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PRESIDENT'S MALARIA INITIATIVE AFRICA INDOOR RESIDUAL SPRAYING PROJECT MID-TERM EVALUATION

August 2016

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ACRONYMS

AIRS	Africa Indoor Residual Spraying Project
BCC	Behavior change communication
CREC	Entomological Research Center of Cotonou
DCV	Data Collection Verification
DOS	Direct Observation of Spray
GH Pro	Global Health Program Cycle Improvement Project
IEC	Information, education, and communication
IRS	Indoor residual spraying
ITN	Insecticide-treated net
KII	Key informant interview
M&E	Monitoring and evaluation
MOH	Ministry of Health
NMCP	National Malaria Control Program
PMI	President's Malaria Initiative
PSDQA	Post Spray Data Quality Audit
SOW	Scope of Work
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization

EXECUTIVE SUMMARY

EVALUATION PURPOSE AND EVALUATION QUESTIONS

The purpose of the President’s Malaria Initiative (PMI) Africa Indoor Residual Spraying (AIRS) Project Mid-Term Evaluation was to evaluate two of the five components of the Project and inform future USAID investments in indoor residual spraying (IRS). The PMI AIRS Project focuses on IRS implementation, technical assistance, capacity building, communications and public education, entomological monitoring, and monitoring and evaluation (M&E) at the country level, upon which the mid-term evaluation was based. The evaluation was expected to accomplish the following objectives: 1) Capture lessons learned and identify key programmatic bottlenecks/gaps that can inform future PMI IRS programming; 2) determine the utility of M&E tools and mHealth innovations; and 3) assess and document progress toward building in-country capacity for all aspects of IRS implementation.

According to the Scope of Work (SOW), three evaluation questions guided the PMI AIRS Project Mid-Term Evaluation. These were:

1. Are there lessons learned from the PMI AIRS Project’s activities at all levels that could inform future programming in indoor residual spraying?
2. Do supervisory checklists and other M&E tools capture useful and necessary data on indoor residual spraying operations?
3. To what extent has in-country capacity been built in indoor residual spraying and entomological monitoring?

METHODOLOGY

This evaluation used mixed qualitative and quantitative methods to collect data from different geographic regions, stakeholder organizations, and technical areas. Evaluators reviewed and analyzed key project documents to gain background knowledge and inform the development and analysis of the cross-sectional online survey and key informant interviews (KIIs). A cross-sectional online survey was conducted among key personnel from all 17 PMI AIRS Project countries to assess the success of the project, factors that contributed toward or inhibited success, the performance of supervisory checklists and other M&E tools and mHealth innovations, and capacity building of host country National Malaria Control Programs (NMCPs). Qualitative KIIs were conducted among key personnel from five PMI AIRS Project countries: Benin, Ethiopia, Nigeria, Rwanda, and Zambia. The purpose of the KII was similar to the cross-sectional online survey except that it allowed for more in-depth discussion of topic areas.

FINDINGS

Evaluation Question 1: Lessons Learned from the PMI AIRS Project’s Activities at All Levels

The PMI AIRS Project performance was rated highest in five focus areas: planning IRS operations, managing procurement and logistics, conducting entomological monitoring, environmental compliance, and M&E. Quantitative ratings for conducting information, education, and communication (IEC)/behavior change communication (BCC), strengthening policy, and promoting gender equity were rated slightly lower across participant groups. Qualitative data

from the KIIs were consistent with survey results and added dimensions to key aspects of PMI AIRS performance. In addition to the strong leadership, professionalism, and technical knowledge of the PMI AIRS Project team, evaluation participants emphasized the flexibility of project design and the fact that the project built its focus areas on the basis of existing infrastructure and capacity in countries. Participants underscored the value of early planning, especially micro planning, and the high level of organization of IRS operations.

The PMI AIRS Project effectively supported and strengthened entomological monitoring programs. Evaluation participants emphasized the importance of the project's efforts in training staff for entomological surveillance activities, building the capacity of entomological labs, and supporting entomological monitoring as having "set the stage" to provide baseline data for IRS operations, while emphasizing the need for continued training to further expand country capacity. The majority of evaluation participants reported that the project also contributed to the development of an effective and robust M&E system with "real time" data collection, although a few participants noted that IRS operational data were not analyzed and synthesized thoroughly or shared well with host country decision makers.

Strong government commitment and solid relationships between PMI, the PMI AIRS Project, Ministries of Health, NMCPs, and regional and local government officials, along with technical and financial support and training at all levels contributed to success in most programmatic areas. There were some reports that collaboration and coordination were not fully adequate and may have affected overall results in some countries. High acceptance of IRS in some communities—due in part to local culture and use of local staff in IRS operations—contributed to success, while low community literacy levels and uneven project engagement at the community level were factors that inhibited project performance in engaging community leaders and residents.

Evaluation Question 2: Supervisory Checklists, Other M&E Tools, and mHealth Innovations

Evaluation participants reported that the supervisory checklists and other M&E tools help improve IRS planning, management, and operations and capture useful and necessary performance indicator data. In addition, some checklists and tools allow for the correction of deficiencies or mistakes in real time, thus improving data quality. The majority of the evaluation participants believed the value added by the checklists and tools outweighed the burdens and costs. Nevertheless, most evaluation participants recommended further review, refinement, and streamlining of the checklists and tools.

Evaluation Question 3: In-Country Capacity for Indoor Residual Spraying and Entomological Monitoring

The PMI AIRS Project was moderately effective in contributing to building the capacity of the NMCPs and other government entities in all key focus areas, with entomological monitoring being rated the highest and IEC/BCC the lowest. There were four key factors identified by evaluation participants as facilitating the project's effectiveness in capacity building: pre-existing NMCP capacity; training programs, including the development of manuals and guidelines; effective coordination and collaboration with the NMCP in IRS planning, management, and operations; and technically sound and collaborative AIRS in-country staff. The transfer and turnover of government staff was the only factor identified by multiple evaluation participants as inhibiting the project's effectiveness in capacity building.

Evaluation participants rated the capacity of the NMCP and other government entities to take responsibility in all key IRS focus areas with minimal outside support as “average” to “good.”¹ NMCP capacity was rated highest in entomological monitoring, IEC/BCC, and strengthening and updating vector control policies. The lowest-rated focus areas were conducting environmental compliance and managing procurement, logistics, and warehousing. Evaluation participant ratings varied markedly after stratifying by organization, with NMCP personnel providing higher scores and PMI personnel providing lower scores. There were three key factors identified by evaluation participants as facilitating the NMCP and other government entities to take responsibility with minimal outside support: strong host government commitment, pre-existing host government capacity, and strong coordination and collaboration with PMI and the PMI AIRS Project.

Evaluation participants from 11 countries mentioned entomological monitoring as a key focus area for future capacity-building efforts. Within entomological monitoring, specific comments were made to sustain and expand entomological monitoring capacity through increasing the number of trained entomologists and entomology technicians, continuing training and refresher courses, providing more field experience, and updating or building and equipping insectaries. For countries with well-functioning entomological monitoring capacity, comments were made to further expand capacity by providing molecular and other advanced laboratory technical capacity.

RECOMMENDATIONS

1. **PMI AIRS Project performance:** Retain the flexible model for technical and financial support and capacity building taking into consideration the broad differences in capacities, expectations, needs, and sensitivities of country staff at all levels.
2. **Entomological monitoring as a foundational component:** Provide support to train entomologists and technicians and to strengthen and update the infrastructure, including the insectaries and equipment, using the existing capacity when possible, to achieve a satisfactory level of functioning in countries with less than ideal performance. Provide support to maintain and update the knowledge and skill sets of entomologists and technicians in countries with good performance.
3. **Capacity building:** Reinforce the systems of higher-performing countries with a focus on higher-level program management, supervision, and advocacy by assessing levels of country support for developing and maintaining a program, and assisting countries to gradually assume responsibility for IRS operations and entomological monitoring, with transition planning as the ultimate goal.
4. **Coordination and collaboration:** Under PMI guidance, continue to support the Ministries of Health and NMCPs as the lead agencies to collaborate and coordinate among partners at all levels.
5. **Monitoring and evaluation:** Ensure data-sharing for appropriate and timely use by all in-country partners at all levels.

¹The quantitative scale for rating the capacity of the NMCP and other government entities to take responsibility was: 1=very poor, 2=poor, 3=average, 4=good, 5=very good.

6. **Community engagement:** Strengthen approaches to ensure that local communities are knowledgeable and supportive of IRS operations, while reinforcing the involvement of local leaders and use of IEC/BCC measures at local levels.
7. **Supervisory checklists and other M&E tools:** Consider contracting with an external consultant to undertake a systematic review and evaluation of all supervisory checklists and other M&E tools to revise the forms and streamline the system. The review will require direct observation of existing checklists and tools and interviews while they are used by all levels of personnel. In addition, a methodical appraisal of the usefulness of all checklists and tools is essential to determine adequacy of existing tools and the need for additional ones.
8. **mHealth:** Continue to develop and pilot innovative mechanisms while reviewing these efforts to more adequately determine their efficiency, quality, cost, and usefulness in diverse locations. Specifically, of the mHealth innovations piloted, the use of mobile payment technology should be scaled up wherever possible.

I. INTRODUCTION

EVALUATION PURPOSE AND EVALUATION QUESTIONS

The purpose of the President's Malaria Initiative (PMI) Africa Indoor Residual Spraying (AIRS) Project Mid-Term Evaluation was to inform future USAID investments in indoor residual spraying (IRS). The PMI AIRS Project focuses on IRS implementation, technical assistance, capacity building, communications and public education, entomological monitoring, and monitoring and evaluation (M&E) at country level, upon which the mid-term evaluation was based. At the global level, the PMI AIRS project focuses on advocacy and dissemination of best practices.

The evaluation was expected to accomplish the following objectives:

1. Capture lessons learned and identify key programmatic bottlenecks/gaps that can inform future PMI IRS programming.
2. Determine the utility of M&E tools and mHealth innovations.
3. Assess and document progress toward building in-country capacity for all aspects of IRS implementation.

According to the Scope of Work (SOW), three evaluation questions guided the PMIAIRS Mid-Term Evaluation (Annex I). These were:

1. Are there lessons learned from the PMI AIRS Project's activities at all levels that could inform future programming in indoor residual spraying?
2. Do supervisory checklists and other M&E tools capture useful and necessary data on indoor residual spraying operations?
3. To what extent has in-country capacity been built in indoor residual spraying and entomological monitoring?

II. PROJECT BACKGROUND

The PMI was launched in 2005 as a five-year, \$1.2 billion initiative to rapidly scale up malaria prevention and treatment interventions to reduce malaria-related mortality by 50 percent in 15 high-burden countries in sub-Saharan Africa. With the passage of the Lantos-Hyde Act in 2008, PMI developed the U.S. Government (USG) Malaria Strategy 2009–2014, which expanded PMI goals and programming. In 2015, PMI supported programming in 19 sub-Saharan countries and in two countries and a regional platform in the Greater Mekong Sub-region. The recently released *President's Malaria Initiative Strategy 2015–2020* seeks to reduce malaria mortality by one-third from 2015 levels in PMI-supported countries, achieving a greater than 80 percent reduction from PMI's original 2000 baseline levels; reduce malaria morbidity in PMI-supported countries by 40 percent from 2015 levels; and assist at least five PMI-supported countries to meet the World Health Organization (WHO) criteria for national or sub-national pre-elimination.

PMI supports highly effective malaria preventive and treatment interventions to reduce malaria mortality and morbidity, including insecticide-treated nets (ITNs), intermittent preventive treatment of pregnant women, indoor residual spraying, and effective case management and treatment with artemisinin-based combination therapies.

PMI-supported IRS programs sprayed more than 4 million houses with insecticides, protecting 16 million people (2016 PMI Tenth Annual Report), in fiscal year 2015. From 2008 to 2015, the number of PMI-supported insecticide resistance monitoring sites in Africa increased from 12 to approximately 190. All 19 PMI focus countries in Africa currently conduct regular entomological monitoring. PMI supports approximately 130 entomological monitoring sites, which measure mosquito density and behavior (2016 PMI Tenth Annual Report).

PMI is committed to continuing its support of NMCPs in achieving high coverage levels of high-quality IRS and to ensuring that malaria transmission levels are reduced and maintained. PMI is also committed to further expanding the capacity of NMCPs and regional and district-level officials to plan, execute, and monitor IRS programs, as well as contributing to the global policy dialogue and technical advances related to IRS.

The PMI AIRS Project is a three-year contract led by Abt Associates and funded by USAID under PMI. The project began on September 26, 2014, and will end on September 26, 2017. The project supports PMI in planning and implementing IRS programs and entomological monitoring with the overall goal of reducing the burden of malaria in Africa. The goal of the project is to provide IRS-related commodities procurement and logistical services; planning, organization, management, and support of IRS programs; USAID Mission-requested host-country environmental impact assessments and compliance and monitoring assessments (including entomological and epidemiological data collection); organization of skills training and provision of ongoing supervision; long- and short-term technical assistance; and advisory and monitoring services to host country institutions (both governmental and non-governmental) to implement effective IRS programs. At the country level, the PMI AIRS Project focuses on IRS implementation, technical assistance, capacity building, entomological monitoring, and M&E. The PMI AIRS Project currently works in 17 countries: Angola, Benin, Burundi, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Zambia, and Zimbabwe.

III. METHODOLOGY AND LIMITATIONS

This evaluation used mixed qualitative and quantitative methods to collect data from different geographic regions, stakeholder organizations, and technical areas.

REVIEW AND ANALYSIS OF KEY PROJECT DOCUMENTS

Evaluators reviewed and analyzed key project and IRS program documents, including semi-annual reports, the performance management plan, M&E tools, country capacity assessments, capacity-building action plans, and end-of-spray reports. A complete list of documents reviewed is provided in Annex 2: Evaluation Matrix.

The review process of all key documents provided evaluators with a background understanding of the PMI AIRS Project, which was used to inform development of the two survey instruments. Analysis and synthesis of the key project documents, such as country capacity assessments, were used to inform key informant interviews (KIIs) and analysis of qualitative and quantitative data from the two survey instruments.

CROSS-SECTIONAL ONLINE SURVEY OF KEY PERSONNEL REPRESENTING ALL 17 PMI AIRS PROJECT COUNTRIES

A mixed qualitative and quantitative cross-sectional online survey was conducted among key personnel from all 17 PMI AIRS Project countries. The purpose of the cross-sectional online survey was to assess the success of the PMI AIRS Project, factors that contributed to or inhibited success, the performance of supervisory checklists and other M&E tools and mHealth innovations, and capacity building of host country NMCPs and other government entities.

The cross-sectional online survey included 16 total questions: three demographic, six quantitative, and seven qualitative (Annex 2: Evaluation Matrix). The six quantitative questions utilized a five-point Likert scale to assess program performance, contributing and inhibiting factors, the effectiveness of capacity-building efforts, and the status of host country capacity. The seven qualitative questions provided opportunities for participants to comment on the quantitative questions, capture lessons learned, and suggest areas for future capacity-building efforts.

The invited participants consisted of a purposeful convenience sample of 96 persons involved with the PMI AIRS Project. Participants included PMI host country staff; select USAID Mission staff who were familiar with the PMI AIRS Project; host country NMCP staff; and other host country IRS stakeholders who were involved with the PMI AIRS Project. All participants provided their consent.

