



PRESIDENT'S MALARIA INITIATIVE



IVM FY10 Annual Report Summary

Integrated Vector Management (IVM) Task Order 2

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A. EXECUTIVE SUMMARY

National orientation to integrated vector management is a change process that involves qualitative components, as well as readily quantifiable or tangible components, and which process must be country-led to be sustainable. The qualitative components include the multi-faceted change to management processes and ethos critical to the appropriate placement of vector control within vector borne disease control efforts. The qualitative changes are precursors to the more tangible end goals of building relevant national human competencies and capacities in human resources and related infrastructure. The IVM Project made significant achievements in both components in the countries it undertakes field activities: It facilitated significant institutional reorganization and mentored major improvement in vector control operations in Rwanda. In Burundi and Liberia, the national malaria control programs now show serious commitment to adopt integrated vector management, and are being assisted with needs assessments and development of national strategies, concurrent with other country capacity strengthening efforts. The project developed capacity building tools (training manuals and videos on entomology) to fill in a significant gap in human resource strengthening by countries. Leadership was provided, in collaboration with global partners such as WHO, to develop guidance documents on policy, strategy and implementation. The project also played a very active role in discussions leading to the reorganization and enhanced mandate of the Roll-Back Malaria Vector Control Working Group, to more comprehensively address priorities beyond the traditional focus on insecticidal nets.

The IVM Project's strategic approach of facilitating country-led change has a downside; the pace of change is determined by the speed at which national change-agents (NMCPs) deal with entrenched constraints and inertia. Experience however shows that a country-led change process is comparatively more sustainable, as it obviates the usual scenario of "imposed" change recommendations that mostly get abandoned because of inadequate consideration of the relevant drivers and national preparation. The Project will focus, in FY12, on further consolidating the gains achieved and expanding direct support to additional USAID and PMI focus countries.

Some field obligations to the Project underestimate the resources required to undertake the assigned tasks. This severely hamstrung implementation and constrained staff capacity available to the tasks.

B. BACKGROUND SUMMARY OF IVM2 TASK ORDER

The *Integrated Vector Management for Malaria and Other Infectious Diseases* contract was signed in May 2007, to support the acquisition of commodities and the provision of relevant managerial capacity for the efficient and effective implementation of vector control interventions in innovative combinations and/or management settings. The specific objectives of the IVM Project are to:

- Provide a comprehensive range of expert implementation and technical assistance for a full range of activities to support the development of the capacities of national malaria control programs (NMCPs), enabling integrated approaches to the prevention and control of malaria and other infectious diseases, and to institutionalize best practices in NMCPs and their local collaborators.
- Support the continued technical development of IVM through collaborative work with relevant international institutions, operations research to develop new tools and best practices, institutional strengthening in IVM, and dissemination of relevant findings and experiences to the international malaria and development communities.

Scope of Work for the Task Order

- 1) *Integrated Vector Management*: Identification and deployment of qualified, expert short term consultants and/or qualified sub-contractors to:
 - a. Provide technical expertise and support in planning, implementation, management, monitoring and evaluation of vector control activities, focused on improved adaptive management for vector control;
 - b. Design, implement or evaluate training in key skill areas based on country-specific needs;
 - c. Design, implement or evaluate behavioral change communication interventions for control of vector-borne diseases;
 - d. Design, implement and/or evaluate monitoring activities, including both operational monitoring systems and periodic impact evaluation, including incorporation of and collaboration with existing disease and other health surveillance systems. These systems include networks monitoring insecticide resistance;
 - e. Prepare required environmental documentation for USAID Missions, including logistic planning documentation;
 - f. Perform other technical assistance duties such as planning and conducting rapid epidemiological and entomological assessments to provide key data regarding risk factors associated with priority infectious diseases and provision of related training for development partners;
- 2) *Operations Research*: Management of sub-contracts to international institutions and small grants to in-country organizations, through NGOs and other public and private institutions to conduct operations research on infectious diseases/vector control programs to strengthen best practices and ensure sustainable results.
- 3) *Institutional Collaboration*: To undertake collaborative work with international organizations such as the World Health Organization, UNICEF, the Bill & Melinda Gates Foundation, academic institutions both in the US and abroad, and private sector interests to advance the state of the art of vector control. This includes sponsoring country representatives from endemic countries to attend key international conferences, sponsoring symposia on technical issues, and actively supporting and participating in working groups to address specific operational or other issues identified by RBM or other collaborative mechanisms as priority issues for vector control.

