

**BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR MALARIA CONTROL
IN
THE UNION OF MYANMAR**

August 2008

JAPAN INTERNATIONAL COOPERATION AGENCY

FUJITA PLANNING CO., LTD.

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PREFACE

In response to a request from the Government of the Union of Myanmar, the Government of Japan decided to conduct a basic design study on the Project for Malaria Control and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Myanmar a study team from March 2nd to March 21th, 2008.

The team held discussions with the officials concerned of the Government of Myanmar, and conducted a field study at the study area. After the team returned to Japan, further studies were made. Then, a mission was sent to Myanmar in order to discuss a draft basic design, and as this result, the present report was finalized.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Union of Myanmar for their close cooperation extended to the teams.

August, 2008

Masafumi Kuroki

Vice-President

Japan International Cooperation Agency

Letter of Transmittal

We are pleased to submit to you the basic design study report on the Project for Malaria Control in the Union of Myanmar.

This study was conducted by Fujita Planning Co., Ltd., under a contract to JICA, during the period from February, 2008 to September, 2008. In conducting the study, we have examined the feasibility and rationale of the project with due consideration to the present situation of Myanmar and formulated the most appropriate basic design for the project under Japan's Grant Aid scheme.

Finally, we hope that this report will contribute to further promotion of the project.

Very truly yours,

Tomoko Kobayashi
Project manager
Basic design study team on
The Project for Malaria Control
In The Union of Myanmar
Fujita Planning Co., Ltd.

SUMMARY

SUMMARY

(1) Outline of the country

The Union of Myanmar (Hereinafter Myanmar) is located in the west part of Indochina Peninsula and shares its border with five countries (Thailand, Laos, India, Bangladesh, and China). Its south-west part is facing to the Bay of Bengal and southern part to the sea of Andaman. Its population is about 566 million (2006) and has land area of approximately 677 thousand square kilo-meters, which is almost 1.8 times as large as that of Japan. The Ayeyawaddy River runs through the middle of the land and makes a delta area around the mouth of the river, and the Rakhine, Bago and Karen mountain ranges lie from the north to south.

GDP in 2006 is 232.25 dollar (IMF), and the breakdown of the industries shows that the primary industry is 51% of GDP, the secondary industry is 14% of GDP and the tertiary industries is 35% of GDP in 2004.

Myanmar keeps a trade surplus (2005) under the trade control with the total amount of export as about 30 billion kyat (about 30million dollars) and import as about 16.8 billion kyat (16.8million dollars). The major export item is natural gas (30%of the total export).

The economic growth rate in 2008 is estimated as 3.4%, though a high rise in price rate (26.33% in 2006) is worried. However, the Myanmar government tries to gain momentum in the economic growth by promoting foreign investment, such as giving authorization of the investment in the energy field to foreign companies.

(2) Background of the project

In the Union of Myanmar, malaria is the first common cause of death and constitutes 10% of out-patients and 15% of in-patients in medical facilities. This situation is observed not only in Myanmar but also in all the regions in South East Asia, including neighbouring countries, and the reported number of malaria deaths in Myanmar constitutes 36.5%(2006) of those in the whole areas under the umbrella of the South East Asia Regional Office (SEARO) of WHO. In response to the situation, in 2003, regional effort concentrated to the six countries in the Mekong basin (Myanmar, Laos, Thailand, Cambodia, Viet Num and Yunnan province of China), called 'Mekong Project' has been implemented to grasp effects as a region. This project is executed under a world-wide initiative called 'Roll Back Malaria (RBM)' which has been adapted in 1998 by WHO, UNICEF, UNDP and the World Bank with an objective of reducing 50% of malaria deaths by 2010.

The Government of Myanmar framed its policy 'Myanmar Health Vision 2030', a long term health development plan, based on the Millennium Development Goals (MDGs) in 2000. 'The national health plan (2006-2011)' which covers the five-year period of 'Myanmar Health Vision 2030', has been drawn up as a mid-term health development plan. With these policies, the Government of Myanmar sets forth enlargement of health services, reduction of morbidity and mortality by infectious diseases and development of human resources. Especially, the government prioritizes malaria, the first common cause of death, and formed 'National Malaria Plan 2006-2010' with the objectives; (1) to reduce malaria morbidity of 2005 by half by 2010, (2) to reduce malaria mortality of 2005 by half by 2010, (3) to achieve the MDGs, (to stop the occurrence of the major diseases like malaria and others by 2015, and to reduce the rate of incidence ever since.)

According to the statistic in 2006 by the Ministry of health in Myanmar, the number of malaria patients is 548,110 and the malaria deaths are 1,647. The morbidity rate is 9.91 par 1,000 and the mortality rate is 2.98 par 100,000. However, these reported cases are based only on the registration at public health facilities. According to the estimation based on the past epidemiological information and various study reports, the number of morbidity is thought to be twice as many and the deaths are to be four times as many as the reported number. SEARO reported that 70% of the population of Myanmar is under the malaria risk, and 284 townships out of 324 townships are located in malaria high risk areas.

In addition, there are four types of plasmodium that infect human beings and all of those are found in Myanmar. Falciparum malaria, which causes the highest rate for deaths amongst these four types of plasmodium, constitutes 80% of the whole malaria infection in Myanmar. This situation makes malaria control in Myanmar difficult to tackle. The main vectors in Myanmar is concentrated in the mountainous areas, and the Government of Myanmar has targeted adults (60% of all malaria patients) as a high risk group to put in force of the malaria control.

To improve these challenging situation, the Myanmar government requested the Japanese Grant Aid to procure equipment for the malaria control programme, such as testing equipment for malaria, anti-malarial drugs, mosquito nets, insecticides, equipment for IEC and cars for monitoring, for four State/Divisions where malaria risk is high, which include Magway Division and Rakhine State in the Rakhine Mountain Range and Bago East and West Divisions in the Bago Mountain Range.

(3) Outline of the results of the field study and the contents of the Project

In response to the request from the Government of Myanmar, the Government of Japan decided to conduct a basic design study on the Project for Malaria Control and the Japan International Cooperation Agency (JICA) sent a study team to Myanmar from March 2nd to 21th, 2008. The team held discussions with officials concerned of the Government of Myanmar, and conducted a field study at the study area. After further studies were made in Japan, a mission was sent to Myanmar in order to discuss a draft basic design, and the present report was finalized as this result.

As a result of the field study, it is confirmed that equipment for 'monitoring/evaluation' and 'IEC', such as motor bikes and cars could be used not only for the malaria control activities but also for all purpose, therefore the equipment for 'monitoring/ evaluation, training' and 'IEC' are omitted and Japanese assistance is concentrated on equipment related to 'prevention', 'testing / diagnosis', and 'treatment'.

In addition, all the equipment will be planned to meet the standard of the selection in terms of purpose of use, necessity, technical level, management and maintenance system and the cost of maintenance and management.

The outline of the project for Malaria Control in the Union of Myanmar is as follows;

Responsible institution: The Department of Health, the Ministry of Health

Execute institution: The Central Vector Borne Diseases Control programme (The Central VBDC)

Project sites: Four State/Divisions; Magway Division, Rakhine State, Bago East Division and Bago West Division

Contents of the Project: follows as below

Equipment	Equipment for prevention, testing, and treatment for the targeted State/ Divisions (such as Rapid Diagnosis Test kits, equipment for microscopy, anti-malarial drugs, LLINs and insecticides)
Soft Component	Support for the inventory management of procured equipment and awareness activities for LLIN

(4) Implementation schedule and project cost estimation

The project implementation after the approval of the official Exchange of Notes (E/N) will be; the detailed design (the preparation of tender documents): about three months. Tender work: about three months. Work by Contractor and Supervision by Consultant: about eight point three months.

In addition, soft component, which will be conducted before and after the arrival of procured equipment, will take about two month. Therefore, the implementation of the Project, which includes activities from detailed design to procurement management is expected to take sixteen months.

The project cost estimation for the Myanmar side is estimated to be 3,460,000 kyat.

(5) Project evaluation and recommendation

Direct Effects expected from the implementation of the Project are as follows

- 1) The number of malaria detected/treated cases increases at public health facilities: 19,841 cases in Bago East Division; 18,631 cases in Bago West Division; 28,289 cases in Magway Division; and 172,495 cases in Rakhine State in 2006.
- 2) The number of malaria tests increases at public health facilities: 18,133 cases in Bago East; 5,325 cases in Bago West; 16,780 cases in Magway; and 224,421 cases in Rakhine for microscopic tests in 2006.
- 3) The frequency of outbreak of malaria decreases in the target areas: 6 times / 2002-2006.
- 4) The importance of appropriate provision and management of medical products at appropriate timing as well as of awareness for use and maintenance of mosquito nets is understood at the Central VBDC and the target Divisions/State through the implementation of the Soft Component.

Indirect Effects expected from the implementation if the project is as follows

- Malaria morbidity and mortality decreases in the target Divisions/State

For these expected effects from the implementation of the Project by the Japanese Grant Aid, it is appropriate to conduct the Project by the Japanese Grant Aid because the enforcement of the malaria control in the high malaria risk areas, to put it concretely, the improvement of the systems of 'prevention', 'testing / diagnosis', and 'treatment' in targeted areas, will reduce the malaria risk in the nation-wide and will also contribute the whole population in Myanmar.

The following recommendations are desirable to be carried out by Myanmar side for the safe, appropriate, smooth and effective operation necessary for the direct and indirect effects to be realised in prevention, examination, and treatment for malaria control.

- 1) The preparation of appropriate provision planning for procured equipment that the equipment is to be continuously used in good conditions for the terminal users.
- 2) The promotion of activities to improve technical level of terminal medical staff so that higher levels of treatment and examination are conducted through the improved equipment.
- 3) Good use of knowledge through collaboration with the implemented JICA Technical Cooperation Project.
- 4) Understanding the status of the store, inventory and use of equipment at health facilities and improving the recording of each equipment
- 5) Reporting the status of equipment use at the biannual general meeting of VBDC to understand the status of management for the equipment and to make use of the information as reference for the improvement of malaria control after the completion of the Japanese Assisted Project.

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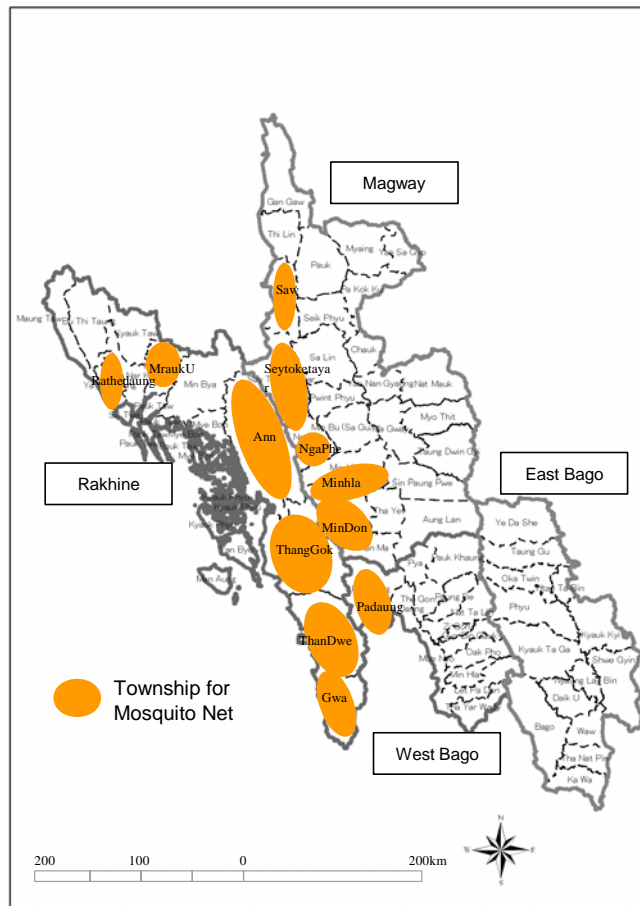
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Location Map

The Union of Myanmar



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Abbreviations

ACT	Artemisinin-based Combination Therapy
A/P	Authorization to Pay
B/A	Banking Arrangement
BHS	Basic Health Service
CMSD	Central Medical Store Depo
CMS	Clinically Suspected Malaria
DAC	Development Assistant Committee
EMSC	Expected Malaria Suspected Case
E/N	Exchange of Note
EPI	Expand Programme of Immunization
FDA	Food and Drug Administration
FEC	Foreign Exchange Currency
GDP	Gross Domestic Products
GFATM	Global Fund to fight against AIDS, Tuberculosis and Malaria
IEC	Information, Education, and Communication
IP	In-Patient
IRS	Indoor Residual Spray
ITN	Insecticide Treated Net
JGA	Japan Grant Aid
JICA	Japan International Cooperation Agency
LLINs	Long Lasting Insecticidal Nets
MDGs	Millennium Development Goals
MIDC	(JICA Technical Cooperation Project on)Major Infectious Diseases Control
MPF	Myanmar Pharmaceutical Factory
MSF	Medecins Sans Frontieres
NGO	Non-Government Organization
OECD	Organization for Economic Co-operation and Development
OPD	Out-Patient Department
PHS I/II	Public Health Supervisor
<i>P. f</i>	<i>Plasmodium falciparum malaria</i>
<i>P. v</i>	<i>Plasmodium vivax malaria</i>
<i>P. o</i>	<i>Plasmodium oval malaria</i>
<i>P. m</i>	<i>Plasmodium malariae malaria</i>
RBM	Roll Back Malaria
RDT	Rapid Diagnostic Test kits
RHC	Rural Health Centre
SC	Sub-health Centre
SEARO	South East Asia Regional Office of WHO
TS	Town Ship
UNDP	United Nation of Development Plan
UNICEF	United Nation Children's Fund
VBDC	Vector Borne Disease Control
WHO	World Health Organization
WHOPES	World Health Organization Pesticides Evaluation Scheme

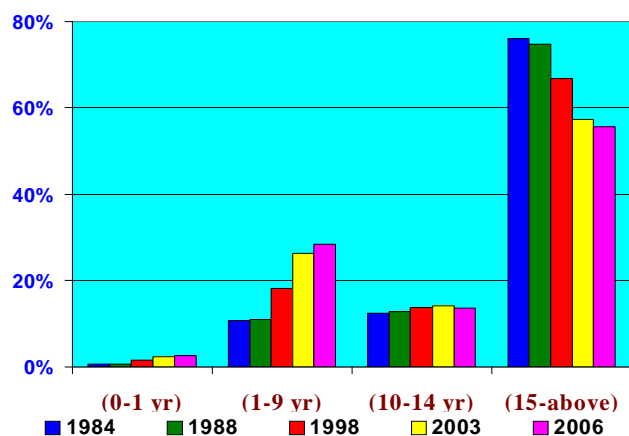
CHAPTER 1. BACKGROUND OF THE PROJECT

Chapter 1 Background of the Project

1-1 Background and outline of the project

In the Union of Myanmar, malaria is the first common cause of death and constitutes 10% of outpatients and 15% of inpatients in medical facilities. This situation is observed not only in Myanmar but also in all the regions in South East Asia, including neighbouring countries. In response to the situation, many regional efforts, led by the South East Asia Regional Office (SEARO) of the WHO, have been conducted as an important issue in the region.