The cross-sectional survey was written in English and translated into French and Portuguese. The survey was delivered via an Internet-based service and was self-administered. The survey remained open for a period of 16 business days during the time frame of June 2-24, 2016.

Data from partially and fully completed surveys were exported into Microsoft Excel and de-identified after collection. Data were analyzed using Epi Info 7.

KEY INFORMANT INTERVIEWS AMONG PERSONNEL REPRESENTING FIVE PMI AIRS PROJECT COUNTRIES

Qualitative key informant interviews were conducted with key personnel from five PMI AIRS Project countries: Benin, Ethiopia, Nigeria, Rwanda, and Zambia. The purpose of the KII was similar to the cross-sectional online survey; however, the KII design allowed for more in-depth discussion of topic areas.

The KIIs had a total of 10 questions focused on assessing the major achievements and weaknesses of the PMI AIRS Project, the most effective components of the PMI AIRS Project program design, management and implementation, and capacity-building among host country NMCPs and other government entities. Additionally, a secondary KII comprised of 15 questions related to supervisory checklists, other M&E tools, and mHealth innovations was asked of selected personnel (see below). The KII questions were open-ended; follow-up questions were asked when indicated.

The invited participants consisted of a purposeful convenience sample of 55 persons involved with the PMI AIRS Project in the five countries. Participant PMI host country staff, PMI AIRS Project host country staff, host country NMCP staff, and other host country IRS stakeholders who were involved with the PMI AIRS Project were invited to participate. Only PMI AIRS Project host country staff were asked questions from the secondary KII. Participants provided consent by listening to a statement read by the interviewer and acknowledging their affirmation orally.

The KII was written in English and translated into French; a French translator was available for all KIIs conducted in French. The KIIs were conducted by telephone or Voice-over-Internet Protocol from June 1 to 17, 2016.

KIIs were not recorded. Interviewers transcribed handwritten notes of all interviews and collected quotes when appropriate. Interviewers transferred the de-identified interview notes to a Microsoft Excel-based qualitative matrix. The matrix was analyzed using standard qualitative review methods to identify key themes, unique perspectives, and lessons learned.

ETHICAL CONSIDERATIONS

The cross-sectional survey and KIIs were voluntary, and oral or written consent was obtained from each respondent. Respondents were given the option to opt-out of particular questions or the whole interview if at any time they believed a response would disclose sensitive information.

The information provided as part of these interviews and discussions was de-identified and is not linked to any specific person in the Final Report. Only general identifying information (organization and geographical location, if reported voluntarily) was utilized. The information collected will be kept confidential and used for planning purposes only. Only members of the evaluation team will have access to the transcripts and raw data.

Each evaluation team member has signed a nondisclosure form (see Annex 4). The Final Report is a synthesis of the team's analysis drawn from interviews with numerous respondents. Any quotes included to highlight particular issues do not include names.

LIMITATIONS

The findings of this evaluation are subject to some key limitations. The primary limitation is that the evaluators did not travel to any of the PMI AIRS Project countries, which prohibited direct observational assessment of program activities and facilities and in-person meetings and interviews. Secondly, the people invited to participate in the cross-sectional online survey and the KIIs were more senior level managers and staff; there was minimal representation from regional or district level staff and no participation from lower level field staff (e.g., spray operators, team leaders). Thirdly, over a quarter of all evaluation participants (33/118, 28 percent) were invited to complete both the cross-sectional online survey and a KII, which may have resulted in an over-representation of their views and perspectives. For the cross-sectional online survey, over half (9/17, 53 percent) of the countries had participation from only one or two people, which limits the generalizability of the findings. Lastly, feedback on supervisory checklists and other M&E tools and mHealth was provided by participants who may not directly use the majority of the checklists and tools and was limited; the participation rate for questions specific to supervisory checklists and mHealth for the cross-sectional online survey was 21 percent (20/96) and for the KIIs was 25 percent (14/55).

IV. FINDINGS

PARTICIPATION RATES

Table 1. Participation Rates in Cross-sectional Online Survey and Key Informant Interviews

	Cross-sectional online survey (n=96)	Key informant interviews (n=55)
Overall participation rate	52%	67%
PMI personnel	73% (24/33)	69% (11/16)
USAID Mission personnel	8% (01/13)	N/A
NMCP personnel	43% (13/30)	45% (05/11)
Other host country personnel*	60% (12/20)	50% (06/12)
AIRS host country personnel	N/A	94% (15/16)

*Other host country personnel includes participants from the host country Ministry of Health, government research institutions, regional or local departments of health, academia, and local non-governmental organizations.

For the cross-sectional online survey, at least one person from each of the 17 countries responded. Nevertheless, nine countries (53 percent) had only one or two participants. Three countries (Liberia, Nigeria, and Zimbabwe) accounted for 38% of all participants. Personnel from the PMI AIRS Project in-country teams were not invited to participate in the cross-sectional online survey. For the KIIs, at least one person from each of the five countries was interviewed. (See Table 1.)

A. EVALUATION QUESTION 1: ARE THERE LESSONS LEARNED FROM THE PMI AIRS PROJECT'S ACTIVITIES AT ALL LEVELS THAT COULD INFORM FUTURE PROGRAMMING IN INDOOR RESIDUAL SPRAYING?

Areas to consider: Key bottlenecks, gaps, or weaknesses identified that should be addressed in future activities

A.1 Evaluation of PMI AIRS Project Performance

Findings:

Evaluation participants rated the performance of the PMI AIRS Project most effective in five focus areas (Table 2). These were: planning IRS operations, managing procurement and logistics, conducting entomological monitoring, environmental compliance, and M&E. The lower-rated focus areas were conducting information, education, and communication (IEC)/ behavior change communication (BCC), strengthening country level policy and programming, and promoting

gender equity. The factors that contributed to PMI AIRS Project’s performance were strong leadership and high technical knowledge and motivation and the professionalism of project staff. Inhibiting factors were staff turnover on the PMI AIRS Project and inadequate coordination with local communities.

Evidence:

Evaluation participants rated PMI AIRS Project performance as “good” to “very good” for IRS operations, entomological monitoring, managing procurement and logistics, M&E, and environmental compliance. Quantitative ratings for conducting IEC/BCC, strengthening policy, and promoting gender equity were rated to be “average” to “good” across participant groups.

Table 2. The PMI AIRS Project Performance in Focus Areas

On a scale from 1 to 5, please rate the PMI AIRS Project performance in the following focus areas.

(Score: 1= very poor, 2=poor, 3=average, 4=good, 5=very good)

	Overall	PMI Personnel (n=24)	NMCP Personnel (n=13)	Other in-country Stakeholders (n=12)
Plan and implement IRS operations	4.3	4.4	4.3	4.1
Conduct environmental compliance	4.2	4.3	4.1	4.1
Manage procurement, logistics, and warehousing	4.3	4.2	4.5	4.1
Conduct entomological monitoring	4.4	4.5	4.2	4.5
Conduct IEC/BCC	3.5	3.5	3.5	3.6
Conduct M&E	4.1	4.2	4.0	4.1
Strengthen and update country level policy and programming	3.8	3.7	3.8	3.9
Promote and incorporate gender equity	3.7	3.6	3.6	3.9

Quantitative ratings between PMI, NMCP, and other in-country stakeholders varied slightly across the eight areas of programmatic performance. Whereas PMI personnel rated IRS operations, environmental compliance, and M&E slightly higher than did NMCP and other in-country stakeholders, other in-country stakeholders rated entomological monitoring higher than PMI and NMCPs. NMCPs rated logistics slightly higher than PMI and other in-country stakeholders. Overall, however, quantitative ratings are consistent across all focus areas; differences between evaluation participant groups are small and not statistically significant.

In addition to the strong leadership, professionalism, and technical knowledge of the PMI AIRS Project team, evaluation participants emphasized the flexibility of project design and the fact that

the project built focus areas on the basis of existing infrastructure and capacity in countries. Inadequate government policy, plans and support in some countries, budgetary constraints, and inadequate coordination, especially with local communities, were factors reported that inhibited PMI AIRS Project performance.

Qualitative evidence confirms and adds dimension to survey results. Evaluation participants highlighted the successful performance of the PMI AIRS Project team while noting the need for further improvements in coordination with national stakeholders at all levels, and for more intense support to national efforts to improve policy and planning in selected countries.

A.2 PMI AIRS Project Performance in Indoor Residual Spraying

Findings:

The PMI AIRS Project performed effectively in IRS operations and logistics. The project was successful in IRS planning, implementation, and management, having completed IRS campaigns in a timely manner in most countries.

Evidence:

Evaluation participants rated the performance of the PMI AIRS Project in IRS operations to be “good.” There was some slight variation between PMI, NMCP, and other in-country stakeholders, with PMI rating IRS operations slightly higher than NMCPs and other in-country stakeholders (as shown in Table 2). Effective collaboration, communication, and inclusion of NMCP and other stakeholders at different levels in the planning and implementation of IRS operations and training at all levels were among the factors identified by evaluation participants as facilitating the PMI AIRS Project’s effectiveness.

Evaluation participant comments were consistent with survey results, adding dimension to key aspects of PMI AIRS Project performance. Explicit comments from five countries underscored the relevance of the PMI AIRS Project’s approach to planning in IRS operations to maximize results. Key points were that national and local partners quickly learned the importance of detailed planning and organization from this experience. Comments were that “*early planning was most important, especially micro-planning,*” “*high quality operations resulted in high coverage,*” and that overall AIRS is a “*very flexible project, and as result it has met its IRS targets.*” One participant noted how the project “*manages procurement and logistics for the districts in which it sprays so NMCP does not have to do so.*”

Another participant emphasized that this was a “*very, very organized project for IRS ... the work showed an example of how it can be done; PMI AIRS Project emphasized the importance of entomological monitoring as a baseline to guide IRS. This is a more ‘holistic’ approach. The project partnered with local universities*” and had “*good relationships with communities.*” Finally, one participant reported that the project “*assures that resources, such as equipment and material, are available on time. Government resources are not adequate. The project’s help is a must because our resources can’t accomplish this.*”

Evaluation participants from Rwanda, Ethiopia, and Zambia identified inhibiting factors, some of which are likely not directly within the control of either the PMI AIRS Project or NMCPs and other stakeholders. These included unexpected weather changes during IRS operations, limited access to remote rural sites, a perceived need to increase the geographic coverage of IRS operations, and host government budgetary constraints to pay for the high cost of changing from pyrethroids and carbamates in districts where the government supports IRS operations.

At the same time, participants from Rwanda and Madagascar reported other factors requiring the attention of the project. These included broken pumps, insufficient rigor in procurement of insecticides to minimize expiration of stock, subsequent disposal problems and a concern about environmental compliance, and the need to prove whether soak pits are meeting their intended purpose.

A.3 PMI AIRS Project Performance in Entomological Monitoring

Findings:

The PMI AIRS Project contributed to the establishment of entomological monitoring systems across countries. Factors that facilitated these advances at the country level were strong political will and collaboration between government or academia and the PMI AIRS Project, albeit at different levels, depending on a given country's capacity and readiness.

Evidence:

The project performed most effectively in entomological monitoring as the foundation for IRS operations. Other in-country stakeholders, including academic and research institutes, rated entomological monitoring most highly, that is, "good" to "very good." PMI participants rated performance in entomological monitoring slightly higher than NMCPs.

Comments of evaluation participants from Benin, Zimbabwe, Rwanda, Nigeria, and Zambia complemented each other and provided dimension to the project's contribution to entomological monitoring. They identified several factors at the country level, including one related to the project's *"significant work in training staff for entomological surveillance activities,"* and another that support for entomological monitoring had *"re-set the stage to provide baseline and allowing for re-introduction of the IRS program."* Participants from three countries also noted the importance of continuing to build entomology lab capacity by training sentinel site technicians at both PMI and Ministry of Health (MOH) sites.

Participants identified factors that inhibit the advancement of entomological monitoring that likely can be addressed, for example, through the inclusion of entomological monitoring specialists on national subcommittees to improve the use of data. Other concerns in this regard may require additional financial and technical support, such as the need for training in entomological surveillance to also focus on building advanced molecular capabilities. One participant emphasized the *"need to collect and identify secondary vectors that quite often are found in malaria cases with no proof of the presence of vectors."*

A.4 PMI AIRS Project Performance in Monitoring and Evaluation

Findings:

The project developed an effective M&E system that served IRS operations well and efficiently. The majority of participants reported that M&E plans were robust, with effective data collection and reporting, although a few participants noted that IRS operational data were not analyzed and synthesized thoroughly or shared well with host country decision-makers.

Evidence:

Overall, PMI, NMCP, and other in-country stakeholders rated the PMI AIRS Project M&E performance as "good." There was little variation across the different groups responding, although PMI participants rated the M&E system and reporting slightly higher than other in-country stakeholders and NMCPs. Evaluation participants had slightly mixed opinions about the

PMI AIRS Project M&E performance. On the one hand, several participants agreed that M&E plans contributed to the project's success, with comments such as: "M&E were 'robust' with effective data collection, produced useful 'real time data' enabling AIRS and NMCP to follow progress," and "using mobile forms, previously paper-based, improved reporting." Also, one NMCP participant emphasized the importance of project support for regular M&E and operations research of insecticide resistance and mosquito behavior.

However, a few evaluation participants cited instances in which the data were collected but not "managed well" or "presented for decision making." One participant noted that although data were collected and analyzed, there was not a well-defined plan on how to use the data and the data were not shared with host country decision-makers. Additional evaluation participant remarks called attention to the different needs of NMCPs. For example, one participant emphasized that although AIRS has a model for "real time reporting" of IRS progress, the national policy for weekly reporting as opposed to "real time" made it difficult for AIRS to implement because NMCP and MOH leadership wanted to verify the figures before they were shared widely. Another NMCP participant emphasized that although progress has been made, "there needs to be further standardization of indicators across government, Global Fund, and PMI supported activities."

Although relationships between PMI AIRS, MOH, NMCPs, and other in-country entities are strong, as discussed in the section below, some of these responses point to the need to review the project's M&E system to determine the areas that require improvement, taking action to the extent possible to advance cooperation in M&E.

A.5 PMI AIRS Project Performance in Coordination and Collaboration with National Malaria Control Programs and with other Entities at National, Regional, and Local Levels

Findings:

Strong government commitment and solid relationships among PMI, the PMI AIRS Project, MOH, NMCPs, and regional and local government officials, along with technical and financial support and training at all levels, contributed to success in most programmatic areas. There were cases in which collaboration and coordination were not fully adequate, which may have affected overall results in some countries. High acceptance of IRS in some communities, due in part to community culture, and use of local staff contributed to success in IRS operations, while low community literacy levels and uneven project engagement at community levels were factors that inhibited project performance in engaging community leaders and residents.

Evidence:

Quantitative rating of collaboration and coordination with country government leaders and with local level communities, as shown in Table 3, were "average" to "good." There were no quantitative differences in PMI AIRS Project performance for coordination and collaboration with NMCPs and with local communities.

Table 3. The PMI AIRS Project Performance in Collaboration and Coordination with NMCP and Other In-Country Stakeholders

On a scale from 1 to 5, please rate the PMI AIRS Project performance in collaboration and coordination with National Malaria Control Programs and other in-country stakeholders.