C. COMPLETED ACTIVITIES IN FY10

Consistent with the scope of work described under Section A, the IVM project concentrated on:

- Work with global partners to complete development of the IVM handbook, the WHO policy guidance and the WHO IVM Monitoring and Evaluation guidance
- Development of tools and training materials and capacity building for entomological monitoring, program monitoring and evaluation
- Country capacity strengthening particularly of field and entomology laboratory technicians.
- Support country strategy development for national reorientation to IVM

The following sections provide a summary of the completed activities and achievements of the IVM Project during FY11 (01 October, 2009 - 30 September 2010). They are grouped under Core/Central and country specific activities, denoting the source of funding for those activities.

C1. CORE FUNDED ACTIVITIES

C1.1. Fostering Global Vector Management Agenda

The IVM Project further consolidated its global leadership as a source of technical resource/services in vector control. The project worked closely with the World Health Organization (WHO) and the Roll Back Malaria Partnership, in identifying malaria control priorities, developing strategies and implementation guidelines for countries. Highlight of activities under the reporting period follows:

- The IVM Project continues a growing global leadership role as a source of technical resource/services in vector control. In close collaboration with the World Health Organization (WHO) the Project supports a global IVM agenda and addresses priorities for regional and country level implementation.
 - Co-organized and hosted the second meeting of the *IVM Work Group on Capacity Strengthening* (20-22 Oct 2010 at RTI DC offices). Meeting was attended by representatives from WHO, USAID, RTI, Pesticides management board (US Department of Defense), and selected experts. The meeting reviewed three major documents (IVM Handbook, IVM policy document, IVM training curriculum) which are scheduled for publication under the auspices of the WHO in the first half of FY11.
 - Technical contribution to the IVM Work Group meeting on evidence generation hosted by the Liverpool School of Tropical Medicine and Hygiene (August 2010) and other WHO technical meetings (insecticide resistance, pesticide management etc.)
- The Project is active in the RBM/Working Group on Vector Control, where it co-chairs a work stream on Capacity Strengthening. It participated in the RBM meeting in Basel in March 2010 and also

sponsored an expert meeting which focused on reviewing existing evidence and commissioning new evaluations on the combined deployment of LLIN and IRS. The meeting also initiated work to develop appropriate evaluation protocols on new wall lining insecticidal technologies under the RBM mechanism.

- The Project continues consultations with industry partners on priorities for vector control.
- *IVMProject.net*: Significant progress made on web-based IVM information portal. The content was viewed and discussed at IVM partnership work group meetings. It will be launched in January 2010. (Ref Section 4.1e)

C1.2. Country Capacity Strengthening

The IVM Project has adopted a medium- to long-term goal of sustaining US Government investment in vector control in disease endemic countries. Project support to capacity strengthening may be grouped in five areas;

