

**EVALUATION REPORT  
ON JAPANESE TECHNICAL COOPERATION  
FOR  
THE MAJOR INFECTIOUS DISEASES CONTROL PROJECT  
IN MYANMAR  
  
[MALARIA]**

**15 June 2007**

**JAPAN INTERNATIONAL COOPERATION AGENCY, JAPAN**

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## **1. Implementation Process and Achievement**

### **1.1. Inputs**

#### **(1) Japanese Contribution**

##### **1) Experts**

- Long-term experts: One (1) long-term expert has been dispatched for Malaria Control Project.
- Short-term experts: A total four (4) short-term experts for Malaria Control Project by the end of March, 2007. The fields of short-term experts are; two (2) were experts for Quality Control of Malaria Diagnosis, one (1) for Monitoring and the other one (1) for Case Management.
- The list of experts is shown in Annex 2.

##### **2) Provision of equipment**

- Equipment worth 100,070 US Dollars in total have been provided for Malaria Control by the end of March, 2007.
- 63,293 US\$ (63%) is for the materials of treatment, diagnosis and prevention and 36,777 US\$ (37) is for equipment including a vehicle.
- Some materials have not been procured timely; eg. a vehicle and some medical materials..
- The equipment is supervised adequately.
- The list of equipment is shown in Annex 3.

##### **3) Training and conference**

- Training for VBDC Team Leaders, TMOs, BHS, Health Workers were conducted as shown in Annex 11.
- External Review and Seminar on Malaria Control were conducted in collaboration with UN agency, NMCP, etc.

##### **4) Training for Counterparts in Japan**

- One (1) VBDC staff person was trained under the counterpart training scheme in Japan at various health facilities in Okinawa Prefecture in Japan. (As shown in Annex 6.)

##### **5) International training (ACT Malaria)**

- Four (4) VBDC staff person persons participated in the third-country training of “International Course on Strategic Malaria Control Management” in Thailand supported by JICA in place of ACT Malaria.

##### **6) IEC materials**

- Various IEC materials were prepared as shown in Annex 7 and utilized effectively.

##### **7) Operation Cost**

- A total 191,703 US Dollars has been provided for Malaria Project by the end of March, 2007.
- The list of local cost is shown in Annex 4.

#### **(2) Myanmar Contribution**

##### **1) Counterparts**

- One responsible person has been identified to implement Project as the key counterpart (As shown in Annex 5). In addition, many officers have been in charge of the Project not only at the Central but also at Division and Township levels (As shown in Annex 10).

##### **2) Office space for experts**

- The office for the Japanese expert has been provided on the 2<sup>nd</sup> floor of VBDC Yangon Office (ex-VBDC Head Office).

##### **3) Allocation of budget**

- None for the Project activities in a narrow sense.

## 1.2. Activities

- Activities consist of the following fields as shown in PDM, and their achievements are summarized below.

Activities	Achievement
1-1. Empower communities for malaria control.	- GPS survey including mapping, baseline data collection, entomological, socio-behavioral survey, etc. was completed at 12 T/Ss with community participation.
1-2. Develop community friendly technology package for treatment and prevention of malaria	<ul style="list-style-type: none"> <li>- Community based approach, which is a worldwide standard, has been installed by Project in Myanmar for the first time.</li> <li>- Various activities and ORs to support them have been implemented as shown below from 1-2-1 to 1-2-6.</li> <li>- GIS Base Map for operations was developed at 11 T/Ss.</li> <li>- The prototype of community friendly technology package for treatment and prevention of malaria (so-call "Package") has been put together. (See the table on the next page)</li> </ul>

**Contents and role of technology package for Community Based Malaria Control**

Intervention	Activities	Level of Health Service				Refer to PDM (Activities)
		Community	Health Center	Township	Division	
EDPT (Early Diagnosis and Prompt Treatment)	Implementation Diagnosis, Treatment					1-2-1
	Develop guidelines					1-2-1
	Quality Control Diagnosis (Guideline)					5-2
	Quality Control Diagnosis (Implementation)					1-2-1
Prevention	Implementation (Bednet survey)					1-2-3,1-3, 1-4, 3-1
	Implementation (Bednet Distribution)					1-2-2,
	Implementation (Treatment and retreatment)					1-2-2,
	Planning (Distribution, Treatment)					1-2-2, 3-1, 4-1
Epidemic Preparedness	Develop Guideline					3-2, 4-1, 4-2, 5-1, 5-2
	Epidemic detection					3-2, 4-1, 4-2
	Epidemic response					3-2, 4-1, 4-2
<b>The above intervention must be supported with:</b>						
Planning	National Strategic Plan					
	Divisional Plan					
	Stratification (Guideline)					
	Stratification (Implementation)					
BCC (Behavior Change Communication)	Micro Planning					
	National BCC Strategy					
	Develop materials and guideline					
	Implementation (at Community)					
Human resource development	Training (Guideline, Manual)					
	Training					
Logistics Management	Guideline					
	Implementation					
Monitoring and Evaluation	Monitoring and Evaluation tool (guideline)					
	Implementation (EDPT, Prevention, Epidemic Preparedness)					
Operational researches						
		<b>Tactical Package</b>			<b>Strategic Package</b>	

Activities	Achievement																																																										
1-2-1. Improve access to and quality of malaria diagnosis and treatment	<p>-RDT, anti-malaria and microscopes have been distributed regularly 4 T/Ss.</p> <p>-Logistics management system (buffer stock system) was developed and was conducted regularly at 4 T/Ss.</p> <p>- Patients record system was developed and data for monitoring are collected from every Health Center at 4 T/Ss.</p> <p>- Percentage of health facilities able to conduct confirmatory diagnosis such as microscopy, RDT at Project area is;</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="4">Target township</th> </tr> <tr> <th>Oakpho</th> <th>Bago</th> <th>Kyauk Ta Gar</th> <th>Deik U</th> </tr> </thead> <tbody> <tr> <td>The number of Health Facilities</td> <td>30</td> <td>46</td> <td>36</td> <td>36</td> </tr> <tr> <td>The number of health facilities able to conduct confirmatory diagnosis</td> <td>30</td> <td>46</td> <td>36</td> <td>36</td> </tr> <tr> <td>Target (%)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> </tr> <tr> <td>%</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> </tr> </tbody> </table> <p>Source; VBDC</p> <p>- Percent of confirmed Pf cases treated by ACT is;</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="4">Target township</th> </tr> <tr> <th>Oakpho</th> <th>Bago</th> <th>Kyauk Ta Gar</th> <th>Deik U</th> </tr> </thead> <tbody> <tr> <td>The number of Pf cases</td> <td>1933</td> <td>1212</td> <td>865</td> <td>1246</td> </tr> <tr> <td>The number of Pf cases treated by ACT</td> <td>1933</td> <td>1212</td> <td>865</td> <td>1246</td> </tr> <tr> <td>Target (%)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> </tr> <tr> <td>%</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> </tr> </tbody> </table> <p>Source; VBDC</p>		Target township				Oakpho	Bago	Kyauk Ta Gar	Deik U	The number of Health Facilities	30	46	36	36	The number of health facilities able to conduct confirmatory diagnosis	30	46	36	36	Target (%)	100	100	100	100	%	100	100	100	100		Target township				Oakpho	Bago	Kyauk Ta Gar	Deik U	The number of Pf cases	1933	1212	865	1246	The number of Pf cases treated by ACT	1933	1212	865	1246	Target (%)	100	100	100	100	%	100	100	100	100
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Activities	Achievement
<p><b>Activities</b></p> <p>1-2-2. Scaling up usage of ITN.</p>	<p>- 400 ITNs in 2005 and 500 in 2006 were distributed to agro-forestry workers at OakPho.</p> <p>- The fact that forest workers do not intend to carry bednets into the forest has been revealed by the socio-behavioral survey.</p> <p>- Flipcharts for forest workers were completed to show them the benefit of bednets in forest.</p> <p>- Operation Research (OR) on effectiveness of ITNs and LLINs was conducted with community participation at Teikyí T/S, Yangon Division from October 2004 to December 2005 as the monthly evaluation and the annual follow-up evaluation has started since December 2006.</p> <p>- OR revealed the evidence that the longitudinal efficacy of ITN and LLIN was not sufficient .</p> <p>-Bednets distribution has been changed only to the strategically effective targeted areas based on the above findings from OR. (The number of bednets actually distributed could be reduced from 3,000 to 1,600 and expense could be shifted to anti-malaria medicine.</p> <p>- OR on efficacy of insecticide treated blanket for agro-forestry workers is being implemented.</p> <p>-“Illustrated Key to the Indication of the Adult Female and Full-grown larvae of Anopheles in Myanmar” and “Indoor Residual Spraying” was completed for printing.</p> <p>- Percent of household which holds at least one bednet at Project area is;</p>

	Strata		
	A	B	C
The number of households	1964		
The number of households owning nets	1964	Not targeted	Not targeted
Target (%)	100		
%	100		

A: High risk area, B: Low or few area, C: No risk

Activities	Achievement
<b>Activities</b> 1-2-3. Improve referral system	<ul style="list-style-type: none"> <li>- Case management investigation by medical doctors and other health staff person persons based on patient records at OakPho T/S hospital and clarified the fact that community level is rather important to improve referral system than improving at the hospital level.</li> <li>- Referral slips are under developing.</li> </ul>

Activities	Achievement
<b>Activities</b> 1-2-4. Develop and implement culturally appropriate IEC	<ul style="list-style-type: none"> <li>- IEC materials for bednet treatment were developed and IEC was conducted.</li> <li>- Training materials for BHS were completed and training courses were conducted at 15 T/Ss.</li> <li>- Flipcharts for forest workers were completed. Title: How to avoid malaria infection in the forest</li> <li>- Video for forest workers was completed and broadcasted on TV.</li> <li>- CDs of video have been distributed to some of VBDC teams and planned to be handed over to the other VBDC Teams)</li> <li>- The list produced of IEC is shown in Annex 7.</li> </ul>

Activities	Achievement
<b>Activities</b> 1-2-5. Conduct training for BHS and VHWs	<ul style="list-style-type: none"> <li>- Training courses for BHS, SMOs, TMOs and hospital staff person persons to improve knowledge and practical technology on diagnosis, treatment, bednets, bednet treatment, data recording and reporting were conducted at 12 T/Ss.</li> <li>- "Pre and Post Test" for participants were conducted and statistical significant result was observed.</li> <li>- Training for CHWs as selected trainees from communities and forest rangers was conducted at OakPho. Other training courses at the remaining T/Ss have not been conducted because CHW training is more effective after BHS training on logistics supply data analysis be completed.</li> </ul>

Activities	Achievement
1-2-6. Introduce school based malaria control activities	<ul style="list-style-type: none"> <li>- School surveys were conducted at primary and high schools at OakPho in 2005.</li> <li>- The results were summarized on handmade flipcharts and presented at the schools by the TMO as "Health Education for Students".</li> <li>- The flipchart with guideline (instruction for users) for communities and schools was developed. Title: How to avoid malaria infection in the forest</li> </ul>

Activities	Achievement
<b>Activities</b> 1-3. Coordinate intersectoral collaboration	<ul style="list-style-type: none"> <li>- The preliminary workshop was conducted at OakPho under TPDC initiative.</li> <li>- Forest rangers were trained as CHWs at OakPho in 2005.</li> <li>- Collaboration with schools was implemented.</li> <li>- Bednets were distributed to agro-forestry workers at Oakpho in cooperation with Forest Department.</li> </ul>



Activities	Achievement
<b>Activities</b> 1-4. Link with other health related activities	IC activities were collaborated with National Sanitation Program at OakPho.

Activities	Achievement
2-1. Conduct training for health workers in deferent levels.	<ul style="list-style-type: none"> <li>- The clinical conference was conducted at Oakpho.</li> <li>- Training courses for BHS, SMOs, TMOs and hospital staff person persons to improve knowledge and practical technology on diagnosis, treatment, bednets, bednet treatment, data recording and reporting were conducted at 12 T/Ss.</li> <li>- "Pre and Post Test" for participants were conducted and statistical significant result was observed.</li> <li>- Training for CHWs as selected trainees from communities and forest rangers was conducted at OakPho. Other training courses at the remaining T/Ss have not been conducted because CHW training is more effective after BHS training on logistics supply data analysis be completed..</li> <li>- Training courses for the quality control of malaria microscopy at RHCs and Sub HCs were conducted at OakPho.</li> <li>- Manuals and standard slides of the external quality assessment were prepared to improve the quality of microscopy at RHCs.</li> </ul>
2-2. Conduct training of proper referral system to communities.	- Not conducted because the case management investigation is thought more effective to improve referral.

