

**Ministry of Health
The Republic of the Union of Myanmar**

**REPORT OF
PREPARATORY SURVEY ON
THE PROJECT FOR
IMPROVEMENT OF
MALARIA CONTROL EQUIPMENT IN
THE REPUBLIC OF THE UNION OF MYANMAR**

November 2014

JAPAN INTERNATIONAL COOPERATION AGENCY

INTERNATIONAL TECHNO CENTER CO., LTD.

Preface

The Japan International Cooperation Agency (JICA) decided to conduct the preparatory survey and entrust the survey to the International Techno Center Co., Ltd.

The survey team held a series of discussions with the officials concerned of the Government of the Republic of the Union of Myanmar, and conducted field investigations. As a result of further studies in Japan, 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.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of the Union of Myanmar for their close cooperation extended to the survey team.

November, 2014

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Summary

1. Background of the Project

The Republic of the Union of Myanmar is the westernmost country in the South-East Asia, and is bordered by Thailand, Laos, China, India and Bangladesh. In health, while infectious diseases and maternal and child health issues are still significant concerns for the country, non-communicable diseases are gradually becoming of more concern. The outcome of infection control shall be maintained and the burden of those diseases shall continue to be decreased.

Malaria is one of the major public health problems in Myanmar. The objectives of the current National Malaria Control Program (NMCP) are reduction of malaria cases to 50% the level in 2009 by 2016 and to contribute to socioeconomic development and achievement of the health-related Millennium Development Goals (MDGs) in 2015. The efforts through the activities of MNCP have been supported by the Global Fund to fight AIDS, TB and Malaria (GFATM), the Three Millennium Development Goals Fund (3MDGF) and other partners. The Major Infectious Diseases Control Project by the Japan International Cooperation Agency (JICA) has also contributed to the recent improvement in the malaria situation in Myanmar.

Malaria mortality has been sharply decreasing in the last decade, although its transmission still continues. As of 2014, Myanmar is in the malaria control phase. The levels of malaria risk, however, are already low in some areas of the country. Accordingly, it is recommended to take a preparatory step towards malaria elimination, including sub-national malaria elimination.

A model of actual activities for malaria elimination shall be immediately developed by the Vector Borne Disease Control (VBDC) of the Department of Health (DOH) of the Ministry of Health. It is proposed to extend Japan's Grant Aid (JGA) to assist the implementation of the pilot project by VBDC to determine a suitable approach towards malaria elimination, in order that a Myanmar activities model is developed so that malaria elimination is introduced into the national strategy.

In these circumstances, the government of Japan decided to conduct a JGA preparatory survey and from March 16 to April 13, 2014 JICA sent to a preparatory survey team to Myanmar. Further examination was made after the team returned to Japan, and JICA sent the team again from August 14 to 22, 2014 for the explanation of the draft report of the survey.

2. Contents of the Project

The JGA supports implementation of the pilot project by VBDC with the objective to develop the Myanmar activities model for malaria elimination to be implemented in a project site covering 40 selected townships in Bago, Magway, Mandalay, Yangon and Nay Pyi Taw Regions and Kayin State. The equipment to be used in the pilot shall be procured by JGA, excluding items not suitable to the JGA scheme or items provided by the government of Myanmar and other partners.

The proposed pilot project by VBDC consists of (1) Improvement of malaria diagnosis, (2) Practice of sentinel surveillance, (3) Practice of intensive interventions targeting foci of transmission, (4)

Monitoring and feedback, (5) Development of human resources, and (6) Improvement of malaria laboratory. JGA covers procurement of the following equipment and training on microscopy and data management.

Component of pilot project	Equipment and training to be procured by JGA
1. Improvement of malaria diagnosis	Biological Microscope, Glass Slide, Giemza Staining Solution, Methyl Alcohol, Staining Vat, Disposable Glove, Slide Box Training for Parasite diagnosis by microscopy
2. Practice of sentinel surveillance	Antibody Detection Kit
3. Practice of intensive interventions targeting foci of transmission	LLIN, Insecticide for Bed Net Treatment, Sprayer Insecticide, Insecticide for IRS, Protective Clothes Set, Vehicle, Motorcycle
4. Monitoring and feedback	GPS Receiver, Personal Computer (laptop), Printer B/W, Personal Computer (desktop), UPS, Scanner, Printer Color, Plotter, GIS Software, Satellite Image Training for data management
5. Development of Human resources	PA System, Projector, Screen, Multi Viewing Microscope , Stereo Microscope with Camera, Biological Microscope with Camera
6. Improvement of malaria laboratory	PCR Machine (Thermal Cycler), PCR Cabinet, 0.2 milliliter PCR Tube, Automatic Nuclear Acid Extractor, Freezer, High Speed Centrifuge, Low Speed Centrifuge, Table Top Centrifuge, 0.6 milliliter Centrifuge Tube, 1.5 milliliter Centrifuge Tube, Electrophoresis Unit, UV Irradiation Unit with Camera, Spectrophotometer, Biosafety Cabinet, Autoclave, Electric Power Generator and others

3. Implementation Schedule of JGA

The implementation of JGA is expected to be 12.5 months after a Grant Agreement is signed by JICA and the recipient government.

4. Project Evaluation

The progress of malaria elimination in Myanmar benefits more than 30 million people who live in the malaria-risk areas in the country. The beneficiaries are mainly the rural population in Myanmar including the hard-to-reach population. It is expected that malaria elimination can, to some extent, mitigate the health inequities across the country. Implementation of the proposed JGA is thought to be useful and appropriate. This initial step towards malaria elimination will lead to seamless health development of post 2015. The proposed JGA, through health development assistance, contributes to the improvement of the living standards of people in Myanmar. The timely development of model activities is indispensable for an effective malaria response paradigm shift in Myanmar, incorporating the concept of malaria elimination into the national strategy.

The prioritized areas of Japanese assistance toward Myanmar include the basic human needs and improvement of living standards of the population, to which the contribution of the proposed JGA can be expected. Assisting Myanmar's step toward malaria elimination is consistent with the policy of the Japanese government.

