Social Marketing of ITNs in Cameroon
Detailed Implementation Plan

Name of PVO: Population Services International
Program Location: East, South, and Center provinces of Cameroon
Cooperative Agreement No: HFP-A-00-02-00043-00
Program Dates: September 30, 2002 – September 29, 2005
Date of Final DIP Submission: June 30, 2003
DIP writers and editors:

Shannon Bledsoe, ITN Project Director, PSI
DeDe Dunevent, Program Manager for West and Central Africa, PSI
Uzo Gilpin, Malaria Advisor, PSI
Natasha Howard, Malaria Control Technical Consultant, PSI/Myanmar
Melissa Merten, Maternal & Child Health Program Manager, PSI
Sharon Slater, MCH Program Manager and CS Health Grants Program Coordinator, PSI
Brian Smith, Technical Services Director, PSI
Dana Ward, Country Director, PSI

Table of Contents

ACRONYM LIST

ACMS – *Association Camerounaise pour le Marketing Social*
ADRA – Adventist Development and Relief Agency
BCC – Behavior Change Communication
CBD – Community-based distribution
CS – Child Survival
EPC – *Eglise Presbytérien du Cameroun*
EOP – End of Project
FEMEC – *Fédération des Eglises et Missions Evangéliques du Cameroun*
FGD – Focus Group Discussion
IPC – Interpersonal Communication
IEC – Information, Education, Communication
ITN – Insecticide-treated Net
KAP – Knowledge, Attitudes and Practices
LLN – Long-lasting nets
MCH – Maternal and Child Health
MOH – Ministry of Health
NGO – Non-governmental Organization
PMSC – *Programme de Marketing Social au Cameroun*
PNLP – *Programme National de Lutte Contre le Paludisme*
POP – Point of Purchase
PRISSM – Promoting Improvements in Sustainable Social Marketing
PSI – Population Services International
PSNP – *Programme National de Lutte Contre le Paludisme* Strategic Plan
RBM – Roll Back Malaria
SCS – *Service Catholique de la Santé*
SWOT – Strengths, Weaknesses, Opportunities, Threats
WHO – World Health Organization
WRA – Women of reproductive age

A. EXECUTIVE SUMMARY

Program Category: New
Program Dates: September 30, 2002 – September 29, 2005
Level of Funding: $1,299,937.00
Program Location: East, South, and Center provinces of Cameroon
Estimated Beneficiaries: Total = 1,497,533 (641,800 Under-Fives + 855,733 WRA)
Estimated Level of Effort per Intervention: Malaria Prevention through ITN Social Marketing - 100%
Implementing Partners: Association Camerounaise pour le Marketing Social (ACMS), National Malaria Control Program (PNLP), Fédération des Eglises et Missions Evangéliques du Cameroun (FEMEC), Plan International/Cameroon, Service Catholique de la Santé (SCS), and the United Nations Children's Fund (UNICEF)
USAID Contact: Nicole Buono; Technical Advisor
PVO Program Contact: Melissa Merten, MCH Program Manager
DIP Authors: Shannon Bledsoe (ITN Project Director), Natasha Howard (Malaria Control Technical Consultant), and Dana Ward (Country Director)

Problem Statement: Malaria is the leading cause of mortality in Cameroon (approximately 35% of total deaths according to national statistics, 1998), and is second only to HIV in terms of the burden it places on Cameroon's health and development. Malaria is endemic throughout the country, with almost all Cameroonians reported to have at least one attack annually. The 2 million malaria cases, recorded annually in the public sector, likely underestimate disease burden. Public sector resources are insufficient to meet the need for demand creation and supply of ITNs for malaria prevention, and the unsubsidized commercial sector is beyond the reach of most Cameroonians. National health expenditure is approximately 1% of GDP, resulting in a public system of poorly paid, poorly trained and unmotivated staff, and rampant corruption. An estimated 70% of health care is provided by private and faith-based facilities.

There are approximately 2.7 million children under the age of five and 3.7 million women of reproductive age (WRA) in Cameroon. Infant and maternal mortality rates have risen in the past decade (to 77/1000 and 430/100,000 respectively), while the main causes of under-five mortality are reported as malaria, acute respiratory illnesses, and measles (DHS, 1998). According to Ministry of Health (MOH) statistics, malaria is the leading cause of under-five morbidity (50%) and mortality (40%), with an estimated 40% of household healthcare expenditure going to malaria treatment (PSNP 2002).

Cameroon is one of the poorest countries in the world (World Bank, 2000). Half of all households operate below the poverty line with a GNP per capita of $610. With a total population of 15.8 million, a fertility rate of 5.2, and a growth rate of 2.7, Cameroon has one of the fastest growing populations in Africa (Population Reference Bureau, 2001). At current trends, the number of Cameroonians will double to over 30,000,000 in 27 years. Currently, 65% of the population lives in rural areas (KAP, 2001).

Project Goals, Objectives, and Strategies: The project goal is to reduce the incidence of malaria-related morbidity and mortality among children under five and pregnant women in the

East, Central, and South provinces of Cameroon (the "intervention area"). The project purpose**,** to increase the use of ITNs among pregnant women and children under five in the intervention area**,** will be achieved by addressing the principal barriers to increased use of ITNs in the intervention area. Key objectives are:

IR1: Increased informed demand for ITNs and net treatment
IR2: Increased equitable access to ITNs and net treatment
IR3: Increased capacity to sustain ITN programming in Cameroon
Increased PSI capacity to achieve health impact through MCH interventions

Major strategies include:

- Using market segmentation and targeted subsidies to reach multiple socioeconomic strata: introducing a high-quality branded ITN and home-use insecticide treatment kit using affordable cost-recovery mechanisms.
- Educating the target population on malaria, and promoting ITNs as the most effective means of prevention, via proven communication channels that include branded and generic mass media, targeted and multi-language media, rural outreach, and interpersonal communication (IPC).
- Increasing sustainable distribution by encouraging appropriate participation (through advocacy, technical assistance and trainings) from a wide range of commercial, NGO, and public sector players.
- Strengthening the unsubsidized commercial sector, by creating an enabling environment (i.e. "net culture") through wide-scale demand creation activities, allowing PSI's role to evolve toward a more intense focus on reaching the poor.
- Conducting operations/consumer research, to determine the most successful social marketing strategies and gain insight into ITN marketing and preventive behavior change in rural areas of Cameroon.
- Contributing lessons learned to the development of a formal annual MCH SWOT analysis and strategic plan, aimed at increasing PSI affiliates' capacity to implement MCH and CS interventions.

Anticipated intervention area results/indicators include:

- *Increased use among targets:* 33% of households reporting that children and pregnant women slept under nets the previous night and a 25% decrease in differences in reported use between 1st and 4th socio-economic quartiles.
- *Increased informed demand:* 50% of rural and 66% of urban adults reporting that they know malaria is only caused by mosquitoes, 25% of adults identifying ITNs as the most effective means of malaria prevention, and a 20% increase in the percentage of adults able to identify pregnant women and under-five children as high-risk for malaria.
- *Improved equitable access:* 50% of targeted outlets selling ITNs with at least 50% offering increased subsidies to pregnant women and mothers of children under five, and 25% of adults knowing at least one source of ITNs.
- *Strengthened sustainability of ITN and CS programming:* 85% of participating clinics integrating BCC messages and materials into normal service delivery, BCC materials used by at least two non-project NGOs, at least one additional donor identified, at least one international net manufacturer beginning unsubsidized distribution in Cameroon, ACMS

reaching growth or mature stages in 75% of PRISSM indicators, 3 annual PSI MCH capacity-building/planning workshops conducted, 25,000 MCH advocacy/fundraising materials disseminated

B. CSHGP DATA FORM

C. DESCRIPTION OF THE DIP PREPARATION PROCESS

The detailed implementation plan (DIP) preparation process was completed in two phases: the Washington phase and the Cameroon phase. The Washington phase allowed the PSI Project Management Team (PMT), and ACMS/PMSC[1] Country Director and ITN Project Director to familiarize themselves with DIP guidelines, USAID/GH/HIDN objectives, and strengths and weaknesses of the original project proposal as evaluated by USAID/GH/HIDN. The Child Survival Grants Program Coordinator and the PMT reviewed DIP guidelines and began identifying areas where more information was needed for the DIP. The same process was followed for the USAID/GH/HIDN evaluation of the project proposal. Once the DIP draft had been prepared, PSI's Malaria Technical Advisor, MCH Director, and Technical Services Director reviewed the draft in Washington, which allowed their final comments and changes to be incorporated before the DIP was finalized for submission.

The in-country phase was initiated by PMSC, the implementing arm of ACMS, PSI's main partner in Cameroon. PMSC, acting jointly with the National Malaria Control Program (PNLP) and the Cameroon Presbyterian Church (FEMEC) began developing the interventions and strategies outlined in the original proposal. Portions of the draft were circulated for feedback, which was then incorporated into a revised draft that was submitted to the MOH for approval. (See letters of support in **Annex 4**). PMSC also communicated the proposed interventions and strategies to local community-based implementation partners, and invited their feedback.

In October 2002, former PSI/Tanzania ITN Coordinator Lisa Jamu, one of PSI's malaria experts who designed Tanzania's highly successful ITN program, came to Cameroon for a week of short-term technical assistance. Together with the future ITN Project Director and PMSC's research coordinator, she made site visits to rural health clinics, met with partners, drafted a work plan and set up a clinic documentation system.

In December 2002, the ITN Project Director (ITN PD), an expatriate PSI staff member, was hired. She began formative brand and materials development, hired the ITN Sales Coordinator and ITN Marketing Coordinator, and initiated detailed project-related discussions with the PNLP and other partners. The Country Director and ITN Project Director participated in stakeholder meetings concerning national malaria strategy and project activities and coordination.

In February 2002, PMSC contracted with GRADE, a private research company, to conduct focus group research in the East, Center and South provinces to ascertain preferences regarding color, size, shape, price, and brand names for nets and insecticide. The ITN PD and the ITN Marketing Coordinator made trips to rural areas to assess rural sleeping arrangements and visit partner's health clinics. The following month, the ITN Sales and Marketing coordinators traveled to Douala, Yaounde, Ebolowa, and Bertoua (the major port city, and capitol cities of each province in the intervention area) to assess the current and potential net market. They reported on current points-of-sale, numbers of nets sold per month, most common brands and

[1] PMSC (Programme de Marketing Social au Cameroun) is the implementation arm of ACMS (Association Camerounaise pour le Marketing Social)

their countries of origin, prices, prices, and peak sales periods. They also held discussions with potential retailers, wholesalers, and distribution partners.

In March 2003, the ITN PD spent two weeks visiting PSI malaria experts Dr. Des Chavasse and Dr. Jane Miller at the ITN programs in Malawi and Tanzania. Site visits were made to health center ITN outlets, warehouse storage and packing facilities, wholesalers, and a number of retailers (points-of-sale). The ITN PD researched documentation and tracking practices, MIS, promotions, operations research, and rural marketing strategies with relevant local experts. Additionally, she evaluated and gathered lessons from marketing plans, IEC/promotional materials, and upcoming radio and television spots.

In March 2003, the PSI/Myanmar Malaria Control Technical Consultant (MCTC) came to Cameroon, for fifteen days of written preparation and technical work on the DIP, with the in-country DIP preparation team. The MCTC conducted a review of relevant malaria research and activities in Cameroon, analyzing project-related documents, including PSI's draft ITN Marketing Plan for 2003 (covering situational analysis, strategic analysis, and strategic plan), formative research reports (including 2001 KAP study, 2003 Focus Group Discussions and draft 2003 Distribution Survey), and the USAID CSHGP application and Technical Reference Materials. This process immersed the MCTC and in-country preparation team in the context and history of ITN social marketing in Cameroon.

The preparation team held in-depth meetings with key partners and performed several site visits. The MCTC met with key PNLP and health officials to discuss malaria prevention activities and the current malaria crisis. The ITN PD held several meetings with all project partners, including representatives from WHO, UNICEF, FEMEC, the Service Catholique de Santé, Plan Cameroon, and marketing and research subcontractors. Meetings were used to discuss partners' roles, prioritize planned activities, identify additional areas for collaboration, refine objectives and indicators, and foster a strong, shared vision among partners. Additional meetings and discussions were held with potential donors, to assess both the possibilities for procuring additional project commodities and diversifying the project's funding base over the long term. The last component of the in-country preparation process was a presentation of the initial DIP draft to primary partners. The document and individual work plans and roles were discussed and relevant comments incorporated into the final DIP. Unfortunately, the planned day-long workshop wherein partners' roles were to be clearly defined and agreements signed was cancelled three times due to last-minute unavailability of certain primary partners. This is clearly a priority and the workshop will take place before the June mini-university so that partner agreements can be included in the final DIP. See letters of support in **Annex 4**.

Because of the recent completion of a baseline knowledge, attitudes and practices (KAP) survey in 2001, the Rapid CATCH indicators suggested in the DIP Guidelines will be incorporated into the DHS KAP survey, planned for the third quarter of 2003. Data not included in the CSHGP at the time of DIP submission is to be compiled and sent to USAID/GH/HIDN upon completion of the 2003 DHS. This has been discussed with Technical Advisor Tom Hall, PSI's contact at USAID/GH/HIDN. Survey results, including data gathered on Rapid CATCH indicators, will be disseminated to partners at the same time.

Four DIP preparation team members will participate in the June 2003 CSH Mini-University. One (the ITN Project Director) will attend from Cameroon, and three (the MCH Project Manager, MCH PD/CSHG Program Coordinator, and West/Central Africa Project Manager) will attend from PSI/Washington.

In total, approximately 164 days were spent on DIP preparation. Participants in the DIP preparation process (in alphabetical order) were:

Sali Adamou, ITN Sales Coordinator, PMSC
Shannon Bledsoe, ITN Project Director, PSI
DeDe Dunevent, Program Manager for West and Central Africa, PSI
John Essobe, Executive Secretary of Health, FEMEC
Dr Etienne Fondjo, Chief Malaria Prevention Section, PNLP
Leger Foyet, Research Coordinator, PMSC
Uzo Gilpin, Malaria Advisor, PSI
Natasha Howard, Malaria Control Technical Consultant, PSI/Myanmar
Dr Mbam Mbam, Medical Officer, WHO
Dr Jean Mbessi, National Medical Coordinator, SCS
Melissa Merten, Maternal & Child Health Program Manager, PSI
Marie-Marcelle Njoke, ITN Marketing Coordinator, PMSC
Dr Raphael Okalla, Permanent Secretary, PNLP
Dr Esther Tallah, Health Coordinator, Plan Cameroon
Dr Alphonse Lhay Toko, Health/Nutrition Program Administrator, UNICEF
Sharon Slater, MCH Program Mgr and Child Survival Health Grants Program Coordinator, PSI
Brian Smith, Technical Services Director, PSI
Dana Ward, Country Director, PSI

D. REVISIONS FROM THE ORIGINAL PROPOSAL

CA Section	Proposed	DIP Changes	Rationale
1. All	--	Statistics have been updated where possible to reflect new information obtained Personnel, job descriptions, and resumes have been updated to reflect changes.	To provide a more comprehensive and accurate background for the DIP
2. Section III.3	Two partners and MoH (PNLP)	Four partners have been added (SCS, Plan, UNICEF, and WHO), and partner roles more clearly defined. See Section E.3 for more.	Broad-based support from a variety of like-minded partners will serve to strengthen project support, information sharing, and implementation
3. Sections IV.1.d, V.2.b.	Market segmentation throughout LOP	PMSC will implement a phased market segmentation approach: Year 1: cost recovery for initial (urban and rural) nets, to increase availability, awareness, and demand. Subsidized distribution, just to mothers of under-fives, through pilot health centers. Years 2-3: Subsidized net targeting pregnant women and mothers of under-fives through health center-based partners, and supplemental to MOH activities.	1 - PMSC does not wish to interfere/compete with PNLP's planned distribution of 800,000 free nets to pregnant women in Year 1. 2 - Limited initial commodities funding necessitates early cost-recovery to create a revolving fund for continued net and treatment procurement 3 - Research on current net prices and distribution suggests that market segmentation using the same product will contribute little to programming and is likely to lead to significant leakage
4. Sections IV.2.d, V.2.a.	ITNs or LLNs	Insecticide treatment plans for project ITNs have been elaborated: Net treatment kits will be packaged with branded nets and also social marketed as a separate product LLNs may be procured, as appropriate, if additional funds become available and the MOH approval process is completed within the LOP.	Including net treatment as a separate component strengthens the project, allowing net treatment targeting of households using non-PMSC nets. MOH is currently discouraging importation and use of LLNs in country, due to ongoing efficacy research.

5. Sections V.2.b, V.2.c.	Targeted Subsidies	As outlined in the proposal, PMSC will distribute a high quality cost-recovery net at approximately FCFA 3,000 (5USD) In Year 1, PMSC will begin ITN education and demand creation activities through partner health centers, and pilot SM of subsidized nets to parents of under –fives through six health centers. In Years 2-3, PMSC will take up where PNLP leaves off in distributing subsidized ITNs to pregnant women and mothers of under-fives through partner's health facilities.	Strategy changes reflect project realities and the cooperation necessary in working supportively with partners. Initial research indicates that pregnant women are most easily reached through health center antenatal visits. However, providing a highly subsidized health center ITN to pregnant women in Year 1, would interfere unnecessarily with PNLP distribution efforts. Therefore PMSC will provide BCC support for the government project, while concentrating on increasing overall coverage in rural areas.
6. Forms 424, 424A	Budget	Budget realignment includes: Increase in International Travel budget (e.g. for DIP University). 100% coverage of STTA for DIP preparation. $12,500 added to the M&E budget Inclusion of household furnishings for ITN PD A deduction of 20% of ITN PD's salary in Year 1, which will be covered by another project.	Budget realignment is necessary to reflect project realities. When the project was approved in April 2003, the international travel line-item did not cover necessary external meetings/trainings, including the Mini University. Due to the length and technical expertise necessary for effective DIP preparation, a consultant was hired for STTA. Original calculations for M&E are believed to be adequate, but additional money has been budgeted for the mid-term evaluation as it may require two external consultants.. The original budget did not provide for necessary household furnishing expenses for the ITN PD.

E. DETAILED IMPLEMENTATION PLAN

E.1. PROGRAM MONITORING AND EVALUATION

Under the child survival project, PSI collects and shares information that will provide insight into current and future ITN initiatives. These lessons learned will provide valuable information relating to both successful strategies and avoidable mistakes, strengthening projects, and eliminating repetition of fruitless program components.

Research, monitoring and evaluation are essential elements for documenting lessons learned and best practices. An effective system for collecting lessons learned and best practices must be sustained after the project, so that the current malaria program and future initiatives can draw from these experiences. Throughout the project PSI and ACMS will actively utilize opportunities to communicate and share research with their partners to take full advantage of experiences and expertise relevant to ITN programming.

Current Community Information Systems and Differences with Project HIS

PSI relies on Government of Cameroon (GoC) data for census and demographic information, including population denominators and estimates of beneficiaries, as well as countrywide epidemiological data. Other reports produced by the government and utilized by PSI include DHS and other Surveys, ITM Progress Reports, and PNLP Strategic Plan (PSNP).

Project HIS will be specifically focused on malaria prevention through ITNs and net treatment. Therefore, additional market-based information will be gathered and tracked. For example, necessary project HIS information includes numbers of retail outlets distributing ITNs, numbers of private and public-sector ITNs distributed, main purchasers and main users of ITNs (urban versus rural and any age or gender differences), usual prices and profit margins, and percentages of target audiences that have been exposed to and/or retained project messages on malaria prevention. Project and community HIS will be complementary, and project data will be shared on a regular basis by PMSC as part of ongoing information-sharing strategies.