In malaria control at the global standard, pregnant women and children under five are recognised as the high risk group, but in South East Asia, especially in Myanmar, 60% of people with malaria are the adult group over 15 years of age. Therefore, the government of Myanmar defines adults as the high risk group to work on malaria control in the country. Figure 1-1, Table 1-1



(Source: Central VBDC)

Figure 1-1 Malaria Burden by Age Group in Myanmar

Table 1-1 Malaria Burden by Age Group in Myanmar

	(0-1 yr)	(1-9 yr)	(10-14 yr)	(15-above)
1984	0.69%	10.77%	12.47%	76.06%
1988	0.75%	10.95%	12.83%	74.82%
1998	1.54%	18.09%	13.68%	66.70%
2003	2.36%	26.31%	14.07%	57.31%
2006	2.47%	28.26%	13.65%	55.62%

(Source: Malaria Situation in Myanmar 2008, the Central VBDC)

According to the statistics from 1984 to 2006, however, malaria burden amongst the adult group is on some declining trend, and morbidity amongst children under 9 years of age is increasing along with the trend amongst adults. It is cited as a reason for this trend that there are many cases where malaria patients, that is adults who had infection in the mountain region, return home with incomplete treatment and become

infectious sources to take malaria to their homeland. From these infectious sources by the adult group, children under 9 years of age, who are weak and immune-compromised, get infection, which leads to an increase of malaria morbidity rate amongst these children. This danger of secondary infection is another agenda for the government of Myanmar to examine in the future.

In order to solve these problems, prevention activities are led by the Ministry of Health to introduce long-lasting insecticidal nets (LLIN) in remote area and also to strengthen prevention at development project sites in the mountain regions through collaboration with the Ministries of Forestry and Economics. Furthermore, strategic measures for examination and treatment are taken in the malaria control such as prompt response to the appearance of drug resistance by change of treatment courses, the promotion of rapid diagnostic test kits (RDT) at terminal medical facilities.

In the current situation, however, lack of enough test agents and therapeutic medication at public health facilities leads to delay in diagnosis and treatment after medical examination. This lack of medical products also leads to a situation where more people tend to hesitate to seek for medical care.

Against this background, the government of Myanmar has requested Grant Aid Assistance of the government of Japan concerning testing equipment for malaria, anti-malarial drugs, mosquito nets, insecticides, equipment for IEC and cars for monitoring, to Bago and Magway Divisions and Rakhine State, high malaria risk areas located along the Bago Mountains and the Rakhine Mountains.

1-2 Natural Conditions and Social Environmental Issues

As a natural condition, the northern part of Myanmar is located in the temperate zone, the central part in the tropical and the southern part in the subtropical zone and its rainy season starts from May to October. During the rainy season, condition of roads and access to the sites are affected by the rain in some area, so the scheduling of the delivery should be well considered. Social and environmental consideration would not be necessary for this project.

CHAPTER 2. CONTENTS OF THE PROJECT

Chapter 2 Contents of the Project

2-1 Basic Concept of the Project

(1) The overall goal and Project purpose

The government of the Union of Myanmar (hereinafter Myanmar) has put great efforts in the National Malaria Control Programme to reduce malaria morbidity in the country, through expanding prevention, early diagnosis, and appropriate treatment and through increasing community awareness by providing information, education, and communication (IEC) up to the grassroots level. Along with these efforts by the government of Myanmar, the Project aims to reduce malaria morbidity and mortality in the community, especially to reduce burden in adult groups, through assistance to East Bago Division and West Bago Division, where the Japanese government has started JICA Technical Cooperation Project since 2005, and Magway Division and Rakhine State, where malaria morbidity is especially high, and National Malaria Programme puts its emphasis in tackling malaria problems.

(2) The outline of the Project

In order to achieve the objectives above, the Project is to provide equipment for prevention, examination, and treatment, to analyse malaria risks in the areas, to train medical staff in charge of the malaria control programmes, and to monitor the Project. By doing these, the reduction of malaria morbidity and mortality is expected in the target areas. The Requested Japanese Assistant Project will distribute Rapid Diagnostic Test kits (RDTs), anti-malarial drugs, Long Lasting Insecticidal Nets (LLINs) and insecticides and sprayers for Indoor Residual Spray (IRS) as well as supports for the management of procured equipment and awareness activities for LLINs.

Table 2-1 The Summary of the Requested Japanese Assistance Project

Inputs	Procurement and distribution of equipment for testing, treatment and prevention. (test kits, drugs, LLINs and insecticides)
Activities	Support for the inventory management of procured equipment and awareness activities for LLINs in the Soft Component
Outputs	Increase in the cases of treatment and testing at public health facilities and reduction of malaria deaths

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

(1) Basic Policy

The main component of the cooperation in the Requested Japanese Assistance Project is the procurement of equipment for testing, treatment and prevention in the Malaria Control Programme conducted by the Vector Borne Disease Control Programme (VBDC) of the Department of Health in the Ministry of Health. The target sites in the Project are four State/Divisions which include Magway Division and Rakhine State in the Rakhine Mountain Range and Bago East and West Divisions in the Bago Mountain Range.

Equipment for testing and treatment will be procured to health facilities not only in the mountain areas but in all areas in the target State/Divisions as well. This is due to the migration of malaria patients, which includes cases where residents in the plain infect malaria through mosquito bites in the mountains and receive treatment at health facilities in the plain and where residents in the mountain receive treatment at health facilities in the plain. In addition, the Project will put its emphasis on strengthening testing and treatment at health facilities at the grassroots level, because malaria is possible to be cured by early diagnosis and treatment. Therefore, equipment in the Requested Japanese Assistance Project will be distributed to Rural Health Centres and Sub-health Centres. The necessary quantity of equipment is estimated with consideration to the results of operation research conducted by JICA Major Infectious Disease Control Project, which identifies the increase of patients and testing in number through the improvement of the malaria control programmes. The improvement of the programmes brings about new access to treatment and testing for many people who had no access to those before.

For prevention, mosquito nets will be distributed to residences in high malaria risk areas because these are equipment for individual residents' use. The necessary quantity of the mosquito nets per household is estimated based on the average number of people in a household in Myanmar.

For vector control, insecticides and sprays will be procured for Indoor Residual Spray (IRS) to high malaria risk areas. The Project will provide assistance to spray teams of VBDC in the target State/Divisions as spray teams are organised at the State/Division level.

(2) Natural Environment Policy

Myanmar is located in the tropical monsoon zones with the rainy season from May to October and the dry season from November to December. Malaria epidemic period is before and after the rainy season with a little difference depending on the areas. Although it is warm and humid in Myanmar, no health facilities and storages normally have air conditioning. Therefore, for equipment which requires strict management of temperature and humidity, it is important to select products which are not sensitive to temperature and humidity. In the rainy season, it often rains all day long with enough rainfall to flood main roads. Equipment transport will have difficulties in some areas during the rainy season.

Road network is provided in Myanmar, but some roads are deteriorated by rain. Maintenance of roads is conducted every dry season, but even main roads are in poor conditions in some rural areas. Transportation plan should be made with paying attention to these situations above.

Furthermore, areas along the Rakhine Mountain Range are very sandy, especially in the dry season. Dust protection is necessary at the time of the distribution to these areas.

(3) Socioeconomic Policy

Myanmar is a multiethnic country with the Burman people as the largest group. The main religions of the country are Buddhism (89.4%), Christianity (5.0%), Islam (3.8%), Hinduism (0.5%), and others.

Travelling to rural areas except tourism is required permission with application submitted more than three weeks prior to the travel date and needs to be accompanied with governmental officials. A short-term visa, which is extendable, allows 28-day stay. It takes about two or three days to apply for the visa extension. Detailed planning is required for domestic travel in advance, and it is necessary to make schedule, allowing the completion of local duties without visa extension.

Myanmar's currency is the Kyat. Foreign Exchange Currency (FEC) is used as equivalent to US \$. Trade and estimation is normally made with this FEC in business except retail in the country. In this Project as well, the estimation will be enquired with FEC or US\$.

Electricity supply is not enough, and frequent power cuts occur even in many places. In rural areas, electricity is supplied only for few hours at night. Therefore, plan should be made with consideration that night time work is very difficult in some places.

(4) Procurement and Business Customs Policy

Import License/Permission issued by the Ministry of Commerce is required for all the imported items, and it usually takes about two months to obtain the Import License/Permission. The same rule is applied to imported items ordered by the government. Work schedule needs to be made with consideration to this situation.

(5) Local Contractor Policy

Myanmar Pharmaceutical Factory, a state-owned enterprise, produces conventional anti-malarial drugs such as Chloroquine and Quinine.

In Myanmar, there are 90 dealers for medicines and about 30 agents for medical equipment. Amongst the equipment for the Project, rapid diagnostic test kits (RDTs), insecticides for IRS, LLINs, and some medical products are not in Myanmar's private market and are procured on order. Equipment for microscopes is also at sale on order due to the small private market. Equipment plan needs to be made with consideration to these situations.

(6) Management and Maintenance of the Implementing Agency

Only insecticide sprayers for IRS require maintenance amongst equipment procured for the Project. The spray is used, stored, and managed by spray-men who belong to VBDC in each State /Division. Insecticides for IRS are poisonous and required careful handling such as hand-wash after each use and periodical exchange of packing. Considerations are necessary in order to avoid excessive financial burden for VBDC.

There is no logistic problem for equipment as VBDC owns stores and physical distribution systems. Equipment is normally distributed to States and Divisions from the central VBDC every six months, to

Townships from States and Divisions every three months, and to health centres from Townships every month. This distribution is organised by organisations of the lower levels to receive from the upper levels. However, this system is normally used for the distribution of small amount of medical products and may not be suitable for mass transport in the Project. Therefore, consideration is necessary to avoid excessive burden for the current distribution systems for VBDC.

(7) Equipment Grade Policy

Judging the policies above comprehensively, equipment grade for the Projects will be equal to that for the regular use in the malaria control programme in the country. Brand specification is considered for RDTs in order to avoid confusion amongst medical staff. Antifungal treated products are considered for glass slides. Medical products for the Project will be selected amongst those registered with the Food and Drug Administration (FDA) of the Ministry of Health in Myanmar. The selection of LLINs, insecticides, and sprays will be made amongst those which are recommended by the World Health Organisation Pesticides Evaluation Scheme (WHOPES). Pesticides are will be selected amongst those approved by the Ministry of Agriculture in the country.

(8) Procurement, Distribution Methods, and Schedule

RTDs will be procured from India because the National Malaria Control Programme currently uses those made in India. Some anti-malarial drugs are procured from the United States or China because medicines recommended as the treatment of *P. falciparum* by the Malaria Treatment Policy are confined in produce. Other anti-malarial drugs can be procured from all over the world as generic medicines are already available in the market. As medicines in poor quality and placebos also flow in the market, drugs for the Project will be procured from pharmaceutical companies recommended by WHO. Submission of the results of ingredient analysis is also considered for this procurement. There are five kinds of Long Lasting Insecticidal Nets (LLINs) recommended by WHOPES, the origins of which vary all over the world. Therefore, LLINs will be procured from all over the world. Other equipment is principally procured from Japan, but procurement from third countries will be considered as well.

With regard to distribution, as Giemsa stain and Anizol are combustible and have strict regulation for handling and transport, detailed consideration is necessary for the transport plan of these items.

With regard to the final destination of delivery, it is possible to deliver pharmaceutical products and RDTs to the sub-health centre level through the existing transport systems. However, considering the use of procured equipment in target State/Divisions, the capacity of central stores, and burden to the existing transport systems, half of these items will be delivered to the central store and the rest to the stores of the VBDC in each targeted State/Division. In addition, testing and treatment are desirably supplied as needed, and the occurrence of stock-out at medical facilities is reduced through central control at the base.

Sprayers for Indoor Residual Spray (IRS) and Insecticides for IRS will be delivered to the VBDC in each State/Division since these items are used by the responsible of IRS in State/ Division VBDC.

LLINs are different from treatment and testing in their use and should be distributed to users as soon as possible. Because mass transport of mosquito nets is a great burden to the existing transport systems, LLINs will be delivered to stores of Township Health Units in the target State/Divisions.

In deciding the work period of the Project, appropriate length of time should be considered for the procedures of transport and clearance of customs in addition to the production of items.

2-2-2 Basic Plan

(1) History of the Request for Cooperation

In discussion with the director of the Disease Control Unit and the program leader of the malaria programme in department of Health in the Ministry of Health, we have removed items for ‘monitoring’ and ‘IEC’ from the requested items in the list we received, confining the Japanese assistance to those for ‘testing’, ‘treatment’, and ‘prevention’.

Amongst the items listed for ‘testing’, we have removed microscopes due to the policy of the Disease Control Unit in the department of Health that they will make the best use of existing equipment and improve rapid diagnostic testing at Sub-health Centres, the forefront of medical services to residents.

Amongst items listed for ‘treatment’, we have removed ‘Clindamycin’. Malaria morbidity is not so high amongst pregnant women in the country, for whom Clindamycin is used for malaria treatment.

The numbers of malaria patients amongst children under 5 years of age and pregnant women in Bago West are as follows:

Table 2-2 Malaria Patients and Deaths amongst Under 5s and Pregnant Women in Bago West
(The result of sampling)

	Under 5s	Pregnant women
OPD-Patients	37,632	38,727
Malaria Patients	641	23
Ratio (%)	1.78	0.05
In-Patients	6,264	3,913
Malaria Patients	346	12
Ratio (%)	5.52	0.41
Total Deaths in Hospital	115	1
Deaths by Malaria	3	0

(Sources: created by the author based on the data from the Central VBDC)

Amongst items listed for ‘prevention’, we have removed re-impregnation kits for mosquito nets because effects brought by the introduction of LLINs can substitute for the short-term effects by the re-impregnation of mosquito nets.

(2) Overall Project Plan

As basis for the calculation of necessary amounts, expected malaria suspected cases (EMSCs) are calculated by multiplying the average number of malaria patients at public medical institutions in the target areas in the last 5 years by the estimated coefficient (×3.6) derived from the results of the operation research of JICA Technical Cooperation Project by VBDC, as the counterpart of the project

EMSC = malaria patients at public medical institutions(257,997) × the estimated coefficient of potential malaria cases (3.6) = 928,789

With regard to 'Testing', RDTs are used for malaria diagnosis by midwives at rural Health Centres or Sub-health Centres. Necessary amounts of equipment are calculated for the testing of all the patients at the Health Centres and Sub-health Centres in the target areas with 75% of the testing confirmed by RDT and 25% by microscopy.

