



Year 6 Quarter 1 Report *(October 1 – December 31, 2009)*

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Abbreviations/Acronyms

| | |
|-------|--|
| DHMT | District Health Management Team |
| HSSP | Health Services and Systems Program |
| IRS | Indoor Residual Spraying |
| ITNs | Impregnated Treated Nets |
| M&E | Monitoring and Evaluation |
| MIP | Malaria in Pregnancy |
| MIS | Malaria Indicator Survey |
| MOH | Ministry of Health |
| NA | Not Applicable |
| NMCC | National Malaria Control Centre |
| NMCP | National Malaria Control Program |
| RDT | Rapid Diagnostic Test |
| TOT | Training of Trainers |
| USAID | United States Agency for International Development |

1 Malaria (Indoor Residual Spraying)

1.1 Background

The goal of the malaria program is to contribute to the national effort of reducing malaria morbidity and mortality.

The objective of the Indoor Residual Spraying (IRS) program is to provide technical, logistical, and managerial assistance to the National Malaria Control Program (NMCP) in support of its target of reducing the incidence of malaria by 85% in selected IRS areas by the end of 2011.

According to 2008 national HMIS data, malaria is still the number one cause of mortality and morbidity in Zambia, although a positive trend in reduced morbidity and mortality has been observed over the past three years, 2006, 2007, and 2008. The malaria incidence rate was 412 per 1000 population in 2006, 358 per 1000 population in 2007, and 252 per 1000 population in 2008. IRS is one of the core interventions adopted by the Ministry of Health (MOH) to prevent malaria.

The Zambia Health Services and Systems Program (HSSP) began implementing IRS in collaboration with the National Malaria Control Center (NMCC) in 2006, with a mandate to cover 15 districts. The MOH expanded IRS coverage to a total of 36 districts in 2008. During the 2009 spray season, HSSP support enabled the district teams to spray 779,180 structures (90.4% of targeted coverage) in 15 districts. Overall 1,191,517 structures were sprayed in 36 districts (90.6 % of the targeted coverage).

In partnership with NMCC, HSSP has provided technical, logistical, financial and managerial support to the implementation of the IRS cycle. IRS operations are highly time-bound and must follow a strict schedule to assure that planning, procurement, training, commodity deliveries, spray operations, and entomological studies occur according to a set calendar. Adherence to technical guidelines and maintaining high productivity require careful and continuous monitoring and supervision.

HSSP IRS experts have provided Training of Trainers (TOTs) for district trainers to manage district-level IRS operations and to train and supervise spray operators. Prior to the launch of each spray season, HSSP provides logistical, financial and technical assistance to the cascade training of up to 1200 spray operators. Finally, during the spray period HSSP staff provide critical monitoring and supervision of the spray program in collaboration with NMCC. HSSP also supports annual IRS district assessments, geo-coding of structures, environmental monitoring activities, entomological studies, and IRS data management support. Entomology training for districts, entomological field work, and insectary operations are also supported. HSSP procures personal protective equipment and provides logistics support in several areas, including the removal and repatriation of DDT waste.

In 2008, HSSP extended its reach to support the national Malaria Indicator Survey (MIS), rehabilitation of three storage facilities and, in addition to managing the 15 HSSP districts,

the HSSP team assisted NMCC in its scale-up to 36 districts by providing technical assistance in training of trainers (TOT), cascade training of spray operators, and monitoring of training and spray operations for the newly phased-in 21 districts.

1.2 HSSP Mandate Extended (December 2009 to July 2010)

The rationale for extending HSSP mandate was reached at when a pending gap in support to the IRS program was foreseen, with the close-out of HSSP in November 2009, and the follow-on project was not expected until around mid-year 2010.