(Score: 1= very poor, 2=poor, 3=average, 4=good, 5=very good)

	Overall	PMI Personnel (n=24)	NMCP Personnel (n=13)	Other in-country Stakeholders (n=12)
Coordination with other stakeholders in-country	3.8	3.7	4.0	3.9
Host country government leadership	3.9	3.8	4.2	4.0
Communication and coordination with local community	4.0	4.0	3.7	4.3
Communication within the PMI AIRS Project	4.1	4.2	4.0	4.0

Qualitative responses indicated that strong government commitment was a key component of coordination and collaboration, as reported by PMI, NMCP, and other in-country stakeholders. This included a comment on “*engagement of all partners, including MOH, NMCP, and Ministries,*” whose involvement varied by country and at national, regional, and local levels. Factors that contributed to success reported by evaluation participants included strong government commitment; solid relationships among PMI, the PMI AIRS Project, the MOH, and NMCP; training at national, regional, and local levels; establishment of strong technical working groups as a “*structure offering continuity*” and engagement of local experts, from academic and research institutions and from district offices.

Participant remarks from interviews conducted in Rwanda, Ethiopia, and Nigeria emphasized the importance of coordination and cooperation and the complementarity of these relationships, particularly at national levels. Specifically, they emphasized that IRS operations were completed in a timely manner due to “*solid relationships between AIRS, MOH, and NMCP*” and “*project flexibility*” that resulted in meeting targets. Another important point in this regard was the comment that “*AIRS brought more technical expertise to NMCP to allow further development of policy and guidance.*”

In terms of engagement with local level stakeholders, evaluation participants from Ethiopia, Zambia, and Rwanda reported that the use of local staff helped build sustainability at the local level, and the involvement of local leaders was important to address the issue of IRS refusal, IEC, and coverage. Other participants from Ghana, Nigeria, and Rwanda emphasized that engagement with partners and local communities as well as use of monitoring information to inform decision-making was key to success, sustaining advocacy and ensuring that “*full participation of the local community and regional academia promotes ownership,*” and that a country’s culture and structure also contributed to higher community acceptability.

In terms of the project's performance in IEC/BCC at local levels, survey participants rated the project as "average." There was no difference between PMI and NMCP evaluation participant ratings (see Table 3). Other in-country stakeholders rated the PMI AIRS Project performance in IEC/BCC to be slightly higher, but the difference was not significant.

Qualitative reports of survey participants indicated that low levels of community literacy and inadequate IEC/BCC in some communities were inhibiting factors and also that there were several reports that AIRS engagement at the community level was not evenly distributed across regions. Participants from Ghana, Burundi, Madagascar, and Rwanda specifically emphasized that local capacity and staff empowerment should be further enhanced and that IEC/BCC activities require more specific targeting. Survey participants emphasized the need to tailor messages to local social and economic activities, and to enhance education, particularly in rural areas, especially to "enlighten people about mosquito behavior, feeding habits, and reproduction." Other participants noted that the project had not used locally prominent leaders as mobilizers for IRS in some communities, thus creating tension during the spraying campaign, and this resulted in cases where local leaders told householders to refuse spraying.

B. EVALUATION QUESTION 2: DO SUPERVISORY CHECKLISTS AND OTHER M&E TOOLS CAPTURE USEFUL AND NECESSARY DATA ON IRS OPERATIONS?

Areas to consider: *If the tools are appropriate and informative, if there are redundancies, and if they add value relative to costs and implementation inputs required.*

B.1 Supervisory Checklists and Other M&E Tools

Findings:

The supervisory checklists and other M&E tools help improve IRS planning, management, and operations, and capture useful and necessary performance indicator data. In addition, some checklists and tools allow for the correction of deficiencies or mistakes in real time, thus improving data quality. Among the evaluation participants, the majority believed the value added by the checklists and tools outweighed the burdens and costs. Nevertheless, most evaluation participants recommended further review, refinement, and streamlining of the checklists and tools.

Evidence:

The PMI AIRS Project utilizes 20 supervisory checklists and M&E tools (see Annex 5: Supervisory Checklists and Tools). The purposes of the checklists and tools are to improve IRS planning, management, and operations; collect performance data for M&E; ensure data quality; and ensure compliance with safety standards. The checklists and tools can be grossly organized into three main categories: IRS operations, IRS supervision, and IRS M&E data quality. It is important to note that the majority of the evaluation participants have not directly used the majority of the forms, and their perspectives are therefore limited to their observations and impressions of the experiences of others with the checklists and tools. A brief summary of each of the forms is provided in Annex 5.

To improve IRS planning and management, the PMI AIRS Project created several checklists, including the Race to the Starting Line. The Race to the Starting Line is a timeline that lists activities that are to be completed beginning two months prior to the start of the IRS campaign. IRS operations managers use the Race to the Starting Line to assess the progress of

preparations in the lead-in to the spray campaign launch. Select KII participant remarks include, from an AIRS host country: *“The Race to the Starting Line is very good. It helps us to keep to the timeline.”*

The supervisory checklists and other M&E tools were found to capture useful and necessary data. They have been designed to address specific aspects of IRS operations and supervision and complement other forms with minimal duplication. For example, four of the tools are forms designed to collect IRS spray performance indicator data at different operational levels. Individual spray operators complete Data Collection Forms daily, recording spray performance indicator data, including the number of eligible structures found and sprayed and the number of pregnant women and children protected. Team leaders collect and check the accuracy and completeness of each Spray Operator Data Collection Form using the Error Eliminator Form. Any data omissions or errors identified by the team leader are corrected immediately. The team leader next aggregates data from the spray operators that he or she supervises on the Team Leader Data Collection Form. Finally, IRS project managers use the Spray Performance Tracking Sheet to further aggregate the spray performance indicator data in conjunction with insecticide use and remaining stock. The Spray Performance Tracking Sheet is completed daily and allows for the real-time assessment of the performance of each spray team and overall progress to ensure that the spray campaign is completed on time.

During KIIs, participants noted that PMI AIRS Project team members developed a number of checklists and tools in response to operational or data collection deficiencies. For example, the Error Eliminator Form was designed by PMI AIRS Project personnel working in Nigeria to correct omissions and mistakes made on the IRS Campaign Data Collection Form. The Error Eliminator Form provided IRS operations team leaders with a simple and effective way to identify and address the omissions and errors in the field prior to submitting data, thus improving data quality and overall efficiency.

Responsibility for completing the checklists and tools is spread among 10 categories of personnel, including spray operators, team leaders, supervisors, environmental compliance officers, and data entry clerks. Team leaders, who oversee about five spray operators during IRS operations, and supervisors, who oversee IRS operations, are each responsible for completing the most number of forms (up to five).

Despite the number of checklists and tools, the burden was not reported to be excessive, especially considering the benefit, with the caveat that those who participated in the survey were not responsible for completing these checklists in most cases. For example, team leaders are responsible for completing up to five forms. Team leaders use the Direct Observation of Spray Supervisor Form (DOS) to document through direct observation 10 areas of technical performance of the spray operators, including insecticide mixing and spray technique. Completion of the DOS occurs as part of the team leader’s routine daily tasks and reportedly improves the quality of spraying. At the end of the day, team leaders then use the Error Eliminator and Data Collection Forms to check and aggregate data collected by the spray operators, which is then (as noted above) further aggregated on the Spray Performance Tracking Sheet. With proper training and good staff, these forms require minimal time and effort while providing critical indicator data during IRS operations.

In general, there was strong support for the continued implementation of the checklists and tools. Nevertheless, several people commented that each checklist and tool should be reviewed

individually and as part of the whole system to look for unnecessary components or duplications. Comments from KII participants include:

“The forms are all very important but they need some fine tuning.” (PMI host country)

“Every tool contributes but I suggest some consolidation.” (AIRS host country)

Finally, despite the plan to have all checklists and tools translated into local languages, participants from a few countries noted that not all the checklists and tools had been translated (AIRS host countries).

B.2 Determine the Utility of mHealth Innovations

Findings:

There were a variety of mHealth—mobile technology—innovations that were piloted by the PMI AIRS Project. Most mHealth innovations were viewed positively by evaluation participants, though a number expressed some skepticism. The use of mobile technology to pay seasonal workers was noted as improving the efficiency and timeliness of payments and reducing theft and was universally favored by evaluation participants.

Evidence:

Component 5 of the PMI AIRS Project contract includes language on the “piloting of relevant, novel tools/techniques.” To this end, the PMI AIRS Project initiated a variety of mHealth innovations, including but not limited to text message reminders to seasonal workers, converting select supervisory checklists to mobile tablet formats, and using mobile payment technology to pay seasonal workers.

To improve the safety and efficacy of IRS operations, the PMI AIRS Project piloted a program to send daily text message reminders to seasonal workers during the IRS campaign. The foundation for the idea was that most seasonal workers own and carry a mobile phone and blast text messages could be sent each morning to improve worker safety and performance. The content of the text messages was crafted to highlight operational errors or safety concerns noted during the campaign. Although some of the pilot programs found the text reminders “*useful*,” others said that “*[we] don’t think it’s working well.*” Some of the problems encountered included text messages not being able to be sent over all the mobile provider networks and text messages being delayed and not received until the end of the day after spray operations were completed.

The feedback regarding the use of mobile supervisory checklists and tools was similarly mixed. Several programs noted positive aspects, including improved supervision, improved data, and the belief that program costs were reduced. Specific participant comments include:

“They [mobile tools] all have improved program reporting. We receive data on a daily basis and if there is poor performance of seasonal workers, we can react immediately.” (AIRS host country)

“All mobile tools improve supervision and reduce worker time over paper-based tools.” (AIRS host country)

“[The] costs [of using mobile devices] in country is very reasonable.” (AIRS host country)

In contrast, others were more skeptical, noting that it’s a “*good idea but not sure that electronic elements add benefit.*” (PMI host country).

Cost estimates provided by the PMI AIRS headquarters team for the startup year include hardware (e.g., mobile phones, tablets), airtime, and consultant fees, and range from \$25,000 – \$30,000 per country; airtime costs account for approximately 20 percent of the total cost. Specific participant comments include:

“[There is a] cost in the beginning but the overall value added is greater than the cost.” (AIRS host country)

“...absolutely worth it over cost for start-up.” (AIRS host country)

C. EVALUATION QUESTION 3: TO WHAT EXTENT HAS IN-COUNTRY CAPACITY BEEN BUILT IN INDOOR RESIDUAL SPRAYING AND ENTOMOLOGICAL MONITORING?

C.I Effectiveness of the PMI AIRS project in contributing to building the capacity of the National Malaria Control Program (NMCP) and other government entities

Findings:

The PMI AIRS Project was moderately effective (Table 4) in contributing to building the capacity of the NMCPs and other government entities in all key focus areas, with entomological monitoring rated the highest and IEC/BCC the lowest.

Evidence:

The quantitative ratings of the PMI AIRS Project’s efforts to contribute to capacity building were relatively consistent across all key focus areas and remained consistent after stratifying by organization of the evaluation participant.

Table 4. Effectiveness of PMI AIRS Contribution to NMCP Capacity Building

In your opinion, please rate how effectively the PMI AIRS Project contributed to building the capacity of the NMCP and other government entities at the national and regional level in the following focus areas. (Score: 1=not, 2=minimally, 3=moderately, 4=very, 5=exceptionally)

	Overall	PMI Personnel (n=24)	NMCP Personnel (n=13)	Other Host Country Stakeholders (n=12)
Plan and implement IRS operations	3.4	3.2	3.5	3.6
Conduct environmental compliance	3.4	3.5	3.4	3.4
Manage procurement, logistics, and warehousing	3.2	3.2	3.3	3.1
Conduct entomological monitoring	3.8	3.7	4.0	3.9
Conduct IEC/BCC	3.0	3.0	2.6	3.4
Conduct M&E	3.4	3.3	3.1	4.0
Strengthen and update country level policy and programming	3.5	3.3	3.4	3.8
Promote and incorporate gender equity	3.2	3.1	3.2	3.4

The PMI AIRS Project’s efforts were rated highest in Ethiopia, Liberia, Rwanda, Senegal, Zambia, and Zimbabwe and lowest in Benin, Mali, Mozambique, and Tanzania. The effectiveness of the PMI AIRS Project’s efforts varied within a country as well. For example, in Ghana, the PMI AIRS Project was rated “very effective” with entomological monitoring but “minimally effective” with logistics. All of these findings should be viewed with caution as the PMI AIRS Project may not have focused on capacity building efforts in all key focus areas in every country, due to factors such as limited funding or capacity already existing. For example, Benin was rated as “minimally effective” at building entomological monitoring capacity but substantial entomological capacity already exists in Benin at the Entomological Research Center of Cotonou (CREC), which “*is able to provide accurate data to monitor IRS activities and manage vector resistance to insecticide*” (AIRS Benin 2014 Capacity Building Action Plan).

There were four key factors identified by evaluation participants as facilitating the PMI AIRS Project’s effectiveness in capacity building: pre-existing NMCP capacity; training programs, including the development of manuals and guidelines; effective coordination and collaboration among PMI, the PMI AIRS Project, and the NMCP on IRS planning, management, and operations; and technically sound and collaborative AIRS in-country staff. Select evaluation participant remarks include:

“NMCP had capacity but AIRS brought more technical expertise and NMCP uses that to better develop policy and guidance.” (NMCP)

“IRS at national and decentralized levels and community level workers along with Environmental Health officers have capacity now.” (NMCP)

“Trainings at national level in program management and supervision, best practices, and environmental compliance were most effective.” (AIRS host country)

“Home office Boot Camp trained over 50 at national and regional levels.” (AIRS host country)

“Systems used by AIRS [were] very dynamic and changed things on the ground. Overall, AIRS has been very strategic for implementation of national priorities.” (NMCP)

“AIRS [was] very creative in addressing needs of NMCP, even when the needs are not well articulated.” (PMI host country)

The transfer and turnover of host country staff was the only factor identified by multiple evaluation participants as inhibiting the PMI AIRS Project’s effectiveness in capacity building. The transfer and turnover of staff was primarily in regard to NMCP or other government entity staff either leaving the program for other job opportunities or being transferred to other programs or geographic locations. Additionally, a couple of evaluation participants mentioned as limiting factors needing more capacity building at the local or community level and the limited geographic coverage of IRS operations of the PMI AIRS Project. Select evaluation participant remarks include:

“[There is a] need to improve district level coordinator role and capacity.” (PMI host country)

“The implementation of BCC activities should not just be limited to the IRS implementation but should include a strong advocacy component with community leader and local authorities.” (PMI host country)

“PMI only conduct and support a very small IRS program (36 districts) compared to the government IRS program (over 400 districts). AIRS [is]not supported adequately for national capacity building.” (PMI host country)

“[Funding] allowed to only four districts of 76 in the country. This is a major obstacle to the effectiveness of the IRS campaign.” (NMCP)

C.2 Capacity of the NMCP and other government entities to take responsibility with minimal outside support

Findings:

Evaluation participants rated the capacity of the NMCP and other government entities to take responsibility with minimal outside support as “average” to “good” in all key focus areas (Table 5). NMCP capacity was rated highest in entomological monitoring, IEC/BCC, and strengthening and updating vector control policies. The lowest rated focus areas were conducting environmental compliance and managing procurement, logistics, and warehousing. Evaluation participant ratings varied markedly after stratifying by organization, with NMCP personnel providing higher scores and PMI personnel providing lower scores.

Evidence:

The quantitative ratings varied across the focus areas within the range of “average” to “good” (see Table 5).

Table 5. Capacity of NMCP and Other Government Entities to Take Responsibility

In your opinion, on a scale from 1 to 5, how would you rate the capacity of the National Malaria Control Program and other government entities to take responsibility for the following focus areas with minimal outside support?

