

**FEDERAL MINISTRY OF HEALTH
NATIONAL MALARIA CONTROL PROGRAM
WORLD BANK MALARIA BOOSTER PROJECT**

LQAS DETAILED IMPLEMENTATION PLAN

January, 2010

TABLE OF CONTENTS

<i>ACRONYMS</i>	3
Background	4
Objectives of the LQAS M&E System.....	5
Capacity Building.....	5
Location of LQAS Activities.....	6
Target Groups and Indicators	6
Questionnaire Development	8
Supervision Areas and Sampling Design	8
LGA Random Sampling	9
Location of LQAS Monitoring Activities.....	9
Locations for Interviews	10
Sampling Households in a Village	10
Selecting Respondents.....	11
MIRT Support and National Counterpart	12
LQAS Training Workshops.....	13
Data Collection.....	15
Supervision of Data Collection.....	16
Reliability Study.....	17
Hand Tabulation and Data Analysis Workshop	18
Report Writing on Hand-Tabulated Results	18
Data Entry and Report Writing.....	18
Dissemination of Results	19
Preparations for LQAS Workshops and Survey.....	19
Preparations for LQAS Training Workshops	20
LQAS Training Workshops.....	21
Data Collection and Supervision	21
Tabulation and Data Analysis Workshops	22
Electronic Data Processing and Report Writing.....	22
Budget for LQAS Activities	22

ACRONYMS

ACT	Artemisinin Based Combination Therapy
COMPASS	Community Participation for Action in the Social Sector
DIP	Detailed Implementation Plan
ENHANSE	Enabling HIV/AIDS TB and Social Sector Environment
IP	Implementing Partners
IPT	Intermittent Preventive Treatment
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
IVM	Integrated Vector Management
LGA	Local Government Area
LQAS	Lot Quality Assurance Sampling
LLITN	Long Lasting Insecticide Treated Net
FMOH	Federal Ministry of Health
MERG	The Monitoring & Evaluation Reference Group
M&E	Monitoring and Evaluation
NSP	National Strategic Plan
NMCP	National Malaria Control Program
PMV	Patent Medicine Vendors
PPS	Probability Proportional to Size Sampling
RBM	Roll Back Malaria
SA	Supervision Area
SMOH	State Ministry of Health
SP	Sulphadoxine-Pyrimethamine
TTL	Task Team Leader
UNICEF	Unite Nations Children's Fund
WB	World Bank

Background

The Federal Ministry of Health (FMOH), National Malaria Control Program (NMCP) in partnership with the Roll Back Malaria (RBM) Partners, State Ministries of Health and other Stakeholders presented a five-year Strategic Plan (2009-2013) to ensure a national scale-up of key preventive and curative interventions.

The NMCP aims at supporting all the 36 States and the Federal Capital Territory, using a phased implementation approach to achieve the expected results at National, State, and Local Government Area (LGA) levels.

The Project Development Objectives are:

- 1) To ensure that the target population will have improved access to, and utilization of well-defined set of Malaria Plus Package of interventions (MPP).
- 2) To strengthen Federal and States ability to manage and oversee delivery of malaria plus interventions.

The Project gives priority for pregnant women and children under five and is expected to have significant effects from the improvements in maternal and child health. It will target seven of the thirty-six states allowing for a significant scale-up or boost effect in each State.

The FMOH and the World Bank Malaria Booster Project agreed to start the project in the following seven States of the Federation: Kano, Jigawa, Gombe and Bauchi in the Northern Region, and Akwa Ibon, Rivers and Anambra in the Southern Region.

In February 2006, a joint RBM-MOH, BASICS, COMPASS, WB team developed a strategy for carrying out joint and mutually supportive M&E activities in support of the national RBM Program. An essential part of this work involved developing a decentralized system for the recurrent collection of outcome and output indicators using a population based approach. The team agreed to use the Lot Quality Assurance Sampling (LQAS) method.

In April 2006, MIRT in collaboration with USAID fielded a consultant to work with the NMCP to develop a Detailed Implementation Plan for the project's baseline survey. In October-November 2006, the baseline survey was successfully conducted in the 7 project states and 2 control states (Kaduna and Delta).