From an IRS monitoring by the HSSP team that was carried out from 28th September 2009, many gaps in supervision, evident in incorrect practices, and weak management of the spray teams were found. It was noted that the NMCC IRS staff and the resources to assist with this effort during the 2009 spray season were inadequate. HSSP had addressed this issue with NMCC leadership, however, NMCC human resources constraints have not yet been resolved. Similarly, at district level, monitoring reports indicate that HSSP-trained IRS managers/master trainers have generally not been deployed to carry out monitoring and supervision in the field. This had resulted in the major burden of work and responsibility remaining with HSSP.

These gaps pointed to the need for intensive and uninterrupted technical and logistical support for monitoring the spray operations. NMCC was experiencing a leadership transition, and had neither the human resources, nor the immediately accessible financial resources to support the 2009 IRS monitoring needs and orderly completion of the spray season.

A gap in support to the IRS operations at that critical time could have resulted in reduced coverage and diminished impact on malaria. Support was needed to prevent such a set-back to the highly successful and effective program. Beyond the spray season, from January 2010, the ongoing calendar of IRS activities had to be maintained, to assure a well managed and successful season in 2010. It was observed that while capacity had been developed in many individuals, NMCC does not have available fully dedicated staff to carry out this work. HSSP had already four full-time specialists: IRS Specialist, IRS Information Systems Specialist, Malaria Entomology Specialist, IRS Logistics Officer; and four part-time insectary technicians. Withdrawal of these human resources, and of the logistical and financial support to provide management, capacity building and supervision, was seen to be untimely. Therefore, a request for a costed extension was submitted in November and awarded in early December, covering the period December 2009 through July 2010. The extension period covers all routine IRS support activities, and retains the IRS team and core management and support staff.

1.3 Activities during the IRS Eight-Month Extension

During the 8 month extension (December 2009 to July 2010), HSSP will:

- Provide NMCC, provinces, and district IRS technical teams with logistical, technical and managerial assistance to carry out monitoring and supervision during the spray season and mop-up period
- Provide technical and logistical support to conduct the Post IRS Review Meeting
- Carry out IRS situation analysis/assessments for the 15 districts
- Update enumeration and mapping of structures in the 15 districts
- Provide technical and financial support for the Malaria Indicator Survey
- Support NMCC to maintain the national entomology laboratory and insectary to enable implementation of entomological monitoring and resistance studies
- Support NMCC to conduct entomological investigations including pre- and post-spray and insecticide resistance studies
- Procure protective equipment for spray operations in the 15 districts
- Provide planning support for the 2010 spray season including central and district planning and budgeting, insecticide quantification
- Support NMCC and the Environmental Council of Zambia (ECZ) to monitor environmental safety and compliance in safe insecticide use
- Coordinate and manage the repatriation of DDT waste, including all logistics and stakeholder coordination
- Conduct national training of trainers (master trainers) in IRS

1.4 Year 6 Quarter One achievements

IRS indicators

Table 1 shows the key IRS indicators, targets and status.

Table 1: Key indicators - Improved IRS coverage and quality

| Indicators | Quarter 1 (Oct - Dec 2009) | | End of Project (EOP) (Dec 2009 to July 2010) | | |
|--|-----------------------------------|-----------------------|---|------------------------------|------------------|
| | Target | Quarter 1 Achieved | Target | Total Achieved to date | % Status |
| 1. Number of houses sprayed with insecticide with USG support | 861,514 ¹ (900,000) | 779,180 | - (900,000) | 779,180 | 90.4% (86.6%) |
| 2. Proportion of housing units in targeted area for IRS that have been sprayed in the last 12 months | 85% | 90.4% | 85% | 90.4% (86.6%) | 90.4% (86.6%) |