Most likely overlaps would occur in evaluations of project health impact. Any overlapping health impact data will be integrated prior to mid-term and EOP evaluations, through a process of compilation, discussion and analysis of each partner's progress and relevant operations research reports.

Monitoring Tools

PSI has extensive experience with a wide-range of monitoring and evaluation tools. These include population-based KAP surveys, focus group discussions and in-depth interviews, distribution surveys, good use surveys, mystery client surveys, retail audits, qualitative pre- and

post-testing of behavior-change campaigns, and PRISSM evaluations. Relevant details on data collection, analysis and usage are included below, in the discussion of each monitoring tool.

Project Planning Matrices for ACMS/PMSC (PVO) and PSI (PVO/HQ)

Project Planning Matrices and Logical Frameworks are valuable tools for overall project design, monitoring and evaluation. Planning Matrix objectives, indicators and activities were adapted from PSI's project proposal logframe, to more closely reflect the CSHGP format and interests. Verification data, evaluating the effectiveness of project implementation according to the selected indicators, will be compiled using the tools listed in the column titled **Measurement and Data Management Methods**. PMSC and partner staff will conduct individual data measurement and management. Interim data will be used to assess project progress and make any necessary revisions during the life of the project. Final progress data will be used to provide lessons learned for this and other malaria prevention projects.

Analysis and reporting on HQ progress according to PVO/HQ Planning Matrix indicators will be the responsibility of the PSI MCH Department. Analysis and reporting on overall project progress, according to all matrix indicators, is ultimately the responsibility of the ITN PD.

CSHGP Project Planning Matrix for PMSC Cameroon

Goal: Reduced incidence of malaria-related mortality and morbidity among children under five and pregnant women in East, Center, and South provinces of Cameroon (the "Intervention Area")							
OD[1]	**TI[1]**	**PA[1]**	**SU[1]**	**Objectives**	**Indicators**	**Measurement and Data Management Methods**	**Activities**
		X	**X**	1. Increased informed demand for ITNs	1.1 % of adults who know that malaria is only transmitted by mosquitoes increased Baseline: 28% rural; 51% urban, Mid-term = 33% rural; 59% urban, EOP=50% rural; 66% urban 1.2 % of adults who identify ITNs as a method of malaria prevention increased. Baseline: 1%, Mid-term =12%, EOP=25% 1.3 % of adults who identify children under five and pregnant women as high-risk groups for malaria increased. Baseline: 46%, Mid-term =56%, EOP=66%	1. KAP	• Validate baseline KAP data • Conduct FGDs to probe consumer preferences and obstacles to use • Develop BCC strategy and marketing plan • Develop creative briefs for BCC • Produce and air radio spots and other productions • Develop print materials • Design and produce IEC materials for IPC • Monitor IPC activities (mystery client surveys) • Pre/Post-test communications materials • Conduct EOP KAP

					1.4 % of 0-5s and pregnant women reported to have slept under a net the previous night increased. Baseline: 4%, Mid-term=20%, EOP=33% (rural) and baseline: 10%, Mid-term=21%, EOP=33% (urban). 1.5 Difference in reported use between 1st and 4th socioeconomic quartiles decreases by 25%. Baseline: 25%, Midterm=22%, EOP=19%		

	X	**X**		2. Improved equitable access to ITNs	2.1 % of targeted outlets selling ITNs increased. Baseline: 0%, Mid-term =25%, EOP=50% 2.2 % of adults who know at least one source of ITNs increased. Baseline: 1%, Mid-term =12%, EOP=25% 2.3 # of outlets offering ITN subsidies to pregnant women and mothers of children under five increased. Baseline: 0, Mid-term =25, EOP=50 2.4 % of outlets offering ITNs at prices within the willingness to pay range of target populations increased. Baseline: 1%, Mid-term =12%, EOP=25%	2. KAP, retail audits, health center audits, distribution surveys	• Conduct retail audits • Procure nets and net treatment • Establish pricing structure and subsidy scheme • Launch branded cost-recovery net and net treatment in commercial outlets • Blitz wholesalers and retail outlets • Introduce targeted subsidies for maternal ITNs in selected sites • Recruit implementation partners for delivery of targeted subsidies • Launch branded high-end net through selected partners

X		**X**	**X**	3. Increased capacity to sustain demand creation and delivery of ITNs in Cameroon	3.1 % of PRISSM indicators in which ACMS is in growth or mature stage increased. Baseline: 30%, EOP=75% 3.2 % of partner clinics integrating project messages and materials in normal health service delivery increased. Baseline: 0%, EOP=85% 3.3 Project BCC materials used by at least two NGOs not funded by the project. Baseline: 0, Mid-term =1, EOP=2 3.4 At least one additional donor identified to fund targeted subsidy schemes. Baseline: 0, EOP=1 3.5 At least one major international net manufacturer begins unsubsidized distribution in Cameroon. Baseline: 0, EOP=1	3.PRISSM, project reports	• Conduct annual PRISSM for ACMS • Conduct sustainability workshop for ACMS • Impart technical assistance from PSI to PMSC • Conduct training needs assessment with FEMEC, SCS, PNLP • Develop and produce training materials for IPC • Train FEMEC, SCS, PNLP staff and relevant private sector retailers • Conduct advocacy workshop with public and commercial partners • Collaborate with international net manufacturer to identify distributor for unsubsidized nets

Note: [1]OD = Organizational Development, TI = Technical Intervention, PA = Partnerships, SU = Sustainability

CSHGP Project Planning Matrix for PSI (PVO/HQ)

Goal: Reduced incidence of malaria-related mortality and morbidity among children under five and pregnant women in East, Center, and South provinces of Cameroon (the "Intervention Area")							
OD	**TI**	**PA**	**SU**	**Objectives**	**Indicators**	**Measurement and Data Management Methods**	**Activities**
X			**X**	4. Increased capacity of PSI in delivering health impact through MCH interventions	4.1 Number of project materials through Intranet, Profiles, and CD-ROM. Baseline: 0, Mid-term =2, EOP=5 4.2 Number of PSI MCH department capacity-building/planning workshops conducted. Baseline: 0, Mid-term =1, EOP=3 4.3 Number of MCH fundraising materials disseminated. Baseline: 0, Mid-term =12,000, EOP=25,000	4. Project reports, PSI sales reports and contracts database	• Document best practices • Produce PSI Profile on targeting ITN subsidies • Produce "Product" CD for ITNs • Conduct yearly SWOT of MCH department • Conduct annual capacity-building/planning workshops for MCH • Produce yearly marketing plan for MCH • Design CS Intranet page • Fill Intranet (and web site where appropriate) with lessons learned documents

Knowledge, Attitudes, and Practices (KAP) Survey

The KAP survey will be the principal method for evaluating the project's impact. A KAP survey of the intervention area was recently completed in March 2001. During the DIP preparation process, data from the KAP was analyzed to assess whether it could serve as a suitable baseline for the project (see KAP questionnaire and methods summary in **Annex 3**). It was concluded that there is unlikely to have been a significant change in knowledge and use of mosquito nets and ITN in the survey area. However, this KAP was not designed to address USAID's CSHGP Rapid CATCH Indicators, and it was decided, with approval from Tom Hall at USAID, that questions addressing these indicators would be incorporated into the planned 2003 DHS KAP The

Data Usage

The KAP surveys will be the principle method used to monitor the ITN social marketing project's impact. A comparison of EOP and Baseline variables will enable the project management team to establish successes, evaluate failures and analyze lessons learned for the benefit of other ITN projects.

Focus Group Discussions - Consumer Preferences and Pre/Post-Testing

Focus Group Discussions (FGDs) are utilized when the organization seeks richer information than can be obtained from a quantitative questionnaire or when responses to, or recommendations for, a concept or creative execution are sought.

A series of 8-20 FGDs will be conducted each year as needed, to inform programming regarding consumer decision-making processes and clarity and appeal of promotional and IEC messages. In addition to the six initial mosquito net preference FGDs completed in February 2003, another of PMSC's research subcontractors will conduct an additional 10 FGDs in 2003:

- for negative-testing of regional French-language ITN and net treatment brands and logos
- to ensure that packaging and use instructions are attractive and easily understandable
- to ensure that BCC themes and messages created based on the baseline KAP are relevant, appropriate, and understandable

In the third quarter of 2004 (Year 2), FGDs will provide PMSC with the opportunity to obtain more profound information regarding the intervention population's perceptions of ITN and net treatment affordability and accessibility. In 2005, FGDs will again center on message relevancy and comprehensibility. Each FGD series will normally occur over the course of two to four days.

Data Collection and Analysis

PMSC and the local research agency selected, will decide upon the number and composition of the groups, objectives, and discussion guide. Moderators will be interviewed and trained as needed. The local research subcontractor will develop the discussion guide and other tools, with input from the PMSC Research Coordinator and PSI. The subcontractor will then validate tools, according to standard FGD protocol. The research subcontractor will be responsible for transcribing and interpreting the results and PSI and the PMSC Research Coordinator will receive all documentation, review it, and respond with improvements as necessary.

As PMSC grows in experience and human resource capacity, methods of expanding in-house research capacity will be explored, thereby reducing the need to rely on outside agencies. Currently, lack of time and human resources necessitate reliance on external research assistance.

Data Usage

FGDs will be used to explore issues regarding perceived availability and accessibility of ITNs and retreatment and to pre- and post-test message themes and promotional objectives and materials.

Retail Audits and Distribution Surveys

PMSC's research team will visit a representative sample of outlets in the intervention area each year to determine the availability and pricing of ITNs in commercial sector outlets. The retail audit is crucial in measuring change in the availability of non-project ITNs (an indicator of increased sustainability of ITN delivery) and price changes (an indicator of financial access).

As a follow-up to the baseline distribution survey conducted in the first quarter of 2003, a distribution survey will be conducted in the third quarter of 2004. This will allow sufficient time for project ITNs and net treatment to have permeated the market and therefore enable comparison of pre and post-intervention net and ITN availability. Regular distribution surveys, conducted annually or at least every other year, will permit routine analysis of levels and changes in availability and market prices of ITNs and net treatment. This will help identify key issues relating to distribution, including:

1. Whether supply or demand factors are more important constraints to net purchase.
2. Whether supply is expanding in response to project activities or if there has been a substitution effect and other net sources have been eliminated.

Data Collection and Analysis

PMSC has access to local research agencies with relevant experience in conducting distribution surveys. The Research Coordinator has the contacts to assure that qualified surveyors are employed to conduct surveys and the knowledge to train additional surveyors. Questionnaires and survey tools will be developed and revised by the PMSC Research Coordinator with technical support from PSI, with field-testing conducted by the local research subcontractor.

Responses will be transcribed in the field at the time of surveys and audits and then computerized at the research agency or PMSC office. Duration of data collection is estimated at one to two weeks. Analysis and report writing will take an additional one to two weeks of effort.

Data Usage

Data will allow project staff to assess localized variation in demand, potential supply and distribution problems, wholesaler and retailer margins, and the effect of project ITN activities on other ITN-related distribution channels or activities. Data will be used to inform marketing and programming decisions on stocking, distribution channels, and profit margins.

Good Use Survey

A Good Use Survey will be conducted in the third quarter of 2004 to ascertain the population's safe and proper use of ITNs and net treatment. This research will take place in selected rural health districts and will provide information on:

- the number of nets per household relative to the number of household members,
- price paid for nets,
- who uses net,
- retreatment rates of nets, and
- net washing frequency and practices.

Related program elements, such as pricing, distribution, and message dissemination, will be revised according to research results.

Data Collection and Analysis

PSI has experience conducting this research and will utilize lessons learned from past Good Use surveys to ensure the validity of the questionnaire and the accuracy of results interpretation. Questionnaires will be adapted from PSI's regional Good Use Survey questionnaire by the Research Coordinator and validated by the PMSC research team. Data will be collected over the course of one week by the research team. Analysis will take an additional one to two weeks.

Data Usage

Data will be used to inform programming decisions on net pricing and promotion, and communications strategies and messages.

Management Information Systems

A key aspect of efficient and effective social marketing project management is the development and utilization of a computerized management information system to track project and sales activities (sales, opening of new outlets, promotional activities, etc). Sales MIS reports specifically capture information on outlet type and location and provide important feedback on the density of sales through various channels and partners, seasonality of sales, and impact of communications, and provide clues that prompt check-ups on, for example, possible stock outages. In addition, sales, inventory and revenue balances can be monitored and reconciled on a monthly basis.

ITN project sales MIS will be established in 2003 in time for product launch. Financial, sales, and non-sales (e.g. BCC sessions, promotional activities and special events) records will be analyzed monthly for information on project sales progress and ITN and net treatment distribution strategies.

Data Collection and Analysis

PMSC's MIS Coordinator will develop the computerized MIS with input from the project management team and ITN PD. Monthly compilation and analysis of data will take approximately five days of project staff time. Data will be recorded by sales and behavior change communications agents, and will be compiled and analyzed by the ITN Sales Coordinator with assistance from the ITN Marketing Coordinator.

Data Usage

Data will be used by ITN project and other PMSC staff to monitor project outputs and activities, thereby indicating potential problem areas in a timely manner and helping to insure completion of all project deliverables. PSI will monitor project implementation through MIS reports

Mystery Client Surveys

Mystery Client Surveys are an effective method of assessing the quality of and compliance with PSI standards for product and service providers. They are a useful tool for gathering programmatic data on average or day-to-day performance and attitude among providers, who are not on their "best behavior" with mystery clients. These surveys can be used to pinpoint specific providers or more general areas of weakness that can then be addressed appropriately.

PMSC will evaluate the effectiveness of PNLP, FEMEC, ADRA, SCS, Plan, and secondary retail partner-facilitated IPC activities on a qualitative basis through "mystery client surveys." PMSC will select four to six pregnant women and mothers with under-five children (two to three individuals of each type) to visit service delivery sites posing as normal clients. These mystery clients will then complete a standardized evaluation of the quality of messages received, customer service, and overall impressions of the service provider and delivery site.

Data Collection and Analysis

Standardized evaluation forms will be adapted from PSI's Mystery Client Survey forms by the Research Coordinator with input from the ITN Marketing Coordinator. Evaluation forms will be field-tested and validated during the course of the initial Mystery Client Survey in Year 2. Mystery client surveys will be conducted in 2004 and 2005, at pre-selected times and clinic and retail locations, over the course of one-two months each. They will be overseen and data compiled and analyzed by the PMSC research team, which has previous experience in this method.

Data Usage

Data will be used to monitor information and service provision at field-level delivery sites. Results will allow PMSC and partners to adjust distribution strategies and/or focus capacity building efforts (e.g. refresher trainings) in weak areas as needed.

Annual Marketing Plan

The annual marketing plan is a useful tool for developing and guiding overall strategy. PSI affiliate's ITN and net treatment marketing plans are updated annually and reviewed by PSI marketing specialists and the Malaria Technical Advisor. Marketing plans are created during the annual Marketing Plan development period.

Data Collection and Analysis

Data is often prepared through a semi-formal workshop, when senior managers (sales, ITNs, research, trainers) are brought together to identify and examine the past year's accomplishments, review data, revise strategies, and develop new distribution targets and messages as necessary. Annual marketing plan review workshops are conducted each January under the guidance of the Country Director and the Marketing Director and take approximately one week.

Marketing Plan templates have been developed and regularly revised by PSI's Technical Services Department for use by all affiliates,' and selected partners,' projects. Completion of the marketing plan template takes an additional two to three weeks of staff time. The ITN Marketing Coordinator will write the annual ITN Project Marketing Plan, with support from the Marketing Director and ITN PD.

Data Usage

Data compiled in the annual Marketing Plan is used to inform program strategies, particularly for key marketing aspects (e.g. product choice, distribution channels, pricing approaches, and promotional mechanisms).

PRISSM

PSI developed the "Promoting Improvements in Sustainable Social Marketing" tool (PRISSM) in order to assess and track the evolution of a social marketing program over time. The PRISSM articulates the elements that are fundamental to a sustainable social marketing program. By assessing these elements and identifying areas for improvement, the PRISSM enables managers to focus their efforts and discretionary resources more effectively. Improving the operation, management, and efficiency of the social marketing program leads to greater public health impact and sustained operations.

The PRISSM assesses social marketing operations according to three stages of development: launch, growth, and maturation. Seven management areas of a social marketing operation are assessed: results; marketing; operations and administration; human resource management; corporate affairs; external relations; and financial and resource management, accounting, and controls. It is normally conducted annually by a PSI representative, the Country Director, senior managers and, if possible, a peer Country Director from the region. The PRISSM team typically involves board members and other staff as required. Donors, government counterparts, major sub-contractors, and other stakeholders are frequently represented on the team.

Beginning in 2003, the PRISSM will be conducted annually for ACMS. A PSI Program Manager will lead the exercise and, with the rest of the PRISSM team, evaluate ACMS in all key areas.

Data Collection and Analysis

PRISSM tools and exercises have been developed and revised by PSI Technical Services. One week is the estimated amount of time necessary to conduct a complete and detailed PRISSM evaluation.

Data Usage

PRISSM data will be used to identify ACMS capacity building and organizational development needs, such as PMSC staff development or additional equipment and infrastructure, which address sustainability and impact.

Pre/Post-Testing at Trainings

Pre and post-testing will be conducted at all training sessions. These will take the form of pre-coded quizzes and assessments that can quickly indicate understanding of both general and more specific concepts. These rapidly applied tests can also point out areas of individual and group weakness.

Data Collection and Analysis

The ITN Marketing Coordinator will develop and field-test pre and post-testing quizzes and assessment exercises with input from the Research Coordinator. Tests will be conducted during trainings and analyzed immediately by the ITN Marketing Coordinator and Research Coordinator. Data collection will take approximately half an hour for each assessment. Data compilation, analysis, and write-up will take approximately one-half day of staff time per training.

Data Usage

Pre/Post-testing data will be used to ascertain the quality of PMSC trainings and local partners' understanding of methods and strategies that are being employed in the project.

SWOT Analysis of PSI's MCH Department

As recommended in the CSHGP TRM, PSI will conduct a systematic strategic planning exercise, to define priorities and build consensus for the MCH department. The strategic plan will be a five-year document, to be revisited and updated annually. An integral part of this annual process will be an externally assisted SWOT analysis.

Data Collection and Analysis

An external consultant will be invited annually to facilitate an analysis of the MCH department's strengths, weaknesses, opportunities, and threats. The consultant will adapt/develop and validate all assessment tools and exercises used. The initial SWOT will take approximately 15 days. Annual revisions will take one to two weeks of staff time and will be the responsibility of the MCH Department.

Data Usage

This SWOT analysis will contribute to the development of an annual strategic and marketing plan for the newly formed MCH Department and serve to document organizational change on a qualitative basis. It will help MCH Department managers to adapt the departmental implementation plan to changing external circumstances, helping to focus funding mobilization and project implementation efforts, thereby increasing MCH and CS impact.

Mid-term and Final Project Evaluations

The mid-term and end-of-project evaluations will measure both performance and progress/achievement of results.

The mid-term evaluation will focus on the process of project implementation, using MIS and other data sources to:

- Assess progress in DIP implementation
- Assess progress towards achievement of planning matrix indicators and annual targets
- Assess if current interventions are sufficient to reach desired outputs
- Identify barriers to the achievement of objectives
- Provide recommended actions to guide staff through the rest of the project

The EOP evaluation will focus primarily on:

- Assessing if the project met the four stated objectives
- The effectiveness of technical aspects of the approach (BCC strategies, pricing, market segmentation, etc.)
- Development of overall lessons learned from the project
- Preparation of lessons learned for dissemination within PMSC and externally to partners and stakeholders

Data Collection and Analysis

Data will be compiled from:

- PMSC and partner's sales and activities reports;
- Internal PSI status reports, such as SWOT and PRISSM results;
- Partners' sales reports, updates, and monitoring results
- Interviews with key health personnel, community opinion leaders, and beneficiaries.