Activities	Achievement
3-1. Stratify epidemic prone areas on GIS and investigate dynamics of epidemic.	<ul style="list-style-type: none"> <li>-Data was collected to analyze micro-epidemiologically for stratifying at Oakpho.</li> <li>-GIS system was installed in Bago East and West Division.</li> <li>- GIS training was conducted the whole country in cooperation with WHO.</li> <li>- Base maps for hazard maps are on preparing.</li> <li>- JICA Project Consultation Team in 2005 recommended to modify the description of this activity for "Develop hazard map by GIS" to clarify the content.</li> </ul>
3-2. Develop early warning system.	<ul style="list-style-type: none"> <li>- Monitoring system for epidemics by utilizing the existing data formats, eg. the epidemiological data format and/or the logistics management format which will be helpful for detecting epidemic by checking unusual consumption of anti-malaria medicine at community levels, is under developing.</li> <li>- Forest rangers were trained as a CHW by using the manual for BHS training.</li> <li>- JICA Project Consultation Team in 2005 recommended to modify the description of this activity for "Implement IEC to detect epidemics".</li> </ul>

Activities	Achievement
4-1. Conduct training for GIS.	<ul style="list-style-type: none"> <li>-GIS basic training for all VBDC Team staff persons, all Team leaders and selected staff person persons, were conducted.</li> <li>- Update sessions have been held annually after the original training course.</li> </ul>
4-2. Training of BHS for epidemiological analysis.	- Not yet done because data to analyze in the training should be collected by BHS themselves. They are now under data collection.

Activities	Achievement
5-1. Share the information in regional meeting. (Mekong RBM)	- Attended the training conducted by Mekong RBM in cooperation with VBDC and WHO.
5-2. Conduct collaborative activities with partners.	<ul style="list-style-type: none"> <li>-Participated TWG meetings for National Malaria Control Strategic Plan constantly.</li> <li>-External Review was conducted in collaboration with WHO, UNICEF and JICA.</li> <li>-Participated and presented the achievement of the Project with C/P Project at WHO/SEARO malaria program manager meeting and technical working group meeting as a core member.</li> <li>- "Seminar on Malaria Control in collaboration with NMCP, DOH" was conducted, and TMOs, from the Project area, VBDC malaria team leaders from the whole country, UN agencies, International NGOs and National NGOs.</li> </ul>



Activities	Achievement
6. Operational and applied field research for out puts.	- See below

### List of operation IResearch

SN	Title	Objective	Input (Japan)	Achievement as of May 2007	relate to PDM
1	Longitudinal study of efficacy of ITN and LLIN under Local Setting	To develop most effective preventive intervention by net	Long term Expert, Local cost	Longitudinal study was completed.	1-2
2	Efficacy of insecticide treated blanket to prevent malaria for forest workers	To develop user friendly preventive measure for forest workers	Long term Expert, Local cost	Preliminary study was conducted. Field trial has not been conducted because rainy season has not come.	1-2
3	Quality Control of malaria medicine	To investigate the prevalence of fake anti-malaria.	Local cost	Laboratory was renovated and required reagent was provided.	1-2
4	Quality Control of Microscopic Diagnosis	To develop total quality management for microscopic diagnosis	Short term Expert	External Quality Control was improved. Draft of SOP was developed.	1-2
5	Treatment seeking behavior in villagers	To analyze the situation of treatment seeking and knowledge of malaria	Short term Expert, Local cost	The outcome from OR utilized development of micro stratification and BCC.	1-2
6	Improvement of Case Management in the Health Facilities	To analyze the situation of case management at hospital and referral system	Short term Expert, Local cost	Case conference was conducted to improve case management and referral system	1-2

### 1.3. Outputs

- The Project team and the evaluation team reviewed the original objectively verifiable indicators shown on the PDM and modified original ones tentatively and evaluated by utilizing it.
- The modified indicators are shown in the table below in boldfaced type.

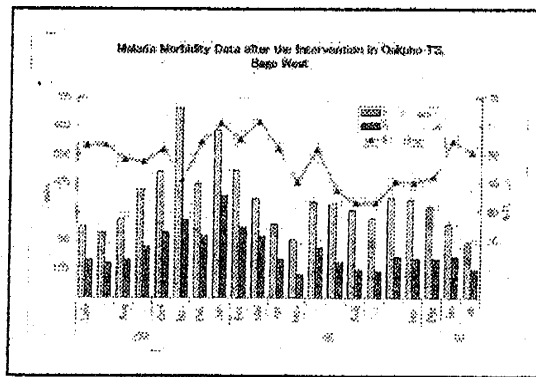
Output	Objectively Verifiable Indicators	
	Original	Tentatively revised
1. Community based malaria control program is effectively introduced in selected areas.	1-1. Malaria morbidity and mortality in project site. (not revised) 1-2. Development of the package. 1-3 Mekong Roll Back Malaria indicators. (indicators for early diagnosis and proper treatment, bednet usage)	<b>1-1. Malaria morbidity and mortality in project site.</b> 1-2. Development of the package. 1-3 Mekong Roll Back Malaria indicators. (indicators for early diagnosis and proper treatment, bednet usage) <b>1-4. Access from communities to health facilities</b> <b>1-5. Logistics management system of medical materials</b>

2. Collaboration between communities and health facilities is improved in selected areas.	2-1. Number of referral severe and complicated cases 2-2. Case fatality rate among severe and complicated cases	2-1. Number of referral severe and complicated cases 2-2. Case fatality rate among severe and complicated cases 2-3. Number of malaria suspected patients accessing to health facilities 2-4. Ratio of referral cases out of severe and complicated cases at community level 2-5. Number of patients, number of severe and complicated cases and number of malaria death at hospital
Output 3: System for prevention and management of epidemics is established.	3-1. Hazard map for epidemic management developed (not revised) 3-2. Number of townships introduced early warning system (not revised)	3-1. Hazard map for epidemic management developed 3-3. Essential data for hazard map collected and revised regularly 3-2. Number of townships introduced early warning system.
Output 4: Epidemiological analysis system is improved	4. Number of state and divisions introduce GIS system	4. Number of states and divisions introduce/utilize GIS system
Output 5: Regional collaborative activities are strengthened.	5. Number of in-country trainings are conducted based on results of the activities	5-1. Number of in-country training courses conducted based on results of the activities 5-2. Contribution to partners by sharing results and knowledge
Output 6: Operational and applied field research effectively contributes for outputs.	6. Number of evidences and findings utilize for each output	6. Number of evidences and findings utilize for each output 6-2. Number of technical reports and their contribution for outputs

- The results of outputs are summarized below. (Only utilized indicators are presented in the table.)

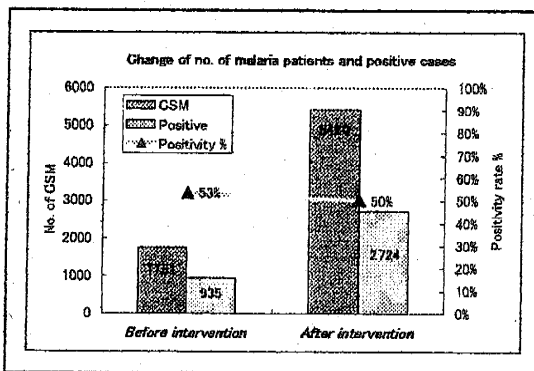
**Output 1: Community based malaria control program is effectively introduced in selected areas.**

Indicator	Results										
1. Malaria morbidity and mortality in project site. 2. Access from communities to health facilities 3. Logistics management system of medical materials	<p>- Essential activities have been implemented and the prototype of community friendly technology package ("Package") was developed at OakPho Pilot Project site.</p> <p>-The number of malaria morbidity and mortality has been observed decreasing at OakPho due to improvement of health services.</p> <div style="text-align: center;"> <table border="1"> <caption>No. of Malaria Death in Oakpho</caption> <thead> <tr> <th>Year</th> <th>No. of malaria death</th> </tr> </thead> <tbody> <tr> <td>2003</td> <td>18</td> </tr> <tr> <td>2004</td> <td>9</td> </tr> <tr> <td>2005</td> <td>12</td> </tr> <tr> <td>2006</td> <td>2</td> </tr> </tbody> </table> </div> <p>Source; VBDC</p>	Year	No. of malaria death	2003	18	2004	9	2005	12	2006	2
Year	No. of malaria death										
2003	18										
2004	9										
2005	12										
2006	2										



Source; VBDC

-Access to Health facilities has been improved at OakPho



Source; VBDC

- The logistics management system to avoid stock-out medicine at the HCs was developed and is working adequately at 4 T/Ss

**Output 2: Collaboration between communities and health facilities is improved in selected areas.**

Indicator	Results												
<p>1. Number of malaria suspected patients accessing to health facilities</p> <p>2. Ratio of referral cases out of severe and complicated cases at community level</p> <p>3. Number of patients, number of severe and complicated cases and number of malaria death at hospital</p>	<p>-The number of malaria suspected patients to visit health facilities has been observed increasing at Oakpho.</p> <div data-bbox="603 383 1177 748" data-label="Figure"> <table border="1"> <caption>Change of no. of malaria patients and positive cases</caption> <thead> <tr> <th>Category</th> <th>Before intervention</th> <th>After intervention</th> </tr> </thead> <tbody> <tr> <td>No. of CSM</td> <td>~1800</td> <td>~5500</td> </tr> <tr> <td>Positive</td> <td>935</td> <td>2724</td> </tr> <tr> <td>Positivity %</td> <td>53%</td> <td>50%</td> </tr> </tbody> </table> </div> <p>Source; VBDC</p> <div data-bbox="603 797 1187 1200" data-label="Figure"> </div> <p>Source; VBDC</p> <p>- The survey for proper referral cases has been started based on the patient records analysis.</p>	Category	Before intervention	After intervention	No. of CSM	~1800	~5500	Positive	935	2724	Positivity %	53%	50%
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No. of CSM	~1800	~5500											
Positive	935	2724											
Positivity %	53%	50%											

**Output 3: System for prevention and management of epidemics is established.**

Indicator	Results
<p>1. Hazard map for epidemic management developed</p> <p>2. Essential data for hazard map collected and revised regularly</p> <p>3. Number of townships introduced early warning system.</p>	<p>- The logistics management system for medical materials was developed as one of indicators to detect the first sign of epidemics by tracing unusual usage of anti-malaria medicine.</p> <p>- Base maps for the hazard map are under preparing.</p> <p>- Collecting information of the big development projects such as road and dam constructions are under preparing.</p>

**Output 4: Epidemiological analysis system is improved**

Indicator	Results
<p>1. Number of states and divisions introduce/utilize GIS system</p>	<p>- Inter-country GIS training was conducted in 2004 in cooperation with WHO.</p> <p>- Instruments of GIS (PCs and GISs) were provided to all VBDC teams in cooperation with WHO.</p> <p>- GIS training for all VBDC team leaders was conducted at Central VBDC Office in 2005.</p>

**Output 5: Regional collaborative activities are strengthened.**

Indicator	Results
1. Number of in-country training courses conducted based on results of the activities 2. Contribution to partners by sharing results and knowledge	- International Review was held in 2005. - Attended and contributed various IEC project meetings conducted by partners.

**Output 6: Operational and applied field research effectively contributes for outputs.**

Indicator	Results
1. Number of technical reports and their contribution for outputs	- See below.