¹ Revised targets set by districts, based on resources and geographical reconnaissance while 900,000 is HSSP target

| Indicators | Quarter 1 (Oct - Dec 2009) | | End of Project (EOP) (Dec 2009 to July 2010) | | |
|---|-------------------------------|-----------------------|---|------------------------------|---------------------|
| | Target | Quarter 1 Achieved | Target | Total Achieved to date | % Status |
| 3. Value of pharmaceuticals and health commodities purchased (IRS) | NA | NA | \$50,000 | - | - |
| 4. Number of host country institutions with improved management information systems (IRS) | 16 | 37 | 16 | 37 | 231.2% ² |
| 5. Number of people trained in malaria treatment or prevention (IRS) | NA | NA | 45 | - | - |
| 6. Number of people trained in monitoring and evaluation (IRS) | 0 | 0 | 100 | - | - |
| 7. Number of people trained in strategic information management with (IRS) | 0 | 0 | 150 | - | - |
| 8. Number of special studies conducted | 3 | 1 | 4 | 1 | 25.0% ³ |
| 9. Number of information gathering or research studies conducted in malaria | 2 | 2 | 7 | 2 | 28.6% ⁴ |

Enhance NMCC and district teams' capacities to carry out adequate monitoring and supervision activities

To ensure effectiveness of spray operations and compliance to environmental safeguards, monitoring and supervision of spray activities during the spray season is vital. Visits to all 36 districts were made to conduct on-the-spot checks of spray teams and activities. This enabled the monitoring



² Target exceeded because MOH expanded the number of IRS districts to 36 (plus NMCC = 37)

³ The insecticide resistance study is ongoing, while the malaria incidence study will be finalized in quarter two.

⁴ Monitoring and supervision and larva collection were done. Other information gatherings will be carried out during the remaining period.

teams to ensure that districts applied principles and techniques given during the training of trainers (TOT) and cascade trainings. Three teams undertook supervisory visits at the beginning of the spray season. The monitoring included IRS cascade training, which was nearing its end in some districts. IRS specialist consultants, Mr. Paul Banda of Konkola Copper Mines Plc and Mr. Peter Mukuka of Mopani Copper Mines Plc carried out supervision at mid-spray season, from 15th October to 13th November 2009. A mop-up monitoring and supervision visit conducted by NMCC and HSSP staff took place towards the end of the spray season, and lasted from 14th to 24th December 2009, covering all the 36 districts.

Key findings include the following:

1. Many districts started their IRS campaigns late due to delayed release of funds from MOH; early rains, combined with a late start, caused interruptions in some districts.
2. Most of the districts visited have the storage facilities sited away from domestic dwellings and are generally well secured with either wall fences or diamond wire mesh fences
3. While change rooms, washing facilities and showers for spray operators are available, these facilities were found inadequate to support the number of spray operators in most of the districts visited.
4. Record keeping was found to be poor in nearly all the districts visited. In addition to on-the-spot coaching in record keeping by the supervisors, NMCC has included storekeepers during the 2010 IRS training program.
5. Insecticide stock management was good in most of the districts visited. However, there were isolated instances of overstocking of chemicals (Pyrethroids and DDT) particularly in Solwezi and Kasempa districts. At the end of the spray season, Solwezi District had 1,000 sachets of DDT in stock. A plan has since been developed to redistribute DDT which is near expiring.

Table 2: Plan for redistribution and use of DDT expiring in June 2010

Table 2 shows the stock of DDT due to expire in June 2010 per district and quantities that will be re-distributed. The stock required column is what we expect each district listed will use.

| District | Stock of DDT | Expiry Date | Planned use | Stock required | Logistics | Stock to be moved |
|---------------|--------------|-------------|--|----------------|-----------------------------|-------------------|
| Ndola | 1,740 | June 2010 | To spray Mushili Commando Barracks and surrounding areas | 1,500 | Ok | 340 |
| Solwezi | 1,000 | June 2010 | | 400 | | 600 |
| Chililabombwe | 40 | June 2010 | To spray Kawama (Mop up) | 40 | Ok | |
| Kalulushi | 155 | June 2010 | To spray Kalusale | 155 | Ok | |
| Chingola | 660 | June 2010 | To spray Lupafu & Kalilo | 200 | Ok | 460 |
| Mazabuka | 0 | | To spray the farms around Lubombo | 200 | Partners and district funds | 0 |