An external consultant and the in-county project management team will collect all information. The consultant will adapt/develop and field-test all additional tools and exercises used. Data will then be evaluated in comparison with the Project Planning Matrix and Work Plan intermediate results, objectives, indicators and targets. The evaluation process is expected to take two weeks, with an additional week needed for report writing.

Data Usage

Data will be used to inform USAID, PSI, potential donors and partners of the project performance and status with regards to the achievement of expected results. Evaluation reports will be provided to USAID and PSI and shared with key partners and stakeholders, providing concrete and credible evidence of results and achievements.

General Data Collection and Analysis

All proposed monitoring and evaluation will be conducted with approval by the Ministry of Health (MOH), technical support from PSI, and in collaboration with partners and community members. PMSC strives to make all M&E as participatory as possible, incorporating input and analysis from partners and beneficiaries.

As discussed in the previous section under specific monitoring tools, data collection tools will be adapted from validated tools where possible and otherwise developed in coordination with technical experts. All tools will be field-tested and revised before use. Data will be collected and analyzed by trained PMSC staff or skilled subcontractors. When research subcontractors are used, the PMSC Research Coordinator will oversee their work.

General Data Usage

The purpose of the monitoring and evaluation research described above is to aide PMSC and PSI in understanding which of the project components are most effective in reaching goals and objectives, as outlined in **Section E.3: Program Description by Objectives, Intervention and Activities**, and to quantify the program's effectiveness and sustainability as a whole.

Information obtained through this research will be disseminated to partners, particularly relevant government agencies and WHO (as it pertains to Roll Back Malaria), PSI, and stakeholders through documents, open forum discussions, and joint steering committee meetings.

Relevant project monitoring and evaluation data will be shared in country, regionally (and internationally as appropriate) to advocate for necessary support and awareness of the health and socio-economic needs of the most vulnerable rural women and children. Monitoring data is expected to provide additional lessons on the use of health center-based subsidy targeting and IPC to reach those populations that are poorest, least accessible, and most at risk of malaria.

Rural communities, particularly pregnant women and parents of under-fives, will benefit from project data both directly and indirectly. Direct benefits include the adoption of lessons learned from monitoring exercises into the project, thereby increasing immediate health impact among beneficiaries. Indirect benefits include increased awareness by key stakeholders, such as central government, international donors, and implementing agencies, of service gaps and additional needs that cannot be covered within the scope of the current project (e.g. improved malaria treatment services, assessment of intermittent presumptive treatment with sulfadoxine-pyrimethamine for pregnant women, and/or adoption of IMCI strategies). Community-based partners can work with communities in the development of additional relevant projects and proposals.

Performance Improvement and Monitoring of Health Workers

Effective strengthening of health worker performance will become increasingly important as the project matures. In Year 2, when PMSC expects to begin health-center based ITN distribution and IPC, selected health staff will participate in a baseline skills and attitude assessment. This will be repeated annually by PMSC staff with the support and assistance of relevant managers within each organization. Pre/Post-tests will be conducted at each training, and PMSC staff will provide additional refresher trainings for, and monitoring of, staff whose scores indicate that they would benefit from additional support. As the main responsibility for overall quality of health staff remains with partners, PMSC will support its partners, through sharing of monitoring and evaluation results and participation, as appropriate, in relevant staff improvement schemes and activities.

The partners' evaluation tool or "mini PRISSM" (discussed in more detail in this section under **M&E Skills Assessment and Strengthening**), which PMSC and partners are developing, will include components designed to address performance needs among participating health workers. The postponement of health center-based implementation will allow additional time to refine and pre-test the mini PRISSM.

Service Quality Assessment and Promotion

Service quality assessment and promotion is an integral part of any social marketing project. Routine monitoring and assessments of health workers' knowledge, practices and supplies will begin in Year 2, once health facility-based ITN sales and IPC are formally implemented. The strategy for participating health workers includes baseline assessment of health worker's knowledge of and attitude towards maternal and child malaria prevention through ITNs, and performance monitoring through training pre/post-testing, sales reports, mystery client surveys, and mini PRISSMs. During Year 1, a similar assessment strategy (excluding the mini PRISSM) will be used to support private sector and CBD partners.

Service Quality Promotion Tools

A number of the tools, which PMSC and partners will use for monitoring and evaluation, are designed to promote service quality. Service locations include all retail outlets and a selected number of partner health facilities. Specific service-quality promotion tools that have been planned include retail audits, mystery client studies, and supervisory and financial checklists for participating service locations. Training curricula and a manual are being developed for behavior-change communicators (including PMSC and partner staff). Individual tools, within the monitoring and evaluation framework, are discussed in more depth in **Section E.1:**

Monitoring Tools.

M&E Skills Assessment and Strengthening

Local staff monitoring and evaluation capacity will increase through the transfer of skills from PSI to ACMS through the activities of PMSC. For a more detailed look at ways in which PSI will work to build the capacity of its local partners, see **Section E.3: Description of Partners and Clarification of Respective Roles**. Monitoring and evaluation skills will be strengthened within the ACMS/PMSC office through active participation of key staff in the usage of specific tools. This includes utilization of PSI templates in development of the annual Marketing Plan, involvement in the annual PRISSM, and the set-up and utilization of effective MIS.

PSI will help partners to create an evaluation tool that will assess progress on areas where capacity is being built. This evaluation tool will be modeled after the PRISSM, and will initially be developed for the use of PNLP, FEMEC, Plan Cameroon, ADRA and SCS, but can be expanded to include additional implementation partners. This will primarily be a self-assessment tool, as the main goals are to foster ownership of capacity building strategies, increase mutual understanding, and strengthen partner relationships. As noted in the CSHGP TRM, self-assessment techniques can be the most useful method of accomplishing these goals and therefore increasing capacity. Below is a sample of potential performance indicators to be evaluated for and by each partner.

PNLP:

Characteristic	Baseline	Mid-term	Final	Comments
Distribution reporting system is operational and provides accurate and appropriate information	XX	XX	XX	XX
Appropriate BCC materials and messages are being disseminated at the peripheral level	XX	XX	XX	XX

Characteristic	Baseline	Mid-term	Final	Comments

FEMEC/SCS:

Characteristic	Baseline	Mid-term	Final	Comments
Participating confessional health center staff can appropriately council high-risk clients on malaria risks and benefits of ITNs and net treatment	XX	XX	XX	XX
Women's' groups have been mobilized and trained for CBD activities	XX	XX	XX	XX
Correct records are being maintained for CBD sales and BCC activities	XX	XX	XX	XX

Plan/ADRA:

Characteristic	Baseline	Mid-term	Final	Comments
Participating women's group members can appropriately council high-risk women on malaria risks and benefits of ITNs and net treatment	XX	XX	XX	XX
Correct records are being maintained for CBD sales	XX	XX	XX	XX

Characteristic	Baseline	Mid-term	Final	Comments
Revolving funds are established, monitored, and being used for product re-supply by the end of Year 2	XX	XX	XX	XX

Data Collection and Analysis

Partner evaluations will be conducted during two, or possibly three, half-day workshops. The first will be conducted upon commencement of project activities. The second, if appropriate, will take place prior to the mid-term evaluation. The last partners' evaluation workshop will be conducted for inclusion in the final project evaluation. Evaluation workshops will be conducted, and data gathered and analyzed, by partner organization focal persons with the assistance of the PMSC Research Coordinator and ITN Marketing Coordinator.

Data Usage

The Partner's mini PRISSM evaluation tool will be created and disseminated primarily to assess and strengthen monitoring and evaluation skills of local partners. It will also serve as a means of strengthening communication and understanding between partners, and increasing ownership among partners of capacity building strategies.

Operations Research

Due to the length of the project (3 years) and the fact that interventions are based on PSI methods that have been tested around the world and adapted to the local context, the project will focus on implementation and M&E rather than on operations research.

E.2. BASELINE ASSESSMENTS SUMMARY

Minimal malaria-specific programming and operations research has been conducted in Cameroon. The government and a number of PVOs and international agencies (e.g. UNICEF, WHO) have made efforts to gather useful data. However, relatively little funding has been available for research and quality data is limited.

The following baseline assessment information is taken from PSI's 2001 KAP, PNLP's 2002 ITM research, and PSI focus group discussions held in 2003. DIP contents will be updated to reflect results of the interim DHS KAP upon interpretation of results. The upcoming study will incorporate questions from the CSHGP Rapid CATCH indicators to provide a broader and more accurate context in which to place PMSC malaria prevention efforts in Cameroon.

Quantitative Baseline Research - Methodology and Findings

2001 PMSC KAP

Attached in **Annex 2** is the full description of methods employed and translated questionnaire.

Methodology

PSI subcontracted private research agency IRESCO (l'Institute de Recherche et des Etudes et de Comportements) to conduct the KAP survey in February-March 2001 in the three provinces making up the project intervention area. Population denominators were taken from the 1998 DHS.

Sampling:

The total sample size of 2,016 individuals (1041 urban and 1065 rural) was divided approximately evenly among six urban and rural sites in the three provinces:

Center:	Yaoundé urban	356
	Bafia rural	360
South:	Ebolowa urban	332
	Sangmelima rural	372
East:	Bertoua urban	353
	Abong Mbang rural	333
TOTAL:		2,016

Sample size was calculated as follows:

$$n = \frac{[v\,Pq\,(2)Z_1 - a + vP_1q_1 + P_2q_2Z_1 - ß]}{}$$

$$(P_2 - P_1)^2$$

where:

n = sample size for a total population of more than 10,000
P = $P_1 + P_2/2$
q = 1 - P
a = 0.05 ($Z_1 – a = 1.65$)
ß = 0.20 ($Z_1 – ß = 0.84$)
P_1 = Proportion of the population with a given characteristic (knowledge of mosquito nets), estimated at least 50%
Z_1 = z-score or critical value (1.96 for a 95% confidence interval)
P_2 = Ending level of primary indicator (assuming a minimum increase of 15%)
q_2 = $1 – P_2$
n = 384 per site, assuming a degree of precision of 0.05
n = 2000 + 10*2000/100 = 2,200 total sample to allow for 10% non-respondents

The pre-coded questionnaire was developed by PMSC with technical assistance from PSI, based on the standardized KAP survey questionnaire developed by PSI for sub-Saharan Africa programs. It was translated from English into French and three local languages (Beti, Rikpa, and Meka'a), and pre-tested by trained interviewers in four study sites with necessary corrections made each time.

The data collection team comprised 31 qualified male (21) and female (10) interviewers, six team leaders and seven supervisors. Interviewers were selected based on relevant skills and previous experience, given a comprehensive half-day training in relevant survey methodology, and provided with an Interviewer's Guide for reference. In each site, a team of eight interviewers was selected (divided as evenly as possible between male and female data collectors). Team leaders, who reported to and received instructions and guidance from field supervisors, closely monitored daily data collection.

Households were selected randomly using a validated coin toss technique. Interviewers began at the intersection closest to the zonal center, flipped a coin to determine direction and took the first household thus selected for interview. Upon arrival at a household, the interviewer asked to speak with the head of the household or first available partner if absent. If no appropriate respondents were available or once an interview had been completed, the interviewer selected the next household using the same directional coin toss.

Results

Demographics

A total of 2,016 households were interviewed, giving a non-response rate of 8%. Literacy rates were higher for urban (91%) than rural (78%) respondents. Urban respondents were slightly younger. The majority (66%) of urban respondents were between 15-39 years old, while most (65%) rural respondents were over 40 years old. The most common profession (38%) for urban

respondents was domestic service, while the most common rural profession (59%) was agriculture.

Housing differed significantly. 72% (88% urban; 56% rural) have electricity. 16% (30% urban; 3% rural) had running water and only 6% (13% urban; 0.3% rural) had flushing toilets. Housing materials were generally brick (26% urban; 25% rural) or earth (22% urban; 65% rural) walls, and cement (88% urban; 27% rural) or earth (12% urban; 73% rural) flooring. 50% of households had at least one radio. Roughly half (48%) of respondents mentioned at least one child under age five living in the household, and 11% mentioned at least one pregnant woman.

The majority (45% urban and 28% rural; 44% men and 30% women) reported getting their health information from radio. After radio, the second most important information source in urban areas was television (25% urban; 5% rural).

Malaria Knowledge and Practices

Malaria and risk awareness was high, but understanding of transmission and prevention remained low. Almost all respondents knew about malaria (98% urban; 94% rural), and most (91%; 79%) could list common symptoms, but almost one quarter (16%; 21%) thought nothing could be done to prevent malaria. The most frequently cited symptoms were headaches (58%; 53%), chills (46%; 64%), and fever (54%; 40%). Less than half of all respondents (51% urban; 28% rural) identified mosquito bites as the only mode of transmission. Other modes mentioned were drinking dirty water and eating certain fruits (particularly mangoes). When asked how to avoid malaria, the preferred methods were prophylaxis (36%) and keeping the house clean (19%). Only one in ten considered it important to avoid mosquito bites.

Insufficient understanding of those most at risk was evident. Approximately one third (37%) considered children under five at greatest risk, but only 9% mentioned risk to pregnant women. Only 5% of pregnant women were reported to have spent the previous night under a net. Among parents with children under age five, only 10.3% of urban and 2.8% of rural respondents reported that the children had slept under a net the night before. Children under age two (16%; 4%) were the most likely among children under five to have slept under nets the previous night.

While there was substantial appreciation for the risk posed by malaria, little preventive action was taken by respondents. Almost seven out of ten rural respondents reported at least one episode of malaria in the preceding year; of these, 39% were reported to be children under the age of five. The majority of respondents considered malaria to be very widespread in their community (79% urban; 76% rural) and their personal risk of malaria to be very high (78%; 80%). However, those who took preventive action (taking prophylaxis, cleaning the house) showed minimal understanding of effective prevention and 14% (15%; 13%) of respondents reported doing nothing for protection.

The most common response to malaria risk perception was treatment seeking (96%; 95%) for suspected episodes. Most accessed either public facilities (36%; 21%), drug sellers (20%; 31%), or private (17%; 14%) clinics. However, most under-fives (46%; 31%) were taken to hospital or larger health centers for treatment. Adult treatment generally consisted of chloroquine (26%;

27%) or quinine (41%; 23%). Treatment for under-fives was similar, consisting of chloroquine (26%; 35%), quinine (26%; 20%), unidentified syrups (16%; 3%), or traditional treatments (6%; 12%). Almost one-fifth (20%; 17%) of respondents in the poorest socio-economic quartile reported that they had to spend over FCFA 5000 (USD 8.30) to treat their last episode. Many urban and over half of rural respondents (38% urban; 56% rural) reported missing at least one day of work due to malaria

Though knowledge of mosquito nets (96% urban; 91% rural) and where to purchase them (79%; 67%) was quite high, few respondents (14%; 7%) reported owning at least one net and even fewer reported using them. Approximately 68% of net owners (65%; 70%) reported sleeping under a mosquito net the night before. These statistics again point to rural communities as the most vulnerable and emphasize the need for ITN social marketing in those areas.

Lack of perceived financial access was an evident barrier to net use. 67% of net owners reported purchasing them in the market within the past five years. Nets were both more accessible (49%; 5% could access a retail outlet within 30 minutes) and slightly cheaper (43% urban versus 44% rural paid more than 5000 FCFA) for urban respondents. Nearly half of rural respondents reported that they would be willing to pay no more than half the price, or FCFA 2,000, of the lowest priced commercially available net. Both urban and rural respondents most frequently cited lack of money as a reason for not protecting themselves against mosquito bites, though 41% urban and 56% rural reported spending up to FCFA 5,000 (USD 8.30) per malarial episode in the previous 12 months.

Less than one third of respondents (26%; 11%) had heard of insecticide treated nets, and only 2% of urban and less than 1% of rural respondents actually owned ITNs. Stated preferences were for rectangular (70%; 63%) white (72%; 53%) nets.

2003 PNLP Study on the use of Insecticide Treated Materials in Six Health Districts of Cameroon, First and Second Progress Reports

Attached in Annex 2 are a summary of methods used and translated questionnaire.

Objectives

The overall goal of this recent PNLP research was to study the problems linked to the usage of insecticide-treated materials (ITMs) in three East health districts and three South health districts in Cameroon.

Specific objectives were to:

1. Measure household knowledge of malaria transmission and prevention
2. Determine population attitudes and practices towards nuisance Culicidae mosquitoes
3. Determine acceptance rates and use of ITMs in the community
4. Identify potential in the community for promotion of the use of ITMs

The First Report covers research conducted in three health districts in two provinces:

1. Nylon and Bonassama districts in Littoral province
2. Ebolowa district in South province

The Second Report covers another three districts in two provinces:

- Lolodorf health district in South province
- Bertoua and Abang-Mbang health districts in East province

Methodology

Four levels of sampling were utilized:

1. Two districts were selected randomly in each of the provinces, one with a treatment facility and the other without
2. 'Health areas' within each district were chosen based on accessibility and geographic representation
3. Two communities were chosen in each 'health area,' the first being within 5km of a health center and the second being more than 5km from the nearest health center
4. Households were chosen at random to cover all neighborhoods

In each household the household head, or another member deemed capable of answering, was questioned using a structured five-part interview process:

1. Socio-economic status of the household
2. Knowledge of malaria prevention and treatment
3. Attitudes and practices towards nuisance mosquitoes
4. Usage and acceptability of ITNs
5. Potential of the district to promote ITN usage

230 households were selected for questioning in each district. No sample-size calculations were provided. Result (e.g. proportions, percentages) and Process (e.g. existence of nets and outlets, existence of impregnation centers) Indicators were measured. Variables were analyzed using Epi-Info 6.0 chi-squared tests.

Of the six health districts studied, four (Ebolowa, Lolodorf, Bertoua and Abang-Mbang) are part of the PMSC ITN intervention area. Ebolowa has 167,738 inhabitants in 25 'health areas,' and a net impregnation center that has been operational since 1999. One provincial hospital, four medical centers (CMA), sixteen integrated health centers (CSI), 19 standard health centers, a private religious hospital, and ten private religious health centers serve the population's health needs. Lolodorf health district has 45,300 inhabitants in nine 'health areas.' Bertoua health district has 134,251 inhabitants in fourteen 'health areas.' A net impregnation center has been operational in Bertoua health district since 1999. Abang-Mbang health district has 101,185 inhabitants in 14 'health areas.'

The two non-intervention area health districts, located in Littoral province, are roughly similar. Nylon health district has 308,701 inhabitants (BISI 2002) in ten 'health areas,' and a net impregnation center that has been operational since 1995, and ASSA (Association Solidarité Santé) promotes ITNs in the area. One district hospital, a medical center (CMA) and four

integrated health centers (CSI) service the district. Bonassama district, located near urban Douala, has 178,474 inhabitants in ten 'health areas.' A district hospital, medical center, three integrated health centers and two private religious dispensaries service the population.

The six districts are in hyperendemic malaria transmission zones where nuisance biting (e.g. from non-vector Culex mosquitoes) is also a significant problem.

Results

A total of 1699 households (approximately 13,376 individuals) in six districts were included. 850 households, in three health districts, were covered in the First Report. 849 households, in the three remaining health districts, were covered in the Second Report. Average household size was 7.8 members.

Most (89%) of respondents knew that mosquitoes transmit malaria, though only 8.2% could identify anophelines as the culprit. Roughly one quarter of respondents (18.4%) considered mosquito nets to be effective against malaria. However, the majority (34.7%) considered water drainage (e.g. environmental management) to be the best preventive and an additional 28.2% considered medicine to be the best.

Clearly nuisance biting was a significant problem for respondents. More than 95% of respondents said they protected themselves in some way from mosquitoes. The most commonly used mosquito protection methods were mosquito coils (34.5%), bombs (25.3%), and fans (20.6%).