**Report of
Preparatory Survey on
The Project for
Improvement of
Malaria Control Equipment in
The Republic of the Union of Myanmar**

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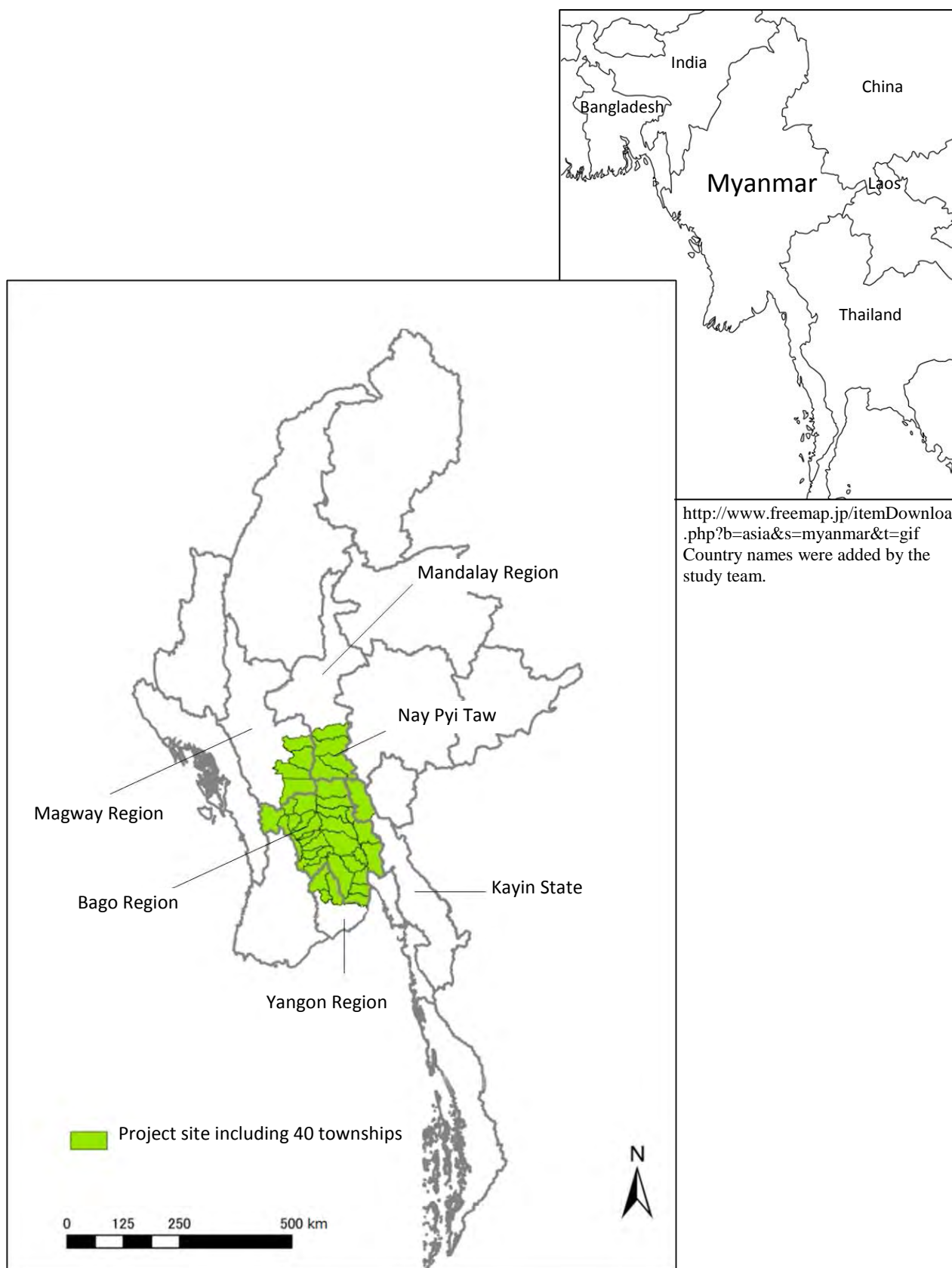
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Provided by the Project for Major Diseases Control Project
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Abbreviations

A/P	Authorization to Pay
AIDS	Acquired Immune Deficiency Syndrome
B/A	Banking Arrangement
E/N	Exchange of Notes
DOH	Department of Health
G/A	Grant Agreement
GFATM	Global Fund to fight AIDS, TB and Malaria
GIS	Geographic Information Systems
GPS	Global Positioning Systems
HIV	Human Immunodeficiency Virus
IRS	Indoor Residual Spraying
JGA	Japan's Grant Aid
JICA	Japan International Cooperation Agency
LLIN	Long Lasting Insecticidal Nets
MARC	Artemisinin Resistance Containment in Myanmar
MDGs	Millennium Development Goals
NHP	National Health Plan
NMCP	National Malaria Control Program
PCR	Polymerase Chain Reaction
RDT	Rapid Diagnostic Test
TB	Tuberculosis
VBDC	Vector Borne Disease Control
WHO	World Health Organization
3MDGF	Three Millennium Development Goals Fund

Chapter 1 Background of the Project

The Republic of the Union of Myanmar is the westernmost country in the South-East Asia, and is bordered by Thailand, Laos, China, India and Bangladesh. Myanmar enjoys a tropical climate with three distinct seasons: the rainy, the cold and the hot.

In terms of health, while infectious diseases and maternal and child health issues are still significant concerns for the country, non-communicable diseases are gradually becoming of more concern.

Among major infectious diseases, malaria, tuberculosis (TB) and human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS) are of the most concern. According to an estimate by the World Health Organization (WHO), TB deaths in Myanmar were 12,000 to 44,000 people and those of co-infections of TB and HIV were 3,800 to 5,300 people in 2012¹. Although the reported malaria deaths were 403 people in 2012, the actual malaria deaths were estimated to be 1,600 to 4,500.² With regard to HIV/AIDS, the epidemic was considered to have stabilized nationally since 2000, with hot spots of high HIV transmission identified at several locations³. The HIV prevalence among the adult population aged 15 to 49 was 0.5 to 0.6% and the estimated deaths due to AIDS were 9,700 to 14,000 people in 2012⁴.