| District | Stock of DDT | Expiry Date | Planned use | Stock required | Logistics | Stock to be moved |
|--------------|--------------|-------------|-------------------------------|----------------|----------------------|-------------------|
| Kazungula | 0 | | To spray Kabuyu & Musokotwane | 250 | District funds | 0 |
| Luanshya | 0 | | | 250 | | 0 |
| Kabwe | 0 | | | To be advised | | |
| Mufulira | 0 | | To be advised | 600 | Have left over funds | 0 |
| Total | 3,595 | | | 3,595 | | 1,400 |

IRS coverage

A total of 1,191,517 structures were sprayed against the target of 1,315,696 (90.7%) and an estimated 5,638,551 people were protected against malaria in 36 districts. Table 3 shows IRS coverage, structures sprayed, and the estimated number of people protected in the 15 HSSP supported districts while Table 3 shows the coverage for the remaining 21 districts.

Table 3 shows that a total of 779,180 structures were sprayed against the target of 861,514 (90.4%) and an estimated 4,109,644 people were protected against malaria.

Table 3: IRS Coverage, structures sprayed, and the number of people protected in the 15 HSSP supported districts, 2009

| District | Number of Structures Targeted for Spraying | | | Number of Structures Sprayed | | | Coverage (%) | Population Protected |
|---------------|--|----------------|----------------|------------------------------|----------------|----------------|--------------|----------------------|
| | Formal | Informal | Total | Formal | Informal | Total | | |
| Kabwe | 24,568 | 19,432 | 44,000 | 22,828 | 17,165 | 39,993 | 90.9 | 172,033 |
| Chililabombwe | 8,260 | 5,640 | 13,900 | 9,351 | 3,823 | 13,174 | 94.8 | 101,160 |
| Kalulushi | 8,796 | 8,204 | 17,000 | 7,799 | 8,110 | 15,909 | 93.6 | 74,266 |
| Luanshya | 18,652 | 6,848 | 25,500 | 17,820 | 5,579 | 23,399 | 91.8 | 137,035 |
| Mufulira | 23,534 | 10,270 | 33,804 | 21,424 | 9,540 | 30,964 | 91.6 | 163,679 |
| Ndola | 49,906 | 22,636 | 72,542 | 48,980 | 17,758 | 66,738 | 92.0 | 409,214 |
| Chingola | 25,351 | 6,328 | 31,679 | 21,501 | 6,142 | 27,643 | 87.3 | 141,875 |
| Kitwe | 56,000 | 14,000 | 70,000 | 50,526 | 14,453 | 64,979 | 92.8 | 360,606 |
| Chongwe | 5,745 | 34,470 | 40,215 | 31,486 | 4,240 | 35,726 | 88.8 | 83,611 |
| Kafue | 16,753 | 16,353 | 33,106 | 15,654 | 15,450 | 31,104 | 94.0 | 164,205 |
| Lusaka | 291,126 | 97,042 | 388,168 | 276,618 | 70,347 | 346,965 | 89.4 | 1,906,986 |
| Kazungula | 2,500 | 22,500 | 25,000 | 1,063 | 18,432 | 19,495 | 78.0 | 99,678 |
| Livingstone | 8,717 | 15,883 | 24,600 | 15,190 | 7,365 | 22,555 | 91.7 | 121,118 |
| Mazabuka | 16,000 | 5,000 | 21,000 | 15,640 | 5,191 | 20,831 | 99.2 | 80,574 |
| Solvezi | | 21,000 | 21,000 | 6,840 | 12,865 | 19,705 | 93.8 | 93,604 |
| Total | 555,908 | 305,606 | 861,514 | 562,720 | 216,460 | 779,180 | 90.4 | 4,109,644 |

Note: Blank cell shows data not available

Table 4 shows the IRS coverage, structures sprayed, and the number of people protected in 21 districts in 2009. A total of 412,337 structures were sprayed against the target of 452,427 (91.1%) and an estimated 5,638,551 people were protected against malaria.