The number of the testing confirmed by RDT = EMSC × 75% = 696,592

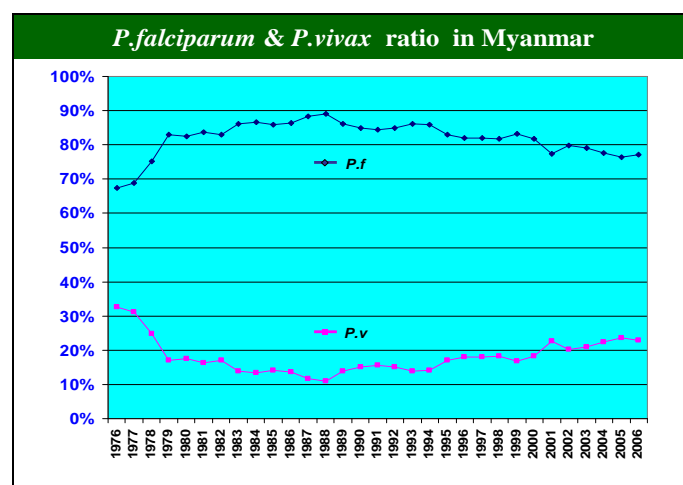
The number of the testing confirmed by microscopy = EMSC × 25% = 232,197

With regard to medical products, the selection of drugs is made according to the standard of malaria treatment in Myanmar, and the number of target patients for treatment is calculated by multiplying EMSCs in the target areas by the positive rate through testing (x 50%), which is calculated from expected value in the future as well as empirical value in the past. Furthermore, drugs for the treatment of *P. falciparum* are different from those for other malarias, and the necessary amount of these drugs is calculated with *P. falciparum*-other malaria ratio (8:2). Drugs such as Chloroquine, Primaquine, and Quinine are necessary to be distributed to all the health facilities, and the necessary amounts are calculated with the number of all the health facilities in the target areas. The necessary amount of drugs for Artemisinin-based Combination Therapy (ACT) is calculated at the basis of age distribution in the target areas because drugs for ACT are packaged by age (weight).

The number of positive case (treated case) = EMSC × 50% = 464,395

P.falciparum: 80% other malaria cases: 20%

The ratio of *P. falciparum* and *P. vivax* in Myanmar is as follows:



(Sources: The Central VBDC (2007)) $P.f = P.falciparum$, $P.v = P.vivax$

Figure 2-1 *P. falciparum* and *P. vivax* Ratio in Myanmar

Table 2-3 Malaria Ration by Age-Group (the Result of Sampling)

	Bago East	Bago West	Rakhine	Average	Adopted %
1-4 years	0.4	0.6	2.1	1.03	10%
5-9 years	0.5	0.8	2.1	1.13	15%
10-14 years	0.8	0.7	1.8	1.10	15%
15 and over	8.3	7.9	4	6.73	60%

(Source : complied by the author with the data from the Central VBDC)

With regard to Chloroquine, Primaquine and Quinine, these items are necessary as standard medicines in each health facility, and the necessary amount of these items is calculated by the number of health facilities.

The number of Health facilities = 40 health facilities × The number of townships (72) = 5,760

Chloroquine and Quinine: 1 bottle for each health facility

Primaquine: 2 bottles for each health facility

With regard to the Artemether and Doxycycline, the past data shows that the occurrence of a severe case is 5% and that the occurrence of treatment failure is 5% for each type of malaria. Therefore, the necessary amount of these items is calculated with consideration of severe cases and treatment failed cases.

The severe case = EMSC × 5% = 18,575.8 (treated with Artemether)

The treatment failed case = EMSC × 5% = 18,575.8 (treated with Artemether and Doxycycline)

With regard to the distribution of LLINs, two sets of LLIN will be distributed to a household mainly in the highest risk areas around the Rakhine Mountain Range, which is calculated through the use of micro-stratification developed by the JICA Technical Cooperation Project. One LLIN is to be distributed to each household which will receive LLINs from the project by the UNICEF (the UNICEF is to distribute one set per household). As there is a possibility of a change of households in number at the time of the micro stratification, 10% is added to the calculated amount.

Table 2-4 Mosquito Nets Distribution by Townships

Rakhine State					Micro Stratification		LLIN
Place	Township	Population	Household	LLIN per household	Village with risks		
					Household	Number	
Sittwe	Mrauk U	228,455	40,551	1	7,433	67	8,176
	Rathedaung	169,713	27,095	2	6,825	91	15,015
Kvaukpyu	Ann	119,936	23,987	2	19,190	300	42,217
Thandwe	Thandwe	154,075	29,269	1	6,333	99	6,966
	Taungoke	147,076	31,209	1	11,876	104	13,064
	Gwa	80,148	15,848	1	5,939	109	6,533
						1,051	91,971

Magway Division					Micro Stratification		LLIN
Place	Township	Population	Household	LLIN per household	Village with risks		
					Household	Number	
Gangaw	Saw	64,564	13,368	1	12,486	117	13,735
Minbu	Saytoketaya	40,474	8,760	1	8,760	120	9,636
	Ngaphe	42,862	9,279	1	7,675	101	8,443
Thayet	Minhla	107,827	21,565.4	2	6,470	100	14,233
	Mindone	59,291	16,398	1	8,068	96	8,875
						534	54,921

Bago West Division					Micro Stratification		LLIN
Place	Township	Population	Household	LLIN per household	Village with risks		
					Household	Number	
	Padaung	130,070	31,810	1	10,178	89	11,196
						89	11,196

(Source: compiled by the author with the data from the Central VBDC)

The necessary amount of insecticides for IRS is calculated for use and reserve of IRS in areas with outbreaks of malaria and high risk areas in the target State/Divisions. The necessary number of sprays is calculated according to the constitution of spray-men in the target State/Divisions. The details of the calculation of IRS are as follows:

100 households x 10 places = 1,000 households

Coated area per household = 200m²

The amount of insecticide per household (Alpha-cypermethrin 5%) =120g

The frequency of spraying = 3 times

The constitution of spray-men (100 household /day)

Team leader = 1, Spray-men = 3

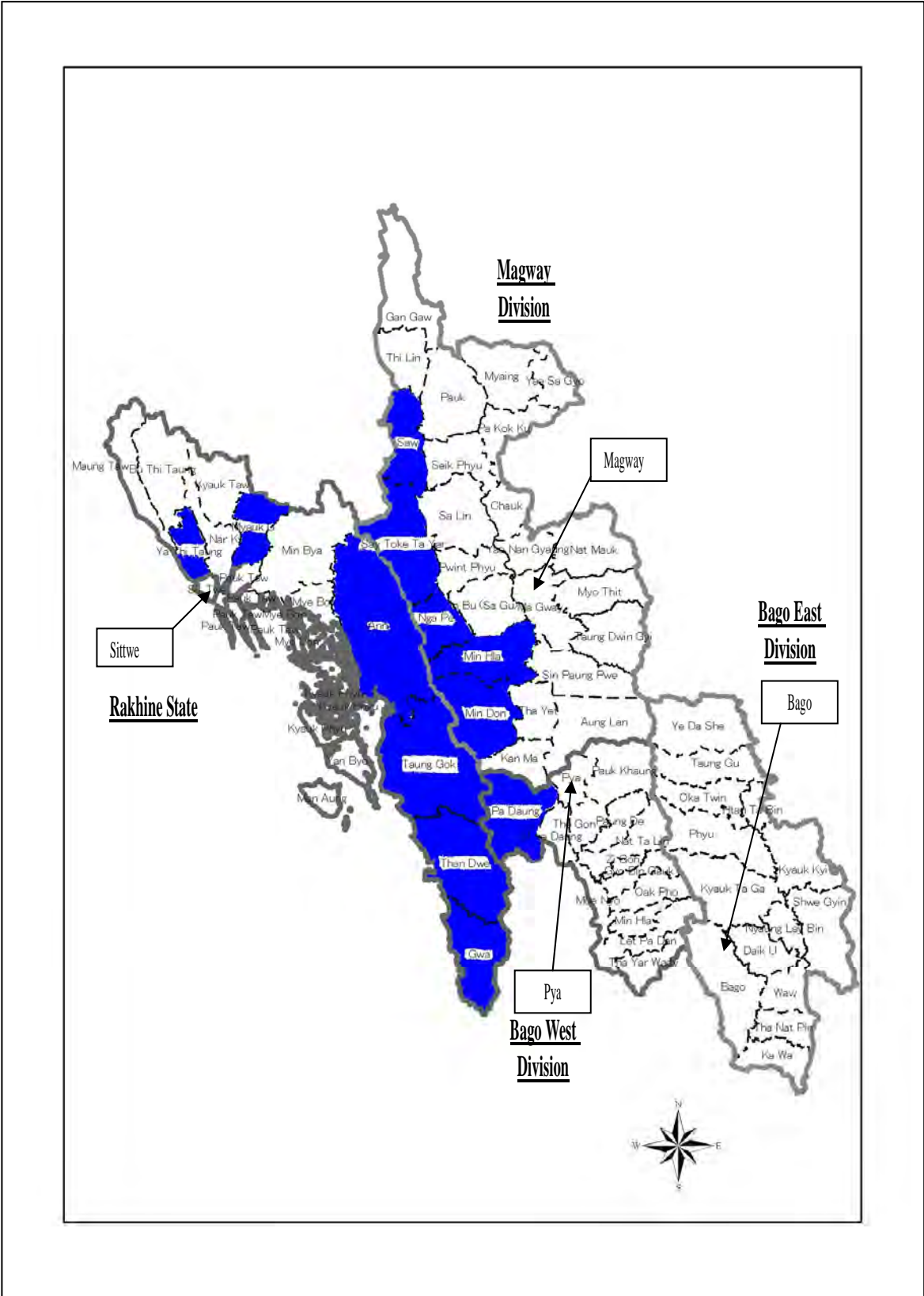


Figure 2-2 The Map of the Target Areas

(3) Equipment Plan

In examining the necessity and adequacy of the requested equipment, details for items to be procured in the Requested Japanese Assistance Project are as follows:

Table 2-5 Details of Procured Items

No.	Item	Package Type	Quantity
1	Rapid Diagnostic Test Kits	25test/ kit	27,866
2	Glass Slide	50sheet/ box	4,646
3	Lancet	200/ box	1,163
4	Giemsa stain	500ml bottle	467
5	Anizol	500ml bottle	467
6	ACT medicine	30treatment/ package	12,392
7	Chloroquine	1000tablet/ bottle	2,880
8	Primaquine	1000tablet/ bottle	5,760
9	Artemether injection	Ample:6bottle/ box	18,578
10	Syringe	Individual package	111,468
11	Doxycycline	1000tablet/ bottle	187
12	Artesunate tab.	12tablet/ sheet	18,578
13	Quinine tab.	1000tablet/ bottle	2,880
14	Long Lasting Insecticidal Net (LLIN)	Individual package	158,000
15	Sprayer for Indoor Residual Spray (IRS)	Individual package	24
16	Insecticide for IRS	25kg/ drum	60

The specification for the equipment for large quantity procurement is as follows:

Table 2-6 Specification of the Main Equipment

Item	Specification
Rapid Diagnostic Test kit	Kits for rapid diagnosis of malaria. The kits are used for the diagnosis of malaria at Health Centres during night time and Sub-health Centres which do not own microscopes. The kits are for the diagnosis of <i>P. falciparum</i> which is life-threatening and the most common in Myanmar. In securing accuracy of testing, cassette-type (device type) kits will be procured.
Anti-Malarial Drugs	Anti-malarial drugs used for the treatment of malaria in the Project are; ACT drugs for <i>P. falciparum</i> ; Chloroquine and Primaquine for <i>P. vivax</i> ; Artemether Ample for severely ill patients; Artesunate and Doxycycline for failure case of treatment; Quinine for pregnant women. These drugs are clearly specified as standard methods of treatment for malaria in Myanmar.
Long Lasting Insecticidal Net (LLIN)	LLINs recommended by WHOPEs. Size for 2-3 people. Square type with fine mesh.
Insecticides for IRS	Insecticides for IRS in the Projects are; Insecticides except chlorinated and organophosphorous amongst insecticides recommended by WHOPEs. Wettable Power type and portable 25kg /drum. Sprays are also those recommended by WHOPEs.

Details of the distribution are as follows:

Table 2-7 Distribution Details for Equipment

No.	Name	Central VBDC	Bago West	Bago East	Magway	Rakhine	Total
1	Rapid Diagnostic Test Kit (RDT)	14,866	1,000	1,000	2,000	9,000	27,866
2	Glass Slide	2,446	200	200	300	1,500	4,646
3	Lancet	563	50	50	100	400	1,163
4	Giemsa stain	247	20	20	30	150	467
5	Anizol	247	20	20	30	150	467
6-1	ACT drug-1	690	50	50	50	400	1,240
6-2	ACT drug-2	930	75	75	130	650	1,860
6-3	ACT drug-3	930	75	75	130	650	1,860
6-4	ACT drug-4	3,812	300	300	520	2,500	7,432
7	Chloroquine	1,440	280	280	540	340	2,880
8	Primaquine	2,880	560	560	1,080	680	5,760
9	Artemether injection	9,278	750	750	1,300	6,500	18,578
10	Syringe	55,668	4,500	4,500	7,800	39,000	111,468
11	Doxycycline	93	8	8	13	65	187
12	Artesunate tab	9,278	750	750	1,300	6,500	18,578
13	Quinine tab	1,440	280	280	540	340	2,880
14	LLIN	0	11,200	0	54,800	92,000	158,000
15	Sprayer for IRS	0	6	6	6	6	24
16	Insecticide for IRS	0	15	15	15	15	60

[Distribution of LLIN]

Township	Bago West	Bago East	Magway	Rakhine	Total
Padaung	11,200				11,200
Saw			13,700		13,700
Saytoketaya			9,600		9,600
Ngaphe			8,400		8,400
Minhla			14,200		14,200
Mindone			8,900		8,900
Mrauk U				8,200	8,200
Rathedaung				15,000	15,000
Ann				42,200	42,200
Thandwe				7,000	7,000
Taungoke				13,100	13,100
Gwa				6,500	6,500
Total	11,200	0	54,800	92,000	158,000

2-2-3 Implementation Plan

2-2-3-1 Implementation Policy

(1) Organisation for Project Implementation

The Project will be officially implemented after the official Exchange of Notes (E/N) approved by the governments of Japan and Myanmar according to the framework of Japan's Grant Aid Cooperation. The Ministry of Health is the responsible organisation for the Project, while the Vector Borne Disease Control Project in the Department of Health is responsible for Project implementation.

The Ministry of Health will conduct the Project design and supervision of procurement together with the consultant. The consultant will confirm the final planning of the Project and produce tendering documents. The Ministry of Health will conduct tendering based on the tendering documents and conclude contracts with contractors.