Almost all respondents (92%) accepted the idea of sleeping under mosquito nets, though only 33% actually used them. Usage in the four health districts included in the PMSC intervention area, at 12.5%, was considerably lower. Cost (60%) and heat (11%) were the most common reasons cited for lack of net ownership.

Slightly less than half (40.8%) of respondents had heard of ITNs, most commonly through radio (29%) and television (17%). Only 5.2% of respondents had an ITN in the household. Most common reasons cited for lack of ITN ownership were lack of information (43.5%) and cost (37%).

Potential for communities to support ITN programming was considered by the PNLP researcher to be highest in those districts with existing net treatment centers, a solid base of community health workers, and NGOs. It was noted that higher usage rates in Nylon were primarily due to greater ITN promotion activities.

Qualitative Baseline Research - Methodology and Findings

2003 PMSC Focus Group Study

Attached in **Annex 2** is a summary of methods employed and translated discussion guide.

In February 2003, PMSC subcontracted research agency GRADE to conduct seven FGDs, in order to determine household sleeping patterns and net preferences in the intervention area. GRADE conducted three FGDs with married men and three with married mothers of under-fives (including pregnant women), from one urban and three rural sites in the intervention area.

Objectives

To gauge participant's net preferences, needs regarding ITNs, and current household sleeping arrangements. More specifically:

- Net color preferences and reasons
- Net size or sizes preferred and reasons
- Net shape or shapes preferred and reasons
- Actual and desired prices for nets and ITNs
- Household sleeping patterns (e.g. traditional or modern bedding materials, which family members and what number of them share a bed or mat, who shares the same room)
- Preferred brand names for nets and insecticides and reasons why

Methodology

Site and Group Selection

Sites were selected at random from a list of localities. Seven peer recruiters located and screened suitable participants. Groups were made up of urban inhabitants from Yaoundé, and rural inhabitants from one village in the South province and two villages in the East province.

Sites and groups are shown in the table below:

Type	Province	City/Village	Sex	Participants	Comments
Urban	Center	Yaoundé	Men	8	
			Women	8	Including 2 pregnant women
Rural	South	Mezesse	Men	9	
			Women	8	Including 2 pregnant women
	East	Madouma	Men	10	
		Akok-Maka	Women	9	Including 2 pregnant women

Qualitative methodology utilized direct observation (non-verbal responses) and indirect observation (discussion guide responses) to bring together and analyze unifying themes. Direct observation shed light on participants' attitudes, social and emotional responses to ITNs, and brand support. Allowances were made for differences in locality and gender. Double heuristic orientation, through themed discussion and role-plays, was designed to reveal both "said" and "unsaid" expectations and attitudes.

Data Collection

Materials used in each FGD:

- One of six conversation guides, translated into French
- One of six conversation guides, translated into Ewondo
- Cassette recorder to record conversations
- Four mosquito net samples
- Nine sample promotion images for two net brands (images 1-4) and two net treatment brands (images 5-9)

Materials were designed to capture responses to thematic questions. Sample nets were used to prompt discussion. Promotion images were used for negative testing. Groups were conducted in rooms requisitioned for the study, set up in advance according to accepted FGD requirements. Two facilitation teams, one male and one female, conducted the groups. Each team consisted of a supervisor, a moderator, and a reporter.

Results

A total of six FGDs were used out of seven groups conducted. One of the women's FGDs, in Madauma, was rejected due to poor sound quality. Another FGD was conducted to replace it, made up of female participants from nearby Akok-Maka.

Each group comprised eight to ten participants and discussions took from 2.5 – 3.5 hours. All men and most of the women recognized mosquito nets (some women thought they were curtains). Use of ITNs was extremely rare, though men were more familiar with them. Participants from the South had the least familiarity with net usage, while those from the East were most familiar with using mosquito nets.

Most participants considered that their preferences would be similar to those of their neighbors. The preferred net size was the largest or "family-size." When choosing nets, participants considered fabric quality, conformity to the bed shape, aesthetic appearance or design, and how and by whom it would be used.

Reported sleeping practices suggested that more than one net will be needed to protect pregnant women and under-five children in each household. While children under two (those still nursing), and sometimes other children, shared their parents' room, children normally left their parents' room at weaning. Older children usually slept with grandparents in the kitchen or living room, and guests are given a separate room when available. In rural areas, pregnant women and

young children often shared the kitchen with the grandparents. Therefore, to cover both under-fives (often sleeping with grandparents) and potentially pregnant women (still sleeping with their husbands) at least two large nets would usually be needed.

Bedding varied among provinces, but was generally sufficient to hang a rectangular net. Those who slept on beds rarely moved them. Urban Center province parents slept with a mattress and covering, on iron or wooden beds or on the floor. Youngest children slept together with them or on small wooden beds on the floor. Rural South province participants also slept with mattress and covering, often on bamboo beds, while children slept without mattresses. Many rural parents in the East slept on conventional beds with mattresses, while children who might still wet the bed slept on fishnets, old bags or banana leaves. The pygmies living in the East province slept on leaves.

French brand names were preferred by all but Anglophone participants.

Comparison of Baseline Findings with the Current Country Context

The end of the twentieth century saw Cameroon change course and commit itself, with support from the international donor community, to correcting the years of economic and social digression. However, the negative impact of economic depression and mismanagement on human development will be long lasting. The population of Cameroon, particularly women and young children, has not made notable health and socio-economic progress, despite the goals set in the past two decades. Most health and nutrition indicators have worsened, due mainly to lack of public sector health expenditure (UNICEF, 2002).

Demographic and Socio-economic Context

Cameroon is situated at the migratory crossroads of the Sudanese, Fulani, and Bantu people. Over 230 ethnicities are represented in five main groups. Sudanese, Hamites, and Semites in the North are predominantly animist or Muslim. The Bantu and Pigmies, in the forested equatorial zones, are generally animist or Christian.

The urban population is concentrated in major cities, such as Douala (1.6 million) and Yaounde (1.4 million). Over half of Cameroon's population is rural and the majority relies on agriculture for economic support. Raw materials are exported and many manufactured goods imported. Post-independence prosperity was severely compromised by a financial crisis in the mid 1980s. The economic downturn narrowed employment prospects, leading to a large and active informal sector in the urban areas.

The highest population density is in the highlands of the West and Extreme North provinces. The population is essentially young, 45% is under fifteen, and 50% is within the economically active 15-49 year age range. Despite the number of potentially productive individuals the country remains poor, with 39% of the population living below the poverty line of $246 (148,000 FCFA) per year.

The percentage of poor households is calculated at 51% (ECAM, 1996), and Cameroon fell from an international country ranking of 124th in 1994 to 132nd in 1998 (UNDP Country Report, 1998). The Human Development Index for Cameroon reveals a 27% likelihood of death before age forty, 22% malnutrition in children under age three, and almost half (46%) of the population unable to access potable water or sanitation (World Report on Human Development, 1999). After devaluation of the Cameroonian franc (FCFA) in 1994, the government has emphasized privatization, health, education, infrastructure and defense.

Epidemiological Context

Regional geographic and climatic variations divide Cameroon into three main malarial zones:

- Sudano-Sahel in the northern region
- Savannah plains in the central region
- Equatorial forests in the southern region

Topographical variations within these three zones create area-specific epidemiological bio-zones, namely high plateau, savannah, forest and forest-fringe, coastal, urban, dam areas, and rice-paddy areas.

Vectors

Primary forest and forest-fringe vectors are *Anopheles gambiae s.s.* and *An. funestus*. Secondary vectors *An. nili* and *An. moucheti* are found along the larger rivers (e.g. Sanaga and Nyong). In the humid savannah zone, primary vectors *An. gambiae s.s.* and *An. funestus* are only active during the five to six-month long rainy season. The primary vector in the northern Sahel zone is *An. arabiensis*.

Transmission

Malaria incidence is unevenly distributed throughout the country. Transmission remains hyperendemic in forest zones, with approximately 100 infective bites per person per month. Parasite densities in children under ten years are approximately 50%, though this reduces somewhat as age-related immunity takes more effect. During the rainy season in the humid savannah region, transmission is intense and can reach 20 infective bites per person per month. Parasite prevalence is equal to that in the forest zone during this period. However, during the dry season transmission drops by about 50%. In the Sahel zone, transmission is interrupted by a 8-9 month dry season. During the rainy season, transmission can reach up to 12 infective bites per person per month and parasite prevalence varies between 10-20%. Malaria remains hypoendemic in urban areas.

Drug Resistance

The majority (90%) of infections are caused by potentially deadly *Plasmodium falciparum*. The remainder is caused by *P. vivax* with some mixed infections. *P. falciparum* resistance to chloroquine was first recorded in Limbé, Southwest province, in 1985. Current therapeutic failure rates vary between 2% in Ngaoundere (the capitol of Adamaoua province) and 66% in

Douala (the capitol of Littoral province). National antimalarial drug policy was changed in 2002, from chloroquine to amodiaquine as first-line treatment for uncomplicated falciparum malaria. Resistance to amodiaquine was first recorded in Mengang in 1998, and failures remain highest there at 13%. Little drug resistance data is available for other drugs such as SP.

Insecticide Sensitivity

The adoption by PNLP of ITNs as a prevention strategy has given rise to vector insecticide-sensitivity studies. Preliminary data from Maga health district in the Extreme North province indicates that anopheline populations remain sensitive to deltamethrin and moderately sensitive to DDT and permethrin. Deltamethrin (0.05%) testing in two sites gave a 50% knockdown rate of nineteen minutes and 100% mortality within one hour. Permethrin (0.1%) gave a 50% knockdown rate of twenty minutes and 96.4% mortality after one hour. DDT (4%) gave a 50% knockdown of forty-four minutes and 87% mortality after one hour.

Disease Burden

According to national statistics, malaria remains the leading cause of overall mortality, under-fives mortality, hospital and clinic visits, and household health expenditures in Cameroon. According data printed in the National Policy to Combat Malaria in Cameroon (PNSP), malaria represents:

- 40% of annual household health expenditures
- 45% of medical consultations
- 23-30% of hospitalizations
- 57% person-days spent in hospital
- 35% of hospital deaths
- 26% of sick leave from employment
- 50% of under-fives morbidity
- 40% of under-fives mortality

While these statistics already paint a bleak picture, it must be noted that they are considered to be an underestimation of the true situation, due to limited reporting and incomplete data. Due to the limited coverage of health centers in some areas, and lack of transportation coupled with poverty, many cases of malaria and subsequent deaths go unreported in more remote areas. Many people either do not seek treatment, self-medicate, or consult traditional healers.

There has been little reduction in malaria-related morbidity and mortality in over fifty years. Two million malaria cases are reported yearly, according to PNLP data, but national experts have calculated that each Cameroonian suffers at least one malaria episode annually (MOH Africa Malaria Day Report, April 25, 2002). The malaria incidence rate in children 0-5 was 46% in 1997, according to UNICEF data. WHO's global Roll Back Malaria initiative, with the goal of reducing the global malaria burden to levels that are no longer a public health threat, is expected to provide concrete benefits in the struggle against malaria in Cameroon.

Population Health Status and Existing Services

The Ministry of Public Health budget is about 3% of the national budget (UNICEF 2002). The social sector in general receives minimal public spending. The lack of public expenditure for the health system has led to a public health infrastructure with minimal qualified staff, limited equipment, limited accessibility, and geographic imbalances favoring southern urban areas.

The following table provides an overview of demographic and health characteristics for Cameroon.

Characteristics	Descriptions	Sources
Area (size)	475,442 square kilometers	Encarta Atlas, 2001
GDP/Capita	US$610	World Bank 2000
Population	15,891,531 Total 2,701,560 U5s (17%) 3,655,052 WRA (23%)	DHS, 1998 Ministry of Statistics, 2000 PSNP, 2002
Population Density	31.7 per square km	PSNP, 2002
Rural Population	65%	KAP 2001
Fertility Rate	5.2	DHS 1998
Growth Rate	2.7	Pop Reference Bureau, 2001
Maternal Mortality Rate	430/100,000 live births	UNICEF, 2002
Infant Mortality Rate	95/1000 live births	UNICEF, 2000
Under Five Mortality Rate	154/1000 live births	UNICEF, 2000
Life Expectancy	Female 59 years Male 57 years	PSNP, 2002
Major Causes of Mortality	Malaria, HIV/AIDS, Pneumonia, Meningitis, Tuberculosis	PSNP, 2002 DHS, 1998 MOH Health Map, June1998
Major Causes of Morbidity	Malaria, HIV/AIDS, ARI, Diarrhea, Anemia	PSNP, 2002 DHS, 1998 MOH Health Map, June1998
Immunization Coverage	50%	UNICEF, 2002
Under-fives Nutrition	22% moderate/severe malnutrition 6% moderate/severe emaciation 23% moderate/severe stunting 39% vitamin A deficiency	PSNP, 2002 UNICEF, 2002
Housing	Electricity: 88% urban; 56% rural Running Water: 30%; 2% Latrine/toilet: 94%; 84% Housing materials Brick/Other Walls 26%; 25% Earth Walls 22%; 65% Earth Floor 12%; 73% Cement/Other Floor 88%; 27%	KAP 2001, DHS 1998
Literacy Rate	75.4%	PSNP, 2002

	Female 69% (2000) Male 81.8% (2000)	
Languages	French (official) majority English (official) 24 major African languages	
Ethnic Diversity	230 + ethnic groups; largest are Fang, Bamileke, Fulani, and Pahouin (Beti)	
Religions	53% Christian 25% Indigenous/Traditional 22% Muslim	

Maternal and Child Health

According to UNICEF data, infant mortality has worsened from 65/1,000 live births in 1991 to 77/1,000 in 1998. With an under-fives mortality rate of 153/1000, Cameroon ranks 27th in the world for child mortality (UNICEF 2000). Principle causes are malaria and malaria related complications (50% of morbidity and 40% of mortality in under-fives), malnutrition and high levels of Vitamin A deficiency, the exponential growth of HIV/AIDS, and the resurgence of vaccinatable diseases such as measles.

According to the 1998 government DHS, the leading causes of under-five morbidity were malaria (50%), followed by acute respiratory tract infections and pneumonia (20%), and diarrheal disease (19%). The high maternal mortality rate (430/100,000) is considered by national experts to be primarily due to post-partum complications, HIV/AIDS, and malnutrition and malaria-related complications (such as anemia). The adult HIV infection rate, according to UNICEF, has now reached 12%

Immunization Coverage

Vaccine coverage has remained around 50% for the past decade, according to UNICEF data, and varies by disease. A reported 72% of under-fives received BCG vaccination, 46% received DTP, 42% received OPV, and 44% received measles vaccination. Only 49% of pregnant women received tetanus toxoid.

Nutritional Status

According to UNICEF, 13% of Cameroonian neonates show malnutrition at birth (1990-1997 data). Only 16% of infants are exclusively breastfed for the first three months of life, and only 29% are still receiving breast milk at 20-23 months of age. Approximately 22% of under-fives suffer moderate to severe malnutrition (5% in the severe range). An average of 6% experience moderate to severe emaciation, and an average of 29% experience stunted growth. Vitamin A deficiency averages 39% nationally for under-fives, exacerbated by poor dietary practices. Approximately 18% of households do not use iodated salt (1992-1998). (taken from La Situation des Enfants dans le Monde 2000).

Water and Sanitation

Almost half (46%) of the population (19% urban; 59% rural) does not have access to clean water, while some (1%; 16%) still do not have access to any form of sanitation.

Health Infrastructure and Services

Cameroon is divided into ten provinces, each with an urban administrative center (refer to maps in Annex 6). The Cameroon health system is pyramidal, with each of the ten provinces divided into approximately fourteen health districts (143 total) that include a designated health officer, at least one public hospital and dispensary, and an average of nine health areas within each district that have their own smaller health centers (the most prevalent health care facility in the country). Health administration units are, from largest to smallest, Provinces → Health Districts → Health Areas. Numerous private and religious hospitals and health centers complete the system. Four main types of facility provide health care services in Cameroon: public, private, charitable (often called "confessional" due to their religious affiliation), and traditional.

The provinces, corresponding numbers of health districts and areas, and leading causes of morbidity and mortality by province are:

Province	Number of Districts[1]	Number of Health Areas[1]	Population[3]	Main Cause of Morbidity[1,2]	Main Cause of Mortality[1,2]
Adamaoua	7	70	889,912	Malaria	Measles
Center	22	235	2,370,046	--	--
East	12	91	742,179	--	--
South	6	103	536,400	Malaria	Malaria
Littoral	18	135	2,179,990	Malaria	Diarrhea
Northwest	13	148	1,698,102	Malaria	Malaria
West	16	164	1,986,182	--	--
Southwest	14	100	1,574,991	--	--
North	13	69	1,487,357	Malaria	Malaria
Extreme North	22	183	2,426,372	Malaria	Malaria
Total:	**143**	**1298**	**15,891,531**	**Malaria**	**--**

Note: [1]Carte Sanitaire du Cameroon, Juin 1998. Data was compiled at the district level, which caused some discrepancies and missing data (e.g. population figures, disease cases). [2]Updated morbidity and mortality figures were not available in time for DIP submission but will be compiled when available. [3]DOH 1987 population census figures adjusted for birthrate.

Recent economic reform has yet to provide many tangible benefits for the poor in Cameroon. Poverty reduction continues to be a daunting challenge, due predominantly to poor public delivery of basic social services, including healthcare. Public health expenditure is approximately 1% of GDP, resulting in a public health care system comprised of poorly paid, poorly trained, and unmotivated staff, and rampant corruption. A hiring freeze has been in place at the Ministry of Health for the last ten years. The continuing lack of investment in public health services, combined with the devastating effect of HIV/AIDS, has reduced the quality of life in Cameroon to a staggeringly low level. Health care is increasingly provided by private and

church-affiliated clinics and hospitals, including the Presbyterian, Baptist, and Catholic Churches and relief services. Some experts have estimated that 70% of health care in Cameroon is provided through private faith-based facilities.

Estimates of Current ITN Coverage in the Intervention Area

According to results from the 2001 KAP and 2003 PNLP Progress Reports less than 2% of households in the intervention area own ITNs. Only 10% (14% urban; 7% rural) of KAP respondents own at least one mosquito net. Only 5% of pregnant women and 7% (10.3% urban; 2.8% rural) of under-fives in the intervention area spent the previous night under a net, according to KAP data. Only 1.3% (2%; 0.6%) of intervention area households reported owning an ITN. Only 1.4% (1.9%; 0.8%) reported knowing how to retreat an ITN.

Few international and local organizations have distributed nets in the three provinces. Only Plan Cameroon has a small ITN program, which is in the process of distributing an initial 28,000 SiamDutch nets that are pre-treated with KO-Tabs by Plan staff. 14,000 ITNs are being sold in Northwest province, 12,000 in East province and 2,000 in Center province. ITNs are being sold on a cost-recovery basis, at FCFA 5,000-6,000 (USD 7-9.00), by participating women's groups. Plan's expectations of participation in the CSHGP project are access to a source for replenishing net and insecticide stocks and improving capacity through anticipated trainings.

UNICEF has initiated a project to distribute 10,000 untreated nets to pregnant women and mothers of under-fives in neighboring Ademaoua province, as an incentive to complete vaccinations and specified preventive practices during pregnancy. PNLP intends to distribute 36,300 no-cost nets (23,550 in Center, 7,350 in East, and 5,400 in South province) to pregnant women through selected public and private health facilities. COTCO, a private oil company working on the Cameroon-Chad pipeline, plans to distribute 35,000 ITNs along the pipeline corridor (part of which runs through the project area).

.