Table 4: IRS Coverage, structures sprayed, and the number of people protected in the 21 districts, 2009

| District | Number of Structures Targeted for Spraying | | | Number of Structures Sprayed | | | Coverage (%) | Population Protected |
|---------------|--|----------------|----------------|------------------------------|----------------|----------------|--------------|----------------------|
| | Formal | Informal | Total | Formal | Informal | Total | | |
| Kapiri-Mposhi | 6,500 | 13,500 | 20,000 | 5,452 | 10,894 | 16,346 | 81.7 | 57,678 |
| Mumbwa | 5,275 | 18,975 | 22,495 | 5,008 | 15,944 | 20,952 | 93.1 | 76,418 |
| Lufwanyama | 1,232 | 12,552 | 13,784 | 1,117 | 10,748 | 11,865 | 86.1 | 56,743 |
| Masaiti | 4,720 | 15,861 | 20,581 | 3,915 | 14,344 | 18,259 | 88.7 | 75,152 |
| Mpongwe | 2,500 | 17,000 | 19,500 | 1,645 | 16,401 | 18,046 | 92.5 | 82,572 |
| Chipata | 12,000 | 33,000 | 45,000 | 10,748 | 32,305 | 43,053 | 95.7 | 176,136 |
| Katete | 8,000 | 17,000 | 25,000 | 7,621 | 17,300 | 24,921 | 99.7 | 88,501 |
| Petauke | 13,000 | 27,000 | 40,000 | 14,186 | 22,302 | 36,488 | 91.2 | 83,977 |
| Nchelenge | | | 28,000 | 2,509 | 25,095 | 27,604 | 98.6 | 101,423 |
| Kawambwa | | | 12,000 | 2,211 | 8,871 | 11,082 | 92.4 | 58,414 |
| Mansa | | | 23,000 | 4,426 | 20,155 | 24,581 | 106.9 | 62,275 |
| Chilubi | 200 | 16800 | 17,000 | 165 | 15,161 | 15,326 | 90.2 | 60,927 |
| Kasama | 16,000 | 8,000 | 24,000 | 12,260 | 6,665 | 18,925 | 78.9 | 90,084 |
| Mbala | 7000 | 13000 | 20,000 | 4,704 | 12,068 | 16,772 | 83.9 | 36,612 |
| Mpika | 4000 | 6000 | 10,000 | 3,922 | 4,455 | 8,377 | 83.8 | 41,236 |
| Choma | 8,000 | 10,905 | 18,905 | 7,236 | 9,921 | 17,157 | 90.8 | 86,382 |
| Monze | 4,500 | 7,500 | 12,000 | 4,011 | 5,989 | 10,000 | 83.3 | 42,428 |
| Kaoma | 6,900 | 25,762 | 32,662 | 5,111 | 25,498 | 30,609 | 93.7 | 103,048 |
| Senanga | 1,020 | 10,980 | 12,000 | 887 | 8763 | 9650 | 80.4 | 33,003 |
| Mongu | 8,825 | 17,675 | 26,500 | 8,045 | 16,117 | 24162 | 91.2 | 91,912 |
| Kasempa | | | 10,000 | 1,210 | 6,952 | 8,162 | 81.6 | 23,986 |
| Total | 109,672 | 271,510 | 452,427 | 106,389 | 305,948 | 412,337 | 91.1 | 1,528,907 |

Note: Blank cell shows data not available

Source: MOH

Table 5 shows the malaria incidence per 1000 population in the 36 districts in the period 2002 to 2009. The table shows a general downward trend of malaria incidence.

Prior to this monitoring and supervision of December 2009, other two monitoring and supervision activities were carried out and the reports were prepared, the first round of monitoring and supervision which was carried out September-October 2009 and the mid-season monitoring and supervision of October-November 2009.