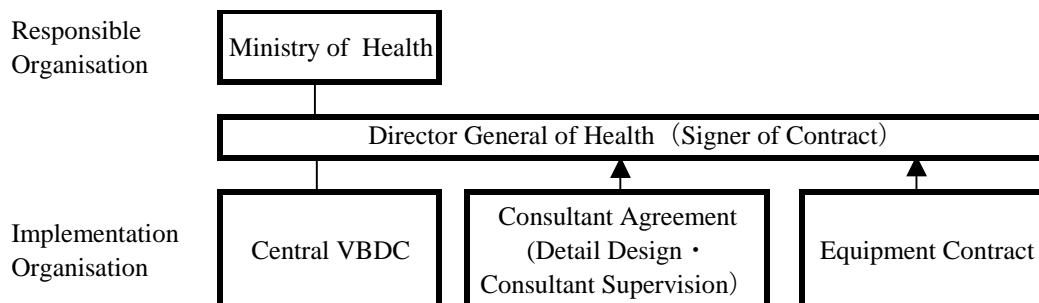


Figure 2-3 Project Implementation Organisation Diagram

The Director General, the Department of Health, is responsible for the whole Project, and the Deputy Director General, the Disease Control, is responsible for the Project implementation. The Team Leaders of the State/Divisional VBDC teams and the Directors of the Township Health Unit will distribute the equipment to the final destinations and supervise appropriate use of the equipment.

(2) Consultant

After concluding the E/N, the Ministry of Health of Myanmar will conclude a consulting contract, to be approved by the Japanese government, with a Japanese consulting company for the detailed design and supervision of the Requested Japanese Assistance Project. It is important to conclude the consulting contract soon after the E/N to ensure smooth progress on the Requested Japanese Assistance Project.

After the consulting contract is finalised, the consultant will confer with the Ministry of Health and produce detailed design documents (tendering documents) based on the basic design study report. These documents will then be approved by the Ministry of Health according to the process of approval in Myanmar. Procurement supervision will be conducted after tendering.

(3) Contractors

Contractors will procure and distribute equipment for the Project. Contractors for the Project will be selected from qualified Japanese corporations according to a general competitive tendering process with certain participation requirements. The Ministry of Health will conclude contracts, to be approved by the Japanese government, with contractors selected through this process.

2-2-3-2 Implementation Conditions

(1) Exclusion of placebos and poor quality

Most of the equipment for malaria control is particular and difficult to procure from Japan, and therefore, procurement will be considered from third countries. In preventing items of poor quality and placebos from the procurement, items should be concordant with policies of International Organisations and the government

of Myanmar and other measures should be taken such as the requirement of the submission of quality data. Furthermore, many items have limited suppliers, and the procurement needs to be fair in competition. Local procurement in Myanmar will not be made in perspective of quality management.

(2) Rapid Diagnostic Test Kits (RDTs): ‘Para Check’ produced by Orchid Biomedical Systems, India. RDTs are used mainly by midwives at Sub-health Centres for diagnosis of *P. falciparum*. The Ministry of Health conducted training on usage of ‘Para Check’ for midwives under assistance from WHO Myanmar. If new RDTs are introduced, these midwives would have possible risks of incorrect use and new training will be required for the new RDT. Therefore, the selected RDT would be ideal to have already been conducted training on usage and to be specified by the Disease Control Unit in the Department of Health.

(3) Artemisinin-based Combination Therapy (ACT) Drug: ‘Coartem’ produced by Novartis Pharma. In Myanmar, ‘Treatment with Antimalarial Drug Policy’ was revised in February 2008. In this revised policy, following measures are recommended for treatment of *P. falciparum* except critical cases (the numbers are the recommendation order with 1 as the most recommended):

- | |
|--|
| <ol style="list-style-type: none">1. Artesunate + Lumefantrine for 3 days2. Artesunate + Mefloquine for 3 days3. Dihydroartemisinin + Piperaquine for 3 days |
|--|

For the combination of Artesunate and Lumefantrine mentioned as first choice, ‘Coartem’ is the only drug which is recommended by WHO. Since 2002, when Coartem was introduced, the government of Myanmar has promoted the drug with continuous supply to distribute to all Townships in 2006.

(4) Insecticides for IRS

Planned amount of IRS is 1,500kg (25kg x 60 bottles). This amount is based on [Alpha-cypermethrin 5%] which is in the planned equipment list. Necessary amount of insecticide for IRS is different according to the ingredients and content of the component. Therefore, the final amount of insecticide for IRS will be decided to fulfil the number of calculated households, square measure and the number of conduction of IRS.

2-2-3-3 Scope of Works

Responsibilities for various facets of procurement and distribution are defined below in order to ensure smooth cooperation between Japan and Myanmar. Installation is not included in the Requested Japanese Assistance Project.

Table 2-8 Scope of Works by Each Country

Scope of Works for Japan	Scope of Works for Myanmar
<ol style="list-style-type: none"> 1. Costs for Procurement 2. Costs for Marine Transport 3. Costs for Inland Transport (to Stores of Township Health Units For LLINs and to Stores of the State/Divisional VBDC for other equipment) 	<ol style="list-style-type: none"> 1. Disclosure of information for secured capacity of existing store 2. Secure sites for unloading equipment 3. Distribution of LLINs to the final destinations (VBDC is responsible for the distribution from State/Division to Township, and Township Health Unit is responsible from Township to RHC, SC and individual residents) 4. Acquisition of Import Permit 5. Acquisition of Domestic Travel Permit for Japanese staff 6. All the other necessary costs besides the costs borne by Japan indicated here.

Distribution of equipment involves as many as 17 sites; 12 sites for LLINs and 5 sites for the other equipment. The contractors as well as the consultant will go to the sites for the acceptance inspection and management of the procurement. It is important to coordinate the schedule scrupulously.

2-2-3-4 Consultant Supervision

The Japanese consultant shall conclude a consulting agreement with the Ministry of Health to carry out the detailed design of this Requested Japanese Assistance Project as well as to conduct the tender and supervise the procurement.

The object of this supervision is to ensure that contractual obligations are properly fulfilled, including ascertaining whether the project is executed in conformance with the design and specification. The consultant shall ensure quality and schedule management, providing contractors with guidance, advice and coordination throughout the work period. The supervision of work consists of the following tasks:

(1) Support for Tendering and Contracts

The consultant shall provide advice and support for tender activities by the Ministry of Health for the procurement of equipment including: preparing tender documents, making public notice for the tender, accepting applications for tendering, examining applicant qualifications, holding a tender explanation meeting, distributing tender documents, and accepting and evaluating tenders. In addition, the consultant shall advise the Ministry of Health concerning its contracts with contractors the tenders of which are successful.

(2) Guidance, Advice, and Coordination for Contractors

The consultant shall review procurement progress and procurement plans, providing guidance, advice, and coordination.

(3) Confirmation of Equipment

The consultant shall confirm conformity between contract documents and the equipment which contractors offered.

(4) Inspection

The consultant shall, as necessary, attend inspection and testing which are carried out at plants where equipment is manufactured for the verification of quality and performance requirements.

(5) Reporting on Progress of Work

The consultant shall monitor project progress and work sites and provide progress reports to concerned parties in both countries.

(6) Completion Inspections

The consultant shall perform the completion inspections of equipment delivery, confirm the performance conformation to contract documents, and submit inspection reports to the Ministry of Health.

(7) Consultant Supervision Team

The consultant shall organise a team consisting of permanent advisory technicians to carry out the domestic and local duties described above.

2-2-3-5 Quality Control Plan

Anti-malarial drugs in poor quality or placebos are widely spread in the world. Therefore, presentation of ingredient analysis will be considered in order to maintain the quality of the procured pharmaceutical products.

2-2-3-6 Procurement Plan

(1) Procurement Plan

Most of the anti-malarial drugs used in Myanmar are imported from India, Thailand, Vietnam, and China. Amongst the items for the Project, only Chloroquine and Quinine are produced in Myanmar.

Table 2-9 Procurement Plan for Equipment

No.	Name of Equipment	Japan	Myanmar	Third Countries
1	Rapid Diagnostic Test Kit (RDT)			○
2	Glass Slide	○		
3	Lancet	○		
4	Giemsa Stain	○		
5	Anizol	○		
6	ACT medicine			○
7	Chloroquine			○
8	Primaquine			○
9	Artemether injection			○
10	Syringe	○		
11	Doxycycline			○
12	Artesunate tab.			○
13	Quinine tab.			○
14	Long Lasting Insecticide Net (LLIN)	○		○
15	Sprayer for IRS	○		○
16	Insecticide for IRS	○		○

(2) Transportation Plan

Equipment procured from third countries will be distributed to the central VBDC store in Yangon, via Yangon Port or Yangon international airport. Equipment procured from Japan will be unloaded at Yangon Port and delivered to the Central VBDC store. It takes fifteen days from Japan to Yangon Port by sea. After arrival to the Central VBDC store, the equipment will be delivered to each project site (16 sites) by truck. The main road to each State/Division is generally in good condition, but some road to the 12 townships is in poor condition during the rainy season. LLIN is scheduled to deliver during the dry season, and it takes one to seven days depending on the sites during the dry season. However, in case of schedule changed, more time would be necessary for the delivery.

Table 2-10 Transportation Plan

Place	Capacity (m3)	Weight (kg)	Trucks	The Number of Days														
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Yangon	25,182	125,255		(Shaded area)														
Sorting by Destination																		
Bago West	Pyaw	16	2,520	1														☆
	Padaung	11,200	8,400	1														☆
Bago East	Bago	16,08841	2566.4488	2														☆
Magway	Magway	26	4,189	1														☆
	Saw	13,700	10,275	2														☆
	Saytoketaya	9,600	7,200	2														☆
	Ngaphe	8,400	6,300	2														☆
	Minhla	14,200	10,650	2														☆
	Mindone	8,900	6,675	2														☆
Rakhine	Sittwe	93	13,500	2														☆
	Mrauk U	8,200	6,150	1														☆
	Rathedaung	15,000	11,250	2														☆
	Ann	42,200	31,650	4														☆
	Thandwe	7,000	5,250	1														☆
	Taungoke	13,100	9,825	2														☆
	Gwa	6,500	4,875	1														☆

※Equipment except LLINs for Pya, Bago, Magway, and Sittwe

LLINs for the other places

☆ = for acceptance inspection

transport by truck

2-2-3-7 Operational Guidance Plan

Special training for trial operation is not necessary as the procured equipment is in common use in Myanmar. The VBDC arbitrarily conducts training of RDT for midwives and of microscopy for Public Health Supervisors (PHS), and there is no need for additional training for the operation of procured equipment.

2-2-3-8 Soft Component Plan

(1) Backgrounds for the Soft Component Planning

In order to ensure smooth start and the minimum level of continuous effects of the Project implemented by the Myanmar government, it is necessary at medical facilities in the frontline of malaria control to use medical equipment appropriately at the right time. In addition, it is crucial for community people to use LLINs continuously and appropriately. For these, it is significant to conduct technical training in the Soft Component concerning ‘management and reporting systems for medical products’ and ‘awareness for use and maintenance of mosquito nets’.

1) Management and reporting systems for medical products

Securing stable supply of medical products as well as good inventory is necessary for the improvement of the supply system. More specifically, it is necessary for medical staff at each health unit to have abilities for the configuration of basic inventory based on the number of malaria patients and prompt action in cases of under-stock (such as reporting to upper institutions and drug provision). In order to nurture these abilities of medical staff, it is required for VBDC staff at the State/Divisional level to conduct training to staff at Township and other health centres concerning information sharing on the status of inventory and use as well as appropriate inventory management.

2) Awareness for use and maintenance of mosquito nets

With regard to mosquito nets which are preventive tools for infection, the Requested Japanese Assistance Project is to procure LLINs which are internationally recommended by WHO and others. However, mosquito nets in common use in Myanmar are those which require periodical re-impregnation, and the understanding of community people on the effectiveness of LLINs is not high in the areas. Therefore, it is required to gain understanding on the effectiveness of LLINs, and understanding and practicing appropriate usage and storing from community people in order to ensure effective and continuous use of LLINs procured in the Requested Japanese Assistance Project. For this purpose, it is required for medical staff of Rural Health Centres and Sub-health Centres at the grassroots level to understand the features of LLINs and to acquire appropriate skills for awareness activities, in addition to the provision of LLINs at the right time.

(2) The Objectives of the Soft Component

<Objective 1>

The importance of management and reporting systems for malaria related medical products is acknowledged in the health administration at health units and centres in the Township health administration.

<Objective 2>

The importance of awareness for appropriate use and maintenance of mosquito nets is understood at the Central VBDC and in the target State/Divisions

(3) Outputs of the Soft Component (Direct Effects)

Table 2-11 Outputs of the Soft Component

Items	Direct Effects
Management and Reporting Systems for Medical Products	<ul style="list-style-type: none"> • Problems of management and reporting systems for medical products are identified and confirmed, and the direction for improvement is shared at the Central and State/Divisional VBDC and Townships. • Manual for Supply Management is produced. • Mechanism of Management and Reporting System for Medical Products based on the Manual is understood and the importance of this System is recognised by BHS staffs. • The method of the collection of accurate data based on the Manual is understood by BHS staffs
Awareness for Use and Maintenance of Mosquito Nets	<ul style="list-style-type: none"> • The current challenge of use and maintenance of the mosquito net is recognized and the way to change the better is shared by the health staff. • Health staff acknowledges the effectiveness and importance of use and maintenance of LLIN and its usage to other people. • The participants of the seminar bring LLINs to their communities in charge with their acquired skill of awareness activities.