(Score: 1=very poor, 2=poor, 3=average, 4=good, 5=very good)

	Overall (n=49)	PMI personnel (n=24)	NMCP personnel (n=13)	Other in- country stakeholder (n=12)
Plan and implement IRS operations	3.4	3.0	4.1	3.8
Conduct environmental compliance	3.0	2.7	3.0	3.3
Manage procurement, logistics, and warehousing	3.0	2.7	3.3	3.2
Conduct entomological monitoring	3.8	3.4	4.3	4.2
Conduct IEC/BCC	3.7	3.6	3.9	3.9
Conduct M&E	3.6	3.4	4.0	3.8
Strengthen and update country level policy and programming	3.7	3.5	3.9	3.9
Promote and incorporate gender equity	3.3	3.8	3.2	3.7

Consistent with the ratings of the PMI AIRS Project's effectiveness in contributing to capacity building, entomological monitoring was rated highest among the NMCP capacities. Notably, conducting IEC/BCC went from the lowest-rated aspect of the project's effectiveness to one of the highest-rated capacities of the NMCP. While not clarified in the survey instruments, this discrepancy is most likely due to the PMI AIRS Project not focusing as much on IEC/BCC because the NMCP and other government entities already had some capacity to conduct these activities. The capacity of the NMCP and other government entities to conduct environmental compliance and manage procurement, logistics, and warehousing was rated lowest among the focus areas.

After stratifying by organization, participants from the NMCP rated their ability to take responsibility in four focus areas (plan and implement IRS operations; conduct entomological monitoring; manage procurement, logistics, and warehousing; and conduct M&E) markedly higher than did PMI personnel. Although the survey instruments did not clarify the reasons for the discrepancy, a few evaluation participants noted higher standards required by USG regulations than by host government policy. The capacity of the NMCP and other government entities to take responsibility with minimal outside support was rated variably between countries and between focus areas within countries with the exception of Rwanda and Zambia, which were rated consistently good or very good across all focus areas.

There were three key factors identified by evaluation participants as facilitating the NMCP and other government entities to take responsibility with minimal outside support: strong host

government commitment, pre-existing host government capacity, and strong coordination and collaboration with the PMI AIRS Project. In addition, two countries specifically mentioned financial support from the Global Fund in facilitating NMCP capacity. Select evaluation participant remarks about what facilitated capacity building include:

“Active involvement of NMCP staff.” (Other host country)

“Country has long history of using IRS so experience is in-country.” (PMI host country)

“Joint team in all planning, implementing, and evaluating.” (PMI host country)

“Interacts with PMI AIRS closely regarding ento- and vector control issues.” (PMI host country)

There were several factors identified as inhibiting the NMCP and other government entities to take responsibility with minimal outside support. The most commonly reported inhibiting factor was funding limitations, which was reported by participants from nine countries. Other inhibiting factors included weak host country political will and commitment, limited management and planning capability, and insufficient trained staff. Select evaluation participant remarks include:

“[Lack of] sufficient and timely availability of funding” (NMCP)

“Inadequate political will and weak leadership” (Other host country)

“Lack of strong work ethic on the part of some government staff and seemingly no accountability for it” (PMI host country)

“Failure to adhere to timelines [and] milestones (deadlines) and therefore missing the suitable period to spray” (PMI host country)

“[Limited] IRS planning skills and supervision support” (PMI host country)

“Complexity and the workload associated with IRS activity” (PMI host country)

“Knowledge and skill of staff at district level is not adequate” (Other host country)

“Lack of adequate number of trained personnel and facilities” (NCMP)

C.3 Focus areas for future capacity-building efforts

Findings:

The key focus area for future capacity building was to strengthen entomological monitoring.

Evidence:

Evaluation participants from 11 countries mentioned entomological monitoring as the primary focus area for future capacity building efforts. Within entomological monitoring, specific comments were made about sustaining and expanding entomological monitoring capacity by increasing the number of trained entomologists and entomology technicians, continuing training and refresher courses, providing more field experience, and updating or building and equipping insectaries. For countries with well-functioning entomological monitoring capacity, suggestions were made to further expand capacity by providing molecular and other advanced laboratory technical capacity. Additionally, several evaluation participants noted that additional capacity was needed in environmental compliance and IRS planning and management, suggesting:

“Long-term training for in-country entomologists” (NMCP)

“Training for medical entomologists at tertiary institutions” (PMI host country)

“Entomological monitoring capacity at all levels” (Other host country)

V. CONCLUSIONS AND RECOMMENDATIONS

THE PMI AIRS PROJECT PERFORMANCE

Conclusion

The PMI AIRS Project has performed well overall in all IRS operational and entomological monitoring focus areas, due in large part to a well-structured program with sufficient standard protocols and guidelines that are managed with the flexibility to adapt to the variability between and within countries, and to staff with strong technical knowledge, professionalism, and field experience and excellent interpersonal skills.

Recommendation

Maintain the flexible model for technical and financial support and capacity building taking into consideration the broad differences in capacities, expectations, needs, and sensitivities of country staff at all levels.

ENTOMOLOGICAL MONITORING AS A FOUNDATIONAL COMPONENT

Conclusion

Entomological monitoring was viewed as critical and a foundation for the development and implementation of the IRS program at the country level; it is also a priority for nearly two-thirds of country respondents for future capacity-building efforts.

Recommendation

Provide support to train entomologists and technicians and to strengthen and update the infrastructure, including the insectaries and equipment, using the existing capacity where possible to achieve a satisfactory level of functioning in countries with less-than-ideal performance.

Provide support to maintain and update the knowledge and skill sets of entomologists and technicians in countries with good performance.

CAPACITY BUILDING

Conclusion

Country-specific capacity building assessments, action plans, and efforts were critical to the acceptance of project components and performance. While these measures will continue to be necessary, additional emphasis on leadership, management, and supervision in addition to technical areas (e.g., IRS operations, entomological monitoring) should enhance capacity-building efforts.

Recommendation

Reinforce the systems of higher-performing countries with a focus on higher-level program management, supervision, and advocacy by assessing levels of country support for developing and maintaining a program and assisting them in gradually assuming responsibility for IRS operations and entomological monitoring, with transition planning as the ultimate goal.

COLLABORATION AND COORDINATION

Conclusion

Timely communication with all partners—beginning with the planning process through implementation to data reporting—is a key component in preparing for and mitigating potential misunderstanding, given the complexities of IRS operations and entomological monitoring.

Recommendation

Under PMI guidance, continue to support Ministries of Health and NMCPs as the lead agencies to collaborate and coordinate with partners at all levels.

MONITORING AND EVALUATION

Conclusion

Successful IRS operations require that adequate and timely M&E data be relevant to national, regional, and local needs, as well as to programmatic operations.

Recommendation

Ensure data-sharing for appropriate and timely use by all in-country partners at all levels.

COMMUNITY ENGAGEMENT

Conclusion

The participation of local communities and organizations is imperative for the successful design, implementation, and management of IRS operations.

Recommendation

Strengthen approaches to ensure that local communities are knowledgeable and supportive of IRS operations, while reinforcing the involvement of local leaders and the use of IEC/BCC measures at local levels.

SUPERVISORY CHECKLISTS AND OTHER M&E TOOLS

Conclusion

The supervisory checklists and other M&E tools help improve IRS planning, management, and operations; capture useful and necessary performance indicator data; improve data quality; and add value relative to costs and the required implementation inputs. Nevertheless, there are a number of checklists and tools that may contribute to inefficiencies, which was not possible to assess due to the limitations of the current evaluation design.

Recommendation

Consider contracting with an external consultant to undertake a systematic review and evaluation of all supervisory checklists and other M&E tools to revise the forms and streamline the system. The review will require direct observation of existing checklists and tools and interviews while in use by all levels of personnel. In addition, a methodical appraisal of the usefulness of all checklists and tools is essential to determine adequacy of existing and need for additional tools.

mHEALTH

Conclusion

Development and piloting of mHealth innovations was a useful adjunct to the larger IRS operational program. Innovations such as text reminders to seasonal workers and mobile supervisory checklists are promising; however, their usefulness was limited at times by technological issues such as inability to send text messages over all the mobile provider networks and unreliable Internet connectivity. The use of mobile payment technology was noted to improve the efficiency and timeliness of payments and reduce the possibility of payment theft.

Recommendation

Continue to develop and pilot innovative mechanisms while reviewing these efforts to more adequately determine their efficiency, quality, cost, and usefulness in diverse locations. Specifically, of the mHealth innovations piloted, the use of mobile payment technology should be scaled up wherever possible.

ANNEX I. SCOPE OF WORK

Assignment #: **214** [assigned by GH Pro]

Global Health Program Cycle Improvement Project -- GH Pro
Contract No. AID-OAA-C-14-00067

EVALUATION OR ANALYTIC ACTIVITY STATEMENT OF WORK (SOW)

Date of Submission: Feb 18, 2016

Last update: July 1, 2016

I. **TITLE: Mid-term Program Evaluation of the PMI AIRS Project**

II. **Requester / Client**

USAID/Washington

Office/Division: GH/HIDN/PMI

USAID Country or Regional Mission

Mission/Division: /

III. **Funding Account Source(s): (Click on box(es) to indicate source of payment for this assignment)**

3.1.1 HIV

3.1.6 MCH

3.1.2 TB

3.1.7 FP/RH

3.1.3 Malaria

3.1.8 WSSH

3.1.4 PIOET

3.1.9 Nutrition

3.1.5 Other public health threats

3.2.0 Other (specify):

IV. **Cost Estimate: \$145,000 (Note: GH Pro will provide a final budget based on this SOW)**

V. **Performance Period**

Expected Start Date (on or about): May 2, 2016

Anticipated End Date (on or about): August 19, 2016

VI. **Location(s) of Assignment: (Indicate where work will be performed)**

Washington, DC area

VII. **Type of Analytic Activity (Check the box to indicate the type of analytic activity)**

EVALUATION:

Performance Evaluation (Check timing of data collection)

Midterm Endline Other (specify):

Performance evaluations focus on descriptive and normative questions: what a particular project or program has achieved (either at an intermediate point in execution or at the conclusion of an implementation period); how it is being implemented; how it is perceived and valued; whether expected results are occurring; and other questions that are pertinent to program design,

management and operational decision making. Performance evaluations often incorporate before-after comparisons, but generally lack a rigorously defined counterfactual.

OTHER ANALYTIC ACTIVITIES

■ **Costing and/or Economic Analysis**

Costing and Economic Analysis can identify, measure, value and cost an intervention or program. It can be an assessment or evaluation, with or without a comparative intervention/program.

VIII. BACKGROUND

Project Title:	The President's Malaria Initiative Africa Indoor Residual Spraying (PMI AIRS) Project
Contract Number:	GHN-I-00-09-00013-00 / OAA-TO-14-00035
Contract Dates:	September 26, 2014 - September 25, 2017
Project Funding:	Core & Field Support, TEC is \$268,624,768
Implementing Organization(s):	Abt Associates
Project COR:	Allison Belemvire, Malaria Technical Advisor, PMI, USAID/GH/HIDN

Background of project/program/intervention:

Malaria prevention and control is a major foreign assistance objective of USAID, contributing to two key agency goals by reducing the burden of infectious diseases and ending preventable maternal and child deaths. The President's Malaria Initiative (PMI) was launched in 2005 as a 5 year, \$1.2 billion initiative to rapidly scale up malaria prevention and treatment interventions to reduce malaria-related mortality by 50 percent in 15 high-burden countries in sub-Saharan Africa. With the passage of the Lantos-Hyde Act in 2008, PMI developed the U.S. Government Malaria Strategy 2009 – 2014 expanding PMI goals and programming. In 2011, PMI began programs in four new sub-Saharan countries and activities in three countries within the Greater Mekong Subregion in Southeast Asia. In 2015, PMI supports programming in 19 sub-Saharan countries and the Greater Mekong Subregion. The recently released *President's Malaria Initiative Strategy 2015 – 2020* seeks to reduce malaria mortality by one-third from 2015 levels in PMI-supported countries, achieving a greater than 80 percent reduction from PMI's original 2000 baseline levels; reduce malaria morbidity in PMI-supported countries by 40 percent from 2015 levels; and assist at least five PMI-supported countries to meet the World Health Organization (WHO) criteria for national or sub-national pre-elimination. The 2015 – 2020 Strategy recommits PMI's continued partnership with the same countries.

PMI supports highly effective malaria preventive and treatment interventions to reduce malaria mortality and morbidity. These interventions include insecticide-treated nets (ITNs), intermittent preventive treatment of pregnant women (IPTp), indoor residual spraying (IRS), and effective case management and treatment with artemisinin-based combination therapies (ACT). As a core component of intervention scale-up and related support to the strengthening the supply chain logistics and other systems, PMI strengthens the overall capacity of the health system in the countries where we work,

PMI, in partnership with National Malaria Control Programs (NMCPs) and in support of country level strategic plans, has significantly scaled up provision of technical, managerial, and commodity support for IRS campaigns. In the first year of PMI (2006), over two million people were protected by IRS in three countries (Angola, Uganda, and Tanzania), while in the ninth year of PMI (2014), over 18 million people were protected by IRS in 13 countries. In 2015,

PMI is supporting IRS programs in 12 PMI countries and providing entomological support in all 19 PMI countries. PMI is committed to continuing NMCP support to achieve high coverage levels of high-quality IRS, to ensure that malaria transmission levels are knocked down and kept down. PMI is also committed to further expanding the capacity of NMCPs, regional, and district level officials to plan, execute, and monitor IRS programs, as well as contributing to the global policy dialogue and technical advancements related to IRS.

The PMI AIRS Project is a three-year contract led by Abt Associates and funded by the United States Agency for International Development (USAID) under the United States President's Malaria Initiative (PMI), with a ceiling of approximately \$269 million. It aims to support PMI in planning and implementing IRS programs and entomological monitoring with the overall goal of reducing the burden of malaria in Africa. The project enhances USAID's ability to support the implementation of IRS programs on the ground through cost-effective commodities procurement and logistics systems, access to technical expertise, and implementation of IRS in countries affected by malaria. The PMI AIRS Project started on September 26, 2014, and will end on September 25, 2017.

The PMI AIRS Project is led by Abt Associates and supported by subcontracts with four different organizations: Akros, Inc., Encompass LLC, Dimagi, Inc., and the Innovative Vector Control Consortium (IVCC). Each partner has unique expertise that is relevant for implementation of the project, including in mHealth, training and capacity building, and information systems. The PMI AIRS project team's expertise includes IRS operations, monitoring and evaluation, entomology, communications, and finance and administration, among other areas.

The goal of the project is to provide IRS related commodities procurement and logistical services; planning, organization, management, and support implementation of IRS programs; USAID Mission requested host-country environmental impact assessments and compliance and monitoring assessments (including entomological and epidemiological data collection; as needed); organization of skills training and provision of ongoing supervision; long- and short term technical assistance; and advisory and monitoring services to host country institutions (both governmental and non-governmental) to implement effective IRS programs.

The project is centered around the following six components:

Component 1: Establish cost-effective supply chain mechanisms including procurement, distribution and storage of IRS-related commodities and execute all aspects of logistical plans for IRS-related activities.

Component 2: Implement safe and high-quality IRS programs and provide operational management support (i.e. field supervision, operations planning, and day-to-day implementation management) and expert short- and long-term technical and administrative assistance, primarily in the PMI focus countries but also in other countries where USAID supports malaria programs (specified annually by USAID).