Strengthen management capacities at NMCC for IRS operations

IRS requires strict environmental compliance. During the quarter, HSSP completed the rehabilitation of three district storage facilities in Mazabuka, Ndola and Kitwe. The storage facilities, upgraded according to criteria set forth in national environmental guidelines were handed over in November 2009. An Environmental Monitoring and Mitigation Plan was prepared and approved by USAID. The three storage facilities will be used as models for other districts embarking improving storage facilities.



Environmental Mitigation and Monitoring Plan

| No. | Indicator | Status |
|-----|---|--|
| 1. | Develop IRS storage guidelines | IRS storage guidelines specific to Zambia have been developed. Five volumes of IRS guidelines have been developed and disseminated: General IRS Guidelines, Insecticide Guidelines for IRS, DDT Guidelines for IRS, Guidelines for Sound Management of IRS Insecticide, and IRS Spray Operator Training Manual |
| 2. | License storage facilities annually by ECZ | Mufulira, Lusaka and Chingola storage facilities have been licensed. The remaining districts have been requested to pay the ZMK 900,000 licensing fee to ECZ for them to be licensed |
| 3. | Document regular supervision and monitoring of storage practices and environmental conditions | Three supervision and monitoring trips were conducted at the beginning of the spray season in September, at mid-spray season, from 15th October to 13th November 2009, and a mop-up monitoring and supervision visit from 14th to 24th December 2009 |
| 4. | Annual TOT includes training in storage and transportation of insecticides | The 2010 TOT to be conducted in third quarter will include training in storage and transportation of insecticides. A specific training for storekeepers has been planned. |
| 5. | Annual visual inspections by ECZ | The ECZ annual visual inspection has been planned for second quarter in the 15 districts. |
| 6. | Presence of fire fighting equipment, thermometers, warning signs | All the 15 districts have fire fighting equipment, thermometers and warning signs. |

Enhance NMCC technical and operational research capacities by facilitating entomological investigations in selected districts related to monitoring and evaluation of IRS activities

- HSSP purchased entomology kits for the 15 districts. These will enable districts to conduct entomological studies.
- HSSP participated in central-level meetings to advise on strategies for control of nuisance mosquitoes. This activity is aimed at safe guarding the IRS program due to loss of confidence by the community.
- HSSP participated in the malaria decision support system training

Enhance NMCC and district IRS teams' capacities to undertake impact assessment studies

To assess the role of IRS in reduction of malaria cases, a facility-based review was conducted in May 2009 and the analysis completed during the first quarter. Confirmed malaria cases as a proportion of all tested cases in one IRS intervention district were compared to those of an epidemiologically similar non-intervention district. Malaria cases confirmed by microscopy or RDT were extracted from laboratory registers from three health facilities in each district from 2003 through 2008. The study showed a reduction in confirmed cases as a proportion of all tested cases from 40.7% to 6.3% (84.5% reduction) in the IRS district of Kabwe and from 61.5% to 31.6% (51.4% reduction) in the non-IRS district of Mkushi. The observed reduction in proportion of confirmed cases in the non-IRS district may be attributed to other anti-malarial interventions which are disseminated to all districts. The data suggest that the addition of IRS to other interventions led to additional reductions in confirmed cases.

Support the maintenance of national entomology lab and insectary

The NMCC insectary has been maintained and improved. Three field trips to Macha, Luangwa, and Mkushi, respectively, were conducted to collect larvae. Intensive and sustained effort at larval collection has resulted in achieving viable breeding colonies of mosquitoes for use in entomological studies. Infection control in the insectary has also been intensified. In addition, HSSP continued to pay wages to four insectary technicians. In order to sustain the operations of the insectary, in addition to the equipment HSSP provided, equipment and consumables were provided by CDC such as the membrane feeder which allows mosquitoes to be fed on human blood to enhance egg production. Other equipment were collapsible cages, hygrometers and hygrometers. To avoid power interruptions, backup power supply will be provided through the Genset procured for NMCC by MACEPA. The insectary is currently being run by three part time trained insectary technicians. HSSP has made proposal to NMCC to include a junior entomologist who should manage the insectary. One vehicle will be handed over to NMCC specifically for IRS activities including entomology at the end of the HSSP IRS extension in July 2010.