(4) Means for Verification of Outputs

Table 2-12 Means for Verification of Outputs

Items	Means for Verification
Management and Reporting Systems for Medical Products	<ul style="list-style-type: none"> • Questionnaire at the end of seminar
Awareness for Use and Maintenance of Mosquito Nets	<ul style="list-style-type: none"> • Questionnaire at the end of seminar • Receipts of LLIN (Signed by of the participants of the seminar)

(5) Activities of the Soft Component (Input Plan)

Table 2-13 Activities of the Supply Management

Title	Supply Management for JGA Items	
	Manual for Supply Management	Seminar for Supply Management
Objective	Development of Manual of Supply Management for proper usage of JGA Items	Introduction of manual for Supply Management for JGA Items
Target Group	Central VBDC	Township (Total 72 Townships)
Period	<ul style="list-style-type: none"> • Meeting for the preparation of Manual at Nay Pyi Taw: 3days • Three month before the delivery of the items to Warehouse of State / Division VBDC 	<ul style="list-style-type: none"> • Seminar at the State / Division VBDC :1day each (Rakhine 2 times, Magway 2 times, Bago east 1 time, Bago West 1 time) • After the delivery of the items to Warehouse of State / Division VBDC
Participants	<ul style="list-style-type: none"> • Staff of Central VBDC • Staff of State / Division VBDC 	<ul style="list-style-type: none"> • Township medical officer, VBDC staff, Senior BHS staff 3 persons per Township, • Total Number of participant; 216 persons
Contents of Seminar	<ul style="list-style-type: none"> • Discussion of the expected performance by JGA • Discussion of the strong points and weakness of actual supply management system • Discussion to development of the Manual for supply management • Development of manual for supply management 	<ul style="list-style-type: none"> • Introduction of the result of the pilot project of MIDC in Bago. • Introduction of the data filling procedures for accurate malaria case detection • Introduction of the base inventory • Introduction of the request procedure of RDT and medicine from TS to State / Division <p>*Return to TS with manuals, RDT and Drugs</p>

Title	Supply Management for JGA Items	
	Manual for Supply Management	Seminar for Supply Management
Responsibility of Myanmar side	<ul style="list-style-type: none"> • Arrangement of travel order • Provide the place for the meeting 	<ul style="list-style-type: none"> • Arrangement of travel order • Provide the place for seminar
Instructors	<ul style="list-style-type: none"> • Japanese consultant 	<ul style="list-style-type: none"> • Japanese consultant • Myanmar consultants
Outputs	Manual for Supply Management	Seminar report

Table 2-14 Activities of the Awareness for Use and Maintenance of Mosquito Nets (Input Plan)

Title	Awareness for Use and Maintenance of Mosquito Nets
Objective	Appropriate usage and storing of LLIN
Target Group	State/Divisions and Townships distributed LLINs (12 townships)
Period	Seminar at each townships:1 day in each townships -after the delivery of LLIN -once for each townships (12times)
Participants	Directors of Rural Health Centres and Sub-health Centres 20-25 participants/a seminar
Contents of Seminar	<ul style="list-style-type: none"> -Conduct seminars to discuss and raise problems of the present use and maintenance of mosquito nets in each Township -Explain the effectiveness of LLIN and clarify the difference between LLIN and their owned mosquito nets. -Draw and share appropriate ways of awareness activities among participants <p>*participants bring LLINs to their communities in charge</p>
Responsibility of Myanmar side	<ul style="list-style-type: none"> - Arrangement of travel order - Provide the place for the meeting
Instructors	The consultant, VBDC staff, and local consultants.
Outputs	Seminar report

(6) Procurement of Implementation Resources for the Soft Component

A consultant to provide guidance will firstly make the guidance plan and overall schedule of the Soft Component based on agreement with the Department of Health, the Ministry of Health and the VBDC staff. Subsequently, the consultant will evaluate inputs and outputs and implement technical guidance together with local consultants.

(7) Implementation Schedule for Soft Component

Seminar on ‘management and reporting systems for medical products’ will be conducted by a Japanese consultant and a local consultant. The VBDC staff will accompany for the activity at each site.

Seminar on ‘awareness for use and maintenance of mosquito nets’ will be conducted by three teams; one team for Magway Division, another for the northern part of Rakhine State, and the other for the southern part of Rakhine State and Bago West Division. Each team consists of a Japanese consultant and a local consultant. The VBDC staff will accompany for the activity at each site.

(8) The process of ‘management and reporting systems for medical products’

1) Workshop at the Central VBDC (first visit)

Before the arrival of equipment, workshop will be conducted at the Central VBDC in order to identify problems in and to improve the existing management and reporting systems for medical products and produce the manual of supply. Japanese consultant in charge of management and reporting systems for medical products, and State/Division VBDC staff will participate the meeting.

2) Preparation of the seminar (In Japan)

The consultant will plan a seminar, prepare materials for explanation, various forms and work flowchart for the use in the seminar.

3) Seminar at target State and Divisions (second visit)

Seminar will be conducted at the State / Division VBDC ;1day each (Rakhine 2 times, Magway 2 times, Bago East 1 time, Bago West 1 time) for three health staff in charge of malaria control in township level. Participants will bring the manual of supply for other RHC and SC staffs. VBDC staff will accompany for the seminars at each site.

(9) The process of ‘awareness for use and maintenance of mosquito nets’

1) Preparation in Japan

The consultant will plan a seminar, prepare materials for explanation of the seminar, various forms and work flowcharts to explain the usage and maintenance of the LLIN and the process of awareness activities to show as an example in the seminar.

2) Awareness Seminar at targeted Townships

Seminar on ‘awareness for use and maintenance of mosquito nets’ will be conducted after confirming the readiness of Townships as well as the arrival of equipment. Contents of Awareness Seminars, which are in concordant with local situations, will be shared and manuals for awareness activities will be made. Participants will bring certain amount of LLINs to each responsible area and distribute LLIN with awareness activities following the manuals.

Seminars will be conducted by a Japanese consultant, the target State/Divisional VBDC staff in Burmese for midwives with assistance by local consultants. A staff member of VBDC will accompany activities at each site. Three teams will be dispatched separately to the 12 sites and conduct the seminars during the same period.

(10) Outputs of the Soft Component

Table 2-15 Outputs of the Soft Component

Items	Outputs
Management and Reporting Systems for Medical Products	<ul style="list-style-type: none">• Seminar report• Manual for Supply Management
Awareness for Use and Maintenance of Mosquito Nets	<ul style="list-style-type: none">• Seminar report

2-2-3-9 Implementation Schedule

The schedule for the implementation of the Requested Japanese Assistance Project following the Exchange of Notes is shown in the figure below. The work to be done consists of the consultant's detailed design, tendering, and procurement by contractors under the consultant's supervision.

Table 2-16 The Implementation Schedule of the Project

	1	2	3	4	5	6	7	8	9	10	11	12
Detailed Design	Survey on Site ■		Confirmation on Site ■									
	(Detailed Design : 3.0 months)											
Tender			Tender ■									
	(Tender: 3.0 months)											
Procurement Process												
	(Procurement Process: 8.3 months)											
	Manufacture/procurement (4.0months)				Procedures for import permits (2.0 months)		Sea Transport (0.5 month)		Domestic transport (1.0 month)			
	Prior confirmation /briefing (0.4 month)							Receiving inspection (0.8 month)				
Soft Component		Management and reporting systems (0.2 month)			Management and reporting systems (0.6 month)							
					Awareness for use and maintenance of mosquito nets (0.7 month)							

(1) Detailed Design

The Japanese consultant company shall conclude a consulting agreement with the Ministry of Health to conduct the detailed design of the Requested Japanese Assistance Project (the preparation of tender documents) and to supervise its procurement; this contract is to be verified by the Japanese government. The consultant then prepares the tender documents in consultation with the Ministry of Health based on this basic design study report and has them approved by the Ministry of Health.

The detailed design (the preparation of tender documents) is expected to take three months.

(2) Tender

Tender work is expected to take three months.

(3) Work by Contractor and Supervision by Consultant

Contractor shall begin their work following the completion of their contracts. Concurrently, the consultant shall begin the supervision of the work.

The supervision of the work is expected to take eight point three months.

In addition, in consideration of its scale and implementation schedule, the Project is conducted as a single year plan for Fiscal 2008. The implementation of the Project, which includes from detailed design to procurement management is expected to take sixteen months.

2-3 Obligations of the Recipient Country

Following are the primary obligations of the Myanmar side:

(1) Procedural Matters

- 1) Exemption from all taxes related to this Grant Aid project.
- 2) Application for and acquisition of necessary permits for this project.
- 3) Conduct of the Banking Arrangement (B/A) and payment of commissions associated with issuance of the Authorisation to Pay (A/P).
- 4) Ensure of the prompt unloading of imported material and equipment, procedures for the exemption of duties, the assurance of customs clearance and prompt domestic transportation.
- 5) Offers of necessary assistance to Japanese nationals entering and residing in Myanmar for the purpose of supplying equipment or performing duties in accordance with the certified contracts.
- 6) Exemption from all domestic Myanmar tariffs and duties those Japanese nationals supplying equipment or performing duties in accordance with the certified contracts.
- 7) Taking budgetary steps to ensure the effective operation and maintenance of equipment procured through the Grant Aid project.

(2) Related Work

- 1) Conducting detailed survey of the final destination of delivery and making detailed plan for delivery
- 2) Delivery to the final destination
- 3) Monitoring the result of delivery
- 4) Continuous seminars for midwives and medical staff
- 5) Provision of equipment for microscope examinations

(3) Other

Cost for all items not purchased through Grant Aid Cooperation is to be borne by the Myanmar side.

2-4 Project Operation Plan

Each implementing agency has enough staff for the operation of equipment procured in the Project. The only equipment which requires operation and management is Indoor Residual Spray for infectious prevention. Insecticides for IRS are poisonous and require hand-wash after use and periodical exchanges of packing. These hand-wash and packing exchanges are conducted by spray-men who use IRS on a daily basis, and there is no problem for the maintenance.

2-5 Project Cost Estimation Operation and Maintenance Cost

2-5-1 Initial Cost Estimation

(1) Project cost born by the Myanmar side

Project cost born by the Myanmar side is estimated to be 3,427,000 kyat. (Japanese Yen 385,900)

Table 2-17 Project cost born by the Myanmar side (1,000kyat)

Category	Total
Commission on Authorization to Pay (A/P)	3,427
Total	3,427

(2) Condition of Estimation

- 1) Date of estimation : March, 2008
- 2) Exchange Rate : 1US\$= 112.62 yen 1US\$=1,000kyat,
- 3) Procurement period : As shown in the Table 2-16
- 4) Others : Cost estimation is in accordance with the framework of Japanese Grant Aid scheme

2-5-2 Operation and Maintenance Cost

Most of the procured equipment is consumable goods, and only IRS requires maintenance. IRS requires wash with decomposition in order to avoid troubles due to insecticide residue. In addition, packing is consumable goods and requires periodical exchanges. Annual cost for the spare parts is about US\$30/IRS and in total US\$720 for 24 units.

2-6 Other Relevant Issues

In Myanmar, it takes time to obtain the domestic travel permission. Therefore, the support by JICA Myanmar office is necessary for the smooth implementation of the project. It is necessary to request the travel permission more than three weeks in advance. In consequence, the work plan should be decided one month ahead and for that, the coordination with concerned parties of the Myanmar side is very important.

CHAPTER 3. PROJECT EVALUATION AND RECOMMENDATIONS

Chapter 3 Project Evaluation and Recommendations

3-1 Project Effect

Effects expected from the implementation of the Project are as follows:

Table 3-1 Project Effects

Present Situation and Challenges	Measures in the Japanese Assistance Project	Direct Effects • Degree of Improvement	Indirect Effects • Degree of Improvement
<ul style="list-style-type: none"> ▪ Malaria morbidity is high along the mountain regions, but enough medical services in quality and quantity for prevention, examination, and treatment cannot be provided. 	<ul style="list-style-type: none"> • Improvement and provision of equipment for examination, treatment and prevention • Introduction of medical products management system and proper use and maintenance of mosquito nets by the Soft Component 	<ul style="list-style-type: none"> ① The number of malaria patients increases at public health facilities: 19,841 cases in Bago East Division; 18,631 cases in Bago West Division; 28,289 cases in Magway Division; and 172,495 cases in Rakhine State in 2006. ② The number of malaria tests increases at public health facilities: 18,133 cases in Bago East; 5,325 cases in Bago West; 16,780 cases in Magway; and 224,421 cases in Rakhine for microscopic tests in 2006. ③ The frequency of outbreak of malaria decreases in the target areas: 6 times / 2002-2006. ④ The importance of appropriate provision and management of medical products at appropriate timing as well as of awareness for use and maintenance of mosquito nets is understood at the Central VBDC and the target State/ Divisions through the implementation of the Soft Component. 	<ul style="list-style-type: none"> ▪ Malaria morbidity and mortality decreases in the target State / Divisions.

3-2 Recommendations

The following recommendations are ideal to be carried out for the safe, appropriate, smooth and effective operation necessary for the direct and indirect effects to be realised in prevention, examination, and treatment for malaria control.

- (1) The preparation of appropriate provision planning for procured equipment so that the equipment is to be continuously used in good conditions for the terminal users.
- (2) The promotion of activities to improve technical level of terminal medical staff so that higher levels of treatment and examination are conducted through the improved equipment.
- (3) Good use of knowledge through collaboration with the implemented JICA Technical Cooperation Project.
- (4) Understanding the status of the store, inventory and use of equipment at health facilities and improving the recording of each equipment
- (5) Reporting the status of equipment use at the biannual general meeting of VBDC to understand the status of management for the equipment and to make use of the information as reference for the improvement of malaria control after the completion of the Japanese Assisted Project.

[APPENDICES]

1. Member List of the Study Team

(1) Basic Design Survey (March 3 to March 21, 2008)

NAME	ROLE	INSTITUTION
Mr. Tatsuya MURASE	Team Leader	Team Director Health Team, Project Management Group II Grant Aid Management Department JICA
Ms. Yutori SADAMOTO	Programme Coordinator	Senior Program Officer Health Team, Project Management Group II Grant Aid Management Department JICA
Ms. Tomoko KOBAYASHI	Project Manager and Infectious Disease Control	Fujita Planning Co., Ltd.
Mr. Tadashi HASEGAWA	Equipment Planner	Fujita Planning Co., Ltd.
Mr. Shuichi SUZUKI	Procurement and Cost Planner	Fujita Planning Co., Ltd.

(2) Explanation on Draft Report (May 31 to June 8, 2008)

NAME	ROLE	INSTITUTION
Ms. UEDA Naoko	Team Leader	Director Infectious Disease Control Division Health Human Resources and Infectious Disease Control Group Human Development Department JICA
Ms. Yutori SADAMOTO	Programme Coordinator	Senior Program Officer Project Study Division II Grant Aid and Loan Support Department JICA
Ms. Tomoko KOBAYASHI	Project Manager and Infectious Disease Control	Fujita Planning Co., Ltd.
Ms. Masako MATSUO	Equipment Planner	Fujita Planning Co., Ltd.
Mr. Shuichi SUZUKI	Procurement and Cost Planner	Fujita Planning Co., Ltd.