Among all the causes of deaths in Myanmar in 2000, communicable diseases, maternal, prenatal and nutrition-related conditions accounted for 44.0%, which was almost the same as non-communicable diseases (45.6%). The structure of mortality causes changed during the last decade, and the former accounted for only 30.4% in 2012, as shown in Figure 1. The outcome of infection control shall be maintained and the burden of those diseases shall continue to be kept decreased.

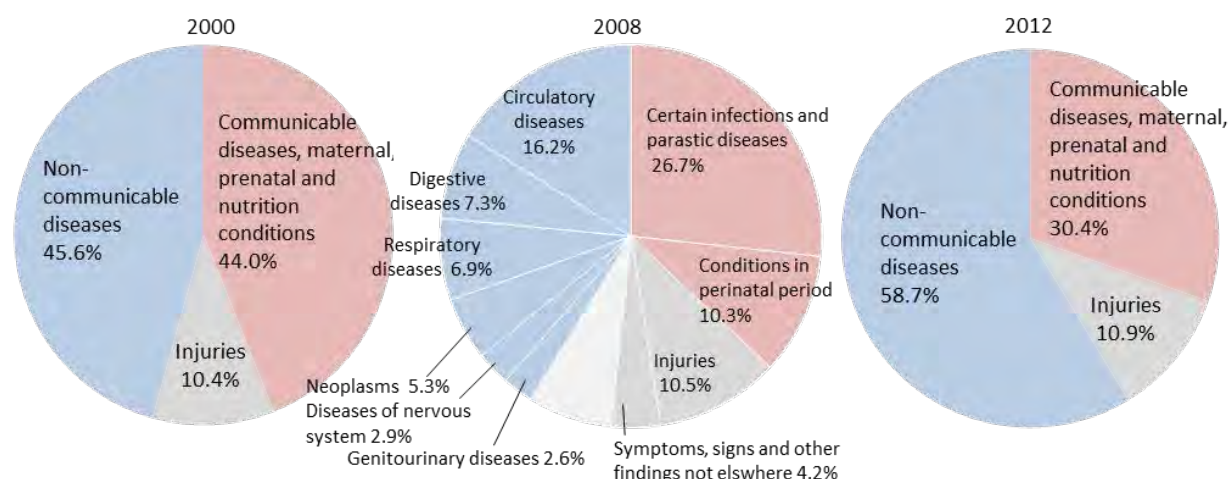


Figure 1 Change of causes of deaths in Myanmar

Source In 2000 and 2012: Health Nutrition and Population Statistics, World DataBank, The World Bank <http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=health-nutrition-and-population-statistics>, accessed on 19/10/2014
 In 2008: Myanmar Health Statistics 2010, Ministry of Health, The Republic of the Union of Myanmar

¹ Tuberculosis Country Profile (online) Myanmar, WHO, accessed on 14/07/2014

² World Malaria Report 2013, WHO, Annex 6A

³ WHO Country Cooperation Strategy, Myanmar 2014-2018, WHO, 2014

⁴ HIV and AIDS estimates 2012 (online) Myanmar, UNAIDS, accessed on 14/07/2014

Malaria has been one of the major public health problems in Myanmar. The objectives of the current National Malaria Control Program (NMCP) are to reduce malaria cases to 50% the level in 2009 by 2016 and to contribute to socioeconomic development and achievement of the health-related Millennium Development Goals (MDGs) in 2015⁵. The activities of NMCP are (i) Information, education and communication of malaria prevention, (ii) Preventive activities including stratification of areas for malaria control and distribution of either Long Lasting Insecticidal Nets (LLIN) or impregnation of existing nets, (iii) Early diagnosis and appropriate treatment, and (iv) Capacity building. These efforts in Myanmar have been supported by the Global Fund to fight AIDS, TB and Malaria (GFATM), the Three Millennium Development Goals Fund (3MDGF) and other partners. The Major Infectious Diseases Control Project by the Japan International Cooperation Agency (JICA) has also contributed to the recent improvement in the malaria situation in Myanmar.

Malaria mortality has been sharply decreasing in the last decade, although its transmission still continues. There is growing evidence that artemisinin-resistant *Plasmodium falciparum* parasites, which were first detected around the Thai-Cambodian border, also occur in eastern Myanmar. The Department of Health (DOH), Myanmar jointly with WHO developed the Strategic Framework for Artemisinin Resistance Containment in Myanmar (MARC) 2011-2015. The immediate implementation of MARC by field staff has also been supported by international partners including JICA.

As of 2014, Myanmar is in the malaria control phase. The levels of malaria risk, however, are already low in some areas of the country. It is expected that a shift from malaria control to elimination is an actual challenge in the not-too-distant future in Myanmar. Accordingly, it is recommended to take a preparatory step towards malaria elimination, including sub-national malaria elimination.

⁵ Health in Myanmar 2013, Ministry of Health, The Republic of the Union of Myanmar

Chapter 2 Contents of the Project

2-1 Basic Concept of the Project

As stipulated in the former chapter, a model of actual activities for malaria elimination shall be immediately developed by the Vector Borne Disease Control (VBDC) of DOH. Given the importance of the actions to be taken by VBDC, it is proposed to extend Japan's Grant Aid (JGA) to assist the implementation of the pilot project by VBDC to determine a suitable approach towards malaria elimination, in order that the Myanmar model of activities is developed so that malaria elimination is introduced into the national strategy.

2-2 Outline Design of Japanese Assistance

2-2-1 Design Policy

The equipment to be used in the pilot project by VBDC as proposed in 2-2-1-1 shall be procured by JGA, excluding items not suitable to the JGA scheme or items provided by the government of Myanmar and other partners.