Component 3: Provide on-going monitoring and evaluation for activities and ensure quality control measures for commodities, operations, and monitoring are established and/or refined and implemented.

Component 4: Contribute to global IRS policy – setting and country – level policy development of evidence – based IRS and disseminate experiences and best practices.

Component 5: Contribute to the collection and analysis of routine entomological and epidemiological data, in order to effectively monitor and promote evidence-based vector control interventions, including PMI or USAID-directed research and the piloting of relevant, novel tools/technologies.

Component 6 (Cross-Cutting): Strengthen the capacity of NMCPs, health personnel and other relevant institutions in the managerial, technical, supervisory, and evaluative functions of IRS (Components 1-3) by engaging, training, and supervising personnel at the central, provincial, district, and community levels. In addition, ensure that planning and implementation of IRS includes attention to gender considerations and that IRS continues to protect women and children of targeted communities from malaria.

IRS is a highly complex logistical undertaking that requires meticulous planning at the national, district, and village levels. It entails conducting geographical reconnaissance to identify work sites, procuring insecticide and equipment, managing warehouses, and training thousands of local staff to spray homes and follow environmental and health guidelines. To ensure insecticide kills mosquitoes that carry the malaria parasite and reduces residents' chances of getting bitten, the PMI AIRS project is responsible for completing rigorous entomological monitoring that guides programmatic decisions. The Project is responsible for carrying out communications campaigns to educate community members about the benefits of IRS. Working with country governments, PMI AIRS is in charge of ensuring spraying does not harm people or the environment. Spray results data are carefully collected, audited, and measured against targets.

Currently, PMI is the largest funder of IRS in Africa and has unique expertise in this area. Globally, the Global Fund also supports IRS worldwide, in addition to some private sector companies (mining, extractive services, etc.) and country governments. While PMI country budgets for IRS have remained relatively stable over the past few years, it is important to note that our overall coverage levels have been decreasing, mostly due to the increased cost of insecticides.

At the country level, the PMI AIRS project focuses on IRS implementation, technical assistance, capacity building, entomological monitoring, and monitoring and evaluation. At the global level, the PMI AIRS project focuses on advocacy and dissemination of best practices. The project participates in the Roll Back Malaria Vector Control Working Group as a co-chair of the IRS-related work stream.

PMI AIRS works in 17 countries:

- 1) Angola
- 2) Benin
- 3) Burundi
- 4) DRC
- 5) Ethiopia
- 6) Ghana
- 7) Kenya
- 8) Liberia
- 9) Madagascar
- 10) Mali
- 11) Mozambique
- 12) Nigeria
- 13) Rwanda
- 14) Senegal

- 15) Tanzania
- 16) Zambia
- 17) Zimbabwe

IX. SCOPE OF WORK

1. **Purpose:** Why is this evaluation or analysis being conducted (purpose of analytic activity)? The midterm evaluation of the three-year USAID/HIDN/PMI AIRS project (2014-2017) is being conducted to inform future USAID investments in IRS. At the country level, the PMI AIRS project focuses on IRS implementation, technical assistance, capacity building, communications and public education, entomological monitoring, and monitoring and evaluation. At the global level, the PMI AIRS project focuses on advocacy and dissemination of best practices.

The evaluation is expected to accomplish the following objectives:

- 1. Capture lessons learned and identify key programmatic bottlenecks/gaps that can inform future PMI IRS programming.
- 2. Determine the utility of M&E tools and mHealth innovations.
- 3. Assess and document progress toward building in-country capacity for all aspects of IRS implementation.

2. **Audience:** Who is the intended audience for this analysis? Who will use the results? If listing multiple audiences, indicate which are most important. USAID Global Health Bureau/HIDN/PMI headquarters and mission staff, PMI AIRS project staff.

3. **Applications and use:** How will the findings be used? What future decisions will be made based on these findings? Results of the evaluation will specifically inform the structure and content of future PMI support for IRS, as well as providing feedback on current project performance that can be used to improve operations prior to close-out.

Evaluation Question

- 1. Are there lessons learned from the PMI AIRS Project's activities at all levels that could inform future programming in indoor residual spraying?
Areas to consider: Key bottlenecks, gaps or weaknesses identified that should be addressed in future activities
 - 2. Do supervisory checklists and other M&E tools capture useful and necessary data on IRS operations?
Areas to consider: If the tools are appropriate and informative, if there are redundancies, and if they add value relative to costs and implementation inputs required.
 - 3. To what extent has in-country capacity been built in indoor residual spraying and entomological monitoring?
4. **Methods:**
PMI's vision for the structure of the evaluation will include five components:
- 1. Review of key project documents outlined below to understand project goals– will inform all evaluation questions.
 - 2. Survey across all 17 PMI AIRS project countries (Angola, Benin, Burundi, DRC, Ethiopia, Ghana, Liberia, Kenya, Madagascar, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Zambia, Zimbabwe) aimed at all Mission and headquarters PMI staff – will inform evaluation questions 1 & 3.

3. Semi-structured Interviews with PMI AIRS Project, NMCP, and PMI staff about the project's performance and capacity building progress in 5 countries (**Nigeria** (into only country), **Ethiopia, Benin, Zambia & Rwanda**) will inform evaluation questions 1 & 3.
4. Analysis of M&E and supervisory tools including checklists – will inform evaluation question 2.
5. Analysis of country capacity assessments, capacity building action plans and end of spray reports – will inform evaluation question 3.

■ **Document and Data Review** (*list of documents recommended for review*)

This desk review will be used to provide background information on the project/program, and will also provide data for analysis for this evaluation. The evaluation team will assess the PMI AIRS Project's progress and achievements using the following documents:

- Indoor Residual Spraying (IRS) 2, Task Order (TO) 6 contract²
- Country Capacity Assessments & Capacity Building Action Plans
- Project Performance Monitoring Plan with indicator data
- Annual work plans
- End of spray reports
- Semiannual project reports
- PMI AIRS Project publications and any other written products/documents/technical reports
- PMI AIRS costing analysis
- Other PMI AIRS Reports and Documents (<http://www.africairs.net/reports-and-journal-articles/>)
- Other PMI documents (<http://www.pmi.gov/resource-library>)

■ **Secondary analysis of existing data** (*list the data source and recommended analyses*)

Data Source (<i>existing dataset</i>)	Description of data	Recommended analysis
PMI AIRS costing and expenditure data	PMI AIRS expenditures for development, productions, rollout and use of tools (e.g., mHealth, M&E, etc.)	Costing (expenditures) for AIRS tools (e.g., mHealth, M&E, etc.)

■ **Key Informant Interviews** (*list categories of key informants, and purpose of inquiry*)

Interviews will be conducted with key Stakeholders in countries buying into the IRS 2 TO 6 contract (17 countries) and PMI headquarters and in-country staff (USAID & CDC), as well as PMI AIRS staff. Phone and in-person interviews with stakeholders and partners of the PMI AIRS Project at headquarters and the country level. The evaluation team will develop a semi-structured interview guide that will be used to conduct the interviews. Respondents will be identified by PMI & the PMI AIRS Project. A list of potential respondents will be developed prior to the start of the evaluation process.

Key informants for headquarters and 5 countries:

- PMI AIRS Project staff at headquarters and in country
- PMI staff at headquarters and in country
- USAID Health Office leadership and other mission health team staff as appropriate
- NMCP staff at headquarters and regional/district level

Purpose of inquiry for 5 focus countries (Nigeria, Ethiopia, Benin, Zambia & Rwanda):

² IRS 2 denotes that it's part of the second IRS IQC; and PMI AIRS is TO 6 under the IRS 2 IQC.

- Successes of program that should be replicated/continued; major contributors to these successes
- Major challenges or barriers to project implementation/scale up of IRS
- Strengths and weaknesses of management of project
- Capacity built in IRS, entomology and vector control at the national, regional, and district level

■ **Group Interviews** (*list categories of groups, and purpose of inquiry*)

Optional: Some of the key informant interviews can be clustered, as long as there are no power differentials, and all respondents feel comfortable in voicing their opinions within the group. (See list and description above under KII.)

■ **Survey** (*describe content of the survey and target responders, and purpose of inquiry*)

A brief structured survey that will take approximately 15 minutes to complete, using Survey Monkey, will be sent to all PMI AIRS project countries and key informants inquiring about project implementation, management, results, strengths, and shortcomings. Stakeholders from all countries engaged with the PMI AIRS project will be invited to participate. The evaluation team will develop a survey to gauge stakeholders view of the project including:

- Successes of program that should be replicated/continued; major contributors to these successes
- Major challenges or barriers to project implementation
- Proposed future areas of focus
- Strengths and weaknesses of management of project
- Capacity built in country

It is anticipated that the Survey will only need to be in English as PMI and AIRS staff can read and write English. If during the Team Planning Meeting (TPM) it is determined that French or Portuguese versions of the Survey are needed, the Survey Monkey text will be translated as needed.

X. HUMAN SUBJECT PROTECTION

The Evaluation Team must develop protocols to insure privacy and confidentiality prior to any data collection. Primary data collection must include a consent process that contains the purpose of the evaluation, the risk and benefits to the respondents and community, the right to refuse to answer any question, and the right to refuse participation in the evaluation at any time without consequences. Only adults can consent as part of this evaluation. Minors cannot be respondents to any interview or survey, and cannot participate in a focus group discussion without going through an IRB. The only time minors can be observed as part of this evaluation is as part of a large community-wide public event, when they are part of family and community attendance. During the process of this evaluation, if data are abstracted from existing documents that include unique identifiers, data can only be abstracted without this identifying information.

XI. ANALYTIC PLAN

Describe how the quantitative and qualitative data will be analyzed. Include method or type of analyses, statistical tests, and what data it to be triangulated (if appropriate). For example, a thematic analysis of qualitative interview data, or a descriptive analysis of quantitative survey data.

The evaluation team will be responsible for coordinating the data analysis and will use both qualitative and quantitative data in order to answer the evaluation questions stated above.

1. Document review – qualitative assessment of M&E tools and checklists, capacity building assessments and plans, etc.
2. Survey - quantitative analysis of trends in perceived successes and challenges across countries as well as qualitative analysis to identify themes in open-ended questions
3. Interviews - qualitative analysis to identify patterns, trends, and potential causes for perceived successes and shortcomings of the project in 5 countries. This analysis should be undertaken for each country individually as well as across countries to identify recurring themes.

All analyses will be geared to answer the evaluation questions. Additionally, the evaluation will review both qualitative and quantitative data related to the project/program's achievements against its objectives and/or targets.

Quantitative data will be analyzed primarily using descriptive statistics. Data will be stratified by demographic characteristics, such as sex, age, and location, whenever feasible. Other statistical test of association (i.e., odds ratio) and correlations will be run as appropriate.

Thematic review of qualitative data will be performed, connecting the data to the evaluation questions, seeking relationships, context, interpretation, nuances and homogeneity and outliers to better explain what is happening and the perception of those involved. Qualitative data will be used to substantiate quantitative findings, provide more insights than quantitative data can provide, and answer questions where other data do not exist.

Use of multiple methods that are quantitative and qualitative, as well as existing data (e.g., project/program performance indicator data, etc.) will allow the Team to triangulate findings to produce more robust evaluation results.

The Evaluation Report will describe analytic methods and statistical tests employed in this evaluation.

XII. ACTIVITIES

List the expected activities, such as Team Planning Meeting (TPM), briefings, verification workshop with IPs and stakeholders, etc. Activities and Deliverables may overlap. Give as much detail as possible.

Background reading – Several documents are available for review for this evaluation. These include the PMI AIRS project contract, annual work plans (core and country plans), M&E plans with performance monitoring plan (PMP), end of spray reports, capacity building assessments and action plans and other project generated reports and materials. This document review will provide background information for the Evaluation Team, and will also be used as data input and evidence for the evaluation.

Team Planning Session– A planning session will be held at the initiation of this assignment and before the data collection begins. Activities will include:

- Review and clarify any questions on the evaluation SOW;
- Clarify team members' roles and responsibilities;
- Establish a communication plan with the PMI AIRS Project COR team and agree on procedures for sharing information and updates;
- Review and finalize evaluation questions;
- Review and finalize the survey questions;
- Review and finalize the assignment timeline;

- Review and clarify any logistical and administrative procedures for the assignment;
- Develop a data collection plan;
- Draft the evaluation work plan for USAID's approval;
- Develop a preliminary draft outline of the team's report; and
- Assign drafting/writing responsibilities for the final report.

Briefing and Debriefing Meetings – Throughout the evaluation the Team Lead will provide briefings to USAID. The in-brief and debrief are likely to include the all Evaluation Team experts, but will be determined in consultation with USAID/GH/HIDN/PMI planning committee (referred to as PMI). The Evaluation Team in consultation with the PMI Team will determine which of these meetings/briefing can be done virtually, and which should be in-person. It is anticipated that the in-brief(s) and debriefs will be done in-person in the DC area. These briefings are:

- **Evaluation launch**, a call/meeting among the PMI, GH Pro and the Team Lead to initiate the evaluation activity and review expectations. USAID will review the purpose, expectations, and agenda of the assignment. GH Pro will introduce the Team Lead, and review the initial schedule and review other management issues.
- **In-brief with PMI**. This briefing will be broken into two meetings: a) at the beginning of the planning session, so the Evaluation Team and PMI can discuss expectations and intended plans; and b) at the end of the session when the Evaluation Team will present an outline and explanation of the design and tools of the evaluation. Also discussed at the in-brief will be the format and content of the Evaluation report. The time and place for this in-brief will be determined between the Team Lead and PMI team prior to the TPM.
- **In-brief with PMI AIRS Project**. The Evaluation Team will meet with the PMI AIRS project to discuss the evaluation and expectations of involvement and cooperation of project staff and partners. This meeting will also provide PMI AIRS Project leadership an opportunity to present the Evaluation Team an overview of the project.
- The Team Lead (TL) will brief the PMI core team **bi-weekly** to discuss progress on the evaluation. As preliminary findings arise, the TL will share these during the routine briefing, and in an email.
- A **final debrief** between the Evaluation Team and PMI will be held at the end of the evaluation to present preliminary findings to PMI/COR team. During this meeting a summary of the data will be presented, along with high level findings and draft recommendations. For the debrief, the Evaluation Team will prepare a **PowerPoint Presentation** of the key findings, issues, and recommendations. The evaluation team shall incorporate comments received from PMI during the debrief in the evaluation report. (**Note:** *preliminary findings are not final and as more data sources are developed and analyzed these finding may change.*)
- **PMI AIRS Project final debrief/workshop** will be held following the final debrief with the COR team. The Evaluation Team will discuss with USAID who should participate.
- **PMI brownbag** will be held to share results of evaluation with whole PMI team and other USAID staff. PMI will determine during the TPM if this is needed, who will be invited, and if it can be convened virtually.

Data Collection –Data collection methods will be finalized during TPM in consultation with USAID. The evaluation team will outline and schedule key meetings prior to initiating data collection. Additionally, data collection tools/instruments, including a consent statement where appropriate, will be reviewed by GH Pro and USAID prior to initiating data collection. The majority of data collection will be done virtually, through phone and Skype interviews and the web-based survey.