Nets currently available in local markets are primarily in areas where nuisance biting is the greatest problem. A lack of detailed knowledge of malaria transmission among people in the intervention area means that, despite high levels of risk and net awareness, people do not generally consider malaria to be preventable. Nets are generally low denier (below 75), lacking sufficient strength to prevent tearing under conditions of normal use, and have a relatively tight mesh, increasing heat and making air circulation difficult. Heat was noted as a constraint to net usage in the recent PNLP ITM survey (refer to **Section E.1: Quantitative Baseline Research** for more). Despite the existence of several public sector insecticide treatment facilities, net treatment is still not common (less than 4% of the intervention area population). According to a draft report of PMSC's recently completed Distribution Survey, impregnation centers charge approximately FCFA 1000 (USD 1.70) for one treatment with K-Othrine insecticide, which is expensive for this relatively unknown technology.

Available Malaria and Disease Surveillance Data for the Intervention Area

Provincial and district-level disease and malaria surveillance data is minimal. Available data for the intervention area is too outdated to provide more than indications of need. Malaria remains the most frequent cause of morbidity and mortality among under-fives in the intervention area.

The table below details the intervention area by population, available health infrastructure, and corresponding partners with which PMSC will work. For information on specific partner activities, refer to **Section E.3: Description of Partners and Clarification of Respective Roles**.

Area	Characteristics[1]		Implementing Partners
Center Province	**General population:**	**2,370,046**	PVO/NGO: ACMS, Plan, FEMEC, SCS, ADRA MOH: PNLP
	Rural population:	1,110,861	
	Children under five:	402,907	
	Women of Reproductive Age:	545,111	
Health Info:	Districts:	22	
	Health Areas:	235	
	Hospitals:	20 Pub/20 Pr.	
	Health Centers:	242	
	Gen Practitioners:	144 Pub/0 Pr.	
	Pharmacies:	69	
East Province	**General population:**	**742,179**	PVO/NGO: ACMS, Plan, FEMEC, SCS, ADRA MOH: PNLP UN: UNICEF
	Rural population:	522,930	
	U5s:	126,170	
	WRA:	170,701	
Health Info:	Districts:	12	
	Health Areas:	91	
	Hospitals:	10 Pub/3 Pr.	
	Health Centers:	95	
	GPs:	38 Pub/1 Pr.	
	Pharmacies:	3	
South Province	**General population:**	**536,400**	PVO/NGO: ACMS, FEMEC, SCS, ADRA MOH: PNLP
	Rural population:	387,127	
	U5s:	91,188	
	WRA:	123,372	

Health Info:	Districts:	6
	Health Areas:	103
	Hospitals:	5 Pub/1 Pr.
	Health Centers:	159
	Doctors:	40 Pub/12 Pr.
	Pharmacies:	13

[1] PSNP, 2002, Carte Sanitaire du Cameroon, Juin 1998

Primary intervention area vectors, *Anopheles gambiae s.s.* and *An. funestus,* are active throughout the year in forested areas of the East, Center, and South provinces. *An. gambiae s.s.*, widespread in nearly all sub-Saharan African countries, is probably the world's most efficient vector. Larvae occur mainly in temporary habitats such as pools, puddles and hoof prints, but also in paddy fields. Adults bite humans both indoors and outdoors, and sometimes also feed on domestic animals. Adults generally rest indoors after feeding. *An. funestus* is also widespread throughout sub-Saharan Africa. However, larvae tend to occur in more permanent shaded bodies of water, especially those with vegetation (such as swamps, marshes, stream edges and ditches). Adults prefer humans, feed both indoors and outdoors, and generally rest indoors after feeding. Assessment of the CSHGP TRM decision tree on environmental management quickly reveals ITNs to be the most promising and sustainable control strategy. Larval management of *An. gambiae s.s.* would be difficult to maintain, due to the temporary nature of breeding sites, and house improvements or regular spraying would be prohibitively expensive for the vulnerable rural poor, as housing materials tend to allow significant airflow.

MOH Policies, Strategies and Services for Malaria Prevention

PNLP's five-year goal, as stated in the Strategic Plan for Cameroon 2002-2006 (PSNP) and in accordance with RBM guidelines, is to halve morbidity and mortality in under-fives and pregnant women in Cameroon. This will be accomplished through eight strategic objectives:

1. Strengthening malaria case management
2. Malaria prevention activities
3. Promotion of malaria control through IEC and advocacy
4. Epidemiological surveillance
5. Management and administrative processes
6. Development and implementation of operations research
7. Development of partnerships to combat malaria
8. Strengthening institutional capacity

Reduction in malaria-related morbidity and mortality, particularly among the most vulnerable pregnant women and under-five children, is planned by community-level (e.g. environmental management) and household-level (e.g. use of ITNs) activities. More effective case management in the home and health centers will reduce malaria mortality. This ties in with the three pillars of RBM: a) global partnership, b) high-level political support, and c) community-level activities. Perhaps surprisingly, considering the large case-management need in the country, PNLP plans to

dedicate 83% of its efforts to promotion and IEC (PSNP Strategic Objective 3). A budget of 39,587 billion FCFA was requested for malaria control activities, based on annual coverage of the target population (women and children under five), provincial populations, health districts and health projects.

Malaria is endemic throughout the country, and PNLP representatives consider that most inhabitants have at least one attack of malaria annually, though many receive no treatment for it. National health policy for malaria stresses training health personnel in efficient diagnostic and treatment techniques, maintaining the supply of antimalarials, and increasing malaria awareness nationwide. Malaria curative services can be found throughout the country at the health center level. MOH policy supports malaria treatment based on early accurate diagnosis and effective treatment, and the national program outlines steps to improve diagnostic capabilities and treatment regimens. However, with 2 million malaria cases reported annually and less than ten doctors per 100,000 inhabitants (World Bank, 1999), reaching these goals in the near future seems improbable.

Antimalarial drug supply is often disrupted due to insufficient funding and poor budget planning by health centers at the local level. Given the significant travel time, frequent lack of transportation, extended waiting times, and lack of equipment and treatment at facilities, it is tempting for Cameroonians to purchase treatment from local drug sellers, which often leads to misuse of medication (UNICEF 1999) and increasing rates of drug resistance. Self-medicating is a severe problem, and *P. falciparum* resistance to common drugs, such as chloroquine and amodiaquine, is increasing in Cameroon.

Malaria prevention and treatment expenditures and the opportunity cost of the illness drain household resources. The development and spread of antimalarial drug resistance in Cameroon is rendering treatment more difficult and prevention more important. Data on malaria treatment expenditures indicate that Cameroonians spend a significant amount to combat the effects of malaria. 2001 KAP data indicated that the average family spends the equivalent of USD 0.60-8.30 on treatment, with most spending an equivalent average of USD 4.15 per uncomplicated malaria episode. If hospitalization is required, consumers can expect to spend as much as USD 16.00 per episode. Given the frequency of malaria episodes per person, treatment and hospitalization costs become considerable.

E.3. PROGRAM DESCRIPTION BY INTERVENTION, OBJECTIVES, AND ACTIVITIES

Specific Intervention: Malaria Prevention

PSI will use social marketing to increase the use of ITNs for malaria prevention in three provinces in Cameroon. The project consists of one broad child survival intervention, malaria prevention through social marketing of ITNs. Three intermediate results correspond with four broad objectives. The first Intermediate Result corresponds to Output 1 of the CSHGP Application and Intermediate Result 2 corresponds to Output 2. The third intermediate result corresponds to Outputs 3 and 4 of the CSHGP Application. The three intermediate results include intervention activities designed to increase healthy behavior change, improve quality assurance, and influence sustainability (particularly through strengthening the ITN market environment).

Intermediate Result 1: Increased informed demand for ITNs and net treatment

Related Objectives:

- **Objective 1** - Increase informed demand for ITNs and net treatment in the intervention area

Related Activities:

- Evaluate/compile baseline KAP data
- Conduct FGDs to probe consumer preferences and obstacles to use
- Develop BCC strategy and marketing plan
- Develop creative briefs for BCC
- Produce and air radio spots and other productions
- Develop print materials
- Design and produce IEC materials for IPC
- Monitor IPC activities (mystery client surveys)
- Pre/Post-test communications materials
- Conduct EOP KAP

The proposed project will be implemented in the East, South, and Center provinces, but is designed for nationwide expansion. Discussions about the need for increased malaria prevention efforts have been on-going for several years between ACMS, PNLP, UNICEF, and other local and international NGOs. Beginning in 1999, a core group of potential partners initiated more focused discussions on program design and a geographical pilot area for an integrated malaria prevention program. While all partners agree that a national ITN social marketing intervention is needed, PSI and ACMS will initially focus resources in these three highly malaria endemic provinces. The intervention area includes marine and equatorial zones, and is characterized by

dense vegetation, hot and humid weather, and extreme precipitation, resulting in two distinct rainy seasons per year.

This intervention area was selected primarily due to anticipated health impact, known malaria endemicity, and programmatic feasibility. The populations in the intervention zone have a high awareness of malaria, but lack specific knowledge of transmission and prevention methods. The lack of physical access and perceived financial access are preventing greater numbers of children under five and pregnant women from regularly sleeping under ITNs. By concentrating project resources in high-risk areas, and targeting households with young children and pregnant women whose malarial infections carry the greatest risk of death or grave consequences, the intervention will have the most significant health impact.

Description of Partners and Clarification of Respective Roles

PSI is initiating the insecticide-treated mosquito net (ITN) project in Cameroon through its locally incorporated NGO, *Association Camerounaise pour le Marketing Social* (ACMS). ACMS's implementing arm, the *Programme de Marketing Social au Cameroun* (PMSC), works closely with PSI to improve the health of low and middle-income people.

For the first intermediate result, ACMS and PMSC will work with other partners, named below, to increase informed demand for ITNs, in order to influence care-seeking behavior in favor of ITN purchase and use.

For the second intermediate result, PMSC and named partners will implement activities that lead to increased equitable access to ITNs. PMSC will social market a high-quality cost-recovery net through private sector partners and then work closely with PVO/CBD partners, to address equity issues, by directing targeted subsidies to pregnant women and mothers of children under five in rural areas.

While PSI's primary partner in the proposed project is ACMS, a broad variety of local partnerships are being nurtured and developed. Partners with capacity to increase the project's outreach in rural areas were included in the proposal (EPC/FEMEC and PNLP). Roles for four key partners, *Service Catholique de la Santé* (SCS), Plan Cameroon (PLAN), the United Nations Children's Fund (UNICEF), and the World Health Organization (WHO), have been developed during preparation of the DIP. Roles of private sector retail and communications partners are still being developed and will be strengthened, as appropriate, during project implementation. Implementing partners will also receive training in social marketing and IEC techniques in order to better integrate their activities within the proposed project. Though not all of these organizations provide national coverage, they participate in national health programs.

Association Camerounaise pour le Marketing Social (ACMS)

Association Camerounaise pour le Marketing Social (ACMS) was created in 1996, with assistance from PSI, as a locally incorporated, non-profit, non-governmental, and non-religious

organization. ACMS's mission is to increase local participation in and sustainability of social marketing in Cameroon. ACMS's implementation arm, *Programme de Marketing Social au Cameroun* (PMSC), seeks to improve the health of low-income groups by providing useful health information and quality products. A board of directors, including prominent Cameroonian and international health experts, oversees all ACMS/PMSC activities, which are managed on a day-to-day basis with technical assistance from PSI. PSI and ACMS collaborate on the basis of a memorandum of understanding (MOU), which outlines roles and responsibilities in management, implementation, fundraising and capacity building.

PMSC, ACMS's PSI-affiliated implementation arm, currently provides social marketing of condoms (*Prudence Plus*), female condoms (*Protectiv*), oral contraceptives (*Novelle Duo* and *Duofem*), injectable contraceptives (*Depo-Provera*), and oral rehydration salt sachets (*Orasel*). PMSC is working with the Ministry of Health's National Malaria Control Program (*Programme National pour la Lutte contre le Plaudisme* - PNLP), to promote ITN use for malaria prevention. With the support of USAID, PMSC will use mass and interpersonal behavior change communications (BCC) and private sector distribution, to reach the most vulnerable rural populations in the endemic East, South and Central provinces of Cameroon.

ACMS, through PMSC activities, will address the main areas of responsibility (described in **Section E.4 Work Plan**), through the following activities:

- Research to assess consumer attitudes and to inform promotional campaigns;
- Design and implementation of mass media behavior change communications campaigns;
- Product selection and procurement;
- Oversight of distribution in commercial and non-commercial sectors, including overall design and management of targeted subsidy schemes;
- Training of selected FEMEC, SCS, Plan, ADRA and MOH personnel in interpersonal communication and stock management;
- Assessment of local partners' understanding of project concepts and strategies and training needs in social marketing techniques and programmatic and financial management, and provision of the appropriate training;
- Identification of resources for training of partners in malaria diagnosis and treatment (to the extent that needs assessments indicate this is necessary);
- Advocacy and strategic partnerships with commercial sector to contribute to an enabling environment for sustainable ITN promotion and distribution.

Fédération des Eglises et Missions Evangéliques du Cameroun (FEMEC)

Fédération des Eglises et Missions Evangéliques du Cameroun (FEMEC), referred to as *Eglise Presbytérienne Camerounaise* (or EPC) in the project proposal, was founded in 1941 with the goal of defending the interests of the protestant missions in French Equatorial Africa. After these countries gained independence, FEMEC was restructured. Its objectives are, to be the voice of Protestantism in Cameroon, share mutually enriching experiences, and manage departmental projects. FEMEC's goals are:

1. To strengthen the ties of solidarity between the different member churches;
2. To develop activities and coordinate efforts for Evangelization and Christian service (works, institutions);
3. That FEMEC churches, extending their Evangelical action to new regions, must work together with the Churches already in these regions. FEMEC now has eleven member churches in Cameroon:

    - Cameroon Baptist Convention (CBC)
    - Anglican Church (EA)
    - Evangelical Church of Cameroon (EEC)
    - Evangelical Lutheran Church of Cameroon (EELC)
    - Lutheran Brotherhood Church (EFL)
    - Cameroonian Presbyterian Church (EPC)
    - African Protestant Church (EPA)
    - Native Baptist Church (NBC)
    - Presbyterian Church in Cameroon (PCC)
    - Union of Baptist Churches in Cameroon
    - Union of Evangelical Churches in Cameroon (UEEC)

The Yearly Council is the highest body in FEMEC, meeting once annually to conduct general policy, receive reports from the Secretary General, elect officers, and name executive secretaries in charge of departments. The Executive Committee meets three to four times a year, convened by the president of FEMEC. It brings together the 11 heads of the Churches, the Secretary General, the Executive Secretaries of the eight departments (departments of Christian testimony, Youth, Information and Communication, Education, Health, Women, Social Affairs, and Development) the finance officer and bookkeeper.

FEMEC medical coverage is second only to that of the Cameroon state, with hospitals and health centers throughout the ten provinces. Its anchor and point of origin is the Littoral province, followed by West, South, Center, and the two Anglophone provinces. FEMEC concentrates in areas where the state health system does not reach. When a church is built, a health center usually follows. Reproductive health, pre- and postnatal assistance, delivery, nursing, weaning and hygiene related medical concerns are common health issues. Additional activities include ophthalmological services, specialized rehabilitation centers, orthopedic centers, drinking water supply, operations sites for surveillance and prevention of HIV/AIDS, and working with MOH to find a continuous supply of prescription drugs, medicines, and medical supplies.

FEMEC has a total of 31 member hospitals and 149 member health centers in Cameroon, forty-four of which are in the intervention area. Twenty-two FEMEC centers are in Center province, seven are in East province, and fifteen are in South province.

FEMEC brings the following strengths to the project:

1. Longstanding national reach
2. Well-organized women's groups in every parish and church
3. Health centers that are integrated into the community

ACMS will support FEMEC in the following activities:

In Year 1:
- Promotion of ITNs for malaria prevention and information on nearby sales locations
- Mobilization of Presbyterian church groups interested in distributing ITNs to participate in PMSC training and seed ITN schemes

Beginning in Year 2:
- Integration of the project's communication strategy into service delivery networks in the intervention area, including malaria diagnosis and treatment-related activities;
- Interpersonal communication targeting pregnant women and mothers of children under five;
- Distribution of PMSC ITNs through 44 intervention area clinics
- Implementation of targeted subsidy schemes for pregnant women and mothers of under-fives;
- Stock management and replenishment within the network.

Service Catholique de la Santé au Cameroun (SCS)

Service Catholique de la Santé (SCS) has been added as an implementing partner on this project. SCS is the executive body of the National Episcopal Conference of Cameroon for Health. It coordinates all Church health organizations at a national and diocese level. SCS's mission is to work alongside public authorities and other partners, in a spirit of evangelism, to assure health to the population and help to sustain communities, particularly the most unfortunate.

SCS's organizational concerns are: 1) to guarantee the population access to quality medicine, 2) to improve the quality of preventive and curative care, and 3) to promote integrated health. In order to address these concerns, SCS is active in the improvement of health infrastructure and medical personnel, providing financial and geographic access to essential medicines, education (e.g. on natural family planning, ethical and sociological considerations of illness), dialogue to strengthen the collaboration with MOH, and equitable resource management.

SCS brings the following strengths to the CSHGP partnership:
1. A permanent nationwide presence, that has existed and expanded for the past fifty years
2. 91% Cameroonian (lay and religious) personnel with a professional conscience
3. Diocesan autonomy and national solidarity
4. Participation of the ill and health consumers in health center activities
5. Preventive vision – fighting disease is important but prevention is better

SCS has twenty-three active dioceses in five provinces (North West, North, Littoral, Center, East). It operates 178 health centers, 101 of which are in the project area (56 in Center, 22 in South, and 23 in East province). It also operates nine hospitals, one of which is in the project area in South province. SCS hospitals and health centers conduct over 845,000 new consultations, 22,365 deliveries, 53,375 hospitalizations, 121,000 prenatal consultations, and 239,600 vaccinations annually. SCS has also helped to organize village health committees, management committees and collaboration with rural schools in the areas in which it is active.

As with FEMEC, ACMS will support SCS in the following activities:

In Year 1
- Promotion of malaria prevention with ITNs and information on nearest available retail outlets
- Mobilization of Catholic groups wishing to distribute ITNs for malaria prevention, to participate in trainings and receive seed nets for initial distribution

Beginning in Year Two
- Integration of the project's communications strategy into service delivery networks in the intervention area, incorporating prevention messages and materials into malaria diagnosis and treatment-related activities;
- Interpersonal communication targeting pregnant women and mothers of children under five;
- Implementation of ITN distribution, and targeted subsidy schemes as appropriate, through 101 clinics;
- Stock management and replenishment within the network.

National Malaria Control Program or *Programme de Lutte Contre le Paludisme* (PNLP)

The National Malaria Control Program (PNLP) is an important partner within this project. Working in collaboration with host-country government services provides legitimacy and valuable contextual knowledge. Concomitantly, working with an efficient and effective private-sector oriented organization has been shown to provide government counterparts with useful IPC and marketing skills and strategies that can be adapted to national programs.

PNLP/MOH brings the following strengths to the CSHGP partnership:

- Provides legitimacy as the national government program
- Provides valuable baseline data
- Allows additional opportunities for collaboration, including national distribution of free nets to pregnant women in public health centers
- Maintains 496 public and private health centers in the intervention area
- Allows additional opportunities for collaboration with other government partners

The PNLP will assist the project on the following levels :

In Year 1:
- Communication of government policy and guidelines to partners
- Provision of updated malaria and disease surveillance data for the intervention area
- Distribution of 36,300 free nets to pregnant women through selected public and private health centers in the intervention area
- Collaboration with PMSC in training health center staff in malaria and ITN BCC

Beginning in Year 2:
- Possible contribution of nets or commodities funding

- Advocacy and support for PMSC in its distribution of subsidized ITNs and net treatment, targeted at pregnant women and mothers of under-fives, through public and private health centers

Plan Cameroon (Plan)

Plan Cameroon (Plan) has been added as an implementing partner, due to its health service-delivery activities in the intervention area. Plan is an international humanitarian, child-focused, development NGO without religious or political affiliation. Plan came out of the Foster Parents Scheme, which now helps 1.2 million needy children in 42 developing countries and is supported by 900,000 donors around the world. Over 14,250 children are being sponsored in Cameroon through Plan activities.