Insecticides resistance and susceptibility tests of *Anopheles* mosquitoes

During the quarter, HSSP carried out insecticides resistance and susceptibility tests of *Anopheles* mosquitoes. The tests were conducted according to the WHO protocol for insecticides (4% DDT, 0.25% Permethrin, Lambda Cyhalothrin, Malathion and Deltamethrin) resistance determination. The study is being conducted in seven districts (Kabwe, Mkushi, Chibombo, Choma, Ndola, Livingstone and Kazungula). Mkushi and Choma are controls. Preliminary results are available but not yet released by NMCC pending further interpretation of data.

Distribution of chemicals, and planning for post spray meeting

- HSSP worked on the redistribution of IRS chemicals between districts as needed
- HSSP was part of the planning for the IRS post spray meeting as well as the IRS technical working group meeting, scheduled for February 1-3, 2010.

1.5 Sharing at Regional and International Conferences

Two abstracts were prepared and submitted to the America Malaria Control Association (AMCA) meeting. The abstracts have been accepted.

- The Zambian Experience in the use of DDT for Vector Control
- Impact of indoor residual spraying on malaria incidence rates in selected districts of Zambia

1.6 Challenges/Solutions

| Challenges | Solutions |
|--|---|
| Delay in release of IRS operational implementation funds by MOH resulting in delays to start and finish 2009 IRS on schedule | <ul style="list-style-type: none">• Some districts used available DHMT funds while others delayed to start implementing IRS• MOH has asked the districts to plan for IRS activities• MOH and partners (World Bank, Global Funds and other partners) to accelerate release of funds for field operations |
| Inadequacy of storage facilities resulting in DDT, other insecticides and equipments being stored in the same room | Three storage facilities have been refurbished in Kitwe, Mazabuka and Ndola. Other districts have been encouraged to plan for construction/refurbishment of these facilities through district funding |
| Delays in sending data from districts resulting in delays to compile spray data as well coverage on schedule | <ul style="list-style-type: none">• Compiled data only from districts that had sent on time• During training for the next spray season, HSSP, in collaboration with NMCC, will ensure that, data collection, compilation, and submission are emphasized to IRS managers |

1.7 Successes/Best Practices

- Refurbishment of the storage facilities in Mazabuka, Kitwe and Ndola. These will be used as models for other districts
- Completion of the IRS impact study in three IRS and three non IRS districts
- Completion of the 2009 spray activities

1.8 Key Products/Deliverables

- Monitoring and supervision reports
 - Monitoring and supervision December 2009
 - Monitoring and supervision Oct-Nov 2009
 - Monitoring and supervision Sep-Oct 2009
- Environmental Mitigation and Monitoring Plan
- IRS storage facility rehabilitation report

1.9 Focus for the next quarter

- Facilitate and assist in financing post spray meeting scheduled for February 2-5 2010
- Conduct IRS needs assessments in the districts
- Conduct enumeration updates of structures in 7 districts
- Stock-taking of insecticides and quantification of chemical waste
- Participate in the malaria indicator survey
- Convene the IRS technical working group meeting
- Carry out insecticide resistance studies
- Conduct contact bioassays
- Conduct post spray and routine entomological surveys

2 Monitoring and Evaluation

The goal of the Monitoring and Evaluation unit is to establish and maintain a system for tracking and evaluating program performance.

The overall objective of the Monitoring and Evaluation (M&E) unit is to develop tools and procedures for planning and monitoring and ensure that management and technical staff are routinely updated on the status of given program indicators.