**List of Operational Research**

SN	Title	Objective	Input	Achievement as of May 2007	relate to PDM
1	Longitudinal study of efficacy of ITN and LLIN under Local Setting	To develop most effective preventive intervention by net	Long term Expert, Local cost	Longitudinal study was completed.	1-2
2	Efficacy of insecticide treated blanket to prevent malaria for forest workers	To develop user friendly preventive measure for forest workers	Long term Expert, Local cost	Preliminary study was conducted. Field trial has not been conducted because rainy season has not come.	1-2
3	Quality Control of malaria medicine	To investigate the prevalence of fake anti-malaria.	Local cost	Laboratory was renovated and required reagent was provided.	1-2
4	Quality Control of Microscopic Diagnosis	To develop total quality management for microscopic diagnosis	Short term Expert	External Quality Control was improved. Draft of SOP was developed.	1-2
5	Treatment seeking behavior in villagers	To analyze the situation of treatment seeking and knowledge of malaria	Short term Expert, Local cost	The outcome from OR utilized development of micro stratification and BCC.	1-2
6	Improvement of Case Management in the Health Facilities	To analyze the situation of case management at hospital and referral system	Short term Expert, Local cost	Case conference was conducted to improve case management and referral system	1-2

**1.4 Overview of the Project**

- The progress of the Project can be overviewed as follows.

*Process and achievement*

- The Project has been implemented by Community Based Approach, an indispensable approach for malaria control. It was started at OakPho Township as the initial pilot area and then was expanded to a total of fifteen (15) Townships.
- The following results are observed.
  - 1) The collaboration between communities and health facilities, namely between patients and medical officers/health staff person, has been improved.
  - 2) Micro-planning based on the features of each Township has become possible by developing

micro-stratification.

- 3) This has enabled to achieve efficient and concentrated distribution of bednets to strategically selected areas.
  - 4) The logistics management system for medical materials, test kits and anti-malaria drugs has been improved. After the new system was placed, all the materials are directly distributed to each RHC (rural health center), which is grass-roots health facility. This improved system is effective not only for avoiding stock-out of materials at the community level, but also for the early warning system to detect epidemic by analyzing monthly reports.
  - 5) All the above outcomes have resulted in EDPT (early diagnosis proper treatment), which has been contributing to decreasing of morbidity and mortality.
- A medical officer from the District Hospital introduced activities shown below;

<b>Strength and weakness</b>	
<b><u>Before Intervention</u></b>	<b><u>After Intervention</u></b>
<b>Logistic Supply System</b>	
-Malaria drugs were supplied from CMSD through TMO up to RHC level.	- Drugs are supplied from JICA through TMO up to S/C level.
-Malaria drugs were supplied by break down system	- Drugs are supplied according to morbidity report.
-Only limited malaria drugs were supplied (eg. CQ, Primaquine, Fansidar, Quinine)	-Multi malaria drugs are supplied by JICA (eg. Artesunate, Mefloquine, Artemether, CQ, etc.)
-Annual supply once per year.	-Regular supply throughout year
<b>Reporting System</b>	
-Monthly reporting system.	- Monthly reporting system.
-Adequate reporting form.	- Adequate reporting form.
-Report malaria case as CSM (OP/IP).	-Report cases as Pf, Pv, Mixed and, etc.
-Not mention use of drug.	-Monthly drug received, issue, used, balance.
<b>Workload</b>	
-No diagnostic facilities at Station Hospital, RHC and SHC.	-Diagnostic facilities such as Microscope, RDT are present at RHC and SHC level.
-Using referral system; cerebral and severe complicated malaria cases refer to township hospital.	-Patients can get early diagnosis and prompt treatment at RHC & SHC level and it can prevent cerebral and severe and complicated malaria.
-Low workload to fill up monthly report.	-More workload to fill up monthly report form (Forms are more detail).
<b>Microscopic Diagnosis in Hospital and RHC Level</b>	
-Using microscope only in Township Hospital.	-Microscope in Township, Station and RHC level.
-Taking blood film and sent to township level for diagnosis and result feedback to respective RHC and SHC.	-Can get diagnosis at RHC and SHC level by using microscope and RDT.
-No refresher course for microscopist.	-Quarterly refresher course for microscopist.

Source; Dr. Maung Maung Sein, Bago District Medical Officer, Bago East Division, 2007



### *Impact on International Organizations*

- The results of the Project have been appreciated by international organizations such as WHO, UNICEF, etc.
- The team leader of the Joint External Review held in cooperation with JICA, WHO and UNICEF in 2005 handed out her note at the meeting, in which she praised the achievement of the Project as follows.
- UNICEF office in Myanmar also highly recognized the achievement of the Project, and has started its activities by utilizing the micro-stratification technique at eighty (80) Townships. It introduced the Project activities in their proposal to the headquarters as shown below.

#### **Micro-stratification can maximize the cost-effectiveness of ITN**

##### **– Experience of JICA in Bago Division –**

In the experience of JICA in Bago division, the project township was divided into three malaria risk categories: a high risk area in forest fringes, a moderate risk area, and a low risk area along river. The main source of infection was forest related work but all family members seemed to be at risk in the high risk area. On the other hand, only adult male workers occasionally contracted with malaria in moderate risk areas without children and women being at high risk. This epidemiological pattern is suggestive for the existence of local transmission in the high risk area but no transmission in the moderate risk area. In other words, ITN will have impact in the high risk areas but may have no impact at all in the moderate risk area.

According to this micro-stratification finding, JICA provided only 1,000 ITNs in the high risk area. This number is very small comparing with an amount of 5,000 to 10,000 per township UNICEF used to provide in the last programme cycle. The number of ITNs is substantially small but the impact is expected to be huge mainly due to the concentrated effort on provision, communication for utilization, and also on re-impregnation activities.

Source; UNICEF, 2005

### *Contribution to National Strategy*

- The Project has been implemented according to the policy of the authority of Myanmar, Vector Borne Disease Control (VBDC).
- Close partnership between the Project and the authority is effective not only for disseminating the outputs and experiences of the Project but also for contributing to National Strategic Plan for malaria control.
- The Project achievement has been incorporated into draft of National Strategic Plan for Malaria Prevention and Control in Myanmar, 2006-2010 (so-called Draft of Guideline 2006 – 2010) as shown below.

### ***Micro-stratification***

Because malaria is a focal disease, it is essential in malaria control to identify the areas and populations at high risk, which must be prioritized for preventive measures. Over the last 2 years, the NVBDC with its technical partners have developed an approach to this micro-stratification, which reflects practical experiences from the country and other south-east Asian countries with similar problems. This approach allows the use of simple and available ecological, social and epidemiological indicators to classify any area or village as malarious, potentially malarious (i.e. epidemic-prone) and non-malarious, with malarious being sub-classified as high, moderate and low risk. The criteria for classification are described in detail in Annex 1. As indicated in the table, this classification then makes it possible to determine the target populations and prioritize among them. This approach has been pilot-tested and refined in collaboration between NVBDC, JICA and WHO. It is now included in the UNICEF support to malaria control in 80 townships, in training courses, and stratification exercises carried out “bottom-up” from sub-rural health center level to State/division level. It thereby provides a basis for micro-planning for distribution of resources and activities. (p.30)

### **JICA**

A long term expert was provided since June 2003, with short term experts (about four per year) in epidemiology, social anthropology, community health and quality control for diagnosis. A community based project is supported in Oak Pho township in West Bago division. Based on a malariometric survey, entomological and socio behavioural studies, the township has been stratified into high transmission area with transmission in the villages, moderate transmission areas with only seasonal malaria and malaria in male forest workers and temporary migrants and low and no transmission areas. The project has successfully piloted the use of RDTs and ACTs as well as promotion and re-treatment of ITNs by CHWs. The use of insecticide-treated blankets is now being explored for people entering the forest. It has also strengthened the epidemic preparedness in Myanmar-China border in Kokang special Region. It provided training on Geographical Information System (GIS) in collaboration with WHO, and support to provided thin layer chromatography for QC of drugs to FDA. (P.35)

Source: DRAFT National Strategic Plan for Malaria Prevention and Control in Myanmar, 2006 – 2010

## **1.5 Project Purpose and Overall Goal**

- Overall Goal is given as **“Economic burden of malaria reduced.”** on PDM. And to evaluate the achievement of this overall goal is impossible at this timing.
- Project Purpose is shown as **“National malaria control is strengthened.”** on PDM and the objectively verifiable indicator is shown as **“Number of evidence and findings from outputs utilized to improve NMCP”** on PDM.
- However, this indicator seems not to be adequate, because this indicator can not explain logically the Project Purpose.
- We reviewed this indicator and evaluate the Project tentatively using the indicator as **“Impact and contribution on National Malaria Control Strategy & Guidelines”**.
- According to this tentatively revised indicator, the Project is considered to be implemented toward the Project Purpose.

## **2. Evaluation by Five Criteria**

### **2.1. Relevance**

#### **(1) Needs for intervention**

- All the 3 infectious diseases are among the most serious issues of the government of Myanmar. The Project is therefore relevant to the national need, for it aims to control these diseases.

#### **(2) Consistency between Project goals and Myanmar's national development policy and administrative system**

- According to "Health in Myanmar 2006", malaria is one of the priority diseases in Myanmar. The government established VBDC to control vector borne diseases, with special emphasis on Malaria by organizing NMCP.
- The counterpart agency is NMCP, that is the central organization for malaria control in Myanmar.

#### **(3) Relevance of the approach**

- A community based approach adopted by the Project is a standard method recognized world wide since the launch of the Global Malaria Control Strategy in 1992.
- The Project has adopted a comprehensive approach including all the core components as required by the strategy.
- The Project is being implemented in close cooperation with other development partners such as WHO and UNICEF.

#### **(4) Consistency with Japan's ODA policy and the MDGs**

- Japan's cooperation policy for Myanmar focuses on the basic human needs or human security, so the Project is highly relevant.
- Malaria control is one of the Millennium Development Goals.

#### **(5) Utilization of Japan's technology**

- Technical support by Japan can contribute to enhance the capability of malaria control in Myanmar.

#### **(6) Relevance of the model sites**

- The target areas in Bago Division are epidemiologically divers in Myanmar for there are various types of forest related malaria.

### **2.2. Effectiveness**

#### **(1) Progress of the outputs and purpose**

- Malaria control strategy is being strengthened steadily.
- Project management capacity of not only VBDC central level but also its T/S level is being strengthened by the community based approach.

#### **(2) Specific factors affecting the Project**

- Not only medical doctors and technical staff person but also BHS at a community level have participated in the Project activities with a sense of ownership and devotion.

### **2.3. Efficiency**

#### **(1) Approach of Project**

- The micro-stratification has enabled distribution of materials for malaria control only to strategically selected areas, and so the amount of input can be minimized.

#### **(2) Quantity, quality and timing of the inputs (Myanmar and Japanese), Utilization of the inputs**

- Short-term experts were dispatched for activities in required fields.
  - A member of VBDC staff person participated in a study tour in Japan in October and November 2006 and expected to feedback the experiences to the Project.
  - In spite of some delay of procurement, the provided equipment has been well utilized and properly handled with care.
  - The improved logistics management system at the community level was installed and the stock-out of medicines and test kits has been avoided.
- (3) Linkage, cooperation or competition among the project components and with other projects
- Close collaboration between Project and other development partners such as WHO, UNICEF, etc. has made the Project very efficient.

#### **2.4. Impact**

(1) Prospects of achievement of Project goals in future

- The current trend in a Project site indicates prospects of decrease in morbidity and mortality of malaria.

(2) Impact outside the model areas

- The community based approach of the Project is being expanded to 80 T/Ss by other development partners such as UNICEF.
- It is incorporated into the draft of National Strategic Plan for Malaria Prevention and Control in Myanmar, 2006 - 2010.

(3) Impact out of the scope of the Project

- Through the Project activities to control malaria, the community activities have been promoted.

#### **2.5. Sustainability**

(1) Institutional sustainability

- The retention rate of the health staff person is generally high in the Project area.
- Therefore human resources and their systems developed by the Project can be sustained after the termination of the Project.
- A number of BHS are working closely with villagers and enforcing local public health.

(2) Financial sustainability

- The system developed by the Project can be sustained in the future, while it requires continued financial or material inputs.

(3) Technical sustainability

- The participants of the Project are capable of absorbing skills and knowledge for the activities' further development.