Malaria Implementation Resources Team (MIRT) supports the Malaria Booster Program throughout Africa. MIRT builds local capacity of local RBM and project teams in M&E. It also supports strategic planning, and technical assistance in M&E methods, data analysis, use of M&E data for decision-making and more. Most Booster Programs, such as the one in Nigeria, are in need of establishing recurrent M&E systems to track program outcomes in a decentralized manner. MIRT is committed to working with country project teams to build their capacity to assess key indicators in decentralized administrative units.

This consultancy supported the NMCP to prepare a Detailed Implementation Plan for a household survey using the LQAS method to monitor key project indicators in the 7 project states and 2 control states. The survey results will be used to track progress since the time the baseline survey was carried out in the last quarter of 2006.

The Lot Quality Assurance Sampling (LQAS) method

In this survey, LQAS will be used to identify the LGAs that perform below the State average coverage, which should then be treated as priority areas that require special attention. The same data will also provide State level coverage estimates for key indicators as well as coverage estimates for the entire Project catchments area comprising the seven-targeted states.

The data will be analyzed and used to make immediate strategic decisions to improve Project implementation at the sub-national levels.

A World Bank Malaria Booster Project Consultant (William Vargas) and an NMCP M&E Specialist (Festus Okoh) supported by Joseph Valadez (Senior M&E Specialist, MIRT) prepared this DIP for the survey. The DIP shows all phases of the LQAS application for Nigeria.

Objectives of the LQAS M&E System

Effective management of decentralized health systems requires up-to-date information at the level where programs are implemented. In Nigeria, LQAS will rapidly produce reliable information to assess malaria outcome indicators associated with community interventions at the LGA level in the seven selected States.

The LQAS M&E system will be implemented to achieve the following objectives:

1. To produce information that can be rapidly interpreted and used by local managers to assess whether community interventions are reaching their targets (established performance) for key outcome indicators at the LGA level.
2. To estimate coverage proportions with 95% confidence intervals at State level that can be used for refining project strategies, reporting and allocation of resources by the NMCP.
3. To use LQAS as a tool to strengthen M&E capacity at all levels of operation of Malaria Control Program.

Capacity Building

The capacity building support to the NMCP has several components:

- To design and develop survey questionnaires

- To collect and supervise data collection at LGA level
- To hand tabulate data
- To estimate State coverage, identify priority LGAs within each State and interpret findings
- To diagnose underlying problems and plan strategic changes for NMCP.

Location of LQAS Activities

Although the FMOH and the World Bank Malaria Booster Project agreed to start the project in the mentioned seven States of the Federation, Kaduna and Delta being Global Fund assisted States have been selected as control States in this monitoring. Therefore, the LQAS activities will take place in the following nine States:

Northern Region	Southern Region
Kano	Rivers
Jigawa	Akwa Ibom
Bauchi	Anambra
Gombe	Delta*
Kaduna*	

* Control States

After 2 years of project implementation, it is necessary to carry out survey to determine the level of implementation of the project. NMCP intends to know the status of implementation in the control states. If the results of the survey are higher than the baseline in the control states, this could be attributable to background maturation. This change could have taken place in the intervention states as well. The maturation factor helps NMCP understand the true effect attributable to the Project.

Target Groups and Indicators

The survey will cover the following groups targeted by the NMCP:

1. Household Heads
2. Mothers of children 0-11 months
3. Mothers of children 12-23 months
4. Mothers of Children Under 5 years
5. Mothers with Children 0-59 Months with Diarrhea in the Last Two Weeks
6. Mothers with Children 0-59 Months with Fever in the Last Two Weeks

The NMCP Operational Plan contains a list of indicators that will be used to monitor the RBM interventions. These include the following components:

- a) Insecticide Treated Net (ITN)
- b) Indoor Residual Spraying (IRS)
- c) Artemisinin Based Combination Therapy (ACT)
- d) Intermittent Preventive Treatment for pregnant women (IPTp).

The LQAS monitoring will assess the following outcome indicators: access, and utilization of ACT, ITN, IPT and IRS. These indicators address national malaria priorities and are consistent with the RBM Monitoring & Evaluation Reference Group (MERG) recommendations. The under-listed indicators include essential national and international indicators.