2. Study Schedule

(1) Basic Design Survey (March. 2 to March. 22, 2008)

Day	Date	Team Leader	Project Manager and Infectious Diseases Control	Procurement and Cost Planner	Equipment Planner	Programme Coordinator	
1	2-Mar.	Sun	NRT→BKK→YGN				
2	3-Mar.	Mon	Site Survey:Central VBDC Warehouse Visit to JICA office				
			Visit to UNICEF Survey for Procurement				
3	4-Mar.	Tue	Visit to MSF Holland Survey for procurement				
4	5-Mar.	Wed	Visit to WHO Survey for procurement				
5	6-Mar.	Thu	Meeting with chief of VBDC(Diputy director),Team Leader of Bago and Magway at Central VBDC Yangon office/Presentation of Malaria situation				
6	7-Mar.	Fri	YGN→Sittway Visit to State Health Office				
7	8-Mar.	Sat	Site Survey:Kuntaung RHC,Ponnakyun hosp. Site Survey:Yotayoke Station hosp.,Apaukwa Station hosp.,Kyauktaw TS hosp.,Thayetapin RHC				
8	9-Mar.	Sun	Site Survey:Mrauk U TS hosp. Site Survey:Myaung Bwe Station hosp.,Tainnyo RHC				
9	10-Mar.	Mon	Sittway→YGN				
10	11-Mar.	Tue	NRT→BKK→YGN Visit to 3DF Survey for Procurement		NRT→BKK→YGN		
11	12-Mar.	Wed	Meeting with Study Team and JICA Office, Courtesy call to Embassy of Japan Visit to WHO and UNICEF				
12	13-Mar.	Thu	YGN→NPT Courtesy call and Discussion with MOH and DOH				
13	14-Mar.	Fri	Discussion with DOH				
14	15-Mar.	Sat	NPT→Pyay	NPT→YGN Survey for Procurement	NPT→Magway Visit to VBDC Divisional Office		
15	16-Mar.	Sun	Visit to Bago VBDC Divisional Office Site Survey:Padang TS hosp.,Okshting TS hosp.,RHC,Saya Station hosp.	Survey for Procurement	Site Survey:Saetoketayar TS-Bu Dam Dispensary clinic Site Survey:Saetoketayar TS-Khuc Ma Lauk RHC		
16	17-Mar.	Mon	Site Survey:Oakpho TS hosp.,Ayamyia Thar Yar Station hosp.,Htanbingone RHC Pyay→YGN	Survey for Procurement	Site Survey:Ngaphe TS-Padan Station hosp. Site Survey:Ngape TS-Minlwin SC,Ngaphe TS hosp.		
17	18-Mar.	Tue	YGN→NPT Discussion on Minutes with MOH and DOH		Magway→NPT		
18	19-Mar.	Wed	Discussion on Minutes with DOH, Signing of Minutes				
19	20-Mar.	Thu	NPT→YGN, Report to JICA Office				
20	21-Mar.	Fri	Report to WHO,UNICEF YGN→BKK→				
21	22-Mar.	Sat	→NRT				

(2) Explanation on Draft Report (May 31 to June 8, 2008)

Day	Date	Team Leader	Programme Coordinator	Project Manager and Infectious Diseases Control	Equipment Planner	Procurement and Cost Planner	
1	31.May	Sat		NRT→BKK→YGN			
2	1.Jun	Sun	NRT→BKK→YGN	Survey of Medical Facilities			
3	2.Jun	Mon	Courtesy call to the Embassy of Japan, Visit to JICA Office, Discussions with UNICEF				
4	3.Jun	Tue	Discussions with JICA Project, Discussions with VBDC, Visit to AZG				
5	4.Jun	Wed	Discussions with VBDC				
6	5.Jun	Thu	Discussions with VBDC, Discussions with Ministry of Health				
7	6.Jun	Fri	Signing of M/D, Report to UNICEF · EOJ · JICA Office	Survey of CMSD, YGN→BKK→		Signing of M/D, Report to UNICEF · EOJ · JICA Office	
8	7.Jun	Sat	YGN→BKK→	NRT		YGN→BKK→	
9	8.Jun	Sun	NRT			NRT	

3. List of Parties Concerned in the Recipient Country

(1) Basic Design Survey

Myanmar Side

<Ministry of Health (MOH), Department of Health (DOH)>

Dr. Kyaw Nyunt Sein	Deputy Director General [Disease control]
Dr. Saw Lwin	Director [Disease control]
Dr. Than Win	Deputy Director [Malaria]
Dr. Soe Lui Nyui	Director [Epidemiology]
Mr. U Kyaw Htay	Deputy Director [Finance]

< Ministry of Health (MOH), International Health Division (IHD) >

Dr. Hla hla aye	Director
Dr. Ko Ko Naing	Deputy Director

< Ministry of Health (MOH), Department of Health (DOH), Central VBDC>

(Dr. Than Win	Director / DOH Deputy Director [Malaria])
Dr. Khin Mon Mon	Assistant Director
Dr. Thide Kyu	Assistant Director

<Rakhine States>

Dr. Cho Tun	State Health Director
Dr. Chan Thar	Rakhine VBDC Team Leader
Dr. Kam Po	Township Medical Officer

<Bago West Division>

Dr. Than Win	Divisional Health Director
Dr. Marler Soe	Bago West VBDC Team Leader
Dr. Htin Kyuw	Township Medical Officer
Dr. Soe Hyeiw	Township Medical Officer

<Magway Division>

Dr. Maung Kyaw	Divisional Health Director
Dr. Htay Myint Aung	Magway VBDC Team Leader
Dr. Ye Aunh Tun	Township Medical Officer
Dr. May Knin Than	Township Medical Officer

<WHO>

Dr. Margareta P. Skold	Public Health Administrator
Dr. Leonald I. Ortega	Medical Advisor (Malaria and Other Mosquito Borne Diseases)

<UNICEF>

Dr. Ramesh M. Shrestha	Representative
Prof. Osamu Kunii	Chief Health/Nutrition Section
Mr. Nobuyuki Nishikiori	Assistant Programme Officer Health/Nutrition Section

<Three Diseases Fund (3DF)>

Mr. Mikko Lainejoki	Chief Executive Officer
Mr. Attila Molnar	Public Health Officer
Ms. Aye Yu Sue	Public Health Officer

<MSF Holland(AZG)>

Dr. Asis K Das	Medical Coordinator
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Japan Side

<Embassy of Japan in Myanmar>

Mr. Masashi Ogawa Counselor
Mr. Ken Okuma Second Secretary

<JICA Myanmar Office>

Ms. Michiko Umezaki Resident Representative
Mr. Kohei Sato Deputy Resident Representative
Ms. Yoshika Umabe Project Formulation Adviser (Health)

< JICA Technical Cooperation Project on Major Infectious Diseases Control>

Dr. Kousuke Okada Project Leader
Mr. Masatoshi Nakamura JICA Expert on Malaria Control
Ms. Tomoko Onda JICA Expert on Malaria Control

(2) Explanation on Draft Report

Myanmar Side

<Ministry of Health (MOH), Department of Health (DOH)>

Dr. Kyaw Nyunt Sein Deputy Director General [Disease control]
Dr. Saw Lwin Director [Disease control]
Dr. Than Win Deputy Director [Malaria]

<Ministry of Health (MOH), Central Medical Store Depo (CMSD)>

Dr. Myo Win Deputy Director

<UNICEF>

Dr. Tadashi Yasuda HIV/AIDS Specialist, Health/Nutrition Section
Mr. Nobuyuki Nishikiori Assistant Programme Officer Health/Nutrition Section

Japan Side

<Embassy of Japan in Myanmar>

Mr. Mitsuji Suzuka Counselor
Mr. Hiroshi Nomura Second Secretary

<JICA Myanmar Office>

Ms. Michiko Umezaki Resident Representative
Mr. Kohei Sato Deputy Resident Representative
Ms. Yoshika Umabe Project Formulation Adviser (Health)

< JICA Technical Cooperation Project on Major Infectious Diseases Control>

Dr. Kousuke Okada Project Leader
Mr. Masatoshi Nakamura JICA Expert on Malaria Control

4. Minutes of Discussions (Basic Design Survey)

MINUTES OF DISCUSSIONS ON THE BASIC DESIGN STUDY ON THE PROJECT FOR MALARIA CONTROL IN THE UNION OF MYANMAR

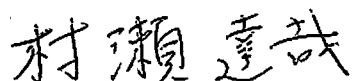
In response to a request from the Government of the Union of Myanmar (hereinafter referred to as "Myanmar"), the Government of Japan decided to conduct a Basic Design Study on the Project for Malaria Control (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Myanmar the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Tatsuya MURASE, Team Director, JICA Myanmar Office, and conducted the study from March 2nd to March 22nd, 2008.

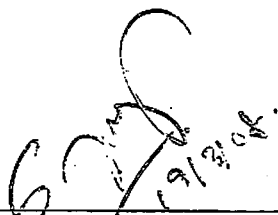
The Team held discussions with the officials concerned of Myanmar and conducted field surveys at some of the target areas of the Project.

In the course of the discussions and the field surveys, both parties confirmed main items described on attached sheets. The Team will proceed to prepare the Basic Design Study Report.

Nay Pyi Taw, 19th March, 2008



Tatsuya MURASE
Leader
Basic Design Study Team
Japan International Cooperation Agency
Japan



(For) Director General
Dr. Kyaw Nyunt Sein
Deputy Director General (Disease Control)
Department of Health
Ministry of Health
Union of Myanmar

ATTACHMENT

1. Objective of the Project

The objective of the Project is to support the Government of Myanmar in strengthening its malaria control program through procurement of necessary equipment in order to contribute to the reduction of morbidity and mortality.

2. Project sites

Rakhine State, Magway Division, Bago Division(East/West) and Central Vector Borne Diseases Control Center. (hereinafter referred to as "VBDC"). The target area were decided by the reason of the existence of the Rakhine and Bago mountain ranges, which are including in the high risk area in Myanmar.

3. Responsible and Implementing Agency

The responsible agency is the Ministry of Health (hereinafter referred to as "MOH"). The implementing agency is the Department of Health.

4. Item requested by Myanmar side

4-1. After discussions with the Team, Myanmar side made a final request to the Government of Japan to consider provision of item described in ANNEX-1.

4-2. The final item and its quantity to be included in the Project will be decided after further analysis in Japan. JICA will assess appropriateness of the request and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

5-1. MOH understands Japan's Grant Aid Scheme explained by the Team, as described in ANNEX-2.

5-2. MOH will take the necessary measures, as described in ANNEX-3, for smooth implementation of the Project, as a condition for Japan's Grant Aid to be implemented.

6. Schedule of the Study

JICA will prepare the draft report in English and dispatch a mission in order to explain its contents in May, 2008.

In case that the contents of the report is accepted in principle by the Government of Myanmar, JICA will complete the final report and send it to the Government of Myanmar by the end of September, 2008.

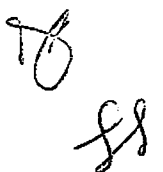
7. Other relevant issues

- 7-1. Myanmar side explained the importance of diagnosis, treatment and prevention activities in malaria control, especially the prevention is needed in Rakhine mountain range.
- 7-2. Myanmar side agreed to secure and allocate necessary budget and human resources for distribution, and storage of the equipment procured.
- 7-3. Both sides agreed that the distribution plan and schedule will be finalized with consideration of activities of other donors and will confirm at the time of explanation of draft basic design.
- 7-4. Myanmar side strongly requested to procure Coartem under Japan Grant Aid, and the team explained that the procurement of Coartem is limited only for WHO and other UN organizations and the price of an equivalent medicine is expensive and the package figure is different. Both sides agreed the Team would make all possible effort to procure the Coartem and The Myanmar side would prepare the necessary support for the procurement of Coartem.
- 7-5. Myanmar side will ensure to issue visa and the travel permission to the project site for Japanese nationals.
- 7-6. Both sides agreed to seek the possibility of the technical cooperation with partners (WHO, UNICEF and JICA) and the soft component for smooth implementation of the activity.

ANNEX 1 Final request item in the Project

ANNEX 2 Japan's Grant Aid scheme

ANNEX 3 Major Undertakings to be taken by Each Government



ANNEX 1

Final request item in the Project

No.	Categories	Items	Description	Quantities
	Diagnosics	Rapid Diagnostic Test kit (RDT)	For P. falciparum Cassette type, 25 tests / pack	30,961 pack
2	Diagnosics	Glass Slide	For Microscopic Malaria test 50 slides / box	5,162 box
3	Diagnosics	Lancet	For Microscopic Malaria test 200 / box	1,292 box
4	Diagnosics	Giemsa stain	For Microscopic Malaria test 500 ml / bottle	519 bottle
5	Diagnosics	Anizol	Emersion for Microscopic Malaria test, 500 ml / bottle	519 bottle
6	Treatment	ACT medicine	Arteme.+ Lumefan, 20+120mg or equivalent 6 tablet, 30set / pack 12 tablet, 30set / pack 18 tablet, 30set / pack 24 tablet, 30set / pack	1,378 2,066 2,066 8,257
7	Treatment	Chloroquine	150mg, 1,000tab/bottle	2,880 bottle
8	Treatment	Primaquine	7.5mg, 1,000tab/bottle	5,760 bottle
9	Treatment	Artemether injection	80mg, 1ml 6 ample / box	20,642 box
10	Treatment	Syringe	For Artemether 2.5ml. 23 G	123,852
11	Treatment	Doxycycline	100mg, 1,000tab/bottle	209 bottle
12	Treatment	Artesunate tab.	50mg, 12tab/box	20,642 box
13	Treatment	Quinine tab	200mg, 1,000tab/bottle	2,880 bottle
14	Prevention and Vector control	Long Lasting Insecticide Net (LLIN)	WHO recommended Square type	247,000
15	Prevention and Vector control	Spray Can	For Indoor Residual Spraying against Malaria vectors WHO recommended Hudson type	24
16	Prevention and Vector control	Insecticide	For Indoor Residual Spraying against Malaria vectors WHO recommended, WP Registered in Myanmar 25 Kg / drum (Calculated by alpha-cypermethrine 5%)	60 Drum

98
88

ANNEX 2

1. Japan's Grant Aid

The Grant Aid scheme provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1-1 Japan's Grant Aid Procedures

Japan's Grant Aid Scheme is executed by the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(Exchange of Notes between the Governments of Japan and the recipient country)

Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for the Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Scheme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the recipient country.

Finally, for the smooth implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

Basic Design Study

(1) Contents of the Study

The aim of the Basic Design Study (hereafter referred to as "the Study"), conducted by JICA on a requested project (hereafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- Confirmation of the background, objectives, and benefits of the requested Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, social and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of a Basic Design of the Project
- Estimation of cost of the Project

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Study, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency.

1-2 Japan's Grant Aid Scheme

(1) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

(2) "The period of the Grant Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consulting firm(s) and (a) contractor(s) and final payment to them must be completed. However, in case of delays in delivery, installation or construction due to unforeseen factors such as natural disaster, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

(3) Under the Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, consulting constructing and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

(4) Necessity of "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

(5) Undertakings required to the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction,
- To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- To secure buildings prior to the procurement in case the installation of the equipment,
- To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the Verified contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(6) "Proper Use"

The recipient country is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

(7) "Re-export"

The products purchased under the Grant Aid should not be re-exported from the recipient country.

(8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its

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designated authority under the Verified Contracts.