2-2-1-1 Proposed Concept of Pilot Project to Be Implemented by VBDC

Purpose	To introduce malaria elimination into the national strategy
Objective	To develop a Myanmar model of activities for malaria elimination
Responsible Ministry	DOH
Implementing Agency	VBDC
Period	12 months after completion of JGA
Site	Selected 40 townships in Bago, Magway, Mandalay, Yangon and Nay Pyi Taw Regions and Kayin State; and Central and State/Regional VBDC offices covering those 40 townships (See Appendices 5-1 and 5-2)

Components and activities:

(1) Improvement of malaria diagnosis

Parasite-based diagnosis by microscopy, of which testing sensitivity is better than the commonly used rapid diagnostic test (RDT), shall be enforced at the township level, in order to improve diagnostic accuracy and to strengthen the system of malaria diagnosis.

VBDC provides necessary microscopes and supplies for testing, and gives training on microscopic examination of both thin and thick films to the health staffs in charge of microscopic diagnosis at the township level. After the training, VBDC distributes the testing supplies to the townships and provides supportive supervision for malaria diagnosis by microscopy by those who have completed the training.

Through these activities, VBDC drafts an action plan to establish a system of malaria

diagnosis with satisfactory quality in the phase of malaria elimination.

Biological microscopes and testing supplies shall be procured by JGA. The cost of the training shall also be included in JGA.

(2) Practice of sentinel surveillance

Sentinel surveillance shall be designed and practiced in the project site in order to draft a system of monitoring and surveillance in the malaria elimination phase.

VBDC decides sentinel sites, sampling methods and other details. VBDC clarifies the roles of state/region and township levels in the sentinel surveillance, distributes the necessary materials, gives instructions and conducts the surveillance.

Through these activities, VBDC outlines an effective surveillance system in the malaria elimination phase, and examines necessary resources and their availabilities.

Antibody detection kits and laboratory equipment for polymerase chain reaction (PCR) examination shall be procured by JGA.

(3) Practice of intensive interventions targeting foci of transmission

Intensive interventions targeting foci of transmission shall be experimented upon in order to realize practicable approaches of spatial targeting and rapid response to eliminate malaria transmission.

VBDC drafts details of the intervention, instructs VBDC staffs at the state/region and township levels, distributes the necessary materials and supervises the activities.

Through these activities, VBDC develops a guideline of interventions targeting foci of transmission in the elimination phase, and examines necessary resources and their availabilities.

LLIN, insecticides, vehicles, motorcycles and others shall be procured by JGA.

(4) Monitoring and feedback

Data management capacity at the township level shall be improved in order to strengthen the system of early detection of malaria foci, rapid response and better feedback.

VBDC supplies receivers of global positioning systems (GPS), computers and other equipment for the townships, and gives training on database and statistical work. After the training, VBDC continues supervising the monitoring activities at the township level, analyzing the collected data and strengthening the monitoring system of malaria elimination.

Through these activities, VBDC develops a monitoring and feedback guideline in the malaria elimination phase and a plan for necessary training.

GPS receivers, computers, printers, software for geographic information systems (GIS) shall be procured by JGA. The cost of the training shall also be included in JGA.

(5) Development of human resources

Training system for health staff and volunteers shall be strengthened.

VBDC prepares training guidelines for health staff and community volunteers regarding a strategic shift from malaria control to elimination, and supervises training activities at the township level. VBDC makes itself ready to provide continuous training on malaria diagnosis by microscopy and quality control.

Projectors, computers and other teaching equipment for the township level as well as teaching microscopes to be used in the training by VBDC shall be procured by JGA.

(6) Improvement of malaria laboratory

A malaria laboratory shall be improved and required level of malaria examinations shall commence.

VBDC improves the room(s), utilities and equipment of the entomology laboratory in its office in Yangon and strengthens the laboratory function including PCR examination.

Through these activities, VBDC examines the necessary resources for the malaria laboratory in the elimination phase and their availability.

The basic equipment for PCR test for the malaria laboratory shall be procured by JGA.

The components and activities are summarized in Appendix 6.

2-2-1-2 Scope of JGA

The JGA covers procurement of the equipment described in "2-2-2 Basic Plan (Equipment Plan)" and training on microscopy and data management as shown in "2-2-3-8 Soft Component (Technical Assistance) Plan".

2-2-1-3 Inputs to Be Made by the Myanmar Side

The necessary staffs for VBDC including malaria laboratory shall be assigned by the Myanmar side. Operational costs including personnel expenses shall be borne by the Myanmar side except for the training costs covered by the soft component of JGA. Equipment and supplies other than those covered by JGA shall be borne by the Myanmar side.

2-2-2 Basic Plan (Equipment Plan)

Given the activities of the pilot project described in "2-2-1-1 Proposed Concept of Pilot Project to Be Implemented by VBDC", the following equipment shall be procured by JGA.

(1) Improvement of malaria diagnosis

Biological microscopes and supplies for parasite-based diagnosis are included in the scope of JGA. The cost of training is also included. On the assumption that VBDC distributes one microscope to the health facilities and VBDC offices performing malaria examination in the project site, 100 biological microscopes shall be procured by JGA with supplies for 2,000 tests per procured microscope. Refer to "2-2-3-8 Soft Component (Technical Assistance) Plan" for the cost of training to be covered by JGA.

(2) Practice of sentinel surveillance

Antibody detection kits for 1,000 samples at 20 sentinel sites twice in the project period or 40,000 samples in total shall be procured by JGA.

(3) Practice of intensive interventions targeting the foci of transmission

LLIN, insecticides for bed net treatment and for indoor residual spraying (IRS), sprayers, protective clothes, vehicles and motorcycles are in the scope of JGA. On the assumption that the intervention is practiced three times at 30 townships where transmission foci exists during the project period, the necessary amount of LLIN and insecticides to cover 150 households in every intervention shall be procured. Sprayers and protective clothes shall be procured so that several pieces of them can be distributed to 30 respective townships and VBDC offices in the project site. One vehicle for VBDC offices and one motorcycle for townships shall be procured by JGA, excluding those in Bago region to where motorcycles have been already supplied as part of the technical assistance of JICA.