1. Targeted training to develop critical mass of trained personnel within NMCPs as well as the Provinces/districts to initiate monitoring activities
 2. Infrastructure development; establishing insectaries and associated entomology laboratories
 3. Development of training materials (audiovisual and manuals) in entomology
 4. Development of sentinel systems and initiating monitoring schemes
 5. National policy and strategy strengthening
- *Training videos*: As part of efforts to facilitate self-initiated training and capacity strengthening by disease endemic countries, a series of 8-10 minute training videos on standardized entomology techniques, vector control procedures and program management priorities are being developed. The first of 5 videos have been produced covering *Hand Collection of Adult Mosquitoes*, *Collection of Larvae and Pupae*, *Mosquito Lifecycle and Diagnostic Characteristics*, *Spray Sheet Collection of Adult Mosquitoes*, and *Cone Assays for Testing Efficacy of Insecticides on Sprayed Surfaces*. The videos will be available for download on the *IVM Project* website. As a result of high demand from countries and partners for the videos, an initial 1,000 (one thousand) DVD copies are being produced (at \$1.70/copy) for free distribution to primary targets (NMCPs, entomology/vector control training institutions, initially in Africa).
 - *Entomology curriculum and training manual/materials* for a 3-week entomology technicians training course has been developed. The training manual focuses on standardized protocols and procedures on entomology. The 3-week training was field tested in Ghana, Angola and Liberia (45 participants were trained in each country) to develop capacity for field monitoring under IRS (activity funded under IRS/Ghana). Preparations were completed for advance technicians training - including ELISA techniques - in Rwanda in collaboration with CDC (February 2010).
 - *Technical support* was provided to National Malaria Control Programs (NMCPs) for the development of competencies in program planning, implementation, monitoring and evaluation and transitioning to integrated approaches. It built on the publication of a rapid assessment tool kit "Guidelines for Assessing the Management and Organizational Capacity of National Malaria Control Programs" - which was co-authored in 2008 with a staff of Health 20/20 for use in PMI countries. It provides tools

for self-evaluations by NMCPs to identify key management and organizational capacity needs to meet the challenges arising from rapid rise in funding and implementation of malaria control interventions

C2. COUNTRY LEVEL (FIELD) ACTIVITIES

The following PMI countries were supported with specific activities through field obligations under the Malaria Operations Plans:

ANGOLA

- 45 technicians from various provinces trained in basic entomology techniques in a 3-week training course in March 2010 to support monitoring activities, including PMI/IRS operations. The activity was done as a private public partnership with the Global Business Coalition on HIV/AIDS, TB and Malaria (GBC) and its affiliate, the Corporate Alliance for Malaria in Africa (CAMA). There are ongoing discussions with GBC and CAMA on follow up activities in Angola.
- A comprehensive range of entomology equipment was procured to equip the future insectary and also support entomological monitoring activities. The equipment was used for the entomology training in March.
- After significant delays, and following the intervention of the Minister of Health, the NMCP gave a final go-ahead and space for the establishment of an insectary and entomology lab complex at Vienna, Angola to support vector control activities by the NMCP. The architectural designs have been completed and construction will begin as soon as final go-ahead is received from the NMCP. GBC and CAMA have expressed desire to contribute to the activity as part of the developing PP with PMI via the IVM Project.

BURUNDI

- A vector control needs assessment is being conducted and will be completed in December 2010. This will be followed with the development of a comprehensive and costed national IVM strategy and work plans in first half of 2011. In the meantime the Project has communicated to USAID/Burundi on the immediate and urgent capacity strengthening needs to rationalize ongoing national vector control efforts.

ETHIOPIA

- An obligation of \$300,000 was made during FY11 to fund two activities related to operations research on larval source management and a reorientation of the national vector control strategies towards IVM. The larval source management work was stalled due to budget and partner collaboration issues. This and the IVM activity are under revisions and further discussion with the mission for implementation during FY11.