**Project Monitoring
Key Outcome Indicators NMCP**

Key Outcome Indicators (Households Heads)
% of households with at least one Long Lasting Insecticidal Net (LLIN)
% of households sprayed with insecticide (IRS) in the last six months
Indicators (Mothers of Children under 5 years of age)
% of children < 5 years who slept under a LLIN the night preceding the survey
% of children < 5 years who had fever in the last two weeks
% of children < 5 years with fever treated with ACT
% of children < 5 years with fever treated with an effective antimalarial (ACT) within 24 hours from onset of symptoms
% of mothers of children < 5 years who received treatment for their child's fever at the health facility or Patent Medicine Vendors (PMVs)
% of mothers of children < 5 years who received at least two doses of SP during last pregnancy (recorded in Antenatal Card)
% of mothers of children < 5 years of age who slept under LLTN during last pregnancy
% of infants aged 0-5 months who were fed breast milk only in the last 24 hours
% of children < 5 years who had diarrhea in the last two weeks
% of children aged < 5 years with diarrhea in the last two weeks who received oral rehydration solution (ORS) and/or recommended home fluids (RHF)
% of children 12-23 months who were vaccinated with the DPT3 and measles vaccine in the first year of life.
% of women with children <1 year of age who received ANC care during last pregnancy
% of currently pregnant women who slept under a LLIN the night preceding the survey

Questionnaire Development

The questionnaires used in the 2006 baseline survey were revised during this assignment based on suggestions from Project staff, World Bank and the 2006 data collection teams.

The questionnaires would capture all relevant outcome indicators as well as data that would assist in assessing project coverage at State level. Therefore, they should be in line with key indicators that are consistent with international and national malaria indicators as well as those of other programs integrated into the project.

The NMCP in collaboration with World Bank Malaria Booster Project will pre-test the questionnaires to ensure they are properly structured before use for the survey.

Supervision Areas and Sampling Design

LQAS methodology begins by identifying a geographical area, which is a program management unit, called “supervision area”, where data can be collected, analyzed and interpreted to form an opinion about the performance of the program on specific indicators. LQAS methodology uses small random samples to classify Supervision Areas (SAs) as having reached coverage targets.

In Nigeria, to assess the NMCP, the communities located in each selected LGA will represent a management unit or Supervision Area (SA).

Because Nigeria is a large country, World Bank Malaria Booster Project’s Senior M&E Specialist with Harvard’s School of Public Health (Biostatistics Department) combined cluster sampling with LQAS and made a specific adjustment in LQAS methodology.

In this approach, Harvard/World Bank Malaria Booster Project determined the minimum number of LGAs that will be randomly sampled from each State and the sample size for each randomly selected LGA.

The benefit of using this approach is that fewer LGA teams would be trained at the same time (only the teams in the LGA included in the sample would be trained). Costs and logistic problems would be reduced substantially. This approach provides information for the LGAs and the State more rapidly and at a lower cost.

This sampling design will permit:

- Assessment of each sampled LGA using LQAS decision rules for key indicators.
- Assessment of each of the selected States using LQAS decision rules for key indicators.
- Estimation of State average coverage for key indicators where all LGAs are considered in aggregate.

LGA Random Sampling

For each State, the LGAs were randomly selected, using simple random sampling. The process was as follows:

- A number was assigned to each of the LGAs in each State. If one State has 20 LGAs (such as Bauchi) then a number was assigned to each LGA (01 to 20).
- Using a random number generator, the required number of LGAs for each particular State was randomly selected.

The following table shows the number of LGAs to be randomly sampled from each of the seven Project States and the two control States. It also shows the number of sets of questionnaires to be completed in each State and Region, totaling 1,596 sets.

**Number of LGAs to be Sampled for Project Monitoring
and Sets of Questionnaires to be Completed**

State	Total Number of LGAS	Number of LGAs to be Sampled	Sample Size	Sets of Questionnaires
Northern Region				
Kano	44	10	19	190
Jigawa	27	9	19	171
Bauchi	20	9	19	171
Gombe	11	8	19	152
Kaduna (Control)	23	9	19	171
Total	125	45	--	855
Southern Region				
Rivers	23	10	19	190
Akwa Ibom	31	10	19	190
Anambra	21	9	19	171
Delta (Control)	25	10	19	190
Total	100	39	--	741

Location of LQAS Monitoring Activities

The table below shows the States and names of the 84 randomly selected LGAs where LQAS monitoring will take place.