Evaluation Report – The Evaluation Team under the leadership of the Team Lead will develop a report with findings and recommendations (see Evaluation Report below). Report writing and submission will include the following steps:

1. Team Lead will submit draft evaluation report to GH Pro for review and formatting
2. GH Pro will submit the draft report to USAID
3. USAID will review the draft report in a timely manner, and send their comments and edits back to GH Pro
4. GH Pro will share USAID’s comments and edits with the Team Lead, who will then do final edits, as needed, and resubmit to GH Pro
5. GH Pro will review and reformat the final Evaluation Report, as needed, and resubmit to USAID for approval.
6. Once Evaluation Report is approved, GH Pro will re-format it for 508 compliance and post it to the DEC.

The Evaluation Report **excludes** any **procurement-sensitive** and other sensitive but unclassified (**SBU**) information. This information will be submitted in a memo to USIAD separate from the Evaluation Report.

XIII. DELIVERABLES AND PRODUCTS

Select all deliverables and products required on this analytic activity. For those not listed, add rows as needed or enter them under “Other” in the table below. Provide timelines and deliverable deadlines for each.

Deliverable / Product	Timelines & Deadlines (estimated)
<input checked="" type="checkbox"/> Launch briefing	April 22, 2016
<input checked="" type="checkbox"/> In-brief with PMI COR Team	May 16, 2016 & May 23, 2016
<input checked="" type="checkbox"/> Workplan with timeline	May 24, 2016
<input checked="" type="checkbox"/> Final Evaluation design, methods and data collection tools	May 24, 2016
<input checked="" type="checkbox"/> Draft Evaluation Report Outline	May 25, 2016
<input checked="" type="checkbox"/> In-brief with AIRS Project	May 24, 2016
<input checked="" type="checkbox"/> Routine briefings during data collection	Bi-weekly
<input checked="" type="checkbox"/> Debrief with PMI COR Team	July 5, 2016
<input checked="" type="checkbox"/> Findings review workshop with PMI AIRS Project with Power Point presentation	July 14, 2016
<input checked="" type="checkbox"/> PMI Brownbag (TBD)	(If needed)
<input checked="" type="checkbox"/> Draft report to GH Pro	Submitted to GH Pro: July 15, 2016 GH Pro submits to USAID: July 18, 2016
<input checked="" type="checkbox"/> Final report to USAID	Submitted to GH Pro: August 4, 2016 GH Pro submits to USAID: August 8, 2016
<input checked="" type="checkbox"/> Raw data (cleaned datasets in CSV or XML)	August 4, 2016
<input checked="" type="checkbox"/> Post Evaluation Report to the DEC	August 19, 2016
<input type="checkbox"/> Other (specify):	

* These dates have been updated to reflect the actual timeline of the evaluation activities. The original dates, approved on April 6, 2016 were adjusted throughout the duration of the evaluation.

Estimated USAID review time

Average number of business days USAID will need to review deliverables requiring USAID review and/or approval? 10 Business days

XIV. TEAM COMPOSITION, SKILLS AND LEVEL OF EFFORT (LOE)

Evaluation team: When planning this analytic activity, consider:

- Key staff should have methodological and/or technical expertise, regional or country experience, language skills, team lead experience and management skills, etc.
- Team leaders for evaluations must be an external expert with appropriate skills and experience.
- Additional team members can include research assistants, enumerators, translators, logisticians, etc.
- Teams should include a collective mix of appropriate methodological and subject matter expertise.
- Evaluations require an Evaluation Specialist, who should have evaluation methodological expertise needed for this activity. Similarly, other analytic activities should have a specialist with methodological expertise related to the activity.
- Note that all team members will be required to provide a signed statement attesting that they have no conflict of interest, or describing the conflict of interest if applicable.

Team Qualifications: Please list technical areas of expertise required for this activities

The team will be comprised of two consultants, one of which will be the team leader. The team should have the following skills mix:

1. Public health expertise in malaria and vector control implementation in Africa
2. USAID contracts experience
3. Organizational development and capacity building
4. Understanding and knowledge of USAID/GH/HIDN and USAID regional missions and programs
5. Knowledge and experience in design, implementation of international health programs in Africa
6. Expertise in data analysis and monitoring and evaluation of health programs
7. Familiarity with PMI and NMCPs

Note:

- *Both consultant team members will share evaluation responsibilities, including the gathering and processing of qualitative and quantitative data, based on individual strengths, and at the discretion of the Team Leader.*
- *The requirement of the use of Survey Monkey as an evaluation tool will be initiated by team members with back stopping support provided by GH Pro.*
- *When necessary, GH Pro will aid the evaluation team members with survey follow up and data management support.*

Key Staff I: Team Lead/ Evaluation Specialist: This person will be selected from among the key staff, and will meet the requirements of both this and the other position. The team lead should have significant experience conducting project evaluations/analytics.

Roles & Responsibilities: The team leader will be responsible for (1) managing the team's activities, (2) ensuring that all deliverables are met in a timely manner, (3) serving as a liaison between the USAID and the evaluation team, and (4) leading briefings and presentations. The

Team Lead will also serve as the Evaluation Specialist and will provide quality assurance on evaluation issues, including methods, development of data collection instruments, protocols for data collection, data management and data analysis. S/He will insure highest level of reliability and validity of data being collected. S/He is responsible for all data analysis, assuring all quantitative and qualitative data analyses are done to meet the needs for this evaluation. S/He will participate in all aspects of the evaluation, from planning, data collection, data analysis to report writing.

Qualifications:

- Minimum of 10 years of experience in public health
- At least 8 years' experience in M&E, including conducting evaluations
- Experience in design and implementation of evaluations
- Demonstrated experience leading an evaluation team;
- Excellent interpersonal skills;
- Excellent skills in project management
- Excellent organizational skills and ability to keep to a timeline
- Good writing skills
- Familiarity with USAID policies and practices
 - Evaluation policy
 - Results frameworks
 - Performance monitoring plans
- Preferred experience working on or with USAID health projects in Africa
- An advanced degree in public health, evaluation or research or related field
- Familiarity with PMI and NMCPs

Key Staff 2: Malaria Specialist

Roles & Responsibilities: Serve as a member of the evaluation team, providing expertise in malaria program implementation, capacity building, and malaria vector control. S/He will assist with data collection, data analysis and report writing.

Qualifications:

- At least 8 years' experience USAID health program management, oversight, planning and/or implementation
- Expertise working in implementation of malaria and child health services in Africa, preferably related to vector control
- Experience in stakeholder engagement
- An advanced degree in public health, or related field
- Experience working on or with USAID health projects in Africa
- Understanding of USAID programming of centrally funded and bilateral projects preferred
- Familiarity with PMI and NMCPs
- Excellent interpersonal skills, including experience successfully interacting with USG staff, host government officials, civil society partners, and other stakeholders
- Proficient in English
- Good writing skills, specifically technical and evaluation report writing experience
- Experience in conducting USAID evaluations of health programs/activities

Program Assistant will support the Evaluation Team with all logistics and administration to allow them to carry out this evaluation. The Logistics/Program Assistant will liaise with USAID/HIDN points of contact when setting appointments within USAID. As needed, s/he

will assist the Evaluation Team with scheduling interviews, arranging meetings and workspace as needed, and insure business center support, e.g. copying, internet, and printing. S/he will work under the guidance of the Team Leader, liaising with GH Pro to insure the processes moves forward smoothly.

Will USAID participate as an active team member or designate other key stakeholders to as an active team member? This will require full time commitment during the evaluation or analytic activity.

- Yes – If yes, specify who:
 Significant involvement – If yes, specify who:
 No

Staffing Level of Effort (LOE) Matrix:

Level of Effort in **days** for each Evaluation/Analytic Team member

Activity / Deliverable		Evaluation/Analytic Team		
		Team Lead / Malaria Specialist	Evaluation Specialist	Logistics/Program Assistant
	Launch Briefing	0.5	0.5	
	Desk review	5	5	
	Preparation for TPM	0.5		1
	Travel to & from DC	2	2	
	Team Planning Meeting	3	3	4
	In-brief with USAID/PMI	1	1	1
	In-brief with PMI AIRS	0.5	0.5	0.5
	Data Collection DQA Workshop (protocol orientation for all involved in data collection)	0.5	0.5	
	Prep / Logistics for Site Visits	0.5	0.5	1
	Data collection	12	12	2
	Data analysis & synthesis	5	5	1
	Travel to & from DC	2	2	
	Debrief with USAID/PMI with prep	1	1	1
	Debrief with PMI AIRS, with prep	0.5	0.5	0.5
	Draft report(s)	4	4	1
	GH Pro Report QC Review & Formatting			
	Submission of draft report(s) to Mission			
	Brown Bag with USAID & PMI, with prep (TBD)	0.5	0.5	0.5
	USAID Report Review			
	Revise report(s) per USAID comments	3	2.5	
	Finalize and submit report to USAID			
	508 Compliance Review			
	Upload Eval Report(s) to the DEC			
	Total LOE per person	42	41	14

Travel anticipated:

None anticipated, all work will be in DC area and remote.

XV. LOGISTICS

Note: Most Evaluation/Analytic Teams arrange their own work space, often in their hotels. However, if Facility Access is preferred GH Pro can request it. GH Pro does not provide Security Clearances. Our consultants can obtain **Facility Access** only.

XVI. GH PRO ROLES AND RESPONSIBILITIES

GH Pro will coordinate and manage the evaluation team and provide quality assurance oversight, including:

- Review SOW and recommend revisions as needed
- Provide technical assistance on methodology, as needed
- Develop budget for analytic activity
- Recruit and hire the evaluation team, with USAID POC approval
- Arrange international travel and lodging for international consultants (if applicable)
- Request for country clearance and/or facility access (if needed)
- Review methods, workplan, analytic instruments, reports and other deliverables as part of the quality assurance oversight
- Report production - If the report is public, then coordination of draft and finalization steps, editing/formatting, 508ing required in addition to and submission to the DEC and posting on GH Pro website. If the report is internal, then copy editing/formatting for internal distribution.

XVII. USAID ROLES AND RESPONSIBILITIES

Below is the standard list of USAID's roles and responsibilities. Add other roles and responsibilities as appropriate.

USAID Roles and Responsibilities

USAID will provide overall technical leadership and direction for the analytic team throughout the assignment and will provide assistance with the following tasks:

Before Field Work

- SOW.
 - Develop SOW.
 - Peer Review SOW
 - Respond to queries about the SOW and/or the assignment at large.
- Consultant Conflict of Interest (COI). To avoid conflicts of interest or the appearance of a COI, review previous employers listed on the CV's for proposed consultants and provide additional information regarding potential COI with the project contractors evaluated/assessed and information regarding their affiliates.
- Documents. Identify and prioritize background materials for the consultants and provide them to GH Pro, preferably in electronic form, at least one week prior to the inception of the assignment.
- Local Consultants. Assist with identification of potential local consultants, including contact information.
- Site Visit Preparations. Provide a list of site visit locations, key contacts, and suggested length of visit for use in planning in-country travel and accurate estimation of country travel line items costs.
- Lodgings and Travel. Provide guidance on recommended secure hotels and methods of in-country travel (i.e., car rental companies and other means of transportation).

During Field Work

- **Mission Point of Contact.** Throughout the in-country work, ensure constant availability of the Point of Contact person and provide technical leadership and direction for the team's work.
- **Meeting Space.** Provide guidance on the team's selection of a meeting space for interviews and/or focus group discussions (i.e. USAID space if available, or other known office/hotel meeting space).
- **Meeting Arrangements.** Assist the team in arranging and coordinating meetings with stakeholders.
- **Facilitate Contact with Implementing Partners.** Introduce the analytic team to implementing partners and other stakeholders, and where applicable and appropriate prepare and send out an introduction letter for team's arrival and/or anticipated meetings.

After Field Work

- **Timely Reviews.** Provide timely review of draft/final reports and approval of deliverables.

XVIII. ANALYTIC REPORT

Provide any desired guidance or specifications for Final Report. (See [How-To Note: Preparing Evaluation Reports](#))

The **Evaluation Final Report** must follow USAID's Criteria to Ensure the Quality of the Evaluation Report (found in Appendix I of the [USAID Evaluation Policy](#)).

- a. **The main body of the report must not exceed 30 pages**, excluding executive summary, table of contents, acronym list and annexes.
- b. The structure of the report should follow the Evaluation Report template, including branding found [here](#) or [here](#).
- c. Draft reports must be provided electronically, in English, to GH Pro who will then submit it to USAID.
- d. For additional Guidance, please see the Evaluation Reports to the How-To Note on preparing Evaluation Draft Reports found [here](#).

Reporting Guidelines: The draft report should be a comprehensive analytical evidence-based evaluation report. It should detail and describe results, effects, constraints, and lessons learned, and provide recommendations and identify key questions for future consideration. The report shall follow USAID branding procedures. ***The report will be edited/formatted and made 508 compliant as required by USAID for public reports and will be posted to the USAID/DEC.***

The preliminary findings from the evaluation will be presented in a draft report at a full briefing with USAID/GH/HIDN/PMI and at a follow-up meeting with key stakeholders. The report should USAID report format or use the following format:

- Executive Summary: concisely state the most salient findings, conclusions, and recommendations (not more than 2 pages);
- Table of Contents (1 page);
- Acronyms
- Evaluation Purpose and Evaluation Questions (1-2 pages)
- Project [or Program] Background (1-2 pages)
- Evaluation Methods and Limitations (1-3 pages)
- Findings

- Conclusions
- Recommendations
- Annexes
 - Annex I: Evaluation Statement of Work
 - Annex II: Evaluation Methods and Limitations
 - Annex III: Data Collection Instruments
 - Annex IV: Sources of Information
 - List of Persons Interviews
 - Bibliography of Documents Reviewed
 - Databases
 - [etc.]
 - Annex V: Disclosure of Any Conflicts of Interest
 - Annex VI: Statement of Differences [if applicable]

The evaluation methodology and report will be compliant with the [USAID Evaluation Policy](#) and [Checklist for Assessing USAID Evaluation Reports](#)

The Evaluation Report should **exclude** any **potentially procurement-sensitive information**. As needed, any procurement sensitive information or other sensitive but unclassified (SBU) information will be submitted in a memo to USAID separate from the Evaluation Report.

All data instruments, data sets (if appropriate), presentations, meeting notes and report for this evaluation will be provided to GH Pro and presented to USAID electronically. All datasets will be in XML or CSV. All data will be in an unlocked, editable format.

XIX. USAID CONTACTS

	Primary Contact	Alternate Contact
Name:	Kristen George	Allison Belemvire
Title:	Health Development Officer	Health Development Officer. PMI
USAID Office:	GH/HIDN/Malaria	GH/HIDN/Malaria
Email:	kgeorge@usaid.gov	abelevire@usaid.gov
Telephone:	571-551-7424	571-551-7428
Cell Phone:	571-309-4094	703-501-1703

XX. REFERENCE MATERIALS

Documents and materials needed and/or useful for consultant assignment, that are not listed above.

ANNEX 2. EVALUATION MATRIX

This evaluation matrix connects your evaluation methods to questions. Often more than one method can be employed in an analytic activity to obtain evidence to address more than one question. For each evaluation question (working backwards – right to left) list the evaluation method, data source and sampling that will be used to obtain result and/or evidence needed to address the specific evaluation question.