(4) Monitoring and feedback

GPS receivers, laptop and desktop computers, printers, scanners, plotters, GIS software and satellite images shall be procured by JGA. Several GPS receivers for 40 respective townships and VBDC offices; one lap-top computer and printer set for townships except for those in the Bago region; one desk-top computer, printer and scanner set for VBDC offices in the project site; one plotter, GIS software and satellite images with image analyzing software set for the central VBDC shall be procured.

(5) Development of human resources

One PA system, projector and screen for respective townships shall be procured by JGA. A multi-viewing microscope, two stereo and biological microscopes with cameras shall be also included in the scope.

(6) Improvement of malaria laboratory

Basic items for PCR examination shall be included in the scope of JGA.

The equipment items to be procured by JGA are listed in Table 1 on the next page.

Table 1 Equipment items to be procured by JGA

Component	Ref.	Item	Quantity	Purpose of equipment
1. Improvement of malaria diagnosis	A-01	Biological Microscope	100 pcs	Microscopic examination
	A-02	Glass Slide	2,000 sets	
	A-03	Giemza Staining Solution	68 pcs	
	A-04	Methyl Alcohol	68 pcs	
	A-05	Staining Vat	100 pcs	
	A-06	Disposable Glove	2,000 boxes	
	A-07	Slide Box	2,000 boxes	
2. Practice of sentinel surveillance	B-01	Antibody Detection Kit	1,400 boxes	Sentinel surveillance
3. Practice of intensive interventions targeting foci of transmission	C-01	LLIN	14,000 nets	Intensive intervention targeting foci of transmission
	C-02	Insecticide for Bed Net Treatment	14,000 tabs	
	C-03	Sprayer Insecticide	155 pcs	
	C-04	Insecticide for IRS	1 lot	
	C-05	Protective Clothes Set	155 sets	
	C-06	Vehicle	6 units	
	C-07	Motorcycle	12 units	
4. Monitoring and feedback	D-01	GPS Receiver	220 units	Monitoring and feedback at the township level
	D-02	Personal Computer (Laptop)	24 units	
	D-03	Printer B/W	12 units	
	D-04	Personal Computer (Desktop)	7 units	Data analysis at the central level
	D-05	UPS	7 units	
	D-06	Scanner	7 units	
	D-07	Printer Color	7 units	
	D-08	Plotter	1 unit	
	D-09	GIS Software	1 set	
	D-10	Satellite Image	1 set	
5. Development of human resources	E-01	PA System	40 units	Continuous training at the township level
	E-02	Projector	46 units	
	E-03	Screen	46 units	
	E-04	Multi Viewing Microscope	1 unit	Continuous training at the central level
	E-05	Stereo Microscope with Camera	2 units	
	E-06	Biological Microscope with Camera	2 units	

Table 1 Equipment items to be procured by JGA (continued)

Component	Ref.	Item	Quantity	Purpose of equipment
6. Improvement of malaria laboratory	F-01	Stereo Microscope	7 units	Vector examination
	F-02	Low Speed Centrifuge	1 unit	
	F-03	2 milliliter Plasma Container	1 unit	
	F-04	Freezer	1 unit	
	F-05	Automatic Nuclear Acid Extractor	1 unit	
	F-06	Biosafety Cabinet	1 unit	
	F-07	High Speed Centrifuge	1 unit	
	F-08	Heat Block	1 unit	
	F-09	Table Top Centrifuge	1 unit	
	F-10	Vortex Mixer	1 unit	
	F-11	Pipette Set	4 sets	
	F-12	Pipette 20-200 microliter	4 sets	
	F-13	Pipette tip 0.5-10 microliter	1 pack	
	F-14	Pipette tip 10-100 microliter	1 pack	
	F-15	Pipette tip 20-200 microliter	1 pack	
	F-16	Pipette tip 100-1,000 microliter	1 pack	
	F-17	2 milliliter Collection Tube	10 packs	
	F-18	1.5 milliliter Centrifuge Tube	10 packs	
	F-19	Refrigerator	1 unit	PCR examination
	F-20	PCR Cabinet	2 units	
	F-21	Cool Block	2 units	
	F-22	Pipette 8ch 1-10 microliter	4 sets	
	F-23	Pipette 8ch 20-200 microliter	4 sets	
	F-24	0.2 milliliter PCR Tube	10 packs	
	F-25	PCR Machine (Thermal Cycler)	2 units	
	F-26	Personal Computer (Desktop)	2 units	
	F-27	UPS	2 units	
	F-28	0.6 milliliter Centrifuge Tube	10 packs	
	F-29	Autoclave	1 unit	
	F-30	Electrophoresis Unit	1 unit	
	F-31	UV Irradiation Unit with Camera	1 unit	
	F-32	Microwave	1 unit	
	F-33	Ice Cube Machine	1 unit	
	F-34	Spectrophotometer	1 unit	
	F-35	Electric Power Generator	1 unit	
	F-36	Analytical Balance A	1 unit	
	F-37	Analytical Balance B	1 unit	

2-2-3 Implementation Plan

2-2-3-1 Implementation Policy

The JGA will be implemented within the framework of grant aid by the Japanese government. After the Japanese Cabinet has approved the grant, an Exchange of Notes (E/N) will be signed by the governments of Japan and Myanmar, and a Grant Agreement (G/A) will be signed by JICA and the government of Myanmar. And then, the implementation starts.

A Japanese consulting firm recommended by JICA will sign a consultant agreement with DOH. This agreement will come into effect on verification by JICA. On the basis of this agreement, the consultant will carry out tender-related works and supervision of the implementation of JGA. A Japanese supplier chosen by tender will conclude a contract with DOH, which will also come into effect on verification by JICA. The Japanese supplier will procure, transport and install the equipment.

2-2-3-2 Implementation Conditions

The equipment covered by JGA includes items to be distributed to townships, used by the central and regional VBDC offices, and installed in the entomology laboratory in Yangon. Basically, transportation of the equipment to these sites is included in JGA.