#	States								
	Bauchi	Jigawa	Kaduna	Kano	Gombe	Rivers	Akwa Ibom	Anambra	Delta
1	Alkaleri	Birnin Kudu	Kudan	Gwale	Akko	Etche	Itu	Onitsha North	Ethiopia West
2	Kirfi	Buji	Sabon-Gari	Kura	Yamaltu-Deba	Obio/Akpor	Nsit-Ubium	Anaocha	Sapele
3	Damban	Dutse	Soba	Madobi	Balanga	Andoni	Ikono	Awka North	Ughelli North
4	Darazo	Auyo	Chikun	Minjibir	Billiri	Oyigbo	Ini	Awka South	Uvwie
5	Warji	Birniwa	Giwa	Bagwai	Kaltungo	Tai	Oruk-Anam	Dunukofia	Aniocha North
6	Gamawa	Guri	Kaduna South	Rimin-Gado	Funna-Kaye	Ahoada East	Ukanafun	Idemili North	Ndokwa East
7	Jama'are	Malam Madori	Kachia	Shanono	Kwami	Ahoada West	Ibena	Idemili South	Ndokwa West
8	Katagum	Garki	Kaura	Tsanyawa	Nafada	Akuku Toru	Nsit Eket	Njikoka	Burutu
9	Shira	Ringim	Zangon Kataf	Gaya		Omumma	Okobo	Nnewi North	Isoko North
10				Kiru		Bonny	Onna		Warri South

Locations for Interviews

NMCP will make available the list of villages from each randomly selected LGA, including the total population of each village. This information will be used to design the sampling frame for each of the 84 LGAs.

The NMCP M&E team will use Probability Proportional to Size Sampling (PPS) to select the villages where interviews will take place.

To identify locations for interviews, the computer software developed for this purpose will carry out the following steps:

- List of villages and their population sizes
- Calculate the cumulative population
- Calculate the sampling interval (LGA total population divided by sample size)
- Choose a random number using the Random Number Table.
- Beginning with the random number, add the sampling interval to identify locations for the number of interviews required.

Sampling Households in a Village

For this monitoring, the six universes (Households Heads Mothers of Children 0-11 Months, Mothers of Children 12-23 Months, Mothers of Children 0-59 Months, Mothers

of Children 0-59 Months with Diarrhea in the last two weeks and Mothers of Children 0-59 Months with Fever in the last two weeks) are referred as a set of questionnaires.

In each randomly selected village, each data collection team will use systematic random sampling to select households for each set of questionnaires. To identify respondents, the approach is to randomly select a starting point (the first household) using any of the following: maps, sector sampling or up-dated household lists.

The procedure for random selection of a household in a village is as follows: during data collection, the data collector visits the local leader (village head) and with his assistance, they divide the village into sections (such as compounds, clans, sub-villages or settlements).

“Compound” and “Settlement” are two of the most common sub-divisions of villages in Nigeria. After getting the name of each “compound or settlement”, the interviewers assign a number to each of them and select one of them using a random number table. This step assumes that the “compounds/settlements” have approximately the same population size. If a “compound/settlement” is drastically larger, it is listed twice assuming it is twice as big as the other “compounds/settlements”.

Once the “compound/settlement” is randomly selected, the interviewer with the assistance of the local leader can either:

- Assign a number to each household in the selected “compound/settlement” and then, she/he randomly chooses a household, which is the starting point for interviewing.
- Draw a map indicating the number of households in the “compound/settlement” and enumerates them. Then, the interviewer randomly chooses a household, which is the starting point for interviewing.

Although, up-dated lists of household heads are not common in Nigeria, it may be available in some “compounds/settlements” or they can be listed with the assistance of the local leader. If the up-dated list of household heads is available in that “compound/settlement”, then the interviewer assigns a number to each household head and randomly selects one of them, which will be the starting point for interviewing.

Selecting Respondents

Interviewers should consider the following criteria for selecting respondents:

- Select households based on the Nigeria’s household definition: “group of persons who eat from the same cooking pot”
- Uses the one random starting point to locate each of the six target groups included in the assessment.