Plan's vision is to live in a world in which all children realize their potential in societies that respect people's rights and dignity. Plan's work is divided into Sponsorship, Project Implementation, and Administration/Finance. Plan works with children, families, and communities at the grassroots level. Plan's development approach is "Child Centered Community Development" (CCCD), in which Plan acts as facilitator, raising community awareness about realities and opportunities for positive action.

Plan works in 172 villages in Northwest (38 villages), Center (30 villages), and East (104 villages) provinces in Cameroon. By helping people help themselves at the community level, Plan enables the delivery of real and effective results. At the national level, Plan works with government, UN agencies, international and local NGOs and religious organizations in the program delivery process.

Projects fall within six basic domains of children's lives: learning/education, healthy growth, livelihood/poverty reduction, habitat, building healthy relationships, and promotion of child rights. Activities within the CSHGP partnership would fall primarily within the two domains of healthy growth and learning/education.

Plan is currently implementing a five-year malaria project in Center and East provinces, selling mosquito nets through rural women's groups. However, it does not have another source of nets once the initial stock of 28,000 has been distributed.

Plan brings the following strengths to the CSHGP partnership:

- Broad-based community support
- Development activities, with functioning development committees and participatory planning, in 134 villages in the intervention area
- Current experience with ITN CBD strategies

ACMS will support Plan in the following activities:

Beginning in Year 1:

- Replenishment of CBD nets with high-quality PMSC ITNs and net treatment
- Integration of the project's communication strategy, and targeted subsidy scheme as appropriate, into its current malaria prevention activities;
- Interpersonal communication targeting pregnant women and mothers of children under five;
- Stock management and replenishment within the network.

United Nations Children's Fund (UNICEF)

Founded in 1946 by the United Nations General Assembly, UNICEF advocates for the protection of children and children's rights. UNICEF's cooperation programmers are positioned around four main strategies:

1. Providing services (e.g. vaccinations, equipment)
2. Strengthening national capacity (e.g. support for decentralized planning, training-of-trainers)
3. Building communities (e.g. social mobilization, awareness, dialogue)
4. Advocating the adoption of national policies favoring implementation of international conventions on child and human rights, and mobilizing financial resources to place children and women at the forefront of national policy

UNICEF is currently implementing an integrated Vitamin A/Immunization/ITN project in the Adamaoua province, bordering the East and Center provinces in the project intervention area. The UNICEF project offers a subsidized ITN to each pregnant woman and mother of under-five child who completes a specified number of preventive services. PMSC and UNICEF have reached an agreement whereby PMSC will take over communication and distribution of the project's ITNs while UNICEF focuses on the Vitamin A and immunization aspects. This will allow PMSC to extend the reach of its project to an additional province, share resources and materials, and expand it's partnership with UNICEF. PMSC will also learn valuable lessons in communication and distribution of ITNs in a zone with different cultural and environmental norms. This will aid in the national expansion of the project if the resources become available and if PMSC decides that this is a logical next step.

UNICEF also hopes to collaborate with PMSC to incorporate vitamin A distribution and immunizations through PMSC's project channels in the East province, thereby increasing the health impact of the ITN project in this area. UNICEF is particularly interested in the East province, which comprises half of the intervention area, because it is one of the poorest areas in Cameroon. Additionally, UNICEF may provide PMSC with commodities funding or an in-kind donation of mosquito nets in years 2 and 3.

UNICEF brings the following strengths to the CSHGP partnership:

- International reputation and influence;
- Expertise in child survival interventions;
- Possible funding.

UNICEF will support the partnership on the following levels:

In Year 1:
- Provide policy-level advocacy and support for the project;
- Support development and dissemination of generic malaria prevention BCC.

In Year 2-3:
- Possibly integrate Vitamin A and immunization distribution into on-going project activities in the East province (mirroring UNICEF's current Adamaoua project);
- Possibly provide additional nets for project activities;
- Broadcast/disseminate PMSC's malaria prevention communications program in the Adamoua and East provinces.

World Health Organization (WHO)

WHO's constitution was adopted by the UN General Assembly in 1946 and went into effect in 1948. WHO's goal is to bring people to the highest level of health possible. Health, for WHO, is defined as a state of complete physical, mental and social well-being, and not just an absence of illness or infirmity.

The priorities of the WHO country cooperation with Cameroon are politics and management of health, health promotion and protection, and combined struggle against priority diseases (malaria, HIV/AIDS, tuberculosis, diarrhea, acute respiratory infections, onchocerciasis, and trypanosomiasis). Cooperation plan activities that come from regular budgetary funds encompass ten programs:

1. Development of national health programmers
2. Primary Health Care (PHC)
3. Human Health Resources
4. Vaccinations and Essential Medicines
5. Quality of Care and Health Technology
6. Reproductive and Family Health
7. Behavioral and Mental Health
8. Healthy Environment
9. Eradication/Elimination of Infectious Diseases
10. Eradication/Elimination of Non-infectious Diseases

Extra-budgetary funding is used for malaria, vaccinations (polio eradication), onchocerciasis, and HIV/AIDS programming. RBM activities have been initiated in Cameroon, and include the development, with PNLP, of a five-year strategic plan for malaria control (PSNP).

Though not an implementing partner, WHO brings the following strengths to the project:
- International reputation and influence;
- Crucial technical and advocacy support.

WHO will support the project on the following levels:

In Year 1
- Elaboration of RBM strategies as they pertain to project objectives, indicators and activities;
- Policy-level advocacy, such as intercession for PMSC so that it can import nets and net treatment without having to pay customs duties.

Beginning in Year 2:
- Provision of technical assistance as needed;
- Possible provision of funds and technical assistance for research and/or commodities

Partnerships with faith-based organizations and PVOs, in addition to taking advantage of existing infrastructure, will allow for program sustainability. Organizations that have been selected as partners, have been operating in Cameroon for many years, and will remain active in the country for the foreseeable future. Once a well-organized and well-run system for distributing nets and net treatment kits has been established, it will be relatively straightforward for these organizations to maintain and even expand the system. These organizations already import and distribute essential drugs, and are expected, with appropriate training and support, to be able to sustain ITN and net treatment social marketing after the end of the project.

Adventist Development and Relief Agency (ADRA)

ADRA has worked in Cameroon since August, 1994, following the signing of a country agreement with the Government of the Republic of Cameroon. Since then, ADRA Cameroon has actively implemented programs in the following areas:

- **Rural infrastructure** through the upgrading of health and educational structures.
- **Primary health care** through assistance in the creation of community health care units. Design and development of basic primary health care programs in community health centers, and in Seventh Day Adventist health institutions in Cameroon. Provision of medical equipment and supplies to health care units.
- **HIV/AIDS** through a prevention and support program targeting high-risk groups in the country.
- **Women's empowerment** through the creation of micro-finance programs targeting women, with the aim of improving their economic power. Through these programs, ADRA Cameroon provides small loans to women and women's groups to enable them to start small household businesses. Through this program ADRA is in constant contact with women and will serve as a springboard for PMSC's ITN program.

ADRA will collaborate with PMSC through its partners'Adventist health clinics (there are 6 in the project area) and through its micro-finance projects for women. ADRA will distribute nets through its clinics in the same manner as FEMEC and SCS. It will also buy nets at a reduced price and pass the savings onto the members of its micro-finance projects, who will in turn use the sales revenue as a revolving fund to buy and sell more ITNs.

ADRA brings the following strengths to the project:
1. Longstanding national reach
2. Well-organized women's micro-finance groups

3. Health centers that are integrated into the community

ACMS will support ADRA in the following activities:

Year 1:
- Promotion of ITNs for malaria prevention and information on nearby sales locations
- Mobilization of women's micro-finance groups interested in distributing ITNs to participate in PMSC training and seed ITN schemes

Beginning in Year 2:
- Integration of the project's communication strategy into service delivery networks in the intervention area, including malaria diagnosis and treatment-related activities;
- Interpersonal communication targeting pregnant women and mothers of children under five;
- Distribution of PMSC ITNs through 6 intervention area clinics
- Implementation of targeted subsidy schemes for pregnant women and mothers of under-fives;
- Stock management and replenishment within the network.

Behavior Change Communication

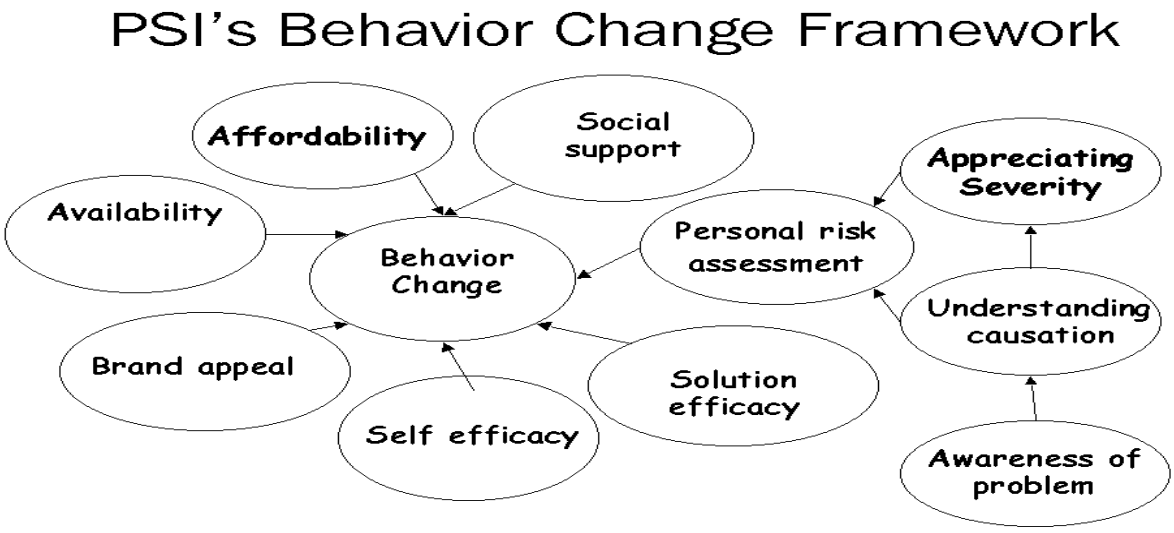
Effective social marketing encourages behavior change through a combination of commercial sector marketing techniques and health sector approaches to delivering IEC messages. PSI believes that an individual's behavior is influenced by a number of factors belonging to three broad categories:

- **Material conditions:** disposable income, product prices, access to products
- **Social support:** traditions, religious and family influences, gender differences
- **Individual predisposition:** personal risk assessment, self efficacy, product knowledge and perceptions, disease knowledge and perceptions

PSI has developed a behavior change approach that incorporates leading theoretical constructs into a framework combining key concepts from the fields of behavioral sciences and marketing. In some cases, certain factors must pre-exist to arrive at the next level (for example, one must be aware of the disease before understanding its transmission or appreciating its severity), however as this diagram depicts, the complex process of behavior change is largely non-linear.

Below is the Behavior Change Framework diagram presently utilized by PSI. It is a physical representation of the fact that, though in some cases certain factors or knowledge must pre-exist to arrive at the next level (for example, one must be aware of the disease before understanding its transmission or appreciating its severity), for the most part, the behavior change process is not linear. PSI has recently revised this framework to make it more relevant for ITN programs.

The right side of the diagram is related to awareness and understanding of the health problem. The left side relates to the physical product and perception of the brand.



The behavior change framework for malaria prevention is based on increasing awareness of malaria and transmission, as well as potential risks (particularly to vulnerable pregnant women and under-five children). Without fully understanding malaria risks and detrimental impact, a person is less likely to begin initial contemplation of behavior change. Once personal risk is assessed, a desirable solution must be available, the person must have confidence in his or her ability to change to healthier behaviors and community and social support to reinforce the positive behavior change. Factors used in this model can be defined in simple sentences describing an individual's perceptions:

A typical set of influencing factors in the context of malaria prevention is:

Awareness of malaria
"I have heard of malaria. It is a disease that is present in this area."

Understanding of transmission
"I know that malaria is only transmitted by mosquito bites. I know that malaria-transmitting mosquitoes bite at night."

Appreciating severity
"Malaria is a disease that can kill. I know malaria is especially dangerous for young children and pregnant women."

Product attributes
"I believe that ITNs can protect me and my family from malaria. I know that I can prevent my child or myself from getting malaria if we sleep under an ITN every night."

Personal risk perception
"My child and I are at risk of catching this disease."

Social support
"People whose opinion I value will support my using and retreating my ITN. It's normal for people like us to use an ITN."

Affordability
"ITNs and retreatment are worth the money. I know I can afford to buy and retreat one."

Availability
"I can find an ITN and retreatment. They are sold at places I find accessible."

Brand appeal:
"The features of this branded ITN and net treatment meets my requirements. They are products for someone like me. They are quality products."

Self-efficacy:
"I believe that I have the ability to take action in the prevention of malaria. It is important that I convince the economic power-holder in our family that ITNs are necessary. It is vital that I find the means to purchase ITNs for myself and my family."

Not all factors influence all population groups in the same way, nor do they have the same importance from one group to another, or evolve at the same rate or in the same direction. For example, a malaria epidemic can increase a particular group's predisposition toward using an ITN but an economic downturn or stock outage can render ITNs inaccessible to the same group. Tradition, and its prescribed means of malaria prevention, can be strong enough to deter many women from seeking more effective "modern" or "Western" means, such as ITNs, to protect themselves and their families. Because each group responds in a unique way to a set of influencing factors it is essential to analyze target groups separately. Epidemiological, demographic, attitudinal, and behavioral characteristics and combinations can segment the potential market.

Different communications channels may also be better suited for influencing certain factors. Mass media may be best for influencing social support and creating positive brand associations, while interpersonal communication of generic prevention messages are more effective in increasing personal risk perception. The project will utilize a combination of communications channels to reach target audiences.

To produce desired programmatic results, a number of challenges must be overcome. Improving malaria awareness and ITN use among WRA and under-five children in lower density population areas, with fairly limited access to mass media and the commercial sector, presents a significant BCC challenge. Additionally, while awareness of malaria and ITNs can be improved, the relatively high cost of ITNs will lead many to prefer risking malaria rather than investing in the purchase of what is perceived as an expensive solution. Targeted communications and price reductions are aimed at addressing this challenge.

PMSC, with technical assistance from PSI, has developed a communication strategy based on analysis of quantitative and qualitative research. The strategy will be outlined in yearly marketing plans, which are submitted to PSI for review. Activities will include branded and generic mass media approaches, interpersonal communication (IPC), training, and community mobilization.

Defining target groups

Strong communication depends on effective targeting. Targeting is also a means of ensuring equity in access to information. In this prevention program, the communications targets are defined as rural women of reproductive age and parents of under-fives. Although the beneficiaries are pregnant women and children under five, it is difficult in this environment to determine if a woman is pregnant before showing, and even more difficult to target her specifically. Additionally, it is impossible to predict if a woman may be on the cusp of pregnancy. Children are unlikely to influence purchasing decisions, much less make any, although PMSC intends to involve them where possible in malaria and prevention education and events to seed good behavior early.

Defining communication objectives and key messages

Within the intervention area there is a lack of comprehension of malaria transmission and the risk it presents, especially among pregnant women and children under five. It is imperative that the basic understanding of transmission exists within the population in order to engender the value of nets and net treatment. Without accurate risk perception, it is unlikely that those most susceptible will take action. Secondly, a link must be created between transmission of malaria and ITNs and net treatment as a means of prevention, leading to an increased appreciation for the role of ITNs and net treatment.

Given the broad knowledge gap suggested by the KAP survey, it is likely that campaigns will include a wide range of messages. Generic messages will help increase knowledge of and demand for ITNs in general. Important themes include:

- Appropriate care seeking and treatment for malaria
- Reasons malaria as a health problem for those most at risk
- Understanding the economic drain malaria causes for households
- Knowledge of malaria transmission and the role of ITNs in preventing transmission
- Correcting the fear that net insecticide is toxic to pregnant women and young children
- Practice in the correct use of ITNs
- Practice in the correct insecticide treatment of ITNs
- Information on where to purchase ITNs and net treatment kits
- Correct understanding of ITNs as one of the most effective ways of avoiding nuisance biting and malaria
- Positive perceptions of the outcomes of using ITNs
- Reinforcement of positive behaviors and practices once adopted.

Main messages that will be communicated nationally through mass media:

1. Mode of malaria transmission – malaria is only transmitted by mosquitoes that bite after dark (dusk to dawn) - one bite is enough to get malaria
2. Pregnant women and children under five are the most vulnerable
3. Pregnant women and young children should always sleep under ITNs
4. Treated nets provide the safest and best protection from malaria
5. If you suspect malaria, get accurate health center diagnosis and complete your treatment – don't spread malaria in your community

Finally, a concerted effort must be made to target messages at men, who are often the ones that hold the economic power in the household. These messages will stress the importance of protecting the most vulnerable members of the family against malaria, and will emphasize the man's role as a good husband/father and protector of his family.

All messages and communications materials are routinely pre-tested by PMSC in focus group research.

Communications channels

PSI research has shown that a mix of channels, reaching target audiences with high frequency and credibility, is most effective. This is also supported by the TRM. Demand will be generated primarily through predominantly generic mass media campaigns, branded promotions activities and materials, and interpersonal communications (mostly generic).

Mass media

The generic malaria prevention messages, discussed in the previous sub-section, will be disseminated nationally on television, radio, billboards, and posters. Materials will be produced in collaboration with MOH and UNICEF, and with feedback solicited from all of the partners.

Radio, with the broadest reach in rural areas of Cameroon, is the primary means of mass communication to be used by PMSC for the malaria prevention project. It is by far the most cost-effective mass media channel, providing the widest exposure to rural populations at a relatively low cost. The 2001 KAP study showed that almost half (47%) of the rural intervention area population listens to radio at least once per day. The fact that information heard on the radio is also discussed with non-listeners makes the medium even more effective.

The project is developing radio materials in several different formats. These include one to three 60-second public service announcements (PSAs), one to two micro-programs, and an hour-long monthly radio show and soap opera. Radio PSAs will be used to clearly and quickly communicate key messages and will be repeated frequently. Important concepts that require more detail will be elaborated in 10-15 minute micro-programs. The soap opera will consist of approximately twenty 15-minute episodes. Radio drama offers a powerful tool to increase awareness of the social aspects of a campaign as well as to transmit basic knowledge. The monthly radio show will provide an opportunity to explore a number of malaria-related topics, such as prevention methods, proper net use, malaria transmission, and early treatment seeking.

The radio shows are expected to include "man-on-the-street" interviews, invited guest speakers, and possibly a call-in feature, depending on the capacity of local stations. Radio shows have been used successfully by PMSC in targeting other groups, such as urban youth.

Once developed, radio messages will be translated into local languages and broadcast on provincial and community stations. Local language broadcasts are common in Cameroon. Provincial radio stations generally broadcast in 2-3 languages in addition to French. The most widely spoken languages in the target area are Ewondo, Bulu, Bassa, Baffia and Mongo-Ewondo. In addition to the provincial stations, there are an increasing number of community stations with narrow broadcast areas, such as a station in Lolodorf, South province. Additionally, a station in Mbalmayo, Center province, caters to women and would be a particularly useful channel for disseminating malaria prevention messages for rural mothers. The project will include community radio stations as communication partners wherever possible, and PMSC is working to formalize relationships with at least two radio stations in the intervention area.