Adequate distribution of supplies, however, is one of the important points to be experimented with in the pilot project. Accordingly, supplies for microscopy, LLIN, and insecticides shall be preferably handed over to VBDC at the central store in Yangon so that they can be effectively distributed to the township level by VBDC. For this reason, it is planned to transport half of these items to the central store of VBDC in Yangon and to distribute the other half at the township level in the scope of JGA.

With regard to the training activities of microscopy and data management, it is recommended that procured biological microscopes, notebook computers and GPS receivers are used in the training. Accordingly, these items shall be handed over to the Myanmar side in Yangon in advance for the training, and be brought to the townships by respective trainees after the training. For this reason, transportation fee for trainees shall be included in the soft component of JGA.

Appendix 7 shows the transporting amounts and destinations by item to be procured by JGA.

2-2-3-3 Scope of Works

(1) Expenses to be borne by the Japanese government

- Costs of procurement of the equipment
- Costs of international transportation of the procured equipment to Myanmar
- Costs of inland transportation of the equipment to the project sites after customs clearance
- Costs of installation of the equipment
- Costs of test run and explanation of basic operation of the equipment
- Costs of training of microscopy and data management

(2) Responsibilities of the Myanmar side

- Implementation of the pilot project, and reporting the results to the Japanese side
- Provision of information and materials necessary for implementation
- Obtaining relevant permission needed in the implementation
- Securing adequate spaces with regard to unloading, carrying-in and storing the equipment
- Distributing the equipment to the target townships
- Reporting the results of the pilot project and distribution of the equipment to the Japanese side

2-2-3-4 Consultant Supervision

The consultant will supervise procurement, transportation and installation works by a supplier chosen through tender. Procurement consistent with the conditions of contract, adequate inspection of goods and packaging before shipment, timely action for procedures regarding transportation and customs clearance, and final inspections before handing over will be ensured during the supervisory procedure. When some items of equipment are procured in a third country, the consultant will assign a third-party inspecting organization for pre-shipment inspection. The consultant will continually monitor the situation of implementation, provide proper advice to DOH and VBDC, the executing agency on the Myanmar side, and report the progress to JICA.

2-2-3-5 Quality Control Plan

The equipment to be procured in the project shall satisfy the conditions of international standards and the relevant guidelines of WHO and recommendations of GFATM.

2-2-3-6 Procurement Plan

(1) Country origins and places of procurement

The Japanese products, including products of Japanese manufacturers made in third countries shall be procured. Products of third countries can be procured when no Japanese products are pertinent. Procurement of eligible products in Myanmar shall be acceptable when necessary.

(2) Necessity of specific products

Specific products shall be procured for Giemza staining solution, antibody detection kits and GIS software because of usage of these items including continuations and compatibilities with those used so far by VBDC. It will not be any obstacle to competitiveness in the tender to choose a supplier, considering their availability in the market and sales networks of their manufactures.

2-2-3-7 Operational Guidance Plan

After the completion of transportation by the supplier, operational guidance shall be given by the local agents to the members of VBDC at the transporting destination in advance to the handing over. Basic operation and daily maintenance by users shall be the main contents of guidance. The members of the central VBDC will be given the guidance for the equipment of which the destination is the store of the central VBDC in Yangon, while it will be given to the members of VBDC offices at the state/regional and/or township level when those are the transporting destinations by the supplier.

2-2-3-8 Soft Component (Technical Assistance) Plan

A prerequisite for the outcome of the pilot project is making the best use of the procured equipment, especially microscopes, computers and GPS receivers. It is most important to give effective training to the health staff. For this reason, the training activities are proposed to be included in the soft component of JGA as stipulated in “Appendix 8. Soft Component (Technical Assistance) Plan”.

2-2-3-9 Implementation Schedule

The implementation schedule after the signing of G/A is shown in the figure below.

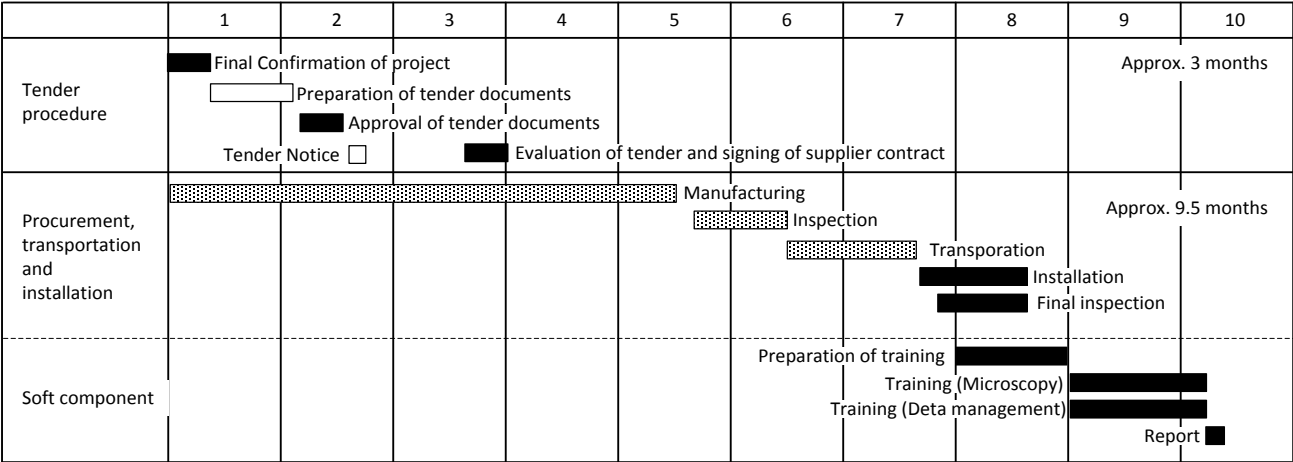


Figure 2 Implementation schedule

2-3 Obligations of Recipient Country

The responsibilities of the Myanmar side are already shown in "2-2-3-3 Scope of Works". It is highly critical that an effective implementation of the pilot project by DOH and VBDC after the procurement of JGA.