- Conduct the interviews in the randomly selected household so long as people from the target population groups are found there and accept to be interviewed.
- If there is no eligible respondent in the selected household, interviewer goes to the next- nearest door and checks at this household for eligible respondents. The interviewer goes to the nearest house until the six questionnaires (referred to as one set of questionnaires) are completed
- If an eligible respondent lives in that household but is absent and far away (more than 30 minutes away by the mode of transportation), the interviewer goes to the next- nearest door and checks at this household. Interviewer continues this process until she/he finds an eligible respondent.
- If an eligible respondent lives in that household and is absent but is nearby (within 30 minutes away by the mode of transportation), interviewer goes to find the eligible respondent with the help of a guide from the village. If interviewer cannot find the eligible respondent within the next 30 minutes, s/he goes to the next-nearest door from the front entrance of the current household.
- If there is more than one eligible respondent in one household, the interviewer: a) identifies and assigns a number to each eligible respondent and; b) randomly selects one of the eligible respondents.
- Only one eligible respondent must be interviewed in every household with the exception of mothers with children with diarrhea or fever. The questionnaires concerning diarrhea or fever may be used in the same house as a child in the other respondent groups.
- Every set of questionnaires must start with its own randomly selected starting point.

MIRT Support and National Counterpart

The World Bank Malaria Booster Project will provide technical support to the NMCP M&E Team to carry out the LQAS workshops, supervision of data collection and hand tabulation and data analysis workshops in the selected States.

As part of the preparation process, the NMCP counterpart (Festus Okoh) will be in charge of the following activities:

- Pre-test the LQAS survey questionnaires
- Ensure that all sampled LGA in all 9 participating States have sampling frames, including the names of Wards and settlements / villages with approximate population sizes.
- Ensure that all preparations for LQAS training activities, data collection, hand tabulation workshops and analysis are successfully completed.

- Ensure the availability of training materials and equipment on time at each training location.
- Obtain from each State the list (the names and titles) of the three individuals for each LGA who will participate in the LQAS survey as either an interviewer or a supervisor.
- Coordinate the provision of vehicles by each of the nine selected States for data collection.
- Facilitate some topics during the trainings and supervise data collection
- Work closely with the World Bank consultant to accomplish any additional tasks essential for the monitoring.

LQAS Training Workshops

Two LQAS Training Workshops will be conducted in each of the two Regions. One in Bauchi and another in Kano (Northern Region) while in the Southern Region one workshop will be conducted in Akwa Ibom and another in Anambra.

A World Bank Malaria Booster Project Consultant in conjunction with NMCP M&E Specialist (Festus Okoh) will adapt the training manuals according to local needs. The NMCP will make available the required number of LQAS manuals (one for each workshop participant).

The expected numbers of States and participants to attend the LQAS workshop at each venue are as follows:

Venue	Participating States	Expected Number of Participants
Bauchi	Bauchi, Gombe and Kaduna	78
Kano	Kano and Jigawa	57
Uyo (Akwa Ibom)	Akwa Ibom and Rivers	60
Anambra (Akwa)	Anambra and Delta	57
Total		252

The number of workshop participants was determined based on the number of LGAs to be assessed in each State. Each LGA data collection team will consist of two interviewers and one supervisor.

The workshop participants will be adequately trained to undertake LQAS applications in the selected States of Nigeria.

The following criteria should be considered in selecting the LGA data collection teams (interviewers and supervisors):

- Community/Village Health Workers.
- Preferred LGA participants include: LGA Malaria Focal persons, M&E Focal persons, Community Health Extension Workers (CHEWs), Community Health officers (CHOs), Nurses and Primary Health Care Coordinators (PHCCs)
- Speak English and local languages in their LGA.
- Should be from the selected LGA, where she/he will be collecting data.
- 100% attendance and successful completion in the LQAS training workshop.
- Must show commitment to data collection and participate in tabulation and data analysis workshop.
- In addition, supervisors should have some experiences in conducting surveys and good knowledge of the health system as well as communities located in the LGA.

Based on the above-mentioned criteria, the Director of Primary Health Care and Disease Control, D (PHC&DC) in conjunction with State Malaria Program Manager and M&E Officer will select interviewers and supervisors for the randomly selected LGAs.

The State D (PHC&DC) will submit the list of interviewers and supervisors to Festus Okoh (NMCP M&E officer), who will coordinate and finalize the list of interviewers and supervisors for each of the selected LGAs.

Two master trainers from World Bank Malaria Booster Project will lead the training and three NMCP M&E officers will support the LQAS activities in each region.

Each of the LQAS Training Workshops will be followed by data collection and hand tabulation workshops. Two days after the LQAS workshop is completed, each LGA team will collect their own data and a week later, they will tabulate and analyze their own data.