### **3. Recommendation**

(To the MOH, Myanmar and JICA)

1. Since approximately half the time of the Project period has passed, the focused efforts should be made to finalize the development of “community friendly technology package for treatment and prevention of malaria” (hereinafter “Package”), taking into consideration the size of expected impacts of each activity yet to be fully implemented.  
Activities yet to be fully started and activities at a beginning stage include:
  - drawing up of a comprehensive guideline for TMOs,
  - efficacy validation of insecticide-treated blankets,
  - preparation of manuals and provision of training on selected priority topics such as “GIS utilization”, “hazard map development and revision”, “epidemic detection”, and “microscopic diagnosis”,
  - training for newly-appointed BHS and refresher training for serving BHS,
  - Strengthening of monitoring and supervision at township level,
  - assuring of bed-nets re-impregnation,
  - development and introduction of patient referral slips,
  - development of a bed-net voucher system.
2. Package should be easy-to-introduce, effective and enduring for any other malaria-affected communities as well as for the Project target area.
3. The Project target area should continue to be Bago East and West Divisions, as it is of higher priority to complete the on-going development of Package, reflecting the ideas and lessons derived from the pilot activities being implemented in 15 Townships in Bago East and West.
4. Systems and activities which have been developed/implemented and been proven effective in the Project should be widely extended. Active pursuit of partnership with national NGOs, INGOs, UN organizations, and inter-sectoral technical collaboration with related authorities is recommended.
5. Revise PDM accordingly to reflect the above. See Annex 9 of the Evaluation Report for Malaria.







Annex 2 List of Dispatched Experts to the Project

Long Term / Short Term	HIV/TB/Malaria	Field	Name	Dispatched Period	Major Activities
L		Team Leader	Mr. Masahiro KUMOMI	10/04/2005 - 09/07/2007	Overall Project management by representing Japanese expert team
L		Coordinator	Mr. Kenji IKARI	07/04/2003 - 06/08/2005	Coordination for smooth and effective Project implementation
L		Coordinator	Mr. Hidemoto TANAKA	28/07/2005 - 27/07/2007	Coordination for smooth and effective Project implementation
L	IEC	IEC ( Information, education, and communication )	Mr. Kazuaki SUMIDA	30/06/2003 - 29/06/2005	Technical transfer and Project management on IEC field
S	IEC	IEC ( Information, education, and communication )	Dr. Kazuaki SUMIDA	20/11/2005 - 20/03/2006	Technical guidance on IEC development
S	IEC	IEC ( Information, education, and communication )	Mr. Kazuaki Sumida	25/01/2006 - 26/03/2007	Technical guidance on IEC materials for World TB Day ( Poster, TV spot ) and PPP activities
L	HIV/AIDS	Public Health /HIV/AIDS Control	Dr. Hideki MIYAMOTO	19/08/2004 - 18/01/2007	Technical transfer and Project management on HIV/AIDS Control field
S	HIV/AIDS	HIV/AIDS Control/Quality Control on Blood Screening	Dr. Namiko YOSHIHARA	18/10/2005 - 11/11/2005	Technical guidance on HIV/AIDS testing quality control conducted by National Health Laboratory (NHL) and National Blood Center (NBC)
S	HIV/AIDS	Public Health/HIV/AIDS Control	Dr. Katsuyuki TSUKAMOTO	12/02/2006 - 25/02/2006	Technical guidance on the operational research proposals initiated by STD team leaders
S	HIV/AIDS	HIV/AIDS Control/Quality Control of HIV/AIDS Testing	Dr. Namiko YOSHIHARA	29/10/2006 - 19/11/2006	Studied current situation of National External Quality Assurance (NEQAS) for HIV testing, and gave suggestions on it.
L	Malaria	Malaria Control	Mr. Masatoshi NAKAMURA	07/07/2003 - 06/07/2007	Technical transfer and Project management on Malaria Control field
S	Malaria	Malaria Control/Quality Control of Malaria Diagnosis	Dr. Tomoko ONDA	31/03/2005 - 27/06/2005	Technical guidance on quality control of Malaria diagnosis ( situation analysis on present testing quality of Malaria )
S	Malaria	Malaria Control/Monitoring	Dr. Jun AKIYAMA	17/10/2005 - 03/11/2005	Review on the current Malaria control activities as a member of external review mission for Malaria control
S	Malaria	Malaria Control/Case Management of Malaria	Dr. Yasushi SHIMADA	22/01/2006 - 21/02/2006	Technical guidance on case management of Malaria
S	Malaria	Malaria Control/Medical Sociology	Dr. Chihiro SHIRAKAWA	22/01/2006 - 14/02/2006	Technical guidance on operational research with human behavioral and social aspects
S	Malaria	Community Health of Malaria	Ms. Tatsue YAMAZAKI	26/03/2006 - 09/04/2006	Technical guidance on nursing for Malaria control
S	Malaria	Malaria Control/Case Management	Dr. Takeshi UKAI	26/03/2006 - 02/04/2006	Monitoring Malaria control activities
S	Malaria	Malaria Control/Quality Control of Malaria Diagnosis	Dr. Tomoko ONDA	22/01/2006 - 21/04/2006	Technical guidance on effective quality control of Malaria diagnosis
S	Malaria	Malaria Control/Quality Control of Malaria Diagnosis	Dr. Tomoko ONDA	18/02/2007 - 14/04/2007	Technical guidance on quality control of Malaria diagnosis ( development of basic operation manual for Microscopy to be utilized at Rural Health Center level, supervisory field visit to RHCs, analysis of present testing quality )

S	TB	Tuberculosis Control/DOTS Management	Dr. Katsunori OSUGA	26/03/2005 – 06/04/2005	Assessment on DOTS Management conducted by NTP, and suggestion on FY 2006 plan of operation
S	TB	Tuberculosis Control	Dr. Ikushi ONOZAKI	01/09/2005 – 16/09/2005	Orientation on TB prevalence survey ( feasibility study, selection of survey site, field tests, workshop )
S	TB	Tuberculosis Control/DOTS Management	Dr. Katsunori OSUGA	17/10/2005 – 30/10/2005	Assessment on DOTS Management conducted by NTP, and suggestion on FY 2006 plan of operation
S	TB	Tuberculosis Control Assessment	Mr. Yoichi AKIYAMA	01/12/2005 – 16/12/2005	Technical guidance on chest X Ray operation in Prevalence Survey
S	TB	Tuberculosis control/Quality Control for Tuberculosis Diagnosis	Ms. Akiko FUJIKI	14/12/2005 – 07/01/2006	Technical guidance on quality control for tuberculosis diagnosis ( operation manual on AFB microscopy, supervisory visit )
S	TB	Tuberculosis Control/ Prevalence Survey	Dr. Ikushi ONOZAKI	12/07/2006 – 22/07/2006	Technical guidance on overall management for prevalence survey
S	TB	Tuberculosis Control/Epidemiology	Dr. Norio YAMADA	12/07/2006 – 23/07/2006	Technical guidance on epidemiological analysis for prevalence survey
S	TB	Tuberculosis control/Quality Control of TB testing	Ms. Akiko FUJIKI	07/12/2006 – 26/12/2006	Technical guidance on establishment of External Quality Assurance ( operation manual, supervisory field visit, and workshop )
S	TB	Tuberculosis Control Program	Dr. Katsunori OSUGA	21/01/2007 – 03/02/2007	1. Monitored the current activities conducted by National TB Program as a member of External Review Mission 2. Consultation on Plan of Operation in FY2007

Annex 3 Equipment List Provided by the Project

EP/EX*	JFY	Inspected Date	Distributed to	Name of Equipment	Specifications	Maker	Qty	Unit Price (USD)	Amount	Remarks
EP	2005	2006/6/30	DOH	4WD Double Cab Vehicle	Hi-Lux Double-Cab Pick-up Truck, KUN25L-PRMDH	Toyota, Thailand	1	30,837	30,837	
EP	2005	2005/12/6	NAP	Video LCD Projector	Multi media Projector LV-S3	CANON	1	1,240	1,240	
EP	2005	2006/6/30	NAP	4WD Double Cab Vehicle	Hi-Lux Double-Cab Pick-up Truck, KUN25L-PRMDH	Toyota, Thailand	1	30,837	30,837	
EP	2006	2007/3/1	NAP	HIV 1/2 Test Kit	Determine-HIV 1/2 Test Kit -100 test/kit	Bangkok Inter Products, Thailand	300	299	89,587	
EP	2006	2007/5/9	NAP	HIV 1/2 Test Kit	Serodia-HIV 1/2 Test Kit - 220 test /kit	Fujirebio, Japan	150	322	48,300	
EP	2006	2006/12/19	NBC	Elizer Reader	ELZA Reader, MULTIS CAN EX	Human GmbH, Germany	2	5,180	10,360	
EP	2006	2006/12/19	NBC	Elizer Washer	ELZA Washer, Well Wash 4 MK2	Human GmbH, Germany	2	4,100	8,200	
EP	2005	2006/3/18	NHL	Safety Cabinet	ESC-AC2-4E1	ESCO, Singapore	1	5,940	5,940	
EP	2005	2006/3/18	NHL	Orbital mixer and shaker	SEL-30000435	SELECTA, Spain	1	3,600	3,600	
EP	2005	2006/3/18	NHL	Autoclave	SEL-4047725	SELECTA, Spain	1	4,330	4,330	
EP	2005	2006/3/24	NHL	Micro Pipette	Size 5-50ul, CE,TUV,ISO9001:2000 Certified	Intech, India	60	56	3,360	
EP	2005	2006/3/24	NHL	Micro Pipette Tip	500pc/pkt, CE,TUV,ISO9001:2000 Certified	Diapette, India	60	7.36	442	
EP	2006	2006/12/22	NHL	Medical Freezer	LS-381	Patterson Scientific, UK	1	5,001	5,001	
EP	2006	2006/12/22	NHL	Pharmaceutical Refrigerator	BXY 190	Kenxin, HK	1	1,900	1,900	
EP	2006	2006/12/22	NHL	Refrigerated Centrifuge with Rotor & Buck for 15ml & 50ml		Andreas Hettich GmbH & Co., Germany	1	6,250	6,250	
EP	2006	2006/12/22	NHL	Digital Water bath with lid	Humaqua-5	Human GmbH, Germany	1	908	908	
EX	2006	2006/10/6	NHL	Micropipette & Tips	Adjustable 2-20 µ L (3pcs), 100-1000 µ L (3pcs), Pipette Controller (2pcs), Tips (2160pcs)	Octagon	1	606,000	606,000	

EP	2005	2005/12/6	NTP	Video LCD Projector	Multi media Projector LV-S3	CANON	1	1,240	1,240
EP	2005	2006/2/10	NTP	Binocular Microscope	YS 100 Basic Set	NIKON, Japan	30	990	29,700
EP	2005	2006/6/30	NTP	4WD Double Cab Vehicle	Hil-Lux Double-Cab Pick-up Truck, KUN25L-PRMDH	Toyota, Thailand	1	30,837	30,837
EX	2005	2006/2/20	NTP	Portable X-Ray Unit with carrying case	PX-20HF	Adore Medical Corporation(Fujimoto Photo Industrial Co.Ltd)	1	13,800	13,800
EX	2005	2006/2/20	NTP	Stationary stand for portable system	PS-1-111	Adore Medical Corporation (Fujimoto Photo Industrial Co.Ltd)	1	2,770	2,770
EX	2005	2006/2/20	NTP	Automatic X-ray film processor	ECOMAT21	ELK Corp.,Japan	1	5,940	5,940
EX	2005	2006/2/20	NTP	Portable Generator	EU28A : 3.6KVA, 6.5HP	HONDA, Japan	1	2,000	2,000
EX	2005	2006/2/20	NTP	Compact Dark Room	DR-1	MAEDA Co.,Japan	1	1,220	1,220
EX	2005	2006/2/20	NTP	X-Ray Protective Accordion Screen	PS-1	HOSHINA, Japan,	1	1,910	1,910
EX	2005	2006/2/20	NTP	Fixer for X ray processing	RPX-OMAT (for extensively slow film)	Kodak	200	59	11,800
EX	2005	2006/2/20	NTP	Developer for X ray processing	RPX-OMAT-LO (for extensively slow film)	Kodak	200	34	6,800
EX	2005	2006/2/20	NTP	Radiographic Stand	NH-27-A	ELK Corp.,Japan	1	490	490
EX	2005	2006/2/20	NTP	X Ray Film Viewer	LH-1K	Miryama, Japan	1	345	345
EX	2005	2006/2/20	NTP	X Ray Film Cassette	PL-BK-CF & HS	Okamoto, Japan	10	635	6,350
EX	2005	2006/2/20	NTP	Microfine Grid	MS, 60 lines /cm	ELK Corp.,Japan	2	1,420	2,840
EX	2005	2006/2/20	NTP	X Ray Protective Apron	FLO Pb 0.25mm	Hoshina	1	455	455