2.1 Key Achievements

Year 5 Annual Report and Quarter 1 Report

The M&E team, working in consultation with management, coordinated the Year 5 annual review and Year 6 HSSP extension quarter one review meetings. The Year 5 annual report was consolidated and submitted to USAID on schedule. The Year 6 quarter 1 report will be finalized and submitted to USAID in quarter two.

Updated Malaria Indicator Tracking Form

The Malaria Indicator Tracking Form has been updated to include new achievements. The M&E team is working to assure that all indicators and results are promptly and correctly reported during this HSSP extended period.

IRS mop-up monitoring and supervision report

The M&E Unit edited, formatted, and submitted the IRS mop-up monitoring and supervision report to USAID.

HSSP End of Project Report

A draft HSSP final report was prepared during the quarter. This report will be submitted to USAID at the end of HSSP extension period to incorporate new achievements.

Annual and PEPFAR reports

The HSSP annual report was developed and submitted to USAID. In addition, the PEPFAR report (Zambia PEPFAR Reporting System) was prepared and submitted.

Portfolio Review

The M&E Unit in consultation with management prepared the Portfolio Review reports, and carried out the annual portfolio review presentation and meeting Portfolio Review.

HSSP also participated in a USAID evaluation of health sector programs.

2.2 Key Products/Deliverables

- HSSP Extension Workplan
- Malaria Indicator Tracking Sheet
- Impact of IRS on mosquito densities in selected districts of Zambia report
- IRS mop-up monitoring and supervision report

2.3 Focus for the next quarter

- Consolidate and submit Year 6 Quarter 1 report to USAID
- Participate in the malaria indicator survey
- Participate in the IRS post-spray activities
 - Post-spray meeting
 - Review IRS post-spray entomological studies
- Review IRS Monitoring and Evaluation Checklist
- Review IRS Needs Assessment Checklist

3 Administration and Finance

The Goals for the administration and finance unit are to:

- Provide cost effective, efficient financial and administrative support for all project operations
- Provide accurate timely reporting of all financial and administrative transactions for the project to all stakeholders

The objectives are:

- To guide HSSP to achieve 100% USAID and Abt Associates financial and administrative compliance
- To safeguard project inventory and cash
- To provide local human resources management support
- To provide logistics support to the program

3.1 Key Achievements

Financial accounting activities

- Management of close out plan and implementation of plan for successive staff termination as part of close out.
- Successfully completed renovations and handed over refurbished IRS storage facilities in Mazabuka, Ndola and Kitwe.
- Documented and handed over disposed project property to provincial health offices
- Prepared and submitted to USAID a list of inventory for disposal and initiated the disposal process
- Tracking overall project and field expenditures
- The Chief of Party, Melinda Ojermark, relocated to the US at the end of the HSSP, November 30 2009.
 - Dr Elijah Sinyinza was appointed Team Leader for the HSSP IRS extended period.

Overall Budget and Expenditures

As at December 25, 2009 HSSP had spent a cumulative total of \$46.6 million. The cumulative obligated amount for the same period to December 25, 2009 was \$48.4 million. The total project ceiling amount is \$48.9 million. Cumulatively, HSSP had spent 96.3% of total obligated funds and 95.3% of total project ceiling funds. The remaining obligated funds as at December 25, 2009 were \$1.8 million.

Monthly Average Burn Rate

The overall monthly burn rate for the project is \$288,500 for the quarter.

Compliance of financial contract reports

Standard Form (SF) 269 and Federal Cash Transaction Report 272 for the quarter ended September 30, 2009 were submitted to USAID.

Human Resources

HSSP has a human resource establishment of 11, comprised of 1 management staff, 5 technical staff and 5 support staff. There was a reduction of 33 in staffing levels during the quarter.

3.2 Key products/deliverables

The following are the key results produced during the quarter:

- Project 8 month IRS extension proposal and budget
- Monthly ROVs for October, November and December 2009

3.3 Focus for the next quarter

- Management and monitoring of IRS extension budget
- Work on auctioning of non-expendable assets not handed over or rolled over to the follow-on project