Timeline and venue for LQAS training, data collection and hand tabulation workshops to be carried out in each of the selected states are presented in the following table:

**Summary Timetable for LQAS Monitoring
Nigeria 2010**

State	LQAS Workshops		Data Collection	Tabulation and Data Analysis Workshops	
	Date	Venue	Date	Date	Venue
Bauchi Gombe Kaduna	February 15-19	Bauchi	February 22-26	March 1-4	Bauchi
Kano Jigawa	March 8-12	Kano	March 15-19	March 22-25	Kano
Anambra Delta	March 8-12	Anambra (Awka)	March 15-19	March 22-25	Anambra (Awka)
Rivers Akwa Ibom	March 29- April 2	Akwa Ibom (Uyo)	April 5-9	April 12-15	Akwa Ibom (Uyo)

(*) Since Kaduna and Delta are control States it is not necessary for them to participate in the Tabulation and Data Analysis Workshop. This is because the information generated from the two States will not be used for decision-making but for comparison.

Data Collection

The data collection will take place as follows:

Northern Region:

- Group 1: (Bauchi, Gombe and Kaduna): February 22-26, 2010.
- Group 2: (Kano and Jigawa): March 15-19, 2010.

Southern Region:

- Group 3: (Anambra and Delta): March 15-19, 2010
- Group 4: (Akwa Ibom and Rivers): April 5-9, 2010.

Data will be collected by each interviewer through in-depth structured interviews of the four different types of respondents. During the LQAS training workshop, all data collectors and supervisors will get the skills on how to select correctly the households and respondents and how to conduct proper interviews to ensure good quality data.

During the LQAS training workshop, each LGA team (2 interviewers and one supervisor) will develop a plan for data collection.

Festus Okoh (Chief M&E Officer) to be assisted by Mahmud Omoebob (M&E officer) will manage all logistics for data collection and ensure availability of materials on time in each of the nine States.

As mentioned above, each LGA will have a team of two Health Workers carrying out the sample. One hundred and fourteen interviews will be conducted in each LGA (comprising 19 household heads, 19 mothers of children 0-11 months, 19 mothers of children 12-23 months, 19 mothers of children 0-59 months, 19 mothers of children 0-59 months with diarrhea in the last two weeks, and 19 mothers of children 0-59 months with fever in the last two weeks). On average 5 days will be sufficient to complete data collection in each LGA. In that period, each of the two interviewers will be responsible to complete 9 or 10 sets of interviews. It means that each interviewer will complete two sets per day.

Some LGAs may require more interviewers to complete the 114 interviews, depending on distance/accessibility of each village, the number of sampled villages, and mode of travel (foot, motorcycle, bicycle, boat, canoe, horse, donkey, cow, etc.). The NMCP M&E officers will sort out these issues with LGA teams.

Interviewers will be paid field allowances, which will cover lunch and transportation within the LGA during data collection.

Supervision of Data Collection

As mentioned above, each data collection team will have a local supervisor. The supervisor will support each team to identify and randomly select the starting point (first household).

A total of 90 interviewers and 45 supervisors are required for data collection in Northern Region while 78 interviewers and 39 supervisors are required in Southern Region. The following two tables show the number of interviewers and local supervisors required by each State, according to the number of LGAs randomly selected:

**Interviewers and Supervisors for Data Collection
(Northern Region)**

State	Total Number of LGAs	Number of Selected LGAs	Number of Interviewers (Two per LGA)	Number of Local Supervisors (One per LGA)
Kano	44	10	20	10
Jigawa	27	9	18	9
Bauchi	20	9	18	9
Gombe	11	8	16	8
Kaduna control)	23	9	18	9
Total	125	45	90	45

**Interviewers and Supervisors for Data Collection
(Southern Region)**

State	Total Number of LGAS	Number of Selected LGAs	Number of Interviewers (Two per LGA)	Number of Local Supervisors (One per LGA)
Rivers	23	10	20	10
Akwa Ibom	31	10	20	10
Anambra	21	9	18	9
Delta (control)	25	10	20	10
Total	100	39	78	39

Supervisors are responsible for the review of all questionnaires to ensure that there are no inconsistencies or missing data. If missing data or inconsistencies are identified the supervisor will assist the interviewer to obtain the data.

Three NMCP M&E Officers will also supervise data collection. Local and national supervisors will be paid field allowances, which will cover lunch and transportation within the LGA during data collection.

Reliability Study

There are still opinions that the M&E data collected by program staff may result in overestimation of a desirable project result. The opinions argue that only individuals who are outside the project can accurately collect reliable data.