When the proposed JGA is implemented, the Myanmar side will be requested to pay attention to the following for the smooth implementation of the project.

- To facilitate prompt processing of official documents for implementing the project
- To facilitate administrative procedures for the signing of Banking Arrangement (B/A) with a Japanese bank, for issuing Authorization to Pay (A/P) for the consultant agreement and supplier contract, and for bearing any commissions of a bank
- To issue travel permits for the consultant and the supplier of the project when necessary
- To take timely and prompt action to obtain import permission for the equipment to be procured
- To facilitate the process of registration of insecticides to be procured, when necessary

2-4 Project Operation Plan

It is not considered necessary to increase the health staffs of VBDC or community volunteers for the pilot project, since it is proposed to plan the activities with the current personnel and organization.

On the other hand, the operational costs including personnel expenses shall be borne by the Myanmar side except for the training costs included in JGA. Equipment and supplies other than those covered by JGA shall be borne by the Myanmar side.

2-5 Project Cost Estimation

2-5-1 Initial Cost Estimation

(1) Cost borne by the Myanmar side

Contents		Cost
Operational cost of pilot project		Approx. 200,000 USD
Physical preparation of entomology laboratory in Yangon		Approx. 8,000,000 yen
Bank commission	Commissions of advising A/Ps	12,000 yen
	Commissions of payment	Approx. 0.05% of total grant

(2) Estimate conditions

Time of calculation: April 2014

Exchange rate: 1 USD = 103.76 yen

Implementation period of JGA: As shown in "2-2-3-9 Implementation Schedule"

Other: The cost is estimated within the framework of JGA.

2-5-2 Operation and Maintenance Cost

The contents of the operational costs of the pilot project will be the cost of transportation, allowances and accommodation for health staffs and volunteers as well as fuel for vehicles and motorcycles. It may be necessary for the Myanmar side to increase the relevant budget for activities of ongoing NMCP.

Estimating long-term budgetary requirements by achieving the elimination of malaria is one of the conditions to introduce malaria elimination into the national strategy; namely, it is an indispensable part to be addressed through activities in the pilot project.

Chapter 3 Project Evaluation

3-1 Preconditions

The responsibilities of the Myanmar side shown in “2-3 Obligations of Recipient Country”, including smooth implementation of the pilot project, shall be fulfilled. Signing on B/A, issuance of A/P and necessary registration of insecticides shall be facilitated.

3-2 Necessary Inputs by Recipient Country

The following inputs by the Myanmar side are necessary:

- Operational cost of the pilot project including personnel expenses
- Equipment and supplies to be used in the pilot project other than those covered by JGA
- Physical preparation of the entomology laboratory in Yangon in advance of the installation of equipment to be covered by JGA

3-3 Important Assumptions

The purpose of JGA is to support the implementation of the pilot project by VBDC to develop an activities model for malaria elimination. The on-going activities of VBDC shall continue satisfactorily until and after the completion of equipment procurement under JGA, in order that the pilot project can be commenced immediately after the handing-over of the equipment. In addition, the introduction of malaria elimination into the national strategy is another important assumption for the proposed JGA.

3-4 Project Evaluation

3-4-1 Relevance

(1) Beneficiaries

The progress of malaria elimination in Myanmar enhances the decrease of the disease burden due to malaria in the country, namely, it benefits more than 30 million or 60% of the population⁶ who live in malaria-risk areas. The beneficiaries are mainly the rural population in Myanmar, including the hard-to-reach population, because most transmission foci are in the remote areas, especially forests and hills. It is expected that malaria elimination can, to some extent, mitigate the health inequities across the country. Implementation of the proposed JGA is thought to be useful and appropriate.

(2) Importance

Myanmar has yet to move to the elimination phase, although malaria mortality has decreased significantly. An initial step towards malaria elimination in 2015 can raise the achievement level of the

⁶ According to the World Malaria Report 2013 by WHO, out of an estimated total population (52,700,000) in 2012, 37% (19,500,000) live in high transmission areas (>1 case per 1,000 people), and 23% (12,100,000), low transmission (0-1 case per 1,000 people).

6th goal of MDGs, and lead to seamless health development post 2015. The proposed JGA, through the assistance for health development, contributes to the improvement of the living standards of the people in Myanmar.

(3) Relevancy to the national policy

The shift to malaria elimination is relevant to the control of communicable diseases which is a prioritized program area of the current National Health Plan (NHP) 2011-2015. The timely development of model activities is indispensable for an effective malaria response paradigm shift in Myanmar, incorporating the concept of malaria elimination into the national strategy during the next phase of NHP and the national malaria strategy.

(4) Consistency with the policy of Japanese government

The Japanese government has expanded the areas of economic cooperation with Myanmar since April 2012. The prioritized areas of Japanese assistance toward Myanmar include the basic human needs and improvement of living standards of the population, to which contributions of the proposed JGA can be expected. Assisting Myanmar's step toward malaria elimination is consistent with the policy of the Japanese government.

3-4-2 Effectiveness

(1) Quantitative effects

Table 2 Proposed indicators for quantitative effects

Indicators	Baseline as of 2013	Goal 3 years after completion of JGA
Annual number of samples of sentinel surveillance in the project site	0	40,000
Annual number of households covered by intensive interventions targeting transmission foci in the project site	0	13,500
Annual number of microscopic examinations for malaria diagnosis	22,000	122,000

(2) Qualitative effects

The accuracy of malaria diagnosis will be improved when an adequate elimination activities model is established. Malaria-related indicators will gain reliability by diagnoses with higher accuracy and statistics through appropriate sentinel surveillance. Through the implementation of the pilot project, VBDC is expected to improve its managing capacity towards the shift to malaria elimination in the near future.

Based on the evaluations above, it is appropriate and efficient to extend JGA as stipulated in this report.