EX	2005	2006/2/27	NTP	Liquid for Fixer	RPX-OMAT LO 4x 4 L	KODAK	200	43	8,600
EX	2005	2006/2/27	NTP	Liquid for Developer	RPX-OMAT 1Box (.16L)	KODAK	200	72	14,400
EX	2005	2006/2/27	NTP	Radiographic Stand	NH-27A	ELK Corpt	1	760	760
EX	2005	2006/2/27	NTP	X-Ray Film Viewer	LH-1k 14" x 14"	Moriyama	1	370	370
EX	2005	2006/2/27	NTP	X-Ray film Cassette	PL-BK-CF	Okamoto Co.	10	640	6,400
EX	2005	2006/2/27	NTP	Microfine Grid for X-Ray	Model : MS	ELK Corpt	2	1,810	3,620
EX	2005	2006/2/27	NTP	X-Ray Protective Apron	FLO	Hoshina	1	500	500
EX	2005	2006/2/27	NTP	Film Mark Set	Model : NH-23 B	ELK Corpt	1	134	134
EX	2005	2006/2/27	NTP	X-Ray film Storage Cabinet	Model : NH-43	ELK Corpt	1	572	572
EP	2006	2007/1/17	NTP	Binocular Microscope	YS-100 Basic Set	NIKON, Japan	10	990	9,900
EP	2006	2007/1/18	NTP	Fucin basic	25ml	UK	110	69	7,560
EP	2006	2007/1/18	NTP	Sulphuric Acid	Conc. 2.5L		100	41	4,100
EP	2006	2007/1/18	NTP	Xylene 1l	2.5 L		1	34	34
EP	2006	2007/1/18	NTP	Sodium Hydroxide	500gm		1	10	10
EP	2006	2007/1/18	NTP	Slide Holding Boxes	25' size		200	2.5	500
EP	2006	2007/1/18	NTP	Diamond Pen		Assistant, Germany	50	31	1,550
EX	2006	2006/10/26	NTP	Books	Pictorial Textbook for AFB Microscopy	JATA	50	2	100

EP	2005	2005/11/18	VBDC	Mefloquine	Anti- Malaria Medicine 250, Tab / Box		50	39	1,960
EP	2005	2005/12/6	VBDC	Video LCD Projector	Multi media Projector LV-S3	CANON	1	1,240	1,240
EP	2005	2005/12/6	VBDC	Insecticide for Mosquito Net	Supa Tab for Bed Net (Delta methrin WT)	PSI	20000	0	8,000
EP	2005	2006/3/10	VBDC	Artemether Tablet	Anti- Malaria Tablet 12, Tab / Boc		2000	1	2,360
EP	2005	2006/3/10	VBDC	Artemether Ampul	Anti- Malaria Medicine 6, Ampul / Box		200	5	900
EP	2005	2006/3/10	VBDC	Rapid Diagnostics Test Kit for Malaria	25, Test / Kit for P.Falciaparum Malaria	Orchid Biomedical Systems, India	200	28.50	5,700
EP	2005	2006/6/16	VBDC	Mosquito Net	LLINS ( Long Lasting Insecticide Net )	Siamdutch, Thailand	5471	3.29	18,000
EP	2005	2006/6/30	VBDC	4WD Double Cab Vehicle	Hi-Lux Double-Cab Pick-up Truck, KUN25L-PRMDH	Toyota, Thailand	1	30,837	30,837
EP	2006	2006/3/27	VBDC	Artemether	6 ample/box	Kaung Pharmacy Co.Ltd	2750	1.82	5,000
EP	2006	2006/11/20	VBDC	Motor Bike	100cc	Suzuki	2	2,350	4,700
EP	2006	2006/12/1	VBDC	Slide Glass	100pcs/pack		60	10	570
EP	2006	2006/12/1	VBDC	Rancet	200 pcs/box x 60	Assistant, Germany	60	5.5	330
EP	2006	2006/12/1	VBDC	GIMZA Stain	100ml/bottle	MERK, Germany	18	40	720
EP	2006	2007/2/15	VBDC	Mosquito Net	RX11WTB	Siamdatch, Thailand	10000	4.5582	45,582
EP	2006	2007/3/16	VBDC	Mefroquine	250mg X-100 tab/bottle	Siam Nissei, Thailand	1000	5.66	5,660
EP	2006	2007/3/19	VBDC	Sylinge	3mL 23Gx1-1/4"	NIPRO	7200	0.5	3,600
EP	2006	2007/3/19	VBDC	Drip	Infusion Set, Dextrose 5% drip set DW 500 ml		1000	1.5	1,500
EP	2006	2007/3/21	VBDC	Rapid Diagnostics Test Kit for Malaria	25, Test / Kit for P.Falciaparum Malaria	Orchid Biomedical Systems, India	1600	25	39,840

\*EP : Equipment Provision, EX : Equipment affiliated with Expert



### Annex 4 Operational Costs Expended by the Project

\*Remark : Such costs as for long and short term expert dispatch, training in Japan, technical equipment provision are excluded from the following figures.  
Unit: US Dollars

Field	Activities	JFY2004 (Jan19-Mar31,2005)		JFY 2005 (Apr1,2005 - Mar31,2006)		JFY 2006 (Apr1,2006 - Mar31,2007)		Total
		Amount	Sub-total	Amount	Sub-total	Amount	Sub-total	
Project Management (DOH)	Overall project management ( local staff, communication, office supplies & consumables, transportation, equipment maintenance, etc )	29,330	29,330	38,763	38,763	40,058	40,058	108,151
	1. Strengthen capacity for program management and epidemiological data management for TB control	4,433		3,079		6,045		
	1-1. Improve NTP facilities for program management, training, and data analysis.							
	1-2.New District TB Management Module			16,982		21,547		
	1-3.Operational Research							
	2-1.Laboratory training	6,184		4,561		2,279		
	2-2. QC of the smear examination for TB laboratories	600		6,213		9,801		
	3.Monitoring and supervisory capability for TB control			3,318		2,855		
	4. Promote community participation for TB control	1,529		3,135		2,005		
	5. Promote communication and advocacy for TB control	5,550		8,760		18,525		
	Project Office Management for TB Control (NTP,YGN)	6,197		17,208		24,192		
	4-1.Establish Public Private Partnership in the Divisions		28,693					
	3-2. Carry out supervision in the two Divisions							
	3-1. Divisional TB assessment meeting (DOTS conference)							
	5-1. Develop IEC materials and conduct advocacy events to raise awareness on TB							
5-2. Develop and distribute DOTS handbook for TB patients	4,200							
TB Control		28,693						
Total							188,066	





**Annex 5 List of Key Counterparts for the Project**

Name	Designation	Component	Station
Dr. Tin Win Maung	Director General	Whole Project	Nay Pyi Taw
Dr. Kyaw Nyunt Sein	Deputy Director General	Disease Control	Nay Pyi Taw
Dr. Saw Lwin	Director	Disease Control	Nay Pyi Taw
Dr. Min Thwe	Program Manager	National AIDS Program (NAP)	Nay Pyi Taw
Dr. Win Maung	Program Manager	National Tuberculosis Program (NTP)	Nay Pyi Taw
Dr. Than Win	Program Manager	National Malaria Control Program	Nay Pyi Taw
Dr. Ne Win	Director	National Health Laboratory (NHL)	Yangon
Dr. Thida Aung	In charge of NBC	National Blood Center (NBC)	Yangon

### Annex 6 List of Counterpart Training In Japan

JFY	Subject	Name	Designation	Period
2006	Consultative Meeting on Infectious Diseases Control	Dr. Saw Lwin	Director ( Diseases Control ), Department of Health	30/10/2006 - 10/11/2006
2006	Consultative Meeting on Infectious Diseases Control (Malaria)	Dr. Ni Ni Aye	Malariologist, Vector Borne Disease Control Team, Dawei, Department of Health	30/10/2006 - 10/11/2006
2006	Consultative Meeting on Infectious Diseases Control (HIV/AIDS)	Dr. Than Win	Team Leader, AIDS/STD Control Team, Mandalay, Department of Health	30/10/2006 - 10/11/2006

Annex7 List of IEC Materials Produced by the Project

No	Description	Agency	Type	Q'ty	JFY	Produced Date	Remark(Key Message etc.)
1	Pamphlet Introduction to MDC Project	DOH	Pamphlet	2,000	2005	Aug-05	Introductory information on MDC Project
2	Book Photo Book on MDC achievement	DOH	Photo book	500	2005	Mar-06	
3	Video Sexually Transmitted Diseases	NAP	Video, 2min	1	2003	Nov-03	For HIV/AIDS Exhibition, Yangon
4	Video HIV/AIDS	NAP	Video, 36min	1	2003	Nov-03	For HIV/AIDS Exhibition, Yangon
5	Video HIV/AIDS Exhibition in Yangon	NAP	Video, 9min	1	2003	Nov-03	Documentary Video
6	Video HIV/AIDS Exhibition in Mandalay	NAP	Video, 34min	1	2004	Dec-04	Documentary Video
7	Pamphlet Safe Blood Pamphlet	NBC	Pamphlet	30,000	2004	Apr-04	Blood Transfusion
8	Video Devoted Love	NBC	Video, 38min	1	2004	Apr-04	Drama, Safe Blood Promotion, Window Period
9	Pamphlet Safe Blood Pamphlet	NBC	Pamphlet	5,000	2004	Nov-04	Blood Transfusion
10	Poster with Calendar Blood Safety Calendar	NBC	Poster with calendar (4 pages)	2,000	2005	Dec-05	Blood donor message to the public
11	TV Spot Safe Blood Donor Promotion TV Spot Title: Fill in the blank Actors and actress: Ye Lay, Tun Tun and example group, Tha Zin, Moe Pyi Pyi Maung Script: CHEB (Khin Su Hlaing) Director:	NBC	TV Spot	1	2005	Mar-06	To promote safer blood donors
12	TV Spot Safe Blood Donor Promotion TV Spot Title: You are welcome Actors and actress: Nghtet Pyaw Kyaw, Min Htet Kyaw Zin, Nay Htoo Naing, Nay Yan, Moe Yan Zun, Zin Zin Zaw Myint, Nan Su Yat Soe, Thin Zar Wint Kyaw, Dr. Nway Nway Oo Script: CHEB Director: Aung Moe (Paris)	NBC	TV Spot	1	2006	Aug-06	To promote regular safe blood donor. To advocate low risk life behaviour to the targeted group of blood donor of University students.
13	Book How to use Microscope	NHL	Reprinting Book	500	2003	Nov-03	Teaching Printing Material
14	Book Clinical Laboratory Technology	NHL	Reprinting Book	1,000	2003	Nov-03	Teaching Printing Material
15	Video Microscope	NHL	Video, 26min	1	2003	Mar-04	About Microscope, Manual for the training centre
16	Video HIV/AIDS Testing by Different type of Test-Kits	NHL	Video, 37min	1	2004	Mar-05	For Laboratory Technicians, 5 Different Types of Test-Kits
17	Video The Most Beautiful New Day To Be Continued	NHL	Video, 56min	1	2004	Mar-05	Drama, HIV/AIDS Transmission