In order to measure the accuracy of the information collected during the monitoring survey, a reliability study will be carried out in the nine states.

Based on the sampling frame for each LGA, the supervisor randomly selects two questionnaires of one of the target groups in each LGA and interview the corresponding interviewee. This is to verify the accuracy of the information given by the respondent. However, interviewers will not be informed about the community where the reliability study will take place.

During data analysis, the reliability of the data can be ascertained by comparing the concordant pairs.

Hand Tabulation and Data Analysis Workshop

The interviewers and supervisors from each of the seven selected States will participate in a four-day hand tabulation and data analysis workshop, which will be carry out two days after the completion of data collection in each State. However, Anambra participants would wait for 20 days to enable Rivers and Akwa Ibom to finish their data collection before Hand Tabulation and Data Analysis Workshop.

There will be three Hand Tabulation and Data Analysis Workshops as follows:

Venue	Participating States	Date
Bauchi (Bauchi)	Bauchi and Gombe	March 1-4
Kano (Kano)	Kano and Jigawa	March 22-25
Akwa Ibom (Uyo)	Rivers, Akwa Ibom and Anambra	March 22-25

During the workshop, interviewers and supervisors will be responsible for tabulation of their own data using prepared tabulation tables. The facilitators will supervise them. Data analysis will be based on the objectives of the monitoring and the outcomes will be used for decision-making at the National, State and LGA levels.

Two trainers from World Bank Malaria Booster Project will lead the trainings supported by the LQAS focal person (Festus Okoh) and other M&E officers of NMCP. The number of participants for the seven selected States will be the same as it was in the LQAS Training Workshops.

Since Kaduna and Delta are control States they will not participate in the Tabulation and Data Analysis Workshop. The data generated from the two States will be entered and analyzed electronically.

Report Writing on Hand-Tabulated Results

NMCP M&E officers and State staff will write a preliminary Report based on the results of hand tabulation. The State Program Managers are expected to use the main findings to improve project activities in each of the selected States.

Data Entry and Report Writing

In order to carry out more precise data analysis, the NMCP will hire a local data management consultant to carry out data entry for the nine States. The local consultant may be contracted to develop data entry screens, complete electronic data entry processing (double entry and validation of all six questionnaires) of both original databases and the cleaned database for each state and undertake data analysis.

The NMCP M&E Team will supervise data entry of both original and cleaned databases and together with the consultant produce computer-data analysis tables.

The local consultant will submit the database to NMCP M&E Team and a copy to Dr. Joseph Valadez (WB Senior M&E Specialist Malaria Implementation Resources) to make his inputs and give feedback.

The NMCP M&E team in collaboration with the local consultant will analyze all data sets and prepare a preliminary Survey Report. This report will be submitted to the NMCP M&E Team and the World Bank task team for inputs to be incorporated into the final report of the Monitoring Survey that they are also responsible to prepare.

Dissemination of Results

NMCP M&E team will convene meeting of stakeholders to disseminate the findings of the survey. Based on the survey results, the NMCP M&E Team will also make strategic decisions based on the results and develop action plans to improve project implementation.

Preparations for LQAS Workshops and Survey

The tables below present a detailed plan of activities for the LQAS implementation in Nigeria.

General Preparations for Workshops and Survey

Activity	Date (2010)	Responsible
Sampling Frame		
Make available a list of LGA population data for each of the nine States	February 2	Festus, Omoebob
Determine the <u>number</u> of LGAs to be selected from each of the 9 States and the <u>sample size</u> for each selected LGA		Joe
Random selection of LGAs for each of the 9 States		Festus, William
Obtain and process village population data for each randomly selected LGA	February 1	Festus, Omoebob
Design the sampling frame for each randomly selected LGA using probability proportional to size sampling with the respective village population data	February 6	William
LQAS Participant's Manual		
LQAS Trainers Guide and Participant's Manual for workshop participants will be printed by local printing company	February 5	Festus, Omoebob
Design of Questionnaires		
Revision of survey questionnaires	February 6	NMCP M&E Team/World Bank
Pre-testing of survey questionnaires	February 7	NMCP M&E Team

Make corrections to the questionnaires and submit them to Joe Valadez (World Bank Malaria Booster Project) for input and feed-back	February 9	Festus, William
Finalization of survey questionnaires	February 12	NMCP M&E Team and World Bank