Video/Television spots will be utilized for national BCC dissemination and also incorporated into the localized intervention-area strategy if anticipated funding to procure a mobile video unit (MVU) materializes within the lifespan of the project. Video spots will include music video "info-tainment," a one-hour drama and three short (15-30 minute) documentaries. However, if the MVU is not available in time to bring videos to rural villages, television is not a sufficiently cost-effective way to reach rural populations in the intervention area, and these segments will be kept for national broadcast.

Billboards will be used, where appropriate for reaching rural parents, to transmit simple messages supported by attractive visuals. For example, a peaceful image of healthy mother and baby, sleeping under a mosquito net can, along with product logos, transmit any number of motivational and promotional messages.

Printed materials, such as posters, leaflets, and stickers, will round out the mass media mix. Printed materials have been designed to carry simple messages, such as "sleep peacefully every night under ITNs," and make heavy use of attractive visual images. As with radio, print messages are both branded and generic. Branded materials will only be distributed in the intervention area. Print materials will be positioned in health centers and retail outlets and distributed to consumers via commercial and health sector partners. Positioning informational and promotional materials, such as posters, in health and retail centers enhances both workers' and clients' knowledge and perceptions of malaria preventions, ITNs and net treatment.

Branded Promotional Items

A number of promotional and point-of-purchase items, displaying product logos, taglines and/or key messages, are being developed for distribution through participating workers and outlets. These are aimed at increasing brand knowledge and persuade people of the value of PMSC ITNs, and will be utilized only in the intervention area. Promotional and POP items will be distributed primarily after IPC sessions or at special events.

Promotional items may include:

- Clothing – Caps, T-shirts, Pagne (local wrap-around skirt)
- Baby Items – Bibs, Plastic cups and plates, Baby Carriers, Baby T-shirts and Socks, Toys
- Household Items used by Women – Umbrellas, Blankets, Pillow Cases, Flashlights, Pens, Watches, Matches, Key Chains, Bottle Openers.

Interpersonal Communication (IPC)

In the project BCC strategy, mass media and promotional communications will be complemented by interpersonal communication. The interpersonal aspect of PMSC communications will focus on training health center staff, women's associations, church groups, and partner organizations in malaria prevention, BCC, and animation techniques. Partnership with faith-based organizations and PVOs provides a unique opportunity for target group IPC, forming an important synergy in an integrated behavior change campaign. A mass media radio campaign can provide basic information, but messages are greatly reinforced if communicated to target groups through interpersonal contact. This permits the information giver to evaluate whether communication has occurred and allows the recipient to ask questions. When target group members visit partner's hospitals and health centers, for example for pre-natal consultations, health center staff can stress the importance to pregnant women of using insecticide-treated bednets as part of an integrated approach to malaria prevention, diagnosis and treatment. With the addition of solution-efficacy, they will be able to provide a PNLP or PMSC net and PMSC net treatment immediately the desire to use an ITN has been instigated. This is ideal in terms of sales psychology. Educational and advertising posters hung on center walls will further reinforce messages and encourage net and net treatment purchase by clients.

Six PMSC behavior change communicators (two per province) will provide targeted IPC and/or training of health and retail staff. PMSC promoters will make monthly rounds to rural markets in the intervention area, giving demonstrations of net treatment and correct ITN care and usage, and promoting PMSC ITNs for malaria prevention. Clinic workers, retail staff, and women's or church groups will carry out much of the awareness and product promotion work at the community level. In Year 1, while MoH is taking most of the burden of targeted health center distribution, PMSC will reinforce PNLP capacity by helping to train participating public sector health staff and sharing BCC materials.

Beginning in Year 2, when PMSC takes over targeted distribution from PNLP, partners' IPC messages and materials dissemination will be accomplished in a number of ways. Health workers will receive a small incentive for each ITN and treatment sale and will be trained to incorporate IPC into regular consultations and health visits. PMSC promoters will visit sales locations bi-weekly to provide additional communication training, monitor stocks, and identify other needs. PMSC and partners will continue to conduct IPC activities and promotional events during periodic market days, and expand to include national immunization days (NIDs), National Malaria Day, International Women's Day and other appropriate special events.

Selected workers from participating retail and health center sales location will participate in an initial one-day training session. Training of health center-based and private sector distribution partners will cover ITN and net treatment product information, mobilization and IPC techniques, direct sales techniques, and transmission of malaria messages (on transmission, treatment, and risk). Clear understanding of client needs and preferences, and careful explanation of products

and their use will be critical in assuring parents' and pregnant women's satisfaction with and proper use of malaria prevention products.

In order to facilitate partner trainings, PMSC is developing a communications kit for health center and appropriate private sector workers. The kit includes tools such as a training guide, product and disease information packet, and flipcharts, pamphlets and net treatment demonstration tools, which can be used in IPC sessions. It has been found that observing a demonstration of net treatment with an individual-use kit helps significantly in boosting prospective users' confidence and self-efficacy with the new technology. Each training participant will receive a certificate of successful completion of PMSC malaria IPC training and a "promo pack" with product T-shirt, cap, promotional materials, and samples as a token of appreciation for their commitment to project goals and time spent in training.

Community Outreach

PMSC is continuing to explore opportunities, particularly with FEMEC, SCS, ADRA and Plan as the primary community-based partners, to increase community mobilization for malaria prevention. Several women's associations have expressed interest in performing animations. Local community-based drama groups will improve knowledge about malaria and prevention by educating and entertaining at the same time. Groups can perform skits that include ITN usage and treatment demonstrations at maternal/child health clinics. PMSC has initiated work with the Ministry of Education and PVOs involved in health education to design curricula on ITN and malaria prevention topics. Locally respected community leaders (such as church or traditional leaders) and community-based health workers will help promote ITNs in their respective communities. PMSC is exploring successful techniques such as song contests, community and women's meetings, video-house forums, religious leaders' speeches, and traditional artists' performances, for use as appropriate in intervention area communities.

Communications Monitoring and Evaluation

PMSC routinely pre and post-tests messages and evaluates success and coverage of campaigns. Mass media campaigns will be assessed in the intervention area using a structured questionnaire. Surveyors will test for exposure and message recall. FGDs will be held annually during the course of the program to ensure message relevancy and clarity as well as effectiveness of communications executions. Retention surveys will be used to determine whether pregnant women and children are actually the beneficiaries of the ITN in the household.

An end-of-project KAP survey will assess the correlation between exposure to communication strategies and relevant behavior change.

The effectiveness of interpersonal communication, delivered by retail and clinic-based partners, will be assessed using mystery client methodology.

For more detail on M&E tools and strategies, refer to **Section E.1: Monitoring and Evaluation**.

Quality Assurance (QA)

The primary goal of QA-related monitoring conducted for IR1 is to ascertain the quality and degree of impact that BCC and IPC activities are having in prompting behavior change in intervention area communities. The secondary goal is to establish which local partners and rural strategies have the greatest impact on behavior change, and what the reasons are, so as to improve overall programming.

The effectiveness of specific BCC programmatic elements will be evaluated mid-project and resources re-allocated accordingly, providing greater support to those elements deemed successful and phasing-out support for less effective ones. Changes to the baseline assessment will be obtained in the DHS survey being conducted in 2003. BCC-related QA evaluation will mainly be conducted through KAP surveys and FGDs, though in-depth and key informant interviewing may also be applied as necessary.

Groups that will be included in these assessments include:

- Target populations in the intervention area – rural WRA and parents of under-fives
- General population in selected areas of the intervention area
- Targets who have participated in project IPC sessions

For information on QA in relation to commodities, see the *Quality Assurance* section under IR2.

Availability of Equipment and Supplies

As PMSC currently has no in-house video or radio production unit, equipment and supplies needs for IR1 are fairly minimal. PMSC uses appropriate external production companies to produce radio and video spots. PMSC may begin producing in-house videos if able to procure video equipment and a mobile video unit through another funding source. Print and promotional items will be developed both in-house and through external contractors.

For more information on equipment and supplies availability in relation to commodities, see the *Availability of Equipment and Supplies* section under IR2.

Intermediate Result 2: Increased equitable access to ITNs and net treatment

Related Objectives:

- **Objective 2 -** Increase equitable access to ITNs and net treatment in the intervention area

Related Activities:

- Conduct retail audits
- Procure nets and net treatment
- Establish pricing structure and subsidy scheme

- Launch branded cost-recovery net and net treatment in commercial outlets
- Recruit distribution partners from the commercial sector
- Support commercial-sector distributors with time-limited efforts to open outlets, recruit wholesalers, and link to retailers
- Introduce targeted subsidies for maternal/child ITNs in selected sites
- Recruit implementation partners for delivery of targeted subsidies
- Launch branded high-end net through selected partners

Cameroon's net environment is composed of many variables. The commercial trade is fragmented with weakly-linked channels offering untreated, mostly high-priced, often poor-quality nets, very few of which reach outside major urban areas. Uncertainty over the status of trade barriers continues to be an obstacle to increased commercial investment. The Ministry of Health (MOH) plans to distribute 800,000 free nets to pregnant women in 2003 and possibly beyond, which will affect commercial partners and NGOs looking to target subsidies. The effect that the MOH initiative will have on the market is unknown. The initiative may be successful (the nets reach the intended target population and do not affect the market), partially successful (some of the nets reach the intended population and some of the nets are sold commercially) or unsuccessful (most of the nets are sold, flooding the market with cheap nets). ACMS' strategy must therefore be flexible enough to accommodate these various elements and to adapt as the environment changes.

Increasing equitable access to ITNs and net treatment necessitates:

1 Increased ITN and net treatment availability
2 Improved perceptions of products; their attributes and availability

Step 1 requires efficient procurement and distribution mechanisms, to:

- Make sufficient commodities available in the intervention area
- Improve distribution, so that ITNs and net treatment are available to the rural public in the intervention area
- Increase the number of convenient and acceptable outlets in the intervention area

Step 1 will be accomplished through:

- Use of donor funding for initial commodities, and creation of a revolving fund through cost-recovery mechanisms
- Re-injection of sales revenues into the purchase of additional commodities
- Utilization of PMSC's considerable experience in efficient use of private sector wholesalers and rural distributors, thereby reducing operating costs while ensuring a consistent supply of product to retailers. This will ensure long-term sustainability of supply by stimulating a so-far underperforming commercial sector and improving the environment for its delivery of ITNs. Elements that will be used for this include:

Products: **In Year 1**, PMSC will distribute two types of nets, and one type of insecticide.

A cost-recovery, rectangular, *bundled* (packaged with insecticide) net will be sold in rural and urban areas, marketed to low-income people. 'Cost-recovery' in this instance means that the price covers procurement costs, a 15% wholesale mark-up, and a 20% retail mark-up. Net color of urban and rural nets will be different, so as to track net movement, and urban nets may cost about USD 0.30 more. Rural strategy is to increase demand and supply among high-risk rural populations at a price that most can afford. Urban strategy is to provide the same net in urban areas to discourage leakage of rural nets (e.g. urban merchants purchasing, marking up, and redistributing rural stocks in urban areas). Leakage would otherwise be likely, as nets will sell at about one-half of current urban net prices. Insecticide kits (KO-Tabs) will be sold separately in both urban and rural areas. Products will be promoted heavily in rural areas and less so in urban areas.

A ***subsidized*** net will be sold through 6-9 pilot health centers (2-3 per province) targeted at mothers of under-fives (so as not to interfere with PNLP's free distribution of nets to pregnant women).

In Years 2-3, PMSC will continue to distribute the ***cost-recovery net*** and net treatment kits to lower-income people. Depending on whether availability of affordable commercial brands has increased, PMSC will either begin distributing a ***high-end net*** in urban areas (LLN or conical net with spring ring and treatment kit), or will collaborate with the commercial sector to market more expensive nets to middle and high-income people. This strategy will provide the most complete coverage possible, by both actively supporting the private sector to market nets to those who can afford commercial-sector prices, and by providing at-cost nets to lower-income people. PMSC will begin distributing a rectangular, bundled ***heavily-subsidized net*** to pregnant women and parents of under-fives when the PNLP's free net supply is depleted. The net will probably sell at one quarter of the price of the at-cost nets, and PMSC will need to mobilize additional funding for this (possibly from PPTE, KfW, or UNICEF).

Prices: **In Year 1**, ***cost-recovery nets*** will be sold at approximately FCFA 3,000 (USD 5.00) in rural and urban areas. This accounts for procurement costs, a 15% wholesale mark-up, and a 20% retail mark-up. An FCFA 200 discount may be applied in rural areas if deemed appropriate after initial launch.

Subsidized nets will be sold for approximately FCFA 2,000 through pilot health centers to mothers of under-fives

Net Treatment kits will sell for approximately FCFA 200 (USD 0.33) in both areas.

In Year 2-3, the rural price will be re-evaluated and a slight subsidy added if necessary. Most studies indicate that the majority of rural people say they are able to afford a net at FCFA 2,000 (USD 3.30)

Urban net prices will be adjusted as necessary to avoid leakage.

If PMSC introduces a high-end net, because the commercial sector has not yet met this need, it will be priced at approximately FCFA 4,000 (USD 6.50)

Highly-subsidized nets, for pregnant women and parents of under-fives, will be sold at approximately FCFA 600 (USD 1.00)

Sales Margins: PMSC will increase accessibility to ITNs and net treatment by identifying and establishing relationships with private sector wholesalers and retailers with existing rural presence. Both wholesalers and retailers receive a small profit margin (approximately 15% and 20% respectively) on each ITN and net treatment kit sale, so as to motivate efficiency.

Distribution Incentives: PMSC's goal is to strengthen sustainable commercial distribution channels through time-limited efforts to open outlets, recruit wholesalers and create links with retailers. PMSC will implement this strategy in both rural and urban areas. In ***urban areas***, PMSC will use its existing distribution system, which has proven effective in condom and ORS sales. Promoters will work to identify, and help uplift stock to, retailers.

In ***rural areas***, six ITN promoters (2 per province) will identify potential venders in periodic markets, and provide them with a seed stock of nets, promotional items, and possibly other health products (such as condoms). Promoters will visit rural vendors bi-weekly to collect money, re-stock nets, and help with promotion. PMSC is setting-up an incentive scheme for its ITN promoters, which will be tied both to number of nets and net treatment kits sold, and number of new wholesale, retail, and non-traditional outlets in rural areas that begin stocking PMSC nets and net treatment. ITN Promoters will sign simple agreements with vendors and wholesalers, which include contact information, agreed-upon projected sales, a list of retailers that will be stocked (in the case of wholesalers), and a description of responsibilities (including logistics, inventory control, stocking and sales tracking). To ensure long-term sustainability, the new outlets incentive will only be awarded upon re-orders.

Local CBD Networks: **In Year 1**, PMSC will support MOH efforts to distribute free PNLP nets to pregnant women. PMSC prefers to work collaborately rather than duplicate efforts by trying to sell subsidized PMSC nets through the same channels. Instead, PMSC will distribute subsidized ITNs to mothers of under-fives in six pilot health centers, and at the same time train women's organizations, church groups and other interested community organizations in animation, sales techniques, and basic financial management, and supply them with nets and net treatment at wholesale prices.

In Year 2, once sufficient funding has been mobilized to support subsidized ITN distribution and once the outcome of the PNLP's effort to distribute free nets is clear, PMSC will begin actively distributing nets and net treatment through health centers. Local implementing partners FEMEC, Plan, SCS, ADRA and other CBD partners who may join later in the project, will be provided with sales and IPC training, ITNs and net treatment stocks for sale, POP/promotional materials for distribution, and IPC materials for use with clients. Thus when conducting IPC activities, ITNs and net treatment will be available for immediate sale. ITN promoters will visit biweekly to restock nets and net treatment, check documentation, and collect money. A portion of revenues will be left as incentive for health center staff.

Rural Sales Point Blitz: For 30 - 45 days in the third quarter of Year 1, PMSC will engage temporary sales and outreach staff to blitz rural areas of the intervention area, opening up new points of sale. As only six full-time BCC/Sales promoters will be working with PMSC for this project, this strategy will allow for the quick opening of new rural points-of-sale and linking rural retailers with wholesalers. Temporary sales agents will be employed again after six months to act as a maintenance check on the retailer-wholesaler system. The team will also be employed in Years 2 and 3 of the program to open up new sales points and check previously created sales outlets. The long-term effect of this effort will be strong, sustainable, commercial distribution channels. PMSC has successfully used this technique with Prudence Plus condoms.

Step 2 requires effective behavior change communication, to:

- Improve rural families' knowledge of ITNs and net treatment
- Improve rural women's price-value perceptions of ITNs and net treatment
- Enhance rural families' awareness of local retail outlets where products can be purchased

Step 2 will be accomplished through:

- Nationwide mass media campaigns and targeted rural intervention-area campaigns, aimed at increasing knowledge of:
  - Malaria transmission and prevention;
  - Pregnant women and under-five children as most vulnerable to malaria infection and malaria-related complications;
  - ITNs' effectiveness in reducing both nuisance biting and malaria;
- Intervention-area IPC campaign messages, elaborating and comparing prevention versus treatment costs;
- Intervention-area radio and print messages and promotional materials, increasing brand recognition and knowledge and awareness of local sales locations;
- Intervention-area radio and print messages informing pregnant women and mothers of under-fives that they are entitled to free nets (Year 1) or special ITN price reductions (Year 2) at specified outlets, to encourage them to protect themselves and their children from malaria.

Specific components include:

Local CBD Networks: PMSC will provide communications training and share social marketing expertise with local partner organizations, creating a portfolio of supportive communications approaches and materials for partner's use. Local partners will assist at the grass-roots level, educating the target population on malaria and prevention tools through entertaining IPC activities and materials. Additionally, PMSC will increase accessibility by leveraging partnerships with other PVOs currently creating demand for ITNs and net treatment.

Point-of-Purchase Materials: Specific communications materials will be produced and distributed, identifying particular outlets as a source of ITNs and net treatment. Outlet identification materials are supported by posters and pamphlets, which reinforce the benefits and overall value of ITNs and net treatment in malaria and mosquito nuisance prevention. POP items may include:

- Pamphlets,
- Bumper Stickers,
- Window Decals,
- Clocks.

Relationship Building: PSI strives to work in support of national malaria prevention strategies and in conjunction with Roll Back Malaria initiatives, in every country in which it, or its affiliates and partners, are active. Ensuring project activities are complementary to PNLP and WHO activities will remain an important aspect of the project. This will be accomplished by regular advocacy and technical interactions with these two partners, strengthening relationships and enabling useful collaboration. PMSC will continue working to create relationships between rural health centers and community groups and women's associations, to strengthen public sector distribution and to further the project's reach in rural areas.

Quality Assurance (QA)

The primary QA-related goal for IR2 is the quality, and efficient and timely procurement and distribution, of project commodities. PSI regularly provides affiliates and partners with technical assistance in quality assurance and QA protocols for all products and services being social marketed.

For the malaria prevention project, routine spot-checking and quality testing of commodities will be conducted as part of the procurement process. The nets used in this project will be a high-quality polyester fabric of 75 denier (fiber strength) with a mesh size of 156. These specifications have proven durable and functional in other ITN projects worldwide. Storage and delivery protocols will help ensure that nets and insecticide are distributed from PMSC warehouse to end users with minimal product damage or loss. Promoters will receive specific training in the demonstration and explanation of safe use and disposal of deltamethrin insecticide. PMSC will coordinate with the PNLP in monitoring resistance to insecticides.