Evaluation Question	Data Source/ Collection Methods	Sampling/ Selection Criteria	Data Analysis Method
<p>I. Are there lessons learned from the PMI AIRS Project’s activities at all levels that could inform future programming in indoor residual spraying?</p>	<p>a. Review of key project documents including country capacity assessments, capacity building action plans and end of spray reports</p> <p>b. Survey across all 17 PMI AIRS project countries (Angola, Benin, Burundi, DRC, Ethiopia, Ghana, Liberia, Kenya, Madagascar, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Zambia, Zimbabwe)</p> <p>c. Semi-structured Interviews with PMI AIRS Project, NMCP, and PMI staff about the project’s performance and capacity building progress in 5 countries (Benin, Ethiopia, Nigeria, Rwanda, Zambia)</p>	<p>1. Structured document review guide</p> <p>2. Structured survey questions</p> <p>3. Semi-structured key informant interview guide</p>	<p>a. Quantitative analysis: descriptive analysis of factors contributing to success or barriers to implementation of specific technical areas of the IRS program. Bivariate analyses will be conducted when appropriate</p> <p>b. Qualitative analysis of open-ended questions to identify patterns or trends of successes or shortcomings of the IRS program</p> <p>c. Data triangulation</p>

Evaluation Question	Data Source/ Collection Methods	Sampling/ Selection Criteria	Data Analysis Method
2. Do supervisory checklists and other M&E tools capture useful and necessary data on IRS operations?	<ul style="list-style-type: none"> a. Review of key project documents b. Analysis of M&E and supervisory tools including checklists c. Review of AIRS costing and expenditure data d. Key informant interviews with PMI program and AIRS staff 	<ul style="list-style-type: none"> 1. Structured document review guides 2. Spreadsheet to analyze costing and expenditure data 	<ul style="list-style-type: none"> a. Quantitative analysis of costing and expenditure data and content of monitoring and evaluation tools (e.g., time required to complete, data duplication) b. Qualitative analysis of monitoring and evaluation tools c. Data triangulation
3. To what extent has in-country capacity been built in indoor residual spraying and entomological monitoring?	<ul style="list-style-type: none"> a. Review of key project documents including country capacity assessments, capacity building action plans and end of spray reports b. Survey across all 17 PMI AIRS project countries (Angola, Benin, Burundi, DRC, Ethiopia, Ghana, Liberia, Kenya, Madagascar, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Zambia, Zimbabwe) c. Semi-structured Interviews with PMI AIRS Project, NMCP, and PMI staff about the project's 	<ul style="list-style-type: none"> 1. Structured document review guide 2. Structured survey questions 3. Semi-structured key informant interview guide 	<ul style="list-style-type: none"> a. Quantitative analysis: descriptive analysis of factors contributing to success or barriers to implementation of specific technical areas of the IRS program. Bivariate analyses will be conducted when appropriate b. Qualitative analysis of open-ended questions to identify patterns or trends of successes or shortcomings of the IRS program c. Data triangulation

Evaluation Question	Data Source/ Collection Methods	Sampling/ Selection Criteria	Data Analysis Method
	performance and capacity building progress in 5 countries (Benin, Ethiopia, Nigeria, Rwanda, Zambia)		

ANNEX 3. LIST OF PERSONS INTERVIEWED

Name	Job Title	Organization & Location	Language considerations (if applicable)
1.Seth Irish	Entomologist	CDC Atlanta	English
2.Sheleme Chibsa	Senior Malaria Advisor	PMI/Ethiopia	English
3.Peter Thomas	PMI CDC Resident Advisor	PMI/Benin	
4.Rick Niska	PMI CDC Resident Advisor	PMI/Nigeria	English
5.Jessica Kafuko	PMI USAID Resident Advisor	PMI/Nigeria	English
6. Uwem Inyang	Program Manager, Malaria	PMI/Nigeria	English
7.Dr Abidemi Okechukwu	Program Manager, Malaria	PMI/Nigeria	English
8.Kaendi Munguti	PMI USAID Resident Advisor	PMI/Rwanda	English
9. Chomba Sinyangwe	PMI USAID Resident Advisor	PMI/Zambia	English
10.Carrie Nielsen	PMI CDC Resident Advisor	PMI/Zambia	English
11. Emmanuel Hakizimana	Director for Vector Control	Malaria and Other Parasitic Diseases (MOPDD) Rwanda	English
12.Dunia Munyakana	Vector Control Specialist	MOPDD Rwanda	English
13.Dr. Chadwick Sikaala	Entomologist	NMCP, Zambia	English
14.Dr. Abel Kabalo	Provincial Medical Officer – Eastern Province	Ministry of Health, Zambia	English
15.Dr. Matthew Ngambi	Provincial Medical Officer – Luapula Province	Ministry of Health, Zambia	English
16. Hiwot Solomon	Team Leader	NMCP, Ethiopia	English
17. Damtew Yadeta	unsure	Oromia Regional Health Bureau (ORHB)	English
18. Wondimu Tesgera Tucho	Operations Manager	AIRS Ethiopia	English
19. Habtamu Berhanu Woldemariam	M&E Manager	AIRS Ethiopia	English
20. Rodaly Muthoni	Chief of Party	AIRS Rwanda	English
21.Jules Nahimana	Operations Manager	AIRS Rwanda	English
22. Juste Rwangalinde	M&E Manager	AIRS Rwanda	English
23. Laurent Iyikirenga	Chief of Party	AIRS Benin	English
24. Bertille ONAMBELE	Operations Manager	AIRS Benin	English
25.Roger Attemba	M&E Manager	AIRS Benin	French
26.Henry Nsa	Chief of Party	AIRS Nigeria	French
27.Petrus Inyama	Technical Manager	AIRS Nigeria	French
28.Peter Mumba	Chief of Party	AIRS Zambia	English
29.Paul Banda	Operations Manager	AIRS Zambia	English
30. Evelynne Alyko	Technical Manager	AIRS Zambia	English
31. Patrick Mwansa	M&E Manager	AIRS Zambia	English
32.Dr Joel Akilah	Head of IVM Branch	National Malaria Elimination Program	French
33.Chioma Amajoh	Executive Director	Community Vision Initiative (National NGO)	English
34.Dr Okechukwu Chukwuekezi	Principal Investigator, Enugu	National Abovirus Research Ce	English
35.Christen Fornadel	Entomologist	PMI USAID HQ	English
36.Laura Norris	Entomologist	PMI USAID HQ	English

ANNEX 4. LIST OF DOCUMENTS REVIEWED

Benjamin Johns, Altea Cico. June 2015. *PMI IRS Country Programs: 2014 Comparative Cost Analysis*. Bethesda, MD. Africa Indoor Residual Spraying Project, Abt Associates Inc.

The PMI Africa Indoor Residual Spraying (AIRS) Project. Semi-Annual Report: April 1, 2015 – September 30, 2015. Bethesda, MD. The PMI AIRS Project, Abt Associates Inc.

The PMI Africa Indoor Residual Spraying (AIRS) Project. Semi-Annual Report: October 1, 2014 – March 31, 2015. Bethesda, MD. The PMI AIRS Project, Abt Associates Inc.

Kolyada, Lena, Elana Fiekowsky, Beth Brennan, and Keith Mangam. October 2015. *mHealth Matters: People, Money & Performance: Case Studies from Africa*. Bethesda, MD, Abt Associates Inc.

Burnett, Jennifer, Peter Chandonait, and Allan Were, Supervisory Toolkit for Better Indoor Residual Spraying. Edited by Erin Schiavone. Bethesda, MD: Africa Indoor Residual Spraying Project, President's Malaria Initiative, February 2013.

ANNEX 5. DATA COLLECTION INSTRUMENTS – KEY INFORMANT INTERVIEWS

Data Collection Instruments

1. In your opinion, what have been the major achievements of the PMI AIRS project? What were the main achievements in Indoor Residual Spraying and Entomological Monitoring?
2. What factors facilitated project achievements? How did these factors affect project achievements?
3. What factors inhibited project achievements? How did these factors affect project achievements?
4. What were the major challenges or weaknesses of the PMI AIRS project? How could these challenges or weaknesses be addressed in the future?
5. In your opinion, what components of the project design and/or implementation were the most effective and why?
6. How adequate was the implementation of the planned interventions? Please describe areas of improvement.
7. Overall what are the lessons learned and their effects in accomplishing the project's objectives concerning:
 - a. project design?
 - b. project implementation?
 - c. project management?
8. To what extent did PMI AIRS Project activities meet the needs and expectations of the NMCP and other in-country entities at national, regional and local levels?
9. In your opinion, what were the effective capacity building measures for NMCP and other government entities implemented by the PMI AIRS project? Please explain.
 - a. Are there additional capacity building activities that should be undertaken?
10. In your opinion, did the PMI AIRS project build capacity at national, regional and local levels in the following:
 - a. IRS operations
 - b. Entomological monitoring
 - c. Other focus areas of note (i.e. environmental compliance, IEC/BCC, M&E, etc.)

PMI AIRS PROJECT MID-TERM EVALUATION KEY INFORMANT INTERVIEW GUIDE, PART TWO

Specific questions for PMI AIRS in-country staff only:

Part One: IRS operations tools and checklists

1. What is your opinion of the following IRS operations tools and checklists used by the PMI AIRS project? The tools and checklists are grouped by the person responsible for completing them.

A. IEC/BCC Mobilizers

- I. IEC/BCC Mobilizer Form

B. Spray Operators (SOP)

- I. Spray Operator IRS Campaign Data Collection Form

C. Team Leaders

- I. Error Eliminator (To check SOP Data Collection Form - #I.B.1)
2. Team Leader IRS Campaign Daily Summary Form
3. Direct Observation of Spray (DOS) Daily Supervision Form

D. Data Entry Clerks (only in countries not supported by CTC database)

- I. Data entry validation

E. M&E Assistants (or other staff specified before campaign begins)

- I. Data collection verification (DCV)

F. Site Supervisors

- I. Health Assessment Checklist (each morning)

2. Do the tools and checklists improve or hinder IRS operations? Please explain and provide specific examples.

3. Do the tools and checklists collect unique and useful data or improve data quality and data assurance? Please explain and provide specific examples.

4. Is anyone tool or checklist overly burdensome? Are the collective tools and checklists overly burdensome on any one cadre of workers? Please explain and provide specific examples.

5. Do you have any suggestions to improve the IRS operations tools and checklists?

Part Two: Supervisory tools and checklists

1. What is your opinion of the following supervisory tools and checklists used by the PMI AIRS project? The tools and checklists are grouped by the person responsible for completing them.

A. Operations Manager

- I. Race to the Starting Line – overall timeline and key preparation starting points

- B. AIRS Supervisors (either seasonal hires or central staff that are available)
 - 1. IEC/BCC Mobilization Supervisor Form
- C. Supervisors (Seasonal Supervisors, District Coordinators, National Supervisors, and AIRS Country central staff) *all on smartphone*
 - 1. Homeowner Preparation and Spray Operator Performance
 - 2. Spray Operator Morning Mobilization and Transportation Vehicle Inspection
 - 3. Storekeeper Performance
 - 4. End of Day Cleanup
- D. Team Leader or Storekeepers (country dependent)
 - 1. Spray Performance Tracking Sheet
 - 2. Performance Management Tracker (SMS indicators sent to Gateway phone)
- E. Environmental Compliance Officer / AIRS Country central staff
 - 1. Pre-Contract Transportation Vehicle Inspection Checklists
 - 2. PSECA and Final Inspection
 - 3. Post IRS EC Inspection

2. Do the tools and checklists improve or hinder supervisory responsibilities? Please explain and provide specific examples.

3. Is any one tool or checklist overly burdensome? Are the collective tools and checklists overly burdensome on any one cadre of workers? Please explain and provide specific examples.

4. Is the data being collected appropriate and useful? Are there redundancies in the data being collected among the various tools and checklists?

5. Are the mobile supervisory tools and checklists easy to understand and use? If not, how could they be improved?

6. In your opinion, do mobile supervisory tools reduce or increase worker time to complete in comparison to the paper based tools and checklists?

7. Do any of the tools or checklists help streamline reporting? If so, which tools?

8. Do the tools and checklists improve data quality or quality assurance? If so, which ones?

9. Do you have any suggestions to improve the supervisory tools and checklists?

Part Three: mHealth Tools

1. Please tell us about the mHealth approaches that the PMI AIRS project developed (specifically, SMS reminders for spray teams, the Performance Management Tracker, and mobile phone payments for spray personnel).

- a) In your opinion do the mHealth approaches improve or hinder programmatic performance? Please describe.

b) Are the costs (direct & LOE) associated with these tools greater than the value added by the tools?

c) Do you have suggestions for improving mHealth approaches?

ANNEX 6. DATA COLLECTION INSTRUMENT – ONLINE SURVEY

PMI AIRS Project Mid-Term Evaluation

Respondent Data page

The following survey is being conducted among President's Malaria Initiative (PMI) and host government personnel as part of a mid-project evaluation of the PMI Africa Indoor Residual Spraying (AIRS) Project.

The evaluation is expected to:

- identify key programmatic successes, bottlenecks, gaps, and lessons learned
- assess progress toward building in-country capacity for all aspects of indoor residual spray (IRS) implementation and entomological monitoring.

Results from the survey will be used to improve project performance and will inform future PMI-supported IRS and entomological monitoring activities.

The responses you provide will be kept confidential and will not be ascribed to you. Any specific identifying information will be deleted from the data set before any data are shared. The results from this survey will be pooled for analysis; we will ensure that responses cannot be traced back to any individual. However, we will list your name and organization in the survey summary information that will be included in an appendix to the final submitted report.

Your completion of this survey is voluntary. You have the right to stop the survey at any point without consequences.

For countries with entomology programs only, please answer only those questions specific to entomological monitoring and mark other questions as "not applicable."

If you experience any technical difficulties with the survey, please contact PMIAIRSEvaluation@gmail.com

By providing the information below, you give your consent to participate in the survey.

* 1. Name

* 2. Organization

* 3. Country where you work (or have oversight)

1

PMI AIRS Project Mid-Term Evaluation

Focus Areas

4. On a scale from 1 to 5, please rate the PMI AIRS project performance in the following focus areas.

	1. Very poor	2. Poor	3. Average	4. Good	5. Very good	I don't know	Not applicable
Plan and implement IRS operations	<input type="radio"/>						
Conduct environmental compliance	<input type="radio"/>						
Manage procurement, logistics, and warehousing	<input type="radio"/>						
Conduct entomological monitoring and surveillance	<input type="radio"/>						
Conduct information, education and communication (IEC) or behavior change communication (BCC)	<input type="radio"/>						
Conduct monitoring and evaluation (M&E)	<input type="radio"/>						
Support and update country level IRS and vector control policies and programming	<input type="radio"/>						
Promote and incorporate gender equity	<input type="radio"/>						

Please feel free to elaborate on any of your answers.

PMI AIRS Project Mid-Term Evaluation

5. In your opinion, did the following factors inhibit or contribute to the successful performance of the PMI AIRS project?

	1. Strongly inhibited	2. Inhibited	3. Neither inhibited nor contributed	4. Contributed	5. Strongly contributed	I don't know	Not applicable
Government leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PMI AIRS project leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Existence of national policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National policies and guidelines reflect current global (WHO) guidance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of IRS evaluation tools (e.g., spray operations, performance tracking)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality and amount of data for decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality and amount of technical guidance and support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of the IRS spray plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication within the PMI AIRS project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication and coordination with local community and beneficiaries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to elaborate on any of the above successes or input any additional answers you have.

6. (continued) In your opinion, did the following factors inhibit or contribute to the successful performance of the PMI AIRS project?