Appendices

- 1 Member List of the Study Team
- 2 Study Schedule
- 3 List of Parties Concerned in the Recipient Country
- 4 Minutes of Discussions
 - 4.1 Minutes of Discussions in Preparatory Survey
 - 4.2 Minutes of Discussions in Explanation of Draft Report
- 5 Project Site
 - 5.1 Map of Project Site
 - 5.2 List of Townships in the Project Site
- 6 Summary of Proposed Pilot Project
- 7 Transporting Destination and Place of Handing Over
- 8 Soft Component (Technical Assistance) Plan

1. Member List of the Study Team

Preparatory Survey

Mr. Naoyuki KOBAYASHI Team Leader
Deputy Director General and Group Director for Health Group 2,
Human Development Department, JICA

Mr. Shigetaka TOJO Project Manager
International Techno Center Co., Ltd.

Dr. Myo Nyein Aung Infectious Disease Control
International Techno Center Co., Ltd.

Ms. Miho KONNO Procurement Planner
International Techno Center Co., Ltd.

Explanation of Draft Report

Ms. Hiroe ONO Team Leader
Director,
Health Team 4, Health Group 2,
Human Development Department, JICA

Dr. Koji KANDA Program Coordinator
Associate Expert,
Health Team 4, Health Group 2,
Human Development Department, JICA

Mr. Shigetaka TOJO Project Manager
International Techno Center Co., Ltd.

Ms. Miho KONNO Procurement Planner
International Techno Center Co., Ltd.

2. Study Schedule

Preparatory Survey

No	Date		Schedule
1	Mar 16	Sun	Arrive at Yangon [Tojo, MNA]
2	Mar 17	Mon	Meet with JICA Office, Japanese Embassy, International NGOs
3	Mar 18	Tue	Meet with Japanese Parties Concerned / Move to Nay Pyi Taw
4	Mar 19	Wed	Meet with VBDC
5	Mar 20	Thu	Meet with VBDC
6	Mar 21	Fri	Attend the VBDC's workshop
7	Mar 22	Sat	Move to Yangon
8	Mar 23	Sun	Arrive at Yangon [Kobayashi] / Team meeting
9	Mar 24	Mon	Site survey in Yangon Region
10	Mar 25	Tue	Site survey in Bago Region [Tojo, MNA]
11	Mar 26	Wed	Site survey in Bago Region [Tojo, MNA]
12	Mar 27	Thu	Move to Yangon [Tojo, MNA] / Team meeting
13	Mar 28	Fri	Prepare documents
14	Mar 29	Sat	Prepare documents / Team meeting
15	Mar 30	Sun	Move to Nay Pyi Taw [Koboyashi, Tojo] / Move to Magway [MNA] / Arrive at Yangon [Konno]
16	Mar 31	Mon	Discussion on Minutes of Discussion [Koboyashi, Tojo] Site survey in Magway Region [MNA] / Interview with local agents [Konno]
17	Apr 1	Tue	Signing on Minutes of Discussion [Koboyashi, Tojo] / Move to and leave Yangon [Kobayashi] Site survey in Magway Region [MNA] / Interview with local agents [Konno]
18	Apr 2	Wed	Arrive at Narita [Kobayashi] / Move Nay Pyi Taw to Mandalay [Tojo] Move Mandalay [MNA] / Interview with local agents [Konno]
19	Apr 3	Thu	Site survey in Mandalay Region [Tojo, MNA] / Interview with local agents [Konno]
20	Apr 4	Fri	Site survey in Mandalay Region [Tojo, MNA] / Interview with local agents [Konno]
21	Apr 5	Sat	Move to Yangon [Tojo, MNA] / Team meeting
22	Apr 6	Sun	Prepare report
23	Apr 7	Mon	Site survey in Yangon Region
24	Apr 8	Tue	Site survey in Yangon Region
25	Apr 9	Wed	Site survey in Yangon Region
26	Apr 10	Thu	Site survey in Yangon Region [Tojo, Konno] / Leave Yangon [MNA]
27	Apr 11	Fri	Report to JICA office
28	Apr 12	Sat	Leave Yangon
29	Apr 13	Sun	Arrive at Narita

Explanation of Draft Report

No	Date		Schedule
1	Aug 14	Thu	Arrive at Yangon [Tojo]
2	Aug 15	Fri	Meeting with Japanese Parties Concerned
3	Aug 16	Sat	Discussion with VBDC
4	Aug 17	Sun	Arrive at Yangon [Ono, Kanda, Konno] / Team meeting
5	Aug 18	Mon	Prepare documents / Move to Nay Pyi Taw / Interview with local agents [Konno]
6	Aug 19	Tue	Discussion on Minutes of Discussion [Ono, Kanda, Tojo] / Interview with local agents [Konno]
7	Aug 20	Wed	Signing on Minutes of Discussion [Ono, Kanda, Tojo] / Interview with local agents [Konno]
8	Aug 21	Thu	Move to and leave Yangon
9	Aug 22	Fri	Arrive at Narita

3. List of Parties Concerned in the Recipient Country

Ministry of Health

Department of Health

Dr. Min Than Nyunt	Director General, DOH, MOH
Dr. Thar Tun Kyaw	Director (Diseases Control), DOH, MOH
Dr. Thaung Hlaing	Deputy Director (Malaria), Disease Control, DOH, MOH
Dr. Than Naing Soe	Medical Officer, Central VBDC
Dr. Khin Maung Myint	Assistant Director (Malaria), Central Medical Store Depot, DOH, MOH

Yangon Region

Dr. Malar Soe	Regional Officer, VBDC Yangon Region
Mr. See Uin	Malaria Inspector, VBDC Yangon Region
Dr. Tin Oo	Township Medical Officer, Hlw Gu Township
Mr. U Tin Myint	Malaria Inspector, Hlw Gu Township Hospital
Dr. Ni Ni Tun	Medical Officer, Paunggyi Station Hospital

Bago Region

Dr. Tun Min	Regional Officer, VBDC Bago Region
Dr. Aye Aye Thant	Assistant Entomologist, VBDC Bago Region
Dr. Toe Maung	Township Medical Officer