18	Video	Quick Treatment (Actor: Yazar Nay Win)	NTP	Video, 12min	1	2003	Feb-04	Drama, DOTS Promotion (Early Proper Treatment, Free DOTS)
19	Poster	Wall Sheet Poster (Actor: Yazar Nay Win, Actress: Pwint)	NTP	Poster	20,000	2003	Feb-04	DOTS Promotion (Early Proper Treatment, Free DOTS)
20	Book	TB Patient Care Book	NTP	Book	30,000	2004	Nov-04	TB Patient Manual Book
21	Book	TB Knowledge Book	NTP	Book	20,000	2004	Mar-05	About TB, Prevention, Ways of transmission, Proper Treatment
22	Poster	Wall Sheet Poster (Actor: Naing Naing, Actress: Thet Mon Myint)	NTP	Poster	20,000	2004	Mar-05	Frontline TB Care Providers: Heroes in the Fight Against Tuberculosis
23	Poster	Wall Sheet Poster, Actors: Nay Toe, Ye lay, King Kaung, Ahyang Actress: Thazin, Waing Su Khine Thein, Thinzar Wint Kyaw	NTP	Poster	20,000	2005	Mar-06	For World TB Day, 'Action for life: Towards a world free of TB'
24	Book	TB Patient Care Book ( Revision )	NTP	Book	40,000	2005	Mar-06	TB Patient Manual Book. Upgrading the content of the book and reprinting
25	Book	PPP Guide Book	NTP	Book	2,000	2005	Mar-06	For promotion of Public Private Partnership
26	Book	TB Patient Care Book ( 2nd Revision )	NTP	Book	50,000	2006	Mar-07	TB Patient Manual Book.
27	Pamphlet	PPP Pamphlet for General Practitioners	NTP	Pamphlet	10,000	2006	Mar-07	General information on PPP activities to raise participation of GP
28	Book	Guide Book for AFB Microscopy	NTP	Book with photo	500	2006	Mar-07	Operational guide book on AFB Microscopy
29	Poster	Wall Sheet Poster: TB ANYWHERE IS TB EVERYWHERE, ( For World TB Day )	NTP	Poster	30,000	2006	Mar-07	To raise people's awareness of TB
30	TV Spot	TV Spot for World TB Day	NTP	TV Spot	1	2006	Mar-07	To raise people's awareness of TB

31	Video	Community Based Malaria Control	VBDC	Video	1	2005	Aug-05	Drama, Community Based Malaria Control
32	TV Spot	MYAUNG YA DAW HMA LYWAN NYET YEET Script: Dr. Mya Hnaung Nyio Director: Pan Gyi Soe Moe Actors and actress: Tu Htoo San, May TinZar Oo	VBDC	TV Spot	1	2005	Feb-06	About malaria disease. To take proper treatment for malaria patient. Usage of mosquito net.
33	Book	Malaria Manual Guide Book for General Health Worker	VBDC	Book	2,065	2006	Sep-06	Village lifestyle Prevention and treatment Use of mosquito net
34	Pictorial Charts	Pictorial charts on prevention and treatment of Malaria to be used by BHS	VBDC	Pictorial charts with cartoon	2,000	2006	Nov-06	Teaching material for BHS who disseminate knowledge of Malaria to local settlers

### Annex 8. Evaluation Grid of the Project for Malaria

Criteria	Evaluation Items	Information Sources	Results
Target Group	- People and community	JICA experts C/Ps of VBDC	- VBCD Central and each Team at the Target Areas - Health facilities' workers at the Target Areas - People and Community at the Target Areas - 15 T/Ss in Bago East and West Divisions
Target Area	- For initial phase of community based malaria control: Bago East and West Divisions	JICA experts C/Ps of VBDC	

Criteria	Indicators	Information Sources	Results
Overall goal -Economic burden of malaria is reduced.	- Any indicators are not shown in the original PDM.	JICA experts C/Ps of VBDC	- Leave the PDM as it is, because the overall goal is the future item.

Criteria	Evaluation Items	Information Sources	Results
Project purpose -National malaria control is strengthened.	Number of evidence and findings from outputs utilized to improve NMCP	Situation analysis report JICA experts C/Ps of VBDC	- The indicator shown in the original PDM is not adequate, because it can not explain logically the Project Purpose. - Prepared tentative indicators as; 1) Projection of Project outputs in various National Malaria Control Policy 2) Capacity Development of counterparts at various levels

### Activity

Criteria	Information Sources	Results
Activities 1-1. Empower communities for malaria control.	JICA experts C/Ps of VBDC	- GPS survey including mapping, baseline data collection, entomological, socio-behavioral survey, etc. was completed at 12 T/Ss with community participation. - Achievement can be monitored/evaluated by the core indicators on the submitted reports from each facility such as, Percent of communities participate malaria control activities.

Criteria	Information Sources	Results
Activities 1-2. Develop community friendly technology package for treatment and prevention of malaria.	JICA experts C/Ps of VBDC	- Community based approach, which is a worldwide standard, has been installed by Project in Myanmar for the first time. - Various activities and ORs to support them have been implemented as shown below from 1-2-1 to 1-2-6. - GIS Base Map for operations was developed at 11 T/Ss. - The prototype of community friendly technology package for treatment and prevention of malaria (so-call "Package") has been put together

<b>Criteria</b> 1-2-1. Improve access to and quality of malaria diagnosis and treatment	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> -RDT, Anti-malaria and Microscope have been distributed regularly 4 T/Ss. -Logistics management system (buffer stock system) was developed and was conducted regularly at 4 T/Ss. - Patients record system was developed and data for monitoring are collected from every Health Center at 4 T/Ss. - Achievement can be monitored/evaluated by the core indicators on the submitted reports from each facility such as; 1) Percentage of health facilities able to conduct confirmatory diagnosis such as microscopy, RDT at Project area 2) Percentage of health facilities submit report monthly 3) Percent of confirmed Pf cases treated by ACT 4) Percent of health facilities reporting no stock out of malaria medicine and RDT for more than one week 5) Suspected patients access to health facilities 6) Number of Pf cases detected
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<b>Criteria</b> <b>Activities</b> 1-2-2. Scaling up usage of ITN.	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> - 400 ITNs in 2005 and 500 in 2006 were distributed to agro-forestry workers at OakPho. - The fact that forest workers do not intend to carry bednets into forest has been revealed by socio-behavioral survey. - Flipcharts for forest workers were completed to show them the effect of bednets at forest. - Operation Research (OR) on effectiveness of ITNs LLINs was conducted with community participation at Teikeyi T/S, Yangon Division from 2004. 10 - 2005. 12 as monthly evaluation and 2006. 12 as an annual follow-up evaluation. - OR revealed the evidence that the longitudinal efficacy of ITN and LLIN was not sufficient as announced. - Bednets distribution has been changed only to the strategically effective targeted area based on the above findings from OR. (Number of bednets for distribution could be reduced from 3,000 to 1,600 and expense could be shifted to anti-malaria medicine. - OR on efficacy of insecticide treated blanket for forest workers has been implemented. - "Illustrated Key to the Indication of the Adult Female and Full-grown larvae of Anopheles in Myanmar" and "Indoor Residual Spraying" was completed for printing. - Achievement can be monitored/evaluated by the core indicators on the submitted reports from each facility such as; 1) Percent of household which holds at least one bednet at Project area. 2) Percent of bednet insecticide treated
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<b>Criteria</b> <b>Activities</b> 1-2-3. Improve referral system	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> - Case management investigation by medical doctor and other health staffs based on patients records at OakPho and clarified the fact that community level, before coming hospitals, is rather important to improve referral system. - Referral slips are under developing. - Achievement can be monitored/evaluated by the core indicators on the submitted reports from each facility such as; Percent of severe and complicated patients referred
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Criteria	Information Sources	Results
<b>Activities</b> 1-2-4. Develop and implement culturally appropriate IEC	JICA experts C/Ps of VBDC	<ul style="list-style-type: none"> <li>- IEC materials for bednet treatment were developed and IEC was conducted.</li> <li>- Training materials for BHSs were completed and trainings were conducted at 15 T/Ss.</li> <li>- Flipchart for forest workers was completed. Title: How to avoid malaria infection in the forest</li> <li>- Video for forest workers was completed and broadcasted on TV.</li> <li>- CDs of video have been distributed among some of VBDC teams. (will be distributed among all VBDC Teams)</li> <li>- The list produced of IEC is shown in Annex 7.</li> </ul>

Criteria	Information Sources	Results
<b>Activities</b> 1-2-5. Conduct training for BHSs and VHWs	JICA experts C/Ps of VBDC	<ul style="list-style-type: none"> <li>- Trainings for BHSs, SMOs, TMOs and Hospital staffs to improve knowledge and practical technology such as diagnosis, treatment, bednet, bednet treatment, data recording and reporting were conducted at 12 T/Ss.</li> <li>- "Pre and Post Test" for participants were conducted at some of these trainings and statistical significant result was found.</li> <li>- Training for CHWs as selected trainees from communities and forest rangers was conducted at OakPho. Other trainings at the remaining T/Ss have not been conducted because CHW training is more effective after BHS training on logistics supply data analysis be completed..</li> </ul>

Criteria	Information Sources	Results
<b>Activities</b> 1-2-6. Introduce school based malaria control activities	JICA experts C/Ps of VBDC	<ul style="list-style-type: none"> <li>- School surveys were conducted at primary and high schools at OakPho in 2005.</li> <li>- The results were summarized on handmade flipcharts and presented at the schools by TMOs as "Health Education for Students".</li> <li>- Flipchart with guideline (instruction for users) for community and schools was developed. Title: How to avoid malaria infection in the forest</li> </ul>

Criteria	Information Sources	Results
<b>Activities</b> 1-3. Coordinate intersectoral collaboration	JICA experts C/Ps of VBDC	<ul style="list-style-type: none"> <li>- Preliminary workshop was conducted at OakPho under TPDC initiative.</li> <li>- Forest rangers were trained as CHWs at OakPho in 2005.</li> <li>- Collaboration with schools was implemented.</li> <li>- Bednets were distributed to agro-forestry workers at Oakpho in cooperation with Forest Department.</li> </ul>

Criteria	Information Sources	Results
<b>Activities</b> 1-4. Link with other health related activities	JICA experts C/Ps of VBDC	IC activities were collaborated with National Sanitation Program at OakPho.



<p><b>Criteria</b> <b>Activities</b> 2-1. Conduct training for health workers in deferent levels</p>	<p><b>Information Sources</b> JICA experts C/Ps of VBDC</p>	<p><b>Results</b></p> <ul style="list-style-type: none"> <li>- Clinical conference was conducted at Oakpho.</li> <li>- Trainings for BHSs, SMOs, TMOs and Hospital staffs to improve knowledge and practical technology such as diagnosis, treatment, bednet, bednet treatment, data recording and reporting were conducted at 12 T/Ss.</li> <li>- "Pre and Post Test" for participants were conducted at some of these trainings and statistical significant result was found as mentioned above.</li> <li>- Training for CHWs as selected trainees from communities and forest rangers was conducted at OakPho. Other trainings at the remaining T/Ss have not been conducted because CHW training is more effective after BHS training on logistics supply data analysis be completed.</li> <li>- Training courses for the quality control of malaria microscopy at RHCs and Sub HC's were conducted at OakPho.</li> <li>- Manuals and standard slides of the external quality assessment were prepared to improve the quality of microscopy at RHCs.</li> </ul>
<p><b>Criteria</b> <b>Activities</b> 2-2. Conduct training of proper referral system to communities</p>	<p><b>Information Sources</b> JICA experts C/Ps of VBDC</p>	<p><b>Results</b></p> <ul style="list-style-type: none"> <li>- Not conducted because the case management investigation is thought more effective to improve referral.</li> </ul>
<p><b>Criteria</b> <b>Activities</b> 3-1. Stratify epidemic prone areas on GIS and investigate dynamics of epidemic</p>	<p><b>Information Sources</b> JICA experts C/Ps of VBDC</p>	<p><b>Results</b></p> <ul style="list-style-type: none"> <li>- Data was collected to analyze micro-epidemiologically for stratification at Oakpho.</li> <li>- GIS system was installed in Bago East and West Division.</li> <li>- GIS training was conducted the whole country in cooperation with WHO.</li> <li>- Base maps for hazard maps are on preparing.</li> <li>- JICA Project Consultation Team in 2005 recommended to modify the description of this activity for "Develop hazard map by GIS" to clarify the content.</li> </ul>
<p><b>Criteria</b> <b>Activities</b> 3-2. Develop early warning system</p>	<p><b>Information Sources</b> JICA experts C/Ps of VBDC</p>	<p><b>Results</b></p> <ul style="list-style-type: none"> <li>- Monitoring system for epidemics by utilizing the existing data formats, eg. epidemiological data format and/or logistics management format which will be helpful for detecting epidemic by checking unusual consumption of anti-malaria medicines at community levels, is under developing.</li> <li>- Forest rangers were trained as a CHW by using the manual for BHS training.</li> <li>- JICA Project Consultation Team in 2005 recommended to modify the description of this activity for "Implement IEC to prevent epidemics". However to detect epidemics is impossible technically, so to predict epidemics be adequate.</li> </ul>



<b>Criteria</b> <b>Activities</b> 4-1. Conduct training for GIS	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> -GIS basic training for all VBDC Team staff persons, all Team leaders and selected staff person persons, were conducted. - Update sessions have been held annually after original training course.
<b>Criteria</b> <b>Activities</b> 4-2. Training of BHSS for epidemiological analysis	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> - Not yet done because data to analyze in the training should be collected by BHSS themselves. They are now under data collection.
<b>Criteria</b> <b>Activities</b> 5-1. Share the information in regional meeting. (Mekong RBM)	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> - Attended the training conducted by Mekong RBM in cooperation with VBDC and WHO.
<b>Criteria</b> <b>Activities</b> 5-2. Conduct collaborative activities with partners	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> -Participated TWG meetings for National Malaria Control Strategic Plan constantly. -External Review was conducted in collaboration with WHO, UNICEF and JICA. -Participated and presented the achievement of the Project with C/P Project at WHO/SEARO malaria program manager meeting and technical working group meeting as a core member - "Seminar on Malaria Control in collaboration with NMCP, DOH" was conducted, and TMOs, from the Project area, VBDC malaria team leaders from the whole country, UN agencies, International NGOs and National NGOs and National NGO.
<b>Criteria</b> <b>Activities</b> 6. Operational and applied field research for out puts	<b>Information Sources</b> JICA experts C/Ps of VBDC	<b>Results</b> - Six OR were conducted.