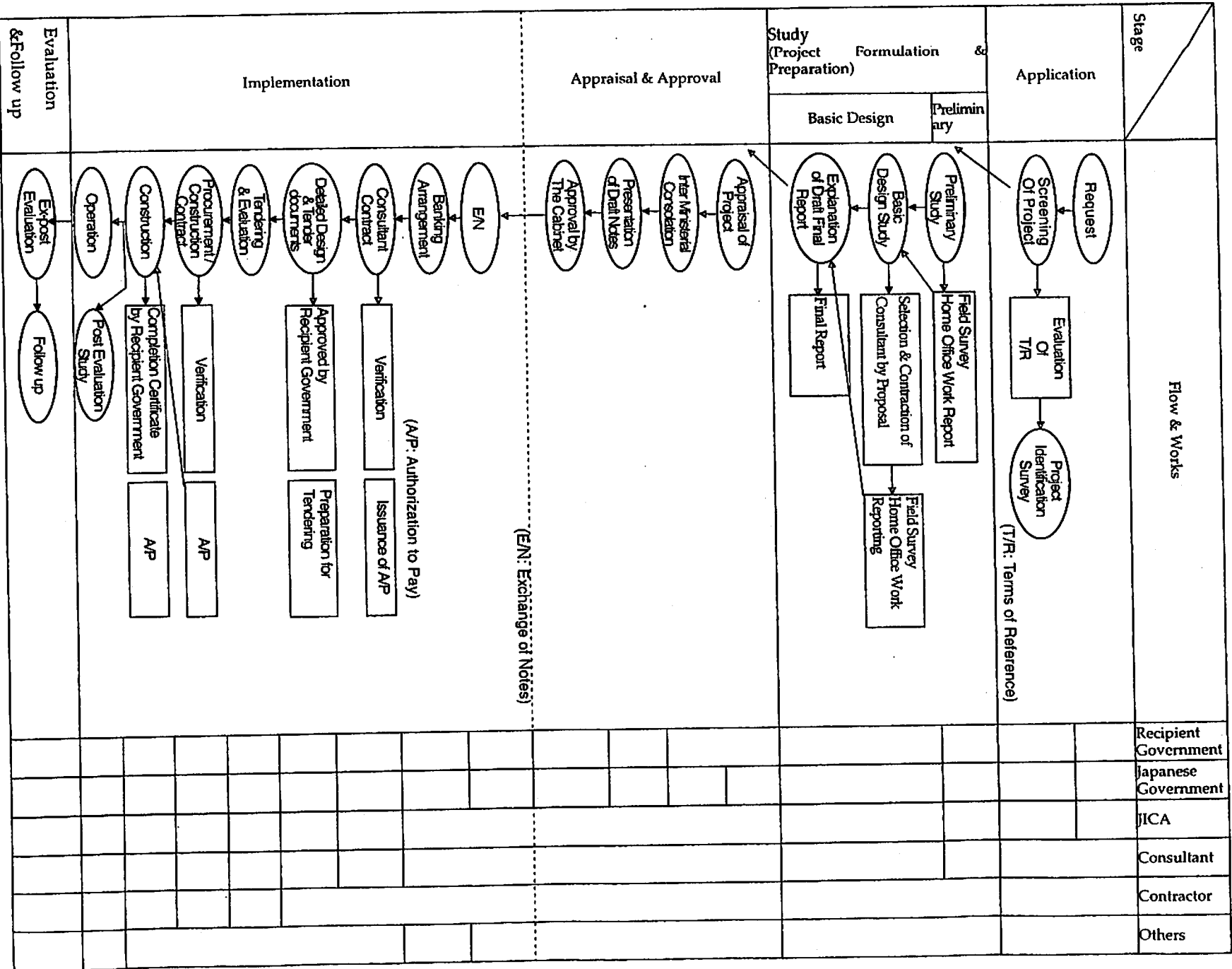
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay(A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment commissions to the Bank.

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ANNEX 3 Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient side
<input type="checkbox"/>	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
<input type="checkbox"/>	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the product to the recipient country	•	
	2) Tax exemption and custom clearance of the product at the port of disembarkation		•
	3) Internal transportation from the port of disembarkation to the designated site	•	
3	To accord Japanese nationals whose services may be required in connection with the supply of the product and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		•
4	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the product and services under the verified contract		•
5	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		•
6	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for the transportation and installation of the equipment		•

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(Explanation on Draft Report)

**MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY ON
THE PROJECT FOR MALARIA CONTROL
IN THE UNION OF MYANMAR
(EXPLANATION OF THE DRAFT REPORT)**

In March 2008, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Basic Design Study Team on the Project for Malaria Control (hereinafter referred to as "the Project") to The Union of Myanmar (hereinafter referred to as "Myanmar"), and through discussions, field surveys, and technical examination of the results in Japan, JICA prepared the draft report of the study.

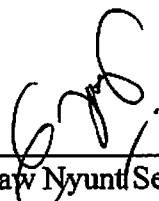
In order to explain and to consult the Government of Myanmar on the components of the draft report, JICA sent to Myanmar the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Ms. Naoko UEDA, Director of Infectious Disease Control Division, Human Development Department, from June 1 to 7.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Yangon, 5th June, 2008

上田直子

Naoko UEDA
Leader
Basic Design Study Team
Japan International Cooperation Agency
Japan



Dr. Kyaw Nyunt Sein
For Director General
Deputy Director General
(Disease Control)
Department of Health
Ministry of Health
Union of Myanmar

ATTACHMENT

1 Components of the Draft Final Report

The Government of Myanmar agreed and accepted in principle the components of the draft final report explained by the Team.

2 Japan's Grant Aid scheme

Myanmar side understands the Japan's Grant Aid (JGA) Scheme and the necessary measures to be taken by the Government of Myanmar as explained by the Team and described in Annex-2 and Annex-3 of the Minutes of Discussions signed by both parties on March 19, 2008.

3 Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Myanmar by the end of September, 2008.

4. Confidentiality of the Project

Both sides confirmed that all information related to the Project including detailed specifications of the equipment and other technical information shall not be released to any outside party before the signing of all the Contract(s) for the Project.

5. Other relevant issues

5-1. Confidentiality of the Project Cost Estimation

The Team explained the cost estimation of the Project as described in Annex-1. Both sides agreed that the Project Cost Estimation should never be duplicated or released to any outside parties before signing of all the Contract(s) for the Project. Myanmar side understood that the Project Cost Estimation attached as Annex-1 is not final and is subject to change.

5-2. Final Destination of the items by JGA

Both sides confirmed that the final destination of planned items as follows.

- (1) Long Lasting Insecticide Net (LLIN); Warehouse of Township Medical Office
- (2) Spray can and Insecticide; Warehouse of Vector Borne Disease Control, State / Division Health Department (State / Division VBDC).

(3) The other items

Half of total Amount; Warehouse of State / Division VBDC

The rest of total Amount; Warehouse of Vector Borne Disease Control, the Department of Health of the Ministry of Health (Central VBDC)

5-3. Target Townships for LLIN

Both sides confirmed that number of the target Townships for LLIN is 12 Townships based on the priority which considered at Basic Design Study, names of the Target Townships are described on Draft of the Final Report.

5-4. Technical Specifications of the equipments

The Team explained the specification of the planned equipment, and both sides agreed.

5-5. The Owner of items after the delivery

Both sides confirmed that the owner of items after the delivery is Central VBDC for all items.

5-6. Maintenance cost

Myanmar side agreed to allocate the budget for Maintenance cost for the item No. 15 "Sprayer" estimated cost for periodical maintenance for each unit: US\$ 4 per year.

5-7. Plan of Soft Component

Both sides agreed the concepts of "Awareness for Use and Management of mosquito Net" described on the draft final report.

Regarding "Supply Management for JGA Items", both sides agreed the concepts attached as Annex-3.

5-8. Evaluation and Monitoring of the Project

Myanmar side agreed to evaluate and monitor the usage of procured items, and to report number of consumption of RDT and Coartem every six months to the Embassy of Japan after the completion of the Project until the procured Items are completely consumed.

Annex-1 Project Cost Estimation

Annex-2 Tentative Schedule of the Project

Annex-3 Draft Plan of Soft Component "Supply Management for JGA Items"

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Tentative Schedule of the Project

Annex-2

Year	2008						2009												2010	
	Month	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Item	Term	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	16	17
Cabinet approval (tentative)			+																	
Exchange of Note (tentative)			+																	
Consultant Contract				▼																
Detail Design																				
Final confirmation of design				■																
Preparation of Tender Document				□																
Approval of Tender Document					■															
Tender Notice									▼											
Distribution of Tender Document									▼											
Tender									▼											
Tender Evaluation									■											
Supplier Contract																				
(Verification of MOFA)																				
Procurement Supervision																				
Meeting with Supplier																				
Manufacturing																				
Import license process																				
Pre-shipment inspection																				
Sea and Inland Transportation																				
Final inspection / Hand over																				
Soft component(1)																				
Soft component(2)																				

A-19

Soft component(1); The Management and Reporting System for Medical Products
 Soft component(2); Awareness for use and maintenance of LLIN

Legend:
 Works in Japan □
 Works in Myanmar ■

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Draft plan of Soft Component

Supply Management for JGA Items		
Title	Manual for Supply Management	Seminar for Supply Management
Objective	Development of Manual of Supply Management for proper usage of JGA Items	Introduction of manual for Supply Management for JGA Items
Target Group	Central VBDC	Township (Total 72 Townships)
Period	Meeting for the preparation of Manual at Nay pyi Taw: 3days - Three month before the delivery of the items to Warehouse of State / Division VBDC	Seminar at the State / Division VBDC :1 day each (Rakhine 2 times, Magway 2 times, Bago east 1 time, Bago West 1 time) - After the delivery of the items to Warehouse of State / Division VBDC
Participants	- Staff of Central VBDC - Staff of State / Division VBDC	-Township medical officer, VBDC staff, Senior BHS staff -3 persons per Township, -Total Number of participant; 216 persons
Contents of Seminar	<ul style="list-style-type: none"> • Discussion of the expected performance by JGA • Discussion of the strong points and weakness of actual supply management system • Discussion to development of the manual for supply management • Development of manual for supply management 	<ul style="list-style-type: none"> • Introduction of the result of the pilot project of MIDC in Bago. • Introduction of the data filling procedures for accurate malaria case detection • Introduction of the base inventory • Introduction of the request procedure of RDT and medicine from TS to State / Division <p>*Return to TS with manuals, RDT and Drugs</p>
Responsibility of Myanmar side	- Provide the place for the meeting	- Arrangement of travel order - Provide the place for seminar
Instructors	- Japanese consultant	- Japanese consultant - Myanmar consultants
Outputs	Manual for Supply Management	Workshop report

5. Soft Component Plan

1. Backgrounds for the Soft Component Planning

(1) Background

The Project aims to reduce malaria morbidity and mortality, especially to reduce the burden amongst adults, in Rakhine, Magway, Bago East, and Bago West State/Divisions in Myanmar with procurement plans for equipment such as mosquito nets and medical products for testing, treatment, and prevention by the Japanese Grant Aid.

(2) Present situation of the Management and Reporting System for Medical Products

This procured equipment needs to be utilized properly at the right time in order to reduce malaria morbidity and mortality. In the current logistics systems for medical products, staff at Health Centers and Sub-health Centers monthly go to Township Health Units and staff at Township Health Units quarterly go to State/Divisional Health Units to receive drugs. Concerning the status of stocks and use of medical products at terminal health units, the data on the storing, use, and stock of RDTs and Coartems for ACT is reported to the Central VBDC through State/Divisional VBDC.

Securing stable supply of medical products as well as good inventory is necessary for the improvement of this supply system. More specifically, it is necessary for medical staff at each health unit to have abilities for the configuration of basic inventory based on the number of malaria patients and prompt action in cases of under-stock (such as reporting to upper institutions and drug provision). In order to nurture these abilities of medical staff, it is required for VBDC staff at the State/Divisional level to conduct training to staff at Township and other health centers concerning information sharing on the status of inventory and use as well as appropriate inventory management.

(3) Present situation of the Awareness for use and maintenance of mosquito nets

With regard to mosquito nets which are preventive tools for infection, the Requested Japanese Assistance Project is to procure LLINs which are internationally recommended by WHO and others. However, mosquito nets in common use in Myanmar are those which require periodical re-impregnation, and the understanding of community people on the effectiveness of LLINs is not high in the areas. Therefore, it is required to gain understanding on the effectiveness of LLINs from community people in order to ensure effective and continuous use of LLINs procured in the Requested Japanese Assistance Project. More specifically, it is important for community people to know that LLINs are effective and do not require re-impregnation and to understand and practice appropriate usage and storing for ensuring continuous benefits of LLINs. For this purpose, it is required for medical staff of Rural Health Centers and Sub-health Centers at the grassroots level to understand the features of LLINs and to acquire appropriate skills for awareness activities, in addition to the provision of LLINs at the right time.

(4) Needs of Soft Component

Against this background, it is necessary at medical facilities in the frontline of malaria control to use medical equipment appropriately at the right time. In addition, it is crucial for community people to use LLINs continuously and appropriately. For these, it is significant to conduct technical training in the Soft Component concerning 'management and reporting systems for medical products' and 'awareness for use and maintenance of mosquito nets' in order to ensure the smooth start and the minimum level of continuous effects of the Project implemented by the Myanmar government.

(5) Expected Outputs

Tangible contents and expected outputs of the assistance will be mentioned as follows. Additionally, this Soft Component will adopt methods to hold participatory seminars to finalize planning and contents.

1) The Management and Reporting System for Medical Products

1) -1 Contents of the Assistance

In monitoring measures conducted in the pilot areas of Major Infectious Disease Control Project by JICA, an introduction of transmittal forms for the management of medical products makes it possible to prevent shortage and dead stock with enough monthly supply. Taking this case as a reference, workshop with officials from the Central VBDC will produce the manual for appropriate medical equipment supply, and hold the seminar for the health staff in the township level for the introduction of the manual.

For implementation, firstly, a meeting at the Central VBDC will be held for the production of the manual three months before the arrival of the equipment. Challenges in the current supply system will be discussed and shared by participants, the staff of the Central VBDC and the Team Leaders of State/Division VBDC. The current reporting system will also be discussed according to the number of testing and treatment and the amount of medical supply in the previous month. In addition, the basis of basic inventory at each health facility will be also discussed. At the end of the meeting, the manual that reflects all the discussion will be made. The Manual made in the meeting will be delivered to the State/Division. After the arrival of the equipment to the State/Division, the seminars for the health staff in townships will be held for the introduction of the manual in total six times; twice in Rakhine State, twice in Magway Division, once in Bago West Division and once in Bago East Division.

Township Medical Officers, VBDC staffs from Township Medical Office and chiefs of RHC will participate in the seminars. Contents of the seminars are the introduction of the accurate data collection, of the basis of basic inventory, and of ways to request supply from townships to State/Divisions and from RHCs to townships. The results of the operational research by JICA Technical Cooperation in Bago West and East Divisions will be demonstrated with visual tools such as video cassettes.

After the seminars, the participants will take the manuals and some procured medical equipment to their townships.

1)-2 Outputs

- (a) The Importance of the appropriate implementation of management and reporting systems for medical products is understood and recognized by medical staff below the Township level.
- (b) The reporting system of testing and treatment data based on the accurate data collection of the malaria cases is enforced.