Preparations for LQAS Training Workshops

Activity	Date (2010)	Responsible
Inform State MOH on LQAS activities; ensure their agreement to participate and support (with official letter from NMCP Coordinator)	February 1	NMCP Coordinator
Identify and book the venue for LQAS workshops		Festus, Olanpeleke
Prepare LQAS workshop Agenda		William, Joe & Festus
Organize two field practices for LQAS Training Workshops. Participants will practice how to: a) number and select households, and b) conduct interviews. <ul style="list-style-type: none"> ▪ Select the village (s) where the workshop participants can practice household selection and interviewing (as close to the workshop facility as possible, <u>but not in sampled LGAs</u>). ▪ Make transportation arrangements to go to the village (s) - Make logistic arrangements to practice the drawing of a village map for sector sampling 		Festus, State Program Managers
Create a list of LQAS workshop participants for each State		Festus, Aro
Make photocopies of questionnaires for workshops and field practice (one set of questionnaires per participant = 3 sets of 4 questionnaires per LGA team)		Festus, Olanpeleke
Photocopy the LQAS Workshop Agenda for each participant		Festus, Omo-boh
Finalize and review presentations for LQAS workshops		William, Festus
Ensure availability on time of materials, equipment and logistics for LQAS workshops		Festus, Aro

LQAS Training Workshops

Activity	Date (2010)	Responsible
<i>Hold LQAS Workshops:</i> Bauchi-Gombe, Kaduna..... Kano-Jigawa,..... Anambra, Delta..... Akwa Ibom-Rivers.....		Joe, William, Festus
<i>Field practice for numbering and selecting households:</i> Bauchi-Gombe, Kaduna..... Kano-Jigawa,..... Anambra, Delta..... Akwa Ibom-Rivers.....		Joe, William, Festus
<i>Field practice for interviewing:</i> Bauchi-Gombe, Kaduna..... Kano-Jigawa,..... Anambra, Delta..... Akwa Ibom-Rivers.....		Joe, William, Festus
<i>Develop a data collection plan for each LGA:</i> Bauchi-Gombe, Kaduna..... Kano-Jigawa,..... Anambra, Delta..... Akwa Ibom-Rivers.....		Interviewers and supervisors

Data Collection and Supervision

Activity	Date (2010)	Responsible
<i>Data collection</i> Bauchi-Gombe, Kaduna..... Kano-Jigawa,..... Anambra, Delta..... Akwa Ibom-Rivers.....		Interviewers and supervisors
<i>Supervision of data collection</i> Bauchi-Gombe, Kaduna..... Kano-Jigawa,..... Anambra, Delta..... Akwa Ibom-Rivers.....		Supervisors

Tabulation and Data Analysis Workshops

Activity	Date (2010)	Responsible
Finalize the Workshop Agenda and training materials for tabulation and data analysis workshops		William, Festus
Prepare tabulation tables and other training material for tabulation and data analysis workshop		William, Festus
Make photocopies of tabulation tables (according to the number of supervision areas)		Festus, Olanpeleke
<i>Hold Hand Tabulation and Data Analysis workshop</i>		
Bauchi-Gombe, Kaduna.....		Joe, William, Festus and co-facilitators
Kano-Jigawa,.....		
Anambra, Delta.....		
Akwa Ibom-Rivers.....		

Electronic Data Processing and Report Writing

Activity	Date (2010)	Responsible
Coding of questionnaires for data entry		National Consultant
Data base preparation		National Consultant
Submit for review a copy of the data base to Joe Valadez (WB)		National Consultant
Adjust the data base (if needed)		National Consultant
Data entry		National Consultant
Analyze data base and write draft LQAS Monitoring Report		NMCP M&E Team and National Consultant
Finalize LQAS Monitoring Report		NMCP M&E Team and National Consultant
Prepare a LQAS Monitoring Report presentation		NMCP M&E Team and National Consultant
Disseminate the results to stakeholders at National level		NMCP M&E Team and National Consultant

Budget for LQAS Activities

Appendix 2 shows the Budget to implement the LQAS Detailed Implementation Plan (DIP). The budget is for National Supervisors, National Consultants and the Control States (Delta & Kaduna) while the budget for the State and LGA participants will be prepared and borne by the participating Project States. The Budget will be reviewed and approved by the FMOH and World Bank Malaria Booster Project.