**Assumption & Pre-conditions**

Criteria	Evaluation Items	Information Sources	Results
Important Assumptions	Upgrading socioeconomic status of local people <i>(for Project purpose)</i>	VBDC Project Team	Upgrading socioeconomic status of local people was not clearly observed.
	Major natural disasters not happened. <i>(for Outputs)</i>	VBDC Project Team	Major natural disasters did not happen.
	Population migration does not affect malaria mortality. <i>(for Outputs)</i>	VBDC Project Team	Serious population migration which affected malaria mortality did not happen.
	Other sectors effectively involved through the intersectoral coordination.	VBDC Project Team	Intersectoral coordination was implemented especially with Forest Agency.

**Evaluation by Five Criteria**

<b>Criteria</b>	<b>Evaluation Items</b>	<b>Confirmation Items</b>	<b>Information Sources</b>	<b>Results</b>
<b>Relevance</b>	Needs for intervention	Prevalence of malaria Need for malaria control Need for strengthening organizations in charge of malaria control Lack of international aid	"Health in Myanmar 2006" Project Team	- All the 3 infectious diseases are among the most serious issues of the government of Myanmar. - The Project is therefore relevant to the national need, for it aims to control these diseases.
	Consistency between Project goals and Myanmar's national development policy and administrative system	Priority of the Government policy on Malaria Control	"Health in Myanmar 2006" Project Team	- According to "Health in Myanmar 2006", malaria is one of the priority diseases in Myanmar. The government established VBDC to control vector borne diseases, with special emphasis on Malaria by organizing NMCP.
	Relevance of the approach	Relevance of counterpart agencies Internationally recognized approach	VBDC Project Team	- The counterpart agency is NMCP, that is the central organization for malaria control in Myanmar. - A community based approach adopted by the Project is a standard method recognized world wide since the launch of the Global Malaria Control Strategy in 1992.
	Consistency with Japan's ODA policy and the MDGs Utilization of Japan's technology Relevance of the model sites	Consistency with the Japan's ODA policy for Myanmar MDGs Technology for malaria Control Selection priority sites	MOFA JICA VBDC Project Team VBDC Project Team Bago Division	- The Project has adopted a comprehensive approach including all the core components as required by the strategy. - The Project is being implemented in close cooperation with other development partners such as WHO and UNICEF. - Japan's cooperation policy for Myanmar focuses on the basic human needs or human security, so the Project is highly relevant. - Malaria control is one of the Millennium Development Goals. - Technical support by Japan can contribute to enhance the capability of malaria control in Myanmar. - The target areas in Bago Division are epidemiologically unique in Myanmar for there are various types of forest related malaria.

<b>Criteria</b>	<b>Evaluation Items</b>	<b>Confirmation Items</b>	<b>Information Sources</b>	<b>Results</b>
<b>Effectiveness</b>	Progress of the outputs and purpose	Indicators of results	VBDC Project Team Bago Division T/S	- Malaria control strategy is being strengthened steadily. - Project management capacity of not only VBDC central level but also its T/S level is being strengthened by the community based approach.
	Specific factors affecting the Project	Project staff	VBDC Project Team Bago Division T/S	- Not only medical doctors and technical staff but also BHSs at a community level have participated in the Project activities with a sense of ownership and devotion.

Criteria	Evaluation Items	Confirmation Items	Information Sources	Results
Efficiency	Approach of Project	Cost-efficient or not?	VBDC Project Team Bago Division T/S	- The micro-stratification has enabled distribution of materials for malaria control only to strategically selected areas, and so the amount of input can be minimized.
	Quantity, quality and timing of the inputs (Myanmar and Japanese)	Was the timing to dispatch the long & short-term experts appropriate? Counterpart training	VBDC Project Team	- Short-term experts were dispatched for activities in required fields.
	Utilization of the inputs	Were the selection of the equipment and materials and the timing to supply them appropriate? How are they utilized?	VBDC Project Team Bago Division T/S RHC	- A member of VBDC staff participated in a study tour in Japan in October and November 2006 and expected to feedback the experiences to the Project. - In spite of some delay of procurement, the provided equipment has been well utilized and properly handled with care. The improved logistics management system at the community level was installed and the stock-out of medicines and test kits has been avoided.
	Linkage, cooperation or competition among the project components and with other projects	Necessary coordination	VBDC Project Team International Organizations related	- Close collaboration between Project and other development partners such as WHO, UNICEF, etc. has made the Project very efficient.

Criteria	Evaluation Items	Confirmation Items	Information Sources	Results
Impact	Prospects of achievement of Project goals in future	Current progress and trend	VBDC Project Team Bago Division T/S	- The current trend in a Project site indicates prospects of decrease in morbidity and mortality of malaria.
	Impact outside the model areas	Institutional, socio-economic, cultural, environmental, etc	VBDC Project Team "Project Proposal, Prevention and Control of malaria in Myanmar" UNICEF, 2005 "National Strategic Plan for malaria Prevention and Control in Myanmar 2006-2010" (draft)	- The community based approach of the Project is being expanded to 80 T/Ss by other development partners such as UNICEF. - It is incorporated into the draft of National Strategic Plan for Malaria Prevention and Control in Myanmar, 2006 - 2010.
	Impact out of the scope of the Project	Impact on communities	Project team T/S RHC	- Through the Project activities to control malaria, the community activities have been promoted.

Criteria	Evaluation Items	Confirmation Items	Information Sources	Results
Sustainability	Institutional sustainability	<p>Will the counterparts continue to work for the activities?</p> <p>Participation of local communities</p>	<p>VBDC Project team</p> <p>VBDC Project team Bago Division T/S</p> <p>RHC</p>	<p>- The retention rate of the health staff is generally high in the Project area. - Therefore human resources and their systems developed by the Project can be sustained after the termination of the Project.</p> <p>- A number of BHSs are working closely with villagers and enforcing local public health.</p>
	Financial sustainability	Trend and prospects of budgets from the government and other sources	<p>VBDC Project team Bago Division T/S International Organizations related</p>	- The system developed by the Project can be sustained in the future, while it requires continued financial or material inputs.
	Technical sustainability	Sustainability of transferred technologies	VBDC Project team Bago Division	- The participants of the Project are capable of absorbing skills and knowledge for the activities' further development.



**Annex 9 Proposed Revision of PDM for Malaria Control**

	<b>PDM</b>	<b>Suggestions for revision</b>
<b>Target Group</b>	People and Community	Unchanged
<b>Target Area</b>	for initial phase of community based malaria control: Bago East and West Division	Bago East and West Division
<b>Important Assumption</b>	Upgrading socioeconomic status of local people (for Project purpose)	Deleted
	Major natural disasters do not happened.	Unchanged
	Population migration does not affect malaria mortality.	Unchanged
	Other sectors effectively involved through the intersectoral coordination.	Unchanged
<b>Overall goal</b>	Economic burden of malaria is reduce	Unchanged
<b>Project purpose</b>	National malaria control is strengthened	Unchanged
Indicator	No. of evidence and findings from outputs utilized to improve NMCP	1) Projection of Project outputs in various National Malaria Control Policy 2) Capacity Development of counterparts at various levels
<b>Outputs 1.</b>	Community based malaria control program effectively is introduced in selected areas.	Unchanged
Indicator	1-1. Malaria morbidity and mortality in project site.	Unchanged
Indicator	1-2. Development of the package.	1-2. Access from communities to health facilities
Indicator	1-3 Mekong Roll Back Malaria indicators. (indicators for early diagnosis and proper treatment, bednet usage)	1-3. Logistics management system of medical materials
<b>Outputs 2.</b>	Collaboration between communities and health facilities is improved in selected areas.	Unchanged
Indicator	2-1. No. of referral severe and complicated cases.	2-1. Number of malaria suspected patients accessing to health facilities
Indicator	2-2. Case fatality rate among severe and complicated cases.	2-2. Ratio of referral cases out of severe and complicated cases at community level
		2-3. Number of patients, number of severe and complicated cases and number of malaria death at hospitals
<b>Outputs 3.</b>	System for Prevention and management of epidemics is established.	System for Prediction and management of epidemics is established.
Indicator	3-1. Hazard map for epidemic management developed	Unchanged
Indicator	3-2. Number of townships introduced early warning system.	3-2. Essential data for hazard map collected and revised regularly
		3-3. Number of townships introduced early warning



<b>Outputs 4.</b>	Epidemiological analysis system is improved	system.
Indicator	4. No. of state and divisions introduce GIS system	Unchanged
<b>Outputs 5.</b>	Regional collaborative activities are strengthened.	4. Number of states and divisions introduce/utilize GIS system
Indicator	5. No. of in-country trainings are conducted based on results of the activities.	Unchanged
		5-1. Number of in-country training courses conducted based on results of the activities
		5-2. Contribution to partners by sharing results and knowledge
<b>Outputs 6.</b>	Operational and applied field research effectively contribute for outputs.	Unchanged
Indicator	6. No. of evidences and findings utilize for each outputs	Unchanged
		6-2. Number of technical reports and their contribution for outputs
<b>Activities</b>	1-1. Empower communities for malaria control.	Unchanged
	1-2. Develop community friendly technology package for treatment and prevention of malaria	Unchanged
	1-2-1. Improve access to and quality of malaria diagnosis and treatment.	Unchanged
	1-2-2. Scaling up usage of ITN. (Insecticide treated net)	Unchanged
	1-2-3. Improve referral system.	Unchanged
	1-2-4. Develop and implement culturally appropriate IEC	Unchanged
	1-2-5. Conduct training for BHSs and VHWs.	Unchanged
	1-2-6. Introduce school based malaria control activities.	Unchanged
	1-3. Coordinate intersectoral collaboration .	Unchanged
	1-4. Link with other health related activities.	Unchanged
	2-1. Conduct training for health workers in deferent levels.	Unchanged
	2-2. Conduct training of proper referral system to communities.	Unchanged
	3-1. Stratify epidemic prone areas on GIS and investigate dynamics of epidemic	3-1 Develop Hazard Map by GIS
	3-2. Develop early warning system.	3-2 Implement IEC to predict epidemics
	4-1. Conduct training for GIS.	Unchanged
	4-2. Training of BHS for epidemiological analysis.	Unchanged (this activity is included in 1-2-5)
	5-1. Share the information in regional meeting. (Mekong RBM)	Unchanged
	5-2. Conduct collaborative activities with partners.	Unchanged
	6. Operational and applied field research for our puts.	Unchanged

Note: Revision will be made after detailed discussion between the Japanese Experts and Myanmar C/P.

