Work Plan and Deliverables for the DSS/ PMI Monitoring and Evaluation activities in Pemba for FY 07 and FY08

A: Background and Rationale:

A1. Prior baseline data availability

As a part of the collaborative partnership between Johns Hopkins Bloomberg School of Public health, Ministry of Heath and Social Welfare Zanzibar and Public health Laboratory-IDC Pemba, there has been an ongoing series of projects undertaken in Pemba between 2000 and 2006. The biggest of these was the zinc trial which included all children between ages of 1 month and 48 months.

As a part of this collaborative research there was a census with complete DSS pregnancy history evaluation for mortality undertaken in 2000 and again a condensed version at the end of the study in 2005. This included a question on Bed-net use and hospitalizations for transfusions in past 6 months.

During 2000 and 2005 there is data available for prospective follow up of all children in Pemba, which included a weekly follow up, prospective mortality, Cause specific mortality using hospital records and verbal Autopsy with 3 physicians interpreting VA data. Data on all hospitalizations including clinical record and blood investigation using coulter for HB, TLC, DLC, Platelets and malaria parasite count.

In addition to follow up of entire child population in the main study, as a part of the sub-study about 4000 children 1000 from each of the four districts where evaluated more intensively with three sweeps of cross-sectional evaluation which included physician examination and clinical records, coulter analysis of blood for HB, TLC, DLC and malarial slide with count of malarial parasite.

This presents with a very unique opportunity with data available across all indicators at baseline for performing a monitoring and evaluation of the PMI activities in a very rigorous scientific way to obtain data publishable in a peer reviewed Journal on one hand and on the other inform the program.

A2. Ongoing activities in Pemba in FY 2007, 2008, 2009.

As a part of the collaborative partnership between Johns Hopkins Bloomberg School of Public health, Ministry of Heath and Social Welfare Zanzibar and Public health Laboratory-IDC Pemba, there are currently ongoing projects one of which is GC13 funded by Gates foundation that is aiming to develop and validate measures of population health. As a part of this activity on Fy07 we will be undertaking a census/survey of the entire population of Pemba and in Fy07, 08, 09 will be conducting surveys and monitoring hospitals with the aim of validating a verbal autopsy instrument using newer Basian statistical methods. These activities provide a window of opportunity to piggy back PMI monitoring and evaluation activities on to the ongoing system which would on one hand enable accomplishment of these activities at a fraction of the cost that it would

otherwise take and on the other hand would provide follow up data with available baseline data enabling impact evaluation for PMI activities.

B: Proposed Activities in FY07

The activities in this year will include monitoring and evaluation within the DSS are for coverage indicators, population and demographic characteristics all cause and malaria attributable mortality and morbidity. The specific activities and deliverables would include:

B1. Core activities to establish a population based monitoring and evaluation system
As a part of the core activity to enable comparisons between surveys and have a longer term system of monitoring and evaluation we plan to have every house in Pemba affixed with a plastic plate with house number engraved on it and link that house number to the house number of the zinc study. Establish a GIS database of the Island with ever house number linked to it. Upon completion of this activity we would be able to have a fully functional GIS system for plotting malaria incidence surveillance. Some part of the support for FY07 would enable establishment of this system which will in turn make monitoring and evaluation within the DSS very meaningful in three dimensional scale. These activities will contribute and help in all activities be it mortality evaluation, cross-sectional evaluation or hospital surveillance. It would also help in the sentinel surveillance being launched by ZMCP.

B2. Monitoring and Evaluation activities as longitudinal surveillance within DSS area (effectively whole population)

As a PMI add on to the overall Census we would collect information at every household for monitoring and evaluations indicators for PMI interventions these would include

B2.a. Indicators of Population Coverage for PMI Strategies

PMI strategies	Indicator of Population Coverage
Vector control via insecticide-treated nets (ITNs)	1. Proportion of households with at least one ITN. 2. Proportion of children under 5 years old who slept under an ITN the previous night.
Prompt access to effective treatment	3. Proportion of children under 5 years old with fever in last 2 weeks who received antimalarial treatment according to national policy within 24 hours from onset of fever.
Prevention and control of malaria in pregnant women	4. Proportion of pregnant women who slept under an ITN the previous night. 5. Proportion of women who received intermittent preventive treatment for malaria during their last pregnancy.

B2.b. All cause under five mortality rate.
This we will have for baseline and after intervention implementation the same will be repeated in 08/09 as well.

B2.c. Malaria-attributed mortality rate for children under five nationally
Proportion of deaths attributed to malaria among children under five nationally Malaria-attributed mortality rate for children under-five in a demographic surveillance site

B2.d. Inpatient malaria cases for children under five years old at all 5 hospitals in Pemba
Part of this data would be collected as a part of surveillance of the hospitals for verbal Autopsy gold standard data collection and for this measure we would also have a baseline from the similar collection of hospital addimissions during 2000-2005

B2.e. Proportion of deaths due to malaria among children under five years old at 5 hospitals
Part of this data would be collected as a part of surveillance of the hospitals for verbal Autopsy gold standard data collection and for this measure we would also have a baseline from the similar collection of hospital addimissions during 2000-2005

B2.f Laboratory confirmed inpatient
Inpatient malaria cases for children under five years old at all 5 hospitals and laboratory confirmed cases again this would have a reference to baseline data.

B2.g Proportion of households with at least one ITN

B2.h. Proportion of households with a pregnant woman or children under 5 with at least one ITN

B2.i. Proportion of households reporting that their compound/household was sprayed with a residual insecticide in the last 12 months

B2.j. Proportion of children under five years old with fever in the last two weeks who received treatment with ACTs within 24 hours of onset of fever

Proportion of children 6–59 months old with moderate or severe anemia

B3. Monitoring and Evaluation activities as cross-sectional survey with similar methods as undertaken during zinc study in 2000 children (500 children per district).
A cross- sectional survey will undertaken in the same Shahiyas as were included in the sub-study of the zinc project where we have baseline anemia, parasite density and clinical malaria rates during three surveys 6 months apart. We will collect the same information on Hb, malaria parasite density, clinical illness criteria and treatment characteristics during the two surveys in 07/08, 08/09. These surveys would evaluate impact on

transmission, , background parasite burden, attributable fraction of fever to parasite presence and incidence and prevalence of clinical malaria.

B4. Validation of the malaria control program evaluation questions

As a part of the DSS activity the questions used in a small sample survey by ZMCP for evaluation of morbidity and coverage indicators will be reinstituted on the "total sample universe" and the precision and validity of the sample surveys will be estimated. As a part of the exercise interclass correlation will also be estimated to better establish sampling frames for future evaluations.