2) Awareness for use and maintenance of mosquito nets

2) -1 Contents of the Assistance

Specifically, seminars are to be conducted for medical staff at Rural Health Centers and Sub-health Centers to recognize problems in the current use and maintenance of mosquito nets. Next, the usage and maintenance method of LLIN is explained for these medical staff to clarify differences between LLIN and the current mosquito nets. Furthermore, pedagogical methods are introduced for the medical staff to teach the effectiveness and importance of use of LLIN as well as ways of maintenance according to the questions asked during the Seminar, and the Questions and Answers will be summarize as a guidance. At the end of the Seminar, the participants are to bring LLINS to their responsible area with the Questions and Answers guidance for the appropriate use and maintenance of LLIN to distribute LLINs by conducting awareness activities.

2)-2 Outputs

- (a) The capacity of the health staff who is in charge of the awareness activities are developed in terms of the knowledge and skills in each township.
- (b) LLINs are distributed promptly

2. The Objectives of the Soft Component

Objective 1: The importance of the establishment of management systems for malaria related medical products is acknowledged in the health administration at health units and centers in the Township health administration.

Objective 2: The importance of awareness for appropriate use and maintenance of mosquito nets is understood at the Central VBDC and in the target State/Divisions.

3. Outputs of the Soft Component (Direct Effects)

Items	Direct Effects
<p>Management and Reporting Systems for Medical Products</p>	<p><u>Output (a). The Importance of the appropriate implementation of management and reporting systems for medical products is understood and recognized by medical staff below the Township level.</u></p> <ul style="list-style-type: none"> • Problems of management and reporting systems for medical products are identified and confirmed, and the direction for improvement is shared at the Central and State/Divisional VBDC and Townships. • The Manual of Supply is produced • The mechanism of supply system based on the Manual of supply is understood and the importance of the system is recognized by the health staffs at the grassroots level. <p><u>Output (b). The reporting system of testing and treatment data based on the accurate data collection of the malaria cases is enforced.</u></p> <ul style="list-style-type: none"> • The accurate data collection of the malaria cases based on the Manual is understood by the health staffs at the grassroots level.
<p>Awareness for Use and Maintenance of Mosquito Nets</p>	<p><u>Output (a). The capacity of the health staff who is in charge of the awareness activities are developed in terms of the knowledge and skills in each township.</u></p> <ul style="list-style-type: none"> • The current challenges of use and maintenance of the mosquito net is recognized and the way to change the better is shared by the health staffs. • Health staff acknowledges the effectiveness and importance of use of LLIN and can explain the importance of use and maintenance of LLIN and its usage to other people. <p><u>Output (b). LLINs are distributed promptly</u></p> <ul style="list-style-type: none"> • With acquired skills of awareness activities, the health staffs bring LLINs to their responsible area.

4. Means for Verification of Outputs

Items	Means for Verification
<p>Management and Reporting Systems for Medical Products</p>	<ul style="list-style-type: none"> • Questionnaire at the end of seminars
<p>Awareness for Use and Maintenance of Mosquito Nets</p>	<ul style="list-style-type: none"> • Questionnaire at the end of seminars • Receipts of LLIN (Signed by the participants of the seminar)

5. Activities of the Soft Component (Input Plan)

< Management and Reporting Systems for Medical Products >

Title	Supply Management for JGA Items	
	Manual for Supply Management	Seminar for Supply Management
Objective	Development of Manual for Supply Management for proper usage of JGA Items	Introduction of manual for Supply Management for JGA Items
Target Group	Central VBDC	Township (Total 72 Townships)
Period	Meeting for the preparation of Manual at Nay pyi Taw: 3days -Three month before the delivery of the items to Warehouse of State / Division VBDC	Seminar at the State / Division VBDC :1day each (Rakhine 2 times, Magway 2 times, Bago east 1 time, Bago West 1 time) - After the delivery of the items to Warehouse of State / Division VBDC
Participants	- Staff of Central VBDC - Staff of State / Division VBDC	-Township medical officer, VBDC staff, Senior BHS staff -3 persons per Township, -Total Number of participant; 216 persons
Contents of Seminar	- Discussion of the expected performance by JGA -Discussion of the strong points and weakness of actual supply management system -Discussion to development of the manual for supply management -Development of manual for supply management	-Introduction of the result of the pilot project of MIDC in Bago. -Introduction of the data filling procedures for accurate malaria case detection -Introduction of the base inventory -Introduction of the request procedure of RDT and medicine from TS to State / Division *Return to TS with manuals, RDT and Drugs
Responsibility of Myanmar side	- Arrangement of travel order - Provide the place for the meeting	- Arrangement of travel order - Provide the place for seminar
Instructors	Japanese consultant	- Japanese consultant - Myanmar consultants
Outputs	Manual for Supply Management	Seminar report

<Awareness for Use and Maintenance of Mosquito Nets>

Title	Awareness for Use and Maintenance of Mosquito Nets
Objective	Appropriate usage and storing of LLIN
Target Group	State/Divisions and Townships distributed LLINs (12 townships)
Period	Seminar at each townships: 1 day in each townships -after the delivery of LLIN -once for each townships (12times)
Participants	Directors of Rural Health Centers and Sub-health Centers 20~25 participants/ seminar
Contents of Seminar	-Conduct seminars to discuss and raise problems of the present use and maintenance of mosquito nets in each Township -Explain the effectiveness of LLIN and clarify the difference between LLIN and their owned mosquito nets. -Draw and share appropriate ways of awareness activities among participants *Participants bring LLINs to their communities in charge
Responsibility of Myanmar side	- Arrangement of travel order - Provide the place for the meeting
Instructors	The consultant, VBDC staff, and local consultants.
Outputs	Seminar report

6. Procurement of Implementation Resources for the Soft Component

Based on agreement with the Central VBDC and the State/Divisions, plans for guidance, assistance and programme schedule will be prepared for malaria control equipment which is to be procured in the Project. Technical guidance will be sequentially implemented under the following structure with evaluating inputs and outputs. Technical assistance will be provided by Japanese experts and local resources.

Items	Japanese Experts	Use of Local Resources
Management and Reporting Systems for Medical Products	1	1
Awareness for Use and Maintenance of Mosquito Nets	3	3

7. Implementation Schedule for the Soft Component

A consultant to provide guidance will firstly make the guidance plan and overall schedule of the Soft Component based on agreement with the Department of Health, the Ministry of Health and the VBDC staff. Subsequently, the consultant will evaluate inputs and outputs and implement technical guidance together with local consultants. Followings are the envisaged flow of the overall course of the Soft Component.

(1) Management and Reporting Systems for Medical Products

1) Workshop at the Central VBDC (first visit)

Before the arrival of equipment, workshop will be conducted at the Central VBDC in order to identify problems in and to improve the existing management and reporting systems for medical products and produce the manual of supply. Japanese consultant in charge of management and reporting systems for medical products, and State/Division VBDC staff will participate the meeting.

2) Preparation of the seminar (In Japan)

The consultant will plan a seminar, prepare materials for explanation, various forms and work flowchart for the use in the seminar.

3) Seminar at target State and Divisions (second visit)

Seminar will be conducted at the State / Division VBDC ;1day each (Rakhine 2 times, Magway 2 times, Bago East 1 time, Bago West 1 time) for three health staff in charge of malaria control in township level. Participants will bring the manual of supply for other RHC and SC staffs. VBDC staff will accompany for the seminars at each site.

(2) Awareness for Use and Maintenance of Mosquito Nets

1) Preparation in Japan

The consultant will plan a seminar, prepare materials for explanation of the seminar, various forms and work flowcharts to explain the usage and maintenance of the LLIN and the process of awareness activities to show as an example in the seminar.

2) Awareness Seminar at targeted Townships

Seminar on 'awareness for use and maintenance of mosquito nets' will be conducted after confirming the readiness of Townships as well as the arrival of equipment. Contents of Awareness Seminars, which are in concordant with local situations, will be shared and manuals for awareness activities will be made. Participants will bring certain amount of LLINs to each responsible area and distribute LLIN with awareness activities following the manuals.

Seminars will be conducted by a Japanese consultant, the target State/Divisional VBDC staff in Burmese for midwives with assistance by local consultants. A staff member of VBDC will accompany activities at each site. Three teams will be dispatched separately to the 12 sites and conduct the seminars during the same period.

(3) Preparation for Local Reports

The final report will be created with summing up results of technical guidance. In implementing technical guidance at sites, persons in charge will be selected to give assistance for technical transfer between the

Japanese consultant and medical staff of Townships. Fostering the persons in charge will make awareness activities sustainable even after the Japanese consultant returns to Japan, which will make effective and efficient technical transfer possible.

8. Outputs of the Soft Component

Items	Outputs
Management and Reporting Systems for Medical Products	<ul style="list-style-type: none"> • Seminar report • The Manual of Supply
Awareness for Use and Maintenance of Mosquito Nets	<ul style="list-style-type: none"> • Seminar report

9. Responsibilities of Implementation Agency for the Myanmar side

This Soft Component is implemented to ensure the sustainability of the Project in Myanmar. Therefore, instructors for each activity above should take any possible measures which are conducive to encourage sustainable actions on the Myanmar side. It follows that the full understanding of and cooperation to this Soft Component by implementation agencies of Myanmar is required.

More specifically, it is necessary for each person in charge of the Project in the Ministry of Health, State/Divisions, and Townships to understand and pay consideration to the objectives and operating procedures of the Project. In addition, the most important point is to secure participation by medical staff in seminars. Therefore, it is important to consider cost responsibility for the participation before the implementation of the Soft Component. Technical guidance and cooperation is to be conducted through this Soft Component from the Japanese side to those medical staff. Furthermore, during and after the implementation of the Soft Component, it will be required that all responsible staff of implementation agencies, which include the Ministry of Health, the Health Department of the target State/Divisions, and Township Health Units, should continue guidance and management.

Attachment: Schedule of Soft Component

6. References

No	Title	Form	Original or Copy	Source	Date of Issue
1	Diagram – Administration of National Malaria Policy & NMCP	Document	Copy	National Malaria Control Program	3/2008
2	Diagram – Organization set up of Central VBDC	Document	Copy	National Malaria Control Program	3/2008
3	Diagram – Organization set up of Central & State/Division VBDC	Document	Copy	National Malaria Control Program	3/2008
4	Table – VBDC man power (Central/State&Division/Township)	Document	Copy	National Malaria Control Program	3/2008
5	Diagram – Organization set up of State/Division VBDC	Document	Copy	National Malaria Control Program	3/2008
6	Diagram – Organization set up of District/Township Health Department	Document	Copy	National Malaria Control Program	3/2008
7	Myanmar Public Health Care System	Document	Copy	Ministry of Health	3/2008
8	National Health Policy	Document	Copy	National Malaria Control Program	1993
9	National Operational Plan	Document	Copy	National Malaria Control Program	2006/2007 – 2008 – 2008
10	NMCP – Strategies & Activities(Malaria – 2006/2007 – 2008 – 2008)	Document	Copy	National Malaria Control Program	3/2008
11	National Antimalarial Treatment Policy	Document	Copy	National Malaria Control Program	2002
12	National Antimalarial Treatment Policy(2008 Feb: Updated Version – Draft)	Document	Copy	National Malaria Control Program	2/2008
13	Instructions on Distribution of Rational Use of Rapid Diagnostic Test (RDT) Antimalarial Drugs	Document	Copy	National Malaria Control Program	3/2008
14	Insecticide Policy	Document	Copy	National Malaria Control Program	3/2008
15	Insecticide Treated Net (ITN) Policy	Document	Copy	National Malaria Control Program	3/2008
16	Country Report on National Malaria Control Program in Myanmar	Document	Copy	National Malaria Control Program	2008/3
17	Tables – Malaria Morbidity & Mortality (State/Division wise)	Document	Copy	National Malaria Control Program	2002-2006
18	Tables – Blood Slide Examination & Results (State/Division wise)	Document	Copy	National Malaria Control Program	2002-2006
19	Tables – Malaria Morbidity & Mortality (Township wise)	Document	Copy	National Malaria Control Program	2002-2006
20	Tables – Blood Slide Examination & Results (Township wise)	Document	Copy	National Malaria Control Program	2002-2006
21	Review of Malaria Epidemics in Myanmar	Document	Copy	National Malaria Control Program	2002-2006
22	Tables – ITN Program Activities	Document	Copy	National Malaria Control Program	1991-2006
23	Tables – Indoor Residual Spray (IRS) Activities	Document	Copy	National Malaria Control Program	2002-2006
24	Manual for Basic Health Staff (BHS) on Malaria Prevention and Control	Document	Copy	National Malaria Control Program	2002-2006
25	Algorithm (Job Aid for Early Diagnosis and Appropriate Treatment)	Document	Copy	National Malaria Control Program	2006/2007 – 2008 – 2008
26	Guideline on ITN Program	Document	Copy	National Malaria Control Program	3/2008
27	Manual for Volunteer Health Worker (VHW) on Malaria Prevention and Control	Document	Copy	National Malaria Control Program	—
28	Manual for Basic Health Staff (BHS) on Malaria Epidemic Preparedness and Response	Document	Copy	National Malaria Control Program	—

No	Title	Form	Original or Copy	Source	Date of Issue
29	Manual on Basic Entomology	Document	Copy	National Malaria Control Program	—
30	VBDC Profile RAKHINE State 2008	Document	Copy	VBDC Rakhine State	3/2008
31	VBDC Profile BAGO Division 2008	Document	Copy	VBDC Bago Division	3/2008
32	Mrauk-U Township Rakhine State Health Data	Document	Copy	Mrauk-U Township Health Center	3/2008
33	Kuntaung RHC Health Profile	Document	Copy	Kuntaung RHC	3/2008
34	Township Health Profile 25-Townships Magway Division	Document	Copy	VBDC Magway Division	3/2008
35	Divisional Health Profile Magway Division	Document	Copy	VBDC Magway Division	3/2008
36	Malaria Situation in Magway Division 6-3-2008 Magway VBDC team Naypyidaw	Document	Copy	VBDC Magway Division	3/2008
37	Township Health Profile and Malaria Situation of Saytoketaya Township 16-3-2008 Saytoketaya Township	Document	Copy	Saytoketaya Township Health Center	3/2008
38	Township Health Profile and Malaria Situation of Ngaphe Township 17-3-2008 Ngaphe Township	Document	Copy	Ngaphe Township Health Center	3/2008
39	PSI Myanmar Project Profile	Document	Copy	PSI Myanmar/UNICEF	3/2008
40	JICA Technical Cooperation : IEC Flipchart	Flip Chart	Original	JICA	—
41	Map of Myanmar	Map	Original	Ministry of measurement of land	—
42	Essential and Complementary Drugs and Vaccines for Myanmar	Book	Original	Government of the Union of Myanmar Ministry of Health	2002
43	Guidelines for Diagnosis & Malaria in Myanmar	Book	Original	WHO	2003