**Annex 10. List of Counterparts for Malaria**

Name	Designation
Dr. Saw Liwn	Director, Disease Control, Department of Health (DOH) Former Program Manager, Vector Borne Disease Control (VBDC), - 2006
Dr. Than Win	Deputy Director, Disease Control, DOH Program Manager, VBDC, 2006 -
Dr. Khin Nan Lon	Assistant Director, Disease Control, DOH Malariologist, VBDC (in charge of JICA)
Dr. Zaw Lin	Assistant Malariologist, VBDC (in charge of Research)
Dr. Mie Mie Han	Assistant Malariologist, VBDC (in charge of Quality Control of malaria Diagnosis)
Dr. Hla Min Thein	Assistant Malariologist, VBDC (in charge of Entomologist)
Dr. Daw Mar Mar Win	Entomologist, VBDC
Dr. Htay Aung	Divisional Health Director, Bago East Division
Dr. Tun Min	Divisional Malariologist, Bago East division, Bago East VBDC Team
Dr. Maung Maung Sein	District Medical Officer, Bago District Hospital
Dr. Mi Mi Khine	Township medical Officer, Deik U Township, Bago East division
Dr. Thein Myo	Township Medical Officer, Kyauk Ta Gar Township, Bago East division
Dr. Ngwe San	Divisional Health Director, Bago West Division
Dr. Malar Soe	Team Leader, Bago West VBDC Team, Bago West Division
Dr. Soe Nyein	Township Medical Officer, Oak Pho Township, Bago West Division

**Annex 11. List of Training Courses & Workshops for Malaria  
in Year 2005**

Sr	Particulars	Duration		Participan ts
		From	To	
1	Health mapper Training in VBDC, Yangon	01.02.05	05.02.05	15
2	Field Ento Staff Training in VBDC, Yangon	15.02.05	07.03.05	40
3	Workshop on Township initiated Malaria Control Program in Oak Pho Township, Bago West Division	31.05.05	31.05.05	70
4	BHS Training in Oak Pho Township Hospital	11.09.05	14.09.05	69 BHS, 23 CHW
5	Workshop on Township initiated Malaria Control Program in Bago East Division (Shwe War Htun Hotel)	22.09.05	23.09.05	24
6	BHS Training in Bago and Daik U Township	02.10.05	05.10.05	Bago – 97 Daik U-69
7	BHS Training in Kyauk Ta Gar Township	14.10.05	15.10.05	72

**in Year 2006**

Sr	Particulars	Duration		Participa nts
		From	To	
1	Workshop on Evaluation of Malaria Control Activities supported by JICA, VBDC, Yangon	10.02.06	10.02.06	20
2	Assessment of IEC material with Basic Health Staff in Oak Pho Township Hospital	28.04.06	29.04.06	2
3	BHS Training in Phyu, Oak Twin Township	05.06.06	08.06.06	Phyu-70 OakTwin - 42
4	On the Job Training of GPS Operation in JICA-VBDC office, Yangon (for Bago, Daik U and Kyauk Ta Gar Malaria Staff)	06.06.06	06.06.06	4
5	BHS Training in Nat ta Lin township	26.07.06	27.07.06	65
6	BHS Training in Paung De Township	27.07.06	28.07.06	62
7	BHS Training in Pauk Khaung Township	29.07.06	30.07.06	60
8	BHS Training in Gyo Bin Kauk Township	29.08.06	29.08.06	54
9	BHS Training in Min Hla Township	30.08.06	31.08.06	51
10	BHS Training in Let Pa Tan	01.09.06	02.09.06	54
11	Workshop on Evaluation of Malaria Control Activities in Oak Pho Township	31.10.06	31.10.06	50
12	Monitoring of Logistic supply and Quality Assurance Microscopic Diagnosis in Health Centers in Bago, Kyauk Ta Gar and Daik U	07.11.06	09.11.06	11
13	Meeting with BHS to improve the reporting system in Bago, Daik U and Kyauk Ta Gar Township Hospital	30.11.06	01.12.06	238
14	On the Job Training of GPS Operation in JICA-VBDC office, Yangon (for Pyay, Paung De, Let Pa Dan and Min Hla Malaria Staff)	20.12.06	22.12.06	4
15	Refresher Training Course on Malaria Microscopy for Basic Health Staff from Oak Pho, Bago and Daik U Township VBDC office, Yangon	18.12.06	22.12.06	11
16	GPS Training to develop Base Map for monitoring for Bago East Division	11.06.06	11.06.06	4
17	GPS Training to develop Base Map for monitoring for Bago West Division	19.11.06	19.11.06	4



## 2. 運営指導調査資料

### ミャンマー主要感染症対策プロジェクト マラリア分野運営指導調査団

#### 1. 調査日程

2005年8月9日(火)～8月16日(火)

日程		日程
8月9日	火	成田⇒18:50 ヤンゴン
		20:00-21:00 プロジェクトとの打ち合わせ(日程確認)
10日	水	09:00 大使館表敬
		10:00 JICA 事務所打ち合わせ
		12:30 保健省表敬
		15:00 UNDP 打ち合わせ
		17:00 中村専門家からの説明
11日	木	09:00 マラリアプロジェクト事務所視察
		11:00 中村専門家からの説明
		14:00 プロジェクト内容協議
		15:30 マラリア分野 PDM 打ち合わせ
12日	金	09:00 終日 事務所にて打ち合わせ
13日	土	10:00 終日 事務所にてプロジェクトと打ち合わせ
14日	日	10:00 終日 事務所にてプロジェクトと打ち合わせ
15日	月	JICA 事務所報告
		19:00 現地発
16日	火	日本着

#### 2. 団員

- (1) 団長 橋爪 章 総括 (JICA 人間開発部 技術審議役)
- (2) 団員 鵜飼 卓 マラリア分野今後の投入計画  
(HuMA 理事長、兵庫県立西宮病院名誉院長、兵庫県災害医療センター顧問)
- (3) 団員 島田 靖 マラリア分野地域保健  
(HuMA 理事、日本医科大学救急医学教室)
- (4) 団員 遊佐 敢 協力計画 (JICA 人間開発部感染症対策チーム)

#### 3. 調査目的

- (1) マラリア分野についての PDM の内容確認 (特に、Community Based Approach についての詳細化)
- (2) 活動計画 (Plan of Operation)、マラリア分野の投入計画の整理

#### 4. 問題分析及び 2005 年度分活動計画

##### (1) Output 1

Community based malaria control program effectively introduced in selected areas.

指標

1-1 Malaria morbidity and mortality in project site.

1-2 Development of the package

1-3 Mekong Roll Back Malaria indicators

(Indicators for early diagnosis and proper treatment, bednet usage)

##### <問題分析>

これまで、WHO 等により多くのモデル案等が構築されてきているが、世界中で効果を挙げている事例は存在していない。ひとつのタウンシップをとりあげて、地理的特徴を明確にしその上で対応に微調整を加えていくことが重要である。バゴーマン区においては、山に入る人たち、山周辺に居住する人たちを中心とした対策強化を行う必要がある。他方、現状では山に入る人たち、山周辺に居住する人たちがハイリスクグループに分類されるがどのような行動形態をとり、感染しているのか不明。また、マラリアに感染した場合の **Health Seeking Behavior** が不明である。

これらの点を明らかにしつつ、モデル、より適切にはエッセンシャルパッケージを構築していくことが必要とされる。

##### <活動計画>

2005 年度にバゴーマン区でのモデル構築を終了させる。

2006 年度には、バゴーマン区オポタウンシップでのモデルを他地域に展開させる。

2005 年度については詳細計画を立案したが、2 年目以降については 1 年目の状況をみて検討していくこととして整理した。





取り組みが多い。病院単位での症例検討会を開催し、その結果を反映させるようにする手法の採用が適当と推察される。

#### <活動計画>

1年目は、実現可能性及び具体的な実現方法を確認するために病院に専門家を派遣する。

### (3) Output3

System for Prevention and management of epidemics established.

指標

3-1 Hazard map for epidemic management developed

3-2 No. of township introduced early warning system

#### <問題分析>

突発流行<sup>1</sup>が発生した場合の情報伝達体制（Early Warning System）は、保健情報システムが抱える課題や他の途上国での取り組み成果に照らしてみると、本プロジェクトとして成果をあげるのはほぼ不可能であると判断した。本Outputの目的は、突発流行が発生しても大事<sup>2</sup>には至らない体制をつくることにある。

#### <活動計画>

突発流行が発生する原因や、地域については既に把握されていることから、ハザードマップの作成、突発流行が発生する原因への対策を強化する活動を行うこととした。これらの活動は、派遣されている長期専門家（マラリア対策、IEC）を通じて適宜必要に応じて支援をする形となる。

1) 既に VBDC では国レベルのハザードマップシステムを運用しており、過去から継続的に実施されている当該活動を継続的に進めるよう適宜技術的なアドバイスを提供することとして整理した。これによって、本 Output に関連する活動量は少なくなる。VBDC の活動は以下のとおり進められており適宜アドバイスを提供する程度の活動として整理した。

- ①これまでの突発流行発生事例を収集する。
- ②抽出すべき経験等の項目を検討する。
- ③毎年 11 月に開催される年次総会において発表する。

2) Early Warning System→代替的な対策

非感染者が、マラリア汚染地域に入ることが突発流行の原因であることは既に明白になっている。

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<sup>1</sup> 突発流行:過去 5 年間の平均の標準偏差の 2 倍を超えた発生。

<sup>2</sup> 大事 当該地区以外の隣の地区への蔓延を予防する程度のシステム構築を達成目標と考える。

#### (4) Output 4

Epidemiological analysis system is improved.

指標

No. of state and divisions introduce GIS system

<問題分析>

既に基礎的な能力に関する研修は終了しているので、フォローアップを実施する形となる。初期の GIS 運用は、VBDC のみで実施可能となっている。2005 年 11 月の Annual Conference に際して、疫学解析セッションを開催する。

必要とされることは、技術水準の確認と改善のための研修実施となる。マラリア総会の際の発表支援（継続的な技術支援）、国 VBDC チーム（30 人）が GIS システムを用いてマラリアの疫学解析を実施できる基礎的な能力ができるように適宜支援する。

<必要とされる技術水準の確認と改善のための研修>

- ①初期の GIS 運用
- ②上記技術を用いた解析
- ③解析技術の応用、ケースマネジメント

#### (5) Output 5

Regional collaborative activities are strengthened.

指標

No. of in-country trainings are conducted based on results of the activities

<問題分析>

地域内の協力、国際会議等への出席のために設定した Output であった。

Roll Back Malaria in Mekong 等への出席は当然必要とされる部分もあり適宜判断する。

#### (6) Output 6

Operational and applied field research effectively contribute for outputs (1-4).

指標

No. of evidences and findings utilize for each outputs

<問題分析>

Community Based Malaria Control Program のモデルを構築するのに必要となる VBDC のオペレーショナルリサーチ (OR) の企画・実施能力が不足している。

強化すべき OR の能力は、以下の通り 4 つに分解される。

- ①OR の対象発見能力強化
- ②OR の計画を立てる能力の強化

③OR の実施能力の強化

④OR の結果を総括する能力の強化

OR の能力自体の向上については成果として測定しにくく、あくまでも Output 1～4 の内容を改善するために実施することとして整理し、本プロジェクトでは OR 能力自体の向上を図ることはしないこととして整理した。

また、今後の計画として以下の OR があげられた。計画中の案件については、Output 1～4 の推進に役立つ課題を積極的に行う。

ワークショップにおいて、VBDC と Output 1～4 に密接な OR を検討し、OR 採用について協議していくとして整理した。

実施に際しては、活動開始段階で C/P 側が積極的に開始できるようタスクフォースチームを結成し、現状分析、活動計画をたてること、最終的にはワークショップを開催し、関係者間で情報共有を図るといったプロセスが必須である点について、プロジェクト側、調査団側で確認した。

**(重要)**

- 1) A 地区のハイリスクグループ行動について
- 2) 症例検討会ワークショップ

**(要検討)**

- 1) 殺虫剤と蚊帳効果
- 2) マラリア診断検査精度管理（顕微鏡、迅速診断キット含む）（中央ラボ）
3. Treatment Health Seeking Behavior（バゴーB、C 地区）
4. マラリア治療薬品質実態調査（偽薬、未登録薬等）
5. 殺虫剤感受性試験

<活動計画>

上記整理から、活動計画は Output 6 として整理はせず、Outputs 1～4 の中で明記する。

- ①今までの総括ワークショップ
- ②3月までに開催する OR の総括ワークショップにおいて OR 自体の成果を発表し、終了する（実施中）。

以 上