	1. Strongly inhibited	2. Inhibited	3. Neither inhibited nor contributed	4. Contributed	5. Strongly contributed	I don't know	Not applicable
Coordination between AIRS partners in country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination with government entities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coordination with other stakeholders (NGOs, Global Fund, etc.) in country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sufficient and timely funds for project activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of training of seasonal workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Numbers and appropriate skill sets of AIRS full-time staff in country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PMI AIRS project staff time and motivation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PMI AIRS project staff turnover	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sufficient stock of key IRS supplies, such as insecticide, pumps, and PPE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sufficient stock of other supporting supplies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sufficient and well-managed warehouse and storage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to elaborate on any of the above successes or input any additional answers you have.

PMI AIRS Project Mid-Term Evaluation

7. How could the PMI AIRS project have better assisted in addressing the factors that inhibited the successful performance of the IRS or entomological monitoring (for ento-only countries) program?

Please feel free to elaborate. Each comment box will support up to 250 words.

1.
2.
3.

PMI AIRS Project Mid-Term Evaluation

Capacity Building

8. In your opinion, please rate how effectively the PMI AIRS project contributed to building the capacity of the National Malaria Control Program (NMCP) and other government entities at the national and regional level in the following focus areas.

	1. Not effective	2. Minimally effective	3. Moderately effective	4. Very effective	5. Exceptionally effective	I don't know	Not applicable
Plan and implement IRS operations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct environmental compliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manage procurement, logistics and warehousing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct entomological monitoring and surveillance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct information, education and communication (IEC) or behavior change communication (BCC)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conduct monitoring and evaluation (M&E)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strengthen and update country level IRS and vector control policies and programming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote and incorporate gender equity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to elaborate on the effectiveness to build capacity in any of the focus areas.

PMI AIRS Project Mid-Term Evaluation

9. In your opinion, on a scale from 1 to 5, how would you rate the capacity of the National Malaria Control Program and other government entities to take responsibility for the following focus areas with minimal outside support:

	1. Very poor	2. Poor	3. Average	4. Good	5. Very good	I don't know	Not applicable
Plan and implement IRS operations	<input type="radio"/>						
Conduct environmental compliance	<input type="radio"/>						
Manage procurement, logistics and warehousing	<input type="radio"/>						
Conduct entomological monitoring and surveillance	<input type="radio"/>						
Conduct information, education and communication (IEC) or behavior change communication (BCC)	<input type="radio"/>						
Conduct monitoring and evaluation (M&E)	<input type="radio"/>						
Strengthen and update country level IRS and vector control policies and programming	<input type="radio"/>						
Promote and incorporate gender equity	<input type="radio"/>						

Please feel free to elaborate on the project's effectiveness in building capacity in any of the focus areas.

PMI AIRS Project Mid-Term Evaluation

10. In your opinion, what facilitated the ability of the government to take over responsibility for certain aspects of the IRS or entomological monitoring (for ento-only countries) program?

Please feel free to elaborate. Each comment box will support up to 250 words.

1.

2.

3.

11. In your opinion, what limited the ability of the government to take over responsibility for certain aspects of the IRS program?

Please feel free to elaborate. Each comment box will support up to 250 words.

1.

2.

3.

12. In your opinion, in what areas should future capacity building efforts focus?

Please feel free to elaborate. Each comment box will support up to 250 words.

1.

2.

3.

PMI AIRS Project Mid-Term Evaluation

Mobile communications and mHealth

13. In your opinion, on a scale from 1-5, did the following mHealth innovations hinder or improve the PMI AIRS project functioning?

	1. Strongly hindered	2. Hindered	3. Neither hindered nor improved	4. Improved	5. Strongly improved	I don't know	Not applicable
Text message reminders to seasonal workers to improve safety and efficacy of IRS operations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of mobile payment technology to pay seasonal workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobile supervisory tools and checklists	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please feel free to elaborate any of the mobile communications/mHealth projects.

PMI AIRS Project Mid-Term Evaluation

Looking forward

14. Please list up to three useful lessons learned during the first two years of the PMI AIRS project?

Please feel free to elaborate. Each comment box will support up to 250 words.

- 1.
- 2.
- 3.

15. What additional or innovative areas of focus do you believe should be considered for future PMI IRS or entomological monitoring support?

Please feel free to elaborate. Each comment box will support up to 250 words.

- 1.
- 2.
- 3.

16. Please feel free to add any additional comments you may have.

ANNEX 7. SUPERVISORY CHECKLISTS AND TOOLS

THE PMI AIRS PROJECT CHECKLISTS AND TOOLS

A. Table summary by area of focus and job title of person responsible for completing

	IRS Operations	Supervision
IEC/BCC Mobilizers	1. IEC/BCC Mobilizer Form	
Spray Operators (SO)	1. SO IRS Campaign Data Collection Form	
Team Leaders (TL)	1. Error Eliminator 2. TL IRS Campaign Data Collection Form 3. Direct Observation of Spray Daily Supervisor Form	1. Spray Performance Tracking Sheet 2. Performance Management Tracker
Site Supervisors	1. Health Assessment Checklist	
Operations Manager		1. Race to the starting line
Supervisors (Seasonal Supervisors, District Coordinators, National Supervisors, and AIRS Country central staff)		1. IEC/BCC Mobilization Supervisor Form 2. Homeowner Preparation and SO Performance 3. SO Morning Mobilization and Transportation Vehicle Inspection 4. Storekeeper Performance Form 5. End of day clean-up
Environmental Compliance Officer		1. Pre-Contract Transportation Vehicle Inspection Checklists 2. Pre-Season Environmental Compliance Audit (PSECA) and Final Inspection 3. Post IRS Environmental Compliance Inspection
Data Entry Clerk	1. Data entry validation	
M&E Assistant	1. Data collection verification	
M&E/database Manager	1. Post spray data quality audit	

B. List and brief description of checklists and tools

1. **Race to the Starting Line (Operations Manager)**
The Race to the Starting Line is a timeline that lists activities that are to be completed beginning two months prior to the start of the IRS campaign. Each activity listed must be completed in preparation for the IRS campaign. Based on the start date of the IRS campaign, a project manager can assign a due date and a person responsible for the activity. The Race to the Starting Line can be printed on a large poster and displayed in country offices in order to remind staff of upcoming deadlines and hold them accountable. IRS operations managers use the Race to the Starting Line to assess the progress of preparations in the lead up to the spray campaign launch.
2. **IEC/BCC Mobilization Form (IEC/BCC Mobilizer)**
IEC/BCC Mobilizers visit communities targeted for IRS to identify households, inventory household members, sensitize with IRS specific information, and note acceptance or refusal of future IRS.
3. **IEC/BCC Mobilizer Supervisor Form (Supervisor)**
The IEC/BCC Mobilizer Supervisor Form contains similar information to the IEC/BCC Mobilizer Form except the Supervisor version aggregates data and collects additional information about household preparation and whom to contact with questions or concerns.
4. **Homeowner Preparation and Spray Operator Performance Form (Supervisor)**
A smartphone based, 28 item checklist completed by supervisors to check the adequacy of IEC/BCC mobilizer and homeowner efforts and the performance of spray operators.
5. **Spray Operator Morning Mobilization and Transportation Vehicle Inspection Form (Supervisor)**
A 24-item checklist to be completed each morning by the supervisor to document that spray operators are prepared for the day and that the transport vehicles are safe.
6. **Health Assessment Checklist (Site Supervisor)**
Site supervisors complete a brief health check of the spray operators on each team every morning prior to conducting IRS. The health checks check for symptoms of illness (e.g., breathing difficulties, headache), adverse effects from IRS (e.g., skin or eye irritation), or intoxication.
7. **Storekeeper Performance Form (Supervisor)**
A 45-item checklist used to evaluate the storage practices and safety of facilities where insecticides and other IRS campaign equipment are stored.
8. **End of Day Clean Up checklist**
A 56-item checklist used to supervise the end of day clean-up practices of spray operators, washers and maintenance technicians as well as check on the data quality assurance practices of team leaders and supervisors.
9. **Spray Operator IRS Campaign Data Collection Form (Spray Operator)**
Each spray operator records information daily on amount of insecticide received and used, households visited, households and rooms sprayed, number of persons protected, and in

some countries, information on ITNs present and being used. These forms are turned into the team leaders for review and data aggregation at the end of the day.

10. **Error Eliminator for Campaign Data Collection Form (Team Leader)**
Team leaders supervise five spray operators on average. Each team leader collects IRS Campaign Data Collection Forms from each spray operator that she/he supervises and uses the Error Eliminator to check the completeness and correctness of data collected in the field and ensures forms are completed fully and properly. To this aim, the tool highlights common errors that have been reported from the field so that they can be quickly identified and corrections can be effectively provided.
11. **Team Leader IRS Campaign Daily Summary Form (Team Leader)**
After using the Error Eliminator Form, the team leader aggregates data from each spray operators IRS Campaign Data Collection Form and submits the aggregated data to supervisors for further review and entry into the Spray Performance Tracking Sheet.
12. **Direct Observation of Spray Daily Supervision Form (Team Leader)**
Team leaders use the Direct Observation of Daily Spray Supervisor Form (DOS) to document ten areas of technical performance of the spray operators, including insecticide mixing and spray technique. Completion of the DOS occurs as part of the team leader's routine daily tasks and reportedly improves the quality of spraying.
13. **Spray Performance Tracking Sheet (Team Leader)**
The Spray Performance Tracking Sheet is a physical poster printed and hung up at each operations site. The primary objective of the Spray Performance Tracking Sheet is to aggregate the spray performance indicator data in conjunction with insecticide use and remaining insecticide stock in order to track operations performance indicators at a team level. The Spray Performance Tracking Sheet is completed daily and allows for the real time assessment of the performance of each spray team and overall progress to ensure that the spray campaign is completed on time.
14. **Performance Management Tracker (Team Leader)**
The Performance Management Tracker is the same information as the Spray Performance Tracking Sheet but it is sent via text messages to a central server that produces daily email reports that can be shared with the NMCP, district coordinators, and AIRS staff.
15. **Data Entry Validation Form (Data Entry Clerks)**
In countries that do not use the PMI AIRS Project database, the Data Entry Validation Checklist is used by data entry clerks to ensure that the data collected is complete and logically consistent. Spot checks are performed by randomly comparing the Spray Operator IRS Campaign Data Collection Form to what was entered into the database. If a discrepancy is found, the error is corrected immediately.
16. **Data Collection Verification Form (M&E Assistants)**
In the days following an IRS campaign, the Data Collection Verification Form (DCV) is used as part of an operational performance audit. Project staff collect the same information as is collected on the IRS Campaign Data Collection Form on a convenience sample of approximately 10-15% of households. The DCV is used to check the accuracy of the data reported. If there is less than 85% concordance with the data reported on the IRS Campaign Data Collection Form, additional investigations are conducted and corrective measures taken.

17. Post Spray Data Quality Audit (M&E Manager)
The Post Spray Data Quality Audit takes place after the completion of the IRS campaign in a given country. The purpose and implementation is similar to that of the Data Collection Verification Form, but this activity is more statistically significant, and is based on a stratified random sample of the total population of IRS recipients. A sample of around 500 households is visited within 45 days of the end of the IRS campaign and AIRS staff asks beneficiaries the same questions as on the Spray Operator IRS Campaign Data Collection Form. A small database is created to analyze the findings and produce a representative spray coverage estimate. This is then compared to what was reported in the End of Spray Report. If the spray coverage reported in the EOSR is not within the confidence interval of the result found during the PSDQA, further investigations are required.
18. Pre-Contract Transportation Vehicle Inspection Checklists (Environmental Compliance Officer)
This inspection ensures that the vehicles to be used during the spray campaign are safe for operator and insecticide transport, have the proper equipment, and any licenses required by the host country.
19. Pre-Season Environmental Compliance Audit (PSECA) and Final Inspection (Environmental Compliance Officer)
The assessment evaluates the condition of each operations site and generates a work list of repairs or improvements needed for the site to conform to PMI's Best Management Practices. The Final Inspection verifies that needed repairs have been made, and the site is ready to host operations (receives a "Green Light").
20. Post IRS Environmental Compliance Inspection (Environmental Compliance Officer)
This inspection verifies that operations sites have been closed down properly for the off-season, including returning leftover items to main stores, and soap and water cleaning of insecticide storage rooms.

ANNEX 8. DECLARATIONS OF NONDISCLOSURE

GH Pro

Global Health Program Cycle Improvement Project

Global Health Program Cycle Improvement (GH Pro) Project NON-DISCLOSURE STATEMENT

Assignment Number/Name:

I certify that I, Rosemary Barber-Madden, will not discuss with, or reveal to, any representative of any business organization or other entity, or any individual person (except persons specifically assigned to my specific proposal evaluation group) either within or without the United States Government, any aspects of the pending procurement.

The term "any aspects of the pending procurement" includes, but is not limited to, information such as the identity and number of applicants, the method of procurement, the number and identity of Government personnel involved, and the schedule of key technical and procurement events in the source selection process. Except as specifically authorized by the Agreement Officer, the release of such information constitutes the unauthorized release of advance procurement or procurement information.

The term "any aspects of the pending procurement" also includes but is not limited to, information dealing with the development and/or design of the procurement, its corresponding RFP/RFA/DIQ, and information on the evaluation of another procurement that is/may be relevant to or influenced by the development and/or design of said procurement.

I recognize that a significant factor in the success and proper completion of the source selection process is the strict confidentiality observed by all Government participants in the various proposal evaluation and evaluation review groups concerning all of the activities and procedures involved in source selection and that failure to comply with these requirements may compromise the ultimate source selection. I acknowledge that the unauthorized release of advance procurement or procurement information as defined herein may result in the termination of my participation in this procurement.

In the event I have released any of the advance procurement or procurement information covered hereby, I agree to advise the technical panel chair of the proposal evaluation or proposal evaluation review group to which I am assigned as soon as practicable. That advice will identify the business organization or other entity, or individual person, to whom the information in question was divulged and the content of that information.

DATE: April 6, 2016

NAME: Rosemary Barber-Madden

SIGNATURE: Rosemary Barber-Madden



**Global Health Program Cycle Improvement (GH Pro) Project
NON-DISCLOSURE STATEMENT**

Assignment Number/Name:

I certify that I, KEVIN GRIFFITH, will not discuss with, or reveal to, any representative of any business organization or other entity, or any individual person (except persons specifically assigned to my specific proposal evaluation group) either within or without the United States Government, any aspects of the pending procurement.

The term "any aspects of the pending procurement" includes, but is not limited to, information such as the identity and number of applicants, the method of procurement, the number and identity of Government personnel involved, and the schedule of key technical and procurement events in the source selection process. Except as specifically authorized by the Agreement Officer, the release of such information constitutes the unauthorized release of advance procurement or procurement information.

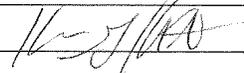
The term "any aspects of the pending procurement" also includes but is not limited to, information dealing with the development and/or design of the procurement, its corresponding RFP/RFA/IDIQ, and information on the evaluation of another procurement that is/may be relevant to or influenced by the development and/or design of said procurement.

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In the event I have released any of the advance procurement or procurement information covered hereby, I agree to advise the technical panel chair of the proposal evaluation or proposal evaluation review group to which I am assigned as soon as practicable. That advice will identify the business organization or other entity, or individual person, to whom the information in question was divulged and the content of that information.

DATE: 8 April 2016

NAME: KEVIN GRIFFITH

SIGNATURE: 

For more information, please visit
<http://ghpro.dexisonline.com/reports-publications>

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