff, relationship building with stakeholders and partners, facilitation for spray operations, management activities, and participation in the end of spray round.	6
Kim Canelas, Operations Director	RTI Employee, international	Nairobi	Operations plan and logistics assessment (based on the logistics assessment done by Mamadou) and work on spray operations	1
Mamadou Diallo Logistician	RTI Employee International	Senegal	Logistics assessment.	1
Jeanne Chabrier and Tito Kodiaga, Environmental Specialists	RTI Employees, international	USA	Environmental assessment. (Note: Chabrier and Kodiaga traveled concurrently)	1 each
Ronald Hooper, Crown Agents Specialist	Crown Agents	UK	Research customs rules and facilitate the transportation of pesticide to final warehouses when it arrives in country.	1
Augustin Hatungimana, Rwanda Finance Manager	RTI Employee, international	Rwanda	Train the new Benin Finance Manager on rules and regulations.	1
John Chimumbwa, Technical Director	RTI Employee, international	Nairobi	Participating in the end of spray round activities and provide technical guidance. As John Chimumbwa is unable to attend the TOT he will be replaced by folks from Senegal.	1
Dr. Ngayo Sy and Dr. Boye Ousman	Consultants MOH/Senegal	Senegal	Conduct the TOT and overseeing the training of spray operators. (Note: Dr. Sy and Dr. Boye traveled concurrently)	1 each
Dr. Seydou Doumbia	RTI Employee, International	Benin	Go observe and learn IRS operations process from the IRS operations in Senegal. This will facilitate the COP to organize IRS operations in Benin and follow compliance rules and regulations.	1
Jacob Williams	RTI Employee, International	USA	Participating in initial country trip and help the Benin IRS program in the building of soak pits, renovation of Porto Novo warehouse and make sure that the program is following compliance rules.	2

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
Gaspard Bikwemu, Environmental Inspector	RTI Employee International	Nairobi	Conduct the pre and post environmental inspection.	2

## V. Monitoring and Evaluation

### Indicators

#### PMI indicators:

##### A. Core indicators

- Number of houses targeted (actual count of houses in target area)
- Number of houses sprayed
- Number of residents of sprayed structures
- Number of people trained to deliver IRS

##### B. Additional indicators

- Supervisory Ratio describing the number of team leaders and spray operators reporting to each supervisor
- Number of insecticide sachets in stock
- Percentage of empty sachets returned
- Percentage of empty sachets disposed
- Proportion of health facilities at which health workers who have been trained to treat cases of pesticide poisoning and exposure

- Percentage of female spray operators tested for pregnancy during spray operations

**Additional IRS/Benin indicators:**

- Number of pregnant women sleeping under LLINs the previous night
- Number of children under 5 years old sleeping under LLINs the previous night
- Number of people who receiving training in malaria prevention (by gender)
- Number of national and local health officials who participated in leadership roles for IRS planning or implementation during the last reporting period

**Information Collection Plan**

Records and forms used by spray operators, team leaders, and supervisors, along with IEC mobilizers, will be used to gather information from the field daily. This information will then be compiled by the data clerks and sent to the M&E officer.

**Reporting Plan**

During spray operations, reports will be sent every other day to the Mission, the IRS task force team, and other relevant partners to provide them information about the spray operations.

# Attachment 1: Benin Implementation Plan and Timeline

For period from October 2007 to December 2008

Component	Activity	Person/ partner Responsible	Project Month												Key Milestones				
			O	N	D	J	F	M	A	M	J	J	A	S		O	N	D	
<b>Project Start-up/ Mobilization</b>	Deploy key personnel - Chief Of Party (COP), Logistician, Finance Manager, Administrative Assistant, and Operations Manager.	Bijou Muhura (Task Manager)																	Country work plan approved by USAID. MOU/aide memoire signed.
	Establish main office in Cotonou.	Bijou																	
	Establish satellite office in Porto Novo.	Dr. Seydou Doumbia (COP), Lazare D'Almeida (Logisticien)																	
	Micro Plan submitted to all partners.	Bijou, Seydou																	
	Open corporate bank account.	Bijou																	
<b>Planning and Assessment</b>	Conduct logistics assessment.	Mamadou Diallo (Senegal Logistician)																Logistics & baseline entomology assessments completed. SEA approved. Pesticide selected.	
	Conduct environmental assessment and draft Supplemental Environmental Assessment.	Jeanne Chabrier, Tito Kodiaga & Seydou, PNL																	
	Meet with NMCP, CREC, Department of Oueme, MoE, CNAC, MOA, and others	Bijou, Seydou																	
	Submit an Environmental Impact Study	Seydou																	
	Conduct baseline assessment, test pesticides, and select pesticide.	NMCP, CREC																	
<b>Procurement and Logistics</b>	Develop technical specifications.	Crown Agents, RTI																Technical specifications released. Vendors selected. Insecticide, PPE and equipment delivered	
	Release tender notice for procurements.	Crown Agents																	
	Review and select vendors.	Crown Agents																	
	Receive and inventory insecticide, PPE, and equipment.	Crown Agents, RTI																	
	Transport equipment and materials to storage facilities and conduct inventory.	Crown Agents, RTI																	
	Maintain records of entry and exit in storage facilities.	RTI M&E, Operations Manager																	
<b>IEC Development &amp; Implementation</b>	Identify IEC implementers.	RTI, PNL, DDS																Needs assessment completed. IEC materials produced. Training completed. Campaign launched.	
	Train IEC mobilizers.	IEC RTI consultant, PNL IEC coordinator, DDS																	
	Establish contact and brief village leaders.	RTI, PNL, DDS																	
	Conduct village gatherings and door-to-door	IEC Implementers																	

Component	Activity	Person/ partner Responsible	Project Month												Key Milestones				
			O	N	D	J	F	M	A	M	J	J	A	S		O	N	D	
	visits.																		
	Disseminate IEC messages through media.	RTI, PNLP																	
	Develop geographical reconnaissance map to inform IEC activities during spraying.	Logistician, Regional district officers, Operations Manager																	
<b>Spraying Operations</b>	Conduct geographic planning.	RTI and regional health officers																	District staff recruited and trained. Medical check-ups completed. Training completed. Spraying launched. Spraying completed. Equipment and supplies recaptured.
	Monitor environmental safety and compliance with environmental guidelines.	RTI, MOE, MOA																	
	Train health personnel and equip health centers to respond to pesticide poisoning.	RTI, PNLP																	
	Do TOT and Train spray operators.	RTI, Trained Trainers "Service d'Hygiene"																	
	Identify and secure transportation for spray teams.	RTI																	
	Conduct spraying activities and LLNs hanging in houses.	RTI, PNLP, MOE																	
	Collect, clean, and store equipment and remaining pesticide for next round of spraying.	RTI, PNLP, MOE																	
	Submit data and report to USAID, IRS Task team and stakeholders.	RTI																	
<b>Monitoring &amp; Evaluation</b>	Conduct an internal compliance inspection and submit report to stakeholders.	RTI, PNLP, Trained supervisors, MOE, Trained Service d'hygiene																	M&E reports submitted to USAID. Post-round evaluation completed.
	Conduct an internal pre and post compliance inspection and submit report to stakeholders.	Gaspard Bikwemu (RTI Environmental inspector)																	
	Conduct monitoring of number of people trained on the IRS project	RTI																	
	Conduct monitoring of number of insecticide sachets used per household sprayed	RTI																	
	Prepare end of spray report, submit to USAID and present it to IRS Task force	RTI																	

## Attachment 2: Benin Countdown Calendar

For period from October 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.	May 2008		Producing MOU and/or aid memoires
	MOU/aide memoire signed with government and/or key partner.	June 2008		Initiating planning activities with government and/or key partners
<b>Planning and Assessment</b>	Logistics assessment completed.		Completed on December 2007	Planning scope and scale of operations and procurement to be required
	Baseline entomology assessment completed.		Completed January 2008	Pesticide selection
	Agreement reached with USAID and government on pesticide selection.		December 24 <sup>th</sup> , 2007 Meeting called by MOH to decide on pesticide	Permission for spray operations
	Supplemental Environmental Assessment completed.		Completed March 24, 2008	Finalization of EA and approval
	SEA approved by USAID	May 2008		Permission for spray operations
	EIA approved by national environmental agency, if required		Waiting for Approval	Procurement
<b>Procurement &amp; Logistics</b>	Technical specifications for tenders approved and released.	March 2008		Ordering supplies for spraying
	Vendor selection and procurement process completed.	April-May 2008		Delivery of supplies for spraying
	Compression sprayers delivered		Procurement in Process – mission/ has given OK to bring product in country	Spray operator training
	Insecticide and PPE delivered		SEA has been approved procurement in process	Initiation of spray operations
<b>IEC Development &amp;</b>	IEC needs assessment completed.		Completed on April 2008	IEC material design
	IEC material designs and implementation plan		Completed on	Production of materials

<b>Implementation</b>	approved.		May 2008	
	IEC materials produced and delivered to project.	Printing of Materials to be completed May-June 2008	IEC brochures and supporting documents have been validated and approved by all partners in April 2008	Training of IEC implementers
	Training of IEC implementers completed.		Scheduled for week of May 4 <sup>th</sup> , 2008	Implementation of IEC campaign
	IEC campaign launched.		IEC launched on May 28 <sup>th</sup> , 2008	Spraying operations
<b>Spraying Operations</b>	Geographic reconnaissance completed	May-June 2008		Team assignments and logistics arrangements
	District staff recruited, oriented and trained.	May-June 2008		Completion of operational logistics and EM set up
	Operational logistics and environmental mitigation set up at operational sites.	May-June 2008		Spraying operations
	Medical check-ups (including pregnancy tests) for sprayers, supervisors, warehouse staff, cleaners, etc. completed.	May-June 2008		Permission to spray
	Training of spray operators completed.	June 2008		Spraying operations
	Spray operations launched.	June 2008		
	Spraying operations completed.	June- Aug 2008		Recapture and proper management of equipment and supplies
	Equipment and supplies recaptured and securely disposed or stored.	Aug – Sept 2008		Environmental compliance
	Post-spraying evaluation conducted.	Sept - Oct 2008		Final report production
Final report produced and submitted to USAID.	Sept-Oct 2008			
<b>Other Operations</b>	Initiate activities for next spray round (this needs to be initiated at least 6 months prior)	Oct - Dec 2008		