LIBERIA

- To support the creation of a critical mass of field technicians to undertake entomological monitoring activities, 45 technicians from selected counties were trained in basic entomology techniques in 3-week training course in January/February 2010. The training was conducted with technical instructors from the Noguchi Memorial Institute of Medical Research Ghana.
- 4 country staff from NMCP and the Liberia Institute of Biomedical Research (LIBR) undertook a follow-up 2-month advanced entomology training at the Noguchi Memorial Institute Medical Research Ghana (NMIMR) (August – October, 2010). The training covered a broad range of standardized sampling techniques and surveillance procedures, including ELISA-based techniques. Two of the trainees, staff of LIBR, will be manning the insectary at LIBR that is being established by the IVM Project to coordinate vector entomology monitoring activities. The two other trainees are staff of the NMCP who will provide oversight to national entomology monitoring activities. Extensive entomology equipment has been procured by the Project and is already installed in Liberia.
- Support is being provided to establish an insectary and associated entomology lab at LIBR, in collaboration with the IRS Project. Allocated lab spaces are being rehabilitated. Colonies of susceptible and local malaria vector species will be established in the next couple of months to strengthen monitoring activities.
- About \$40,000 worth of equipment was procured in January 2010 to support the insectary/ entomology lab and entomology monitoring activities. ELISA equipment will be procured and installed in first quarter of 2011 to enable critical evaluations to be conducted to support the national vector control effort. As a result of the close proximity, NMIMR will provide ongoing mentoring of the trained entomology technicians in Liberia.

MALI

- Two operational research studies were concluded in 2010 under a subcontract with the Malaria Research and Training Center and in collaboration with CDC to a) review the impact of dry season river-pools on local malaria transmission, and a) assess the impact of larviciding as complementary intervention to IRS. The final report is currently being evaluated.

RWANDA

- A national vector control needs assessment was concluded in September 2010. The report has been evaluated by PMI/Rwanda, the NMCP and other major national stakeholders and has received approval. A national meeting is to be organized in January 2011 to formally adopt the report. In the meantime, preparations are underway for the development of the follow up national IVM strategy and work plans in first half of 2011.

- Project supported the establishment and ongoing strengthening of a 12 multi-station national sentinel system (8 stations are online, additional 4 stations to be added in the first half of 2011), and provided critical technical support to the development of a comprehensive national entomology monitoring and surveillance scheme. The Global Fund and the Red Cross and Crescent (RCC) provided the bulk of financial resources for the sentinel system and staffing.
- An intermediate-level entomology technicians training was organized in March 2010, for 33 persons who subsequently are manning the entomology sentinel stations. The training enabled the initiation of a full complement of entomology surveillance activities.
- Four nationals selected by the NMCP were sponsored to attend a course on the ecology and control of malaria vectors in May 2010 in Tanzania to further enhance the NMCP capacity for evaluating the ecological and epidemiological impact of vector control. The 4 technicians are heading community mobilization/empowerment efforts, especially among valley settlements where farming and sand-weaning activities contribute to the creation of significant breeding places. The communities are being trained to identify vector breeding places and larval stages of mosquito and to self-initiate environmental management interventions.
- The Project supported the establishment of an insectary and ELISA-based entomology laboratory at the Kigali Health Institute. The insectary currently holds susceptible and field vector colonies and is supporting routine monitoring and surveillance activities, including monitoring activities under IRS and LLIN field evaluation studies that is to be conducted by CDC.
- A broad range of technical expertise was provided to the implementation of the Indoor Residual Spraying Indefinite Quantity Contract (IRS/IQC) as needed.

C3. OPERATIONAL RESEARCH

The Project successfully concluded two operational research studies with Malaria Research Center of the University of Bamako: (a) evaluation of the impact of complimentary addition of larval source management to IRS on local malaria transmission and burden, (b) evaluation of the impact of dry season larviciding of river bed pools on the seasonal transmission and burden of malaria in nearby hamlets.

D. PROJECT MANAGEMENT

The Project draws upon significant in-house (RTI) expertise, as well as expertise from collaborating institutions/ partners and individual experts (as needed) to undertake the activities. The Project staff are:

- Project Director: Jacob Williams
- Senior Operations Specialist: Ms Cheri Brown
- Project Coordinator: Ms Kathryn Welter

Based on specific requests from Rwanda and approval by country mission, the Project anticipates recruitment of a Resident IVM Advisor for Rwanda. As required, and with the concurrence of USAID, consultants are also hired and sub-contracts established to undertake specific field activities.

E. FY10 FINANCIAL SUMMARY