Availability of Equipment and Supplies

Essential commodities for the success of the project are sufficient bednets and insecticide treatment kits to bring coverage up to at least one third of the approximately 1.5 million under-fives and WRA at-risk in the intervention area. This comes to approximately 440,000 nets (accounting for a current net ownership rate of 0.04 from baseline data) and 500,000 treatment kits.

Nets

General rural preferences for family-size, rectangular nets were determined in the KAP study and subsequent focus group research. Colored nets will be procured to alleviate concerns about dust showing too quickly on white nets, necessitating a higher-than-recommended number of washings. Differences in urban and rural settings may necessitate offering one or more net styles within the life of the project.

PMSC will have access to credit terms with major international net suppliers through its relationship with PSI. Since nets will be sold into the trade at product replacement cost (see below), these credit terms enable PMSC to establish a revolving procurement fund. Sales revenues reinvested in the project in this manner constitute a portion of the matching funds.

To create awareness, convey an image of quality and value, and encourage product purchase and usage, products will be attractively packaged and given a culturally identifiable brand name. Social marketing projects worldwide have used the power of brand marketing to build a positive image for health products that the consumer associates with desired benefits. Through focus group research early in the project, PMSC will select the appropriate image, colors, and messages related to the brand.

Insecticide Net Treatment

Treatment of mosquito nets with environmentally-safe insecticide doubles a net's efficacy in preventing malaria. While untreated nets provide some malaria protection, insecticide treatment is considered essential to the health impact of net promotion and distribution projects. PMSC will evaluate prospects for distributing long-lasting insecticide-treated nets (LLN), should the Cameroon government approve them within the life of the project. Due to logistical constraints caused by MOH's current LLN research, PMSC will procure untreated nets and ensure the availability of home retreatment kits, both by bundling them with each net and distributing them through the commercial sector. Most net projects have failed to produce net treatment rates above 25%, however, PSI has had notable success marketing individual-use net treatment kits in a number of countries.

Sustainability of Commodity Supply

Currently there is no reliable supplier of high-quality affordable ITNs in the intervention area. A number of demand creation and capacity-building activities, discussed in detail elsewhere, are aimed at addressing this lack of private sector suppliers.

During the life of the project, reliable and consistent commodity supply will be ensured by:

- Donor seed funding for initial commodities that will be distributed through market channels;
- Cost recovery pricing on untargeted nets and net treatment;
- Continued donor support for subsidized net and net treatment distribution to pregnant women and mothers of under-fives (additional funding sources are being located for this);
- Re-injecting sales revenue into stocks replenishment.

Due to limitations in commodities funding, an initial order of 40,500 nets and 60,500 insecticide tablets will be purchased and replenished through cost recovery mechanisms. The additional 20,000 insecticide tablets being procured will be targeted at households in the intervention area that already own untreated nets, consumers who buy non-project nets, and consumers who need to retreat their project nets at the end of 6 months.

During the life of the project, nets will be procured from a reliable international manufacturer through a tendering process. Currently, only one manufacturer produces insecticide tablets, so normal competitive bid processes are not possible. However, experience in a broad range of countries and programs has shown that insecticide treatment tablets are safer, easier to store and transport, and more readily acceptable to target populations than other individual-use insecticide formulations. Due to its global health reach, PSI has been able to negotiate favorable procurement terms with a number of manufacturers, including Bayer Environmental Science.

During the first year of the project, PNLP has made plans to provide 800,000 free ITNs to pregnant women through public and private health centers. Approximately 36,000 of these will be distributed in the intervention area. Because of this change to the external operating environment, PMSC will concentrate on supplying ITNs and net treatment kits through private sector wholesalers and retailers in the intervention area. To encourage ITN sales in rural areas where the population has less capital, PMSC is willing to supply the first stock on credit. When possible, deposits will be made on the first credit order. In addition to its own individual-use kits, PMSC will promote net treatment through public sector net treatment centers, which are expected to continue operation throughout the life of the project.

During the second year, PMSC will begin distribution of highly-subsidized ITNs and net treatment kits through partners' public and private health centers. PMSC is willing to provide the first seed stock on credit, since individual health centers do not have sufficient funds with which to make large stock purchases. An ITN promoter will visit each health center twice a month to check records, collect money, re-stock nets, and leave a portion of sales revenues as an incentive for participating clinic staff. PMSC will collaborate with MOH, FEMEC and SCS to train personnel, monitor activities, and supervise financial accountability in each of the respective health centers.

PSI believes that creating a brand with strong support from a social marketing organization that has control over the marketing mix is the best way to generate demand and improve both consumer perceptions of ITNs and their willingness to pay. A to Z, a major international net manufacturer which plans to open a factory in Cameroon this year, supports this strategy and

encourages overbranding of its products. The brand that PSI builds equity in could eventually be licensed to a commercial firm, which would lower barriers to entry even further and ensure sustainability of supply once the project is finished.

Overcoming Likely Supply Constraints

The likelihood that individual health centers, wholesalers or retailers will experience a stock-out is minimal. Promoters will be assigned to visit each outlet on a bi-weekly basis to replenish stock. However, PMSC has currently been able to mobilize $150,000 towards a revolving fund for nets and net treatment kits. PMSC is able to procure an initial order of 40,500 nets and 60,500 net treatment tablets, and plans to re-order once half of the initial stock is sold. This may lead to supply problems unless additional funding sources are identified. If nets sell more quickly than anticipated, PMSC may be forced to ration nets until new stock arrives. To avoid rationing or a stock-out, PSI and ACMS are working to identify additional funding sources, such as PNLP, UNICEF, KfW, or the Global Fund.

Supply Sustainability after Project End

Increased risk perception regarding malaria, and increased awareness of ITNs as a prevention strategy (under Objective 1), is expected to result in increased demand for and use of ITNs beyond the life of the project. As a "net culture" evolves in Cameroon, the need for massive BCC and promotional campaigns will diminish. Increased involvement of the commercial sector in supplying nets without subsidies (Objective 3) will ensure modest access to ITNs for less poor risk groups after the project finishes. Access for the very poor is likely to depend on continued donor support for targeted subsidies. PSI and ACMS are currently working to diversify funding sources so as not to risk stock-outs at project end.

Monitoring Supply Quality

Routine spot-checking and quality testing of commodities will be conducted as an integral part of the procurement process. The project team will routinely conduct inspections of in-country storage and distribution facilities, including warehouses and vehicles.

Ensuring Safe Storage and Usage of Insecticide

The main issues regarding safety of supplies in this project are the safe storage, usage, and disposal of insecticide treatment kits. Insecticide tablet formulations are very stable, and sturdy packaging significantly reduces tampering or accidental ingestion. With technical support from the London School of Hygiene & Tropical Medicine (LSHTM), PSI has developed simple low-literacy instructional insert for African ITN programs that can be adapted to local contexts. Pre-testing has shown this insert to serve as a significant aid to rural women in correctly treating bednets with insecticide tablets. Additionally, communications staff will incorporate

demonstrations of correct net treatment into IPC sessions and to increase understanding and compliance.

The greatest safety challenge is ensuring proper waste disposal after treatment and washing of ITNs. While deltamethrin is safe for humans and animals, it is toxic to fish and other marine life. Therefore the key communications objective for ITN safety is properly disposing of any remaining insecticide solution or washing water in latrines or covered with earth, well away from water sources.

Training and Supervision

In collaboration with the PNLP, SCS and FEMEC, PMSC will hold regular trainings on malaria and the preventive use of ITNs for health center personnel. PMSC will also invite distributors and retailers to half-day workshops on malaria, ITN use, direct sales techniques, use of promotional materials, and tips on product display. Participating distributors and retailers will receive small incentive packs, which may include a free sample net or insecticide kit, display racks, 'publicity packs' of promotional items, and entry into various contests. PMSC's promoters will visit each point of sale (both health center and commercial sector) bi-weekly to replenish stock, check on sales conditions (i.e., proper storage, correct sales prices), collect revenues if applicable, and offer additional assistance or training as necessary.

Intermediate Result 3: Strengthened sustainability of ITN and CS programming

Related Objectives:

- **Objective 3 -** Increase capacity to sustain demand creation and delivery of ITNs in Cameroon
- **Objective 4 -** Increase capacity of PSI in delivering health impact through MCH interventions

Related Activities 3:

- Conduct annual PRISSM for ACMS
- Conduct sustainability workshop for ACMS
- Impart technical assistance from PSI to PMSC
- Conduct training needs assessment with FEMEC, SCS, PNLP
- Develop and produce training materials for IPC
- Train FEMEC, SCS, PNLP staff and relevant private sector retailers
- Conduct advocacy workshop with public and commercial partners
- Collaborate with international net manufacturer to identify distributor for unsubsidized nets

Related Activities 4:

- Document best practices

- Produce PSI Profile on targeting ITN subsidies
- Produce "Product CD" for ITNs and net treatment
- Conduct yearly SWOT of MCH department
- Produce yearly marketing plan for MCH department
- Design CS Intranet page
- Fill Intranet page (and web site where appropriate) with lessons learned documents

Strengthening the sustainability of ITN and CS programming will be accomplished through two Project Matrix objectives:

1 Increased capacity of partner organizations to sustain ITN programming in Cameroon. This includes:
    a. increasing the capacity of ACMS, PMSC, and in-country partners to achieve sustainable health impact
    b. decreasing ACMS's financial vulnerability
2 Increased PSI capacity in MCH and CS programming

Sustainability of Behavior Change

One of the primary ways that PSI and ACMS will work toward ensuring sustainability is by holding quarterly partner meetings. These meetings will be hosted by ACMS but led by the PNLP, and used as a forum to discuss progress, needs, and collaboration with regard to partners' malaria interventions in Cameroon. This will be an opportunity for the Ministry of Health to coordinate efforts, and for partners to take advantage of one another's expertise in all aspects of malaria prevention (not only ITNs).

ACMS, PNLP, FEMEC, ADRA, Plan, and SCS are targeted as local partner organizations with which PSI will work to strengthen local capacities. PSI will work closely with ACMS, sharing social marketing expertise. The others will receive training in BCC, particularly IPC techniques, and CBD.

PSI technical and programmatic staff is training partners in general BCC techniques (specifically BCC for ITNs and net treatment), program design, and management. PMSC staff will receive training and refreshers in research interpretation and communications creation. ACMS intends to strengthen the sustainability of behavior change in Cameroon through the following activities and elements:

1. Making ITNs and net treatment available and accessible throughout the intervention area, especially in rural areas (measured through focus groups, distribution survey, and MIS records)
2. Reducing barriers to net and net treatment purchase in the target population through BCC aimed at increasing product understanding and motivating consumers to purchase and correctly use products (measured through KAP and Good Use surveys)
3. Training key ITN personnel in IPC techniques

4. Expanding activities through partnerships with additional NGO/PVOs, thus broadening coverage at the EOP.

PSI organizational capacity for behavior change in MCH and CS projects will be enhanced at the headquarters level. Informal project assessments and lessons learned will be forwarded to PSI, on an ongoing basis, and shared at relevant retreats. Such information will be utilized in ITN and CS programs conducted by PSI worldwide.

Sustainability of QA Mechanisms and Commodity Supplies

Sustainability of these programmatic elements necessitates reducing the financial vulnerability of partners. In an effort to minimize financial vulnerability, PSI has already obtained internal funding to support the initial procurement of commodities. Moreover, PSI and PMSC will ensure that the net supply continues through re-purchase with revenues generated and through negotiations with donors, and will strive to decrease ITN and net treatment costs per unit. This should occur through sales increases as a function of demand creation, greater rural distribution, and possibly PMSC and PNLP's joint purchase of commodities from a common source, increasing quantities and therefore leveraging an economy of scale. PMSC will revisit its Strategic Sustainability Plan annually and make improvements as necessary based on lessons learned.

PMSC intends to ensure the institutionalization of project operations beyond the life of the project through the following activities/elements:

1. Developing, in collaboration with PNLP and partners, an ITN training module that can be used by public health and PVO/NGO personnel;
2. Sharing lessons learned and best practices with PSI ITN programs, and those of other organizations, which will strengthen partners by allowing them to adopt successful strategies deployed during this project;
3. Building and strengthening IPC, CBD, and related capacity in local partners;
4. Ensuring long-term sustainability of supply by stimulating the commercial sector and improving the environment for its delivery of ITNs;
5. Demonstrating improvement in management as defined by PSI's PRISSM evaluation.

PMSC intends to ensure financial sustainability and cost efficiency beyond the LOP through the following activities/elements:

1. Securing additional funding for the ITN and net treatment project (diversification of funding base) from at least one other donor;
2. Revising PMSC's strategic sustainability plan, including an analysis of cost per unit;
3. Implementing strategies to reduce cost per unit.

PMSC takes very seriously the issue of increasing the commercial delivery of nets through private-sector distributors as a means of covering as many people as possible without subsidies. Through demand creation activities and market priming, PMSC will enable donor subsidies to be more tightly targeted through channels that it has developed (such as churches, health centers, women's associations, etc).

In the second year of the project, PMSC will collaborate with commercial-sector companies to introduce a higher-end net, aimed at middle and high-income people who can afford to pay more. PMSC would sell its 'deluxe' net at 20% above cost, to increase awareness and demand for nets in all socio-economic groups, thereby supporting the eventual introduction of larger-scale, for-profit organizations into the net market. PMSC will continue to sell cost-recovery and subsidized nets to consumers who cannot afford higher prices. At the same time PMSC will work to create a profit margin that supports private-sector autonomy and sustainability.

To date, PSI and PMSC have created economies of scale by increasing sales, and sharing overhead costs with other products and projects (for example, the social marketing of Prudence Plus condoms). PSI will continue to leverage these synergies. Additionally, PMSC's business relationship with the private sector and achievements in developing a non-traditional distribution network facilitates cheaper and more efficient product dissemination.

Several assumptions and constraints affect the ultimate success and sustainability of this project. These are:

- Political and cultural environment remains stable and/or improves;
- No unforeseen health problems are experienced (for example, famine) that would change resource allocation and support for malaria prevention;
- Mosquitoes do not become resistant to insecticide used on nets;
- Mosquito biting patterns do not change significantly;
- Complementary malaria control activities are at least maintained at current levels;
- PNLP (MOH) continues to support and collaborate with PMSC and the project;
- Consumer buying power remains unchanged or improves;
- Costs of nets, net treatment, and packaging do not change dramatically;
- Donors continue to fund projects in Cameroon.

E.4. WORK PLAN

All key partners were involved in the development of the Work Plan throughout the DIP preparation process (see Section C. Description of the DIP Preparation Process). PSI uses the Logical Framework, or "Logframe," approach to defining project objectives. "Purpose" represents the highest-level result that the program expects to materially affect.

Results Hierarchy	Performance Indicators	M & E	Assumptions
Goal Reduced incidence of malaria-related mortality and morbidity among children under five and pregnant women in East, Center, and South provinces of Cameroon (the "intervention area")	1. Reduction in all cause morbidity and mortality in children under five 2. Reduction in low-birth weight children 3. Reduction in malaria incidence among children under five years and pregnant women	Will not be evaluated at the goal level, due to project duration and lack of appropriate MoH statistical data	
Purpose Increased use of ITNs among children under five and pregnant women in intervention area, particularly among the poorest	1. Percentage of children under five and pregnant women reported to have slept under a net the previous night increased from estimated 4% to 33% in rural areas; 10% to 33% in urban areas. 2. Difference in reported use between 1st and 4th socioeconomic quartiles decreases by 25%.	1-2. KAP	Political and economic environment remains unchanged or improves Mosquitoes do not become resistant to deltamethrin used on ITNs Vector biting patterns do not change significantly

Logframe Activities	Responsibility	FY 2003				FY 2004				FY 2005			
		Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec
IR1: Increased informed demand for ITNs													
Objective 1 – Increase informed demand for ITNs in the intervention area													
Evaluation of baseline KAP data	PSI, PMSC	■											
Focus group discussions to determine consumer preferences and probe obstacles to use	PMSC	■											
Develop marketing plan	PSI, PMSC		■										

Develop advertising brief and launch RFP for the selection of a communications agency. Select agency.	PSI, PMSC														
Develop media plan for mass media campaign, radio drama, and monthly radio shows. Negotiate broadcast contracts with radio stations.	PMSC														
Produce and pre-test TV and radio spots and micro-programs.	PMSC														
Produce promotional items and point of sale advertising.	PSI, PMSC														
Develop IEC training kits	PMSC, ADRA, FEMEC, SCS, Plan														
Recruit and train animators and develop broadcast plan for monthly rural radio shows.	PMSC														
Select writer and develop script for radio drama	PMSC														
Select production agency, pre-test, and produce radio drama	PMSC														
Broadcast radio spots in Yaoundé.	PMSC														
Hold launch ceremony in Yaoundé	PMSC														
Broadcast TV spots and radio spots in rural areas	PMSC														
Broadcast radio drama and monthly radio shows	PMSC														
Hold launch ceremonies in each provincial city where there's a wholesaler.	PMSC														
Hold focus groups to test logo/slogan/brand, IEC materials, effectiveness of BCC	PMSC														
Retention surveys	PMSC, ADRA, FEMEC, SCS, Plan														
Mid-term evaluation	PMSC, ADRA, FEMEC, SCS, Plan														
EOP KAP	PMSC														
IR 2: Improved equitable access to ITNs															
Objective 2 -Improve equitable access to ITNs in the intervention area															
Define the products, including types of nets and insecticide, brand names and packaging.	PSI, PMSC														
Import commodities	PSI, PMSC														
Set up warehouse and office; hire and train project staff	PMSC														
Recruit and train PMSC training team.	PMSC														
Define sales and promotion policies and price structure	PSI, PMSC														
Select wholesalers in urban areas.	PMSC														
Train wholesalers, recruit sales managers, and set up an urban distribution network.	PMSC														
Train private sector distribution partners in urban areas in	PMSC														

IEC and sales techniques.														
Sell products through the private sector in urban areas	PMSC													
Conduct joint sales calls with wholesalers to points of sale in urban areas.	PMSC													
Recruit additional members for PMSC training team. Conduct training for rural training teams.	PMSC													
Mystery Client surveys	PMSC, ADRA, FEMEC, SCS, Plan													
Retail audit/distribution surveys	PMSC, ADRA, FEMEC, SCS, Plan													
IR3: Strengthened sustainability of ITN and CS programming														
Objective 3 – Increased capacity of partner organizations to sustain ITN programming in Cameroon														
Conduct annual PRISSM exercise with PMSC staff and partners.	PSI, PMSC													
Hold a sustainability workshop for ACMS	PSI, ACMS													
Together with faith-based organizations and PVOs, develop training curriculum and training plan for rural health facilities.	PSI, PMSC, FEMEC, SCS, Plan, ADRA													
Train faith-based organizations and PVOs in rural areas in IEC and sales techniques.	PMSC, FEMEC, SCS, Plan, ADRA													
Together with partners, conduct joint quarterly training and sales visits to each rural health facility.	PMSC, FEMEC, SCS, Plan, ADRA													
Work together with private sector partners in programming, training, and implementation.	PMSC													
Work together with public sector partners in programming, training, and implementation.	PMSC, PNLP													
Organize an advocacy workshop for the MOH and civil society partners to explain the project, emphasizing the role of private sector partners.	PMSC													
Hold annual one-day review workshop for private and public sector partners and the MOH to go over successes and areas needing improvement.	PMSC, ADRA, FEMEC, SCS, Plan, PNLP, UNICEF, WHO													
Objective 4 – Increased PSI Capacity in MCH/CS														
Release PSI Profiles	PSI													
Release ITN CD	PSI													
Yearly SWOT	PSI													
Yearly marketing plan for MCH department	PSI													
Introduce MCH/CS Intranet page	PSI													

Differences From Proposal Work Plan:

- Inclusion of additional partners
- Minor time-period changes (e.g. initial advocacy meeting rescheduled from March to April) to reflect current realities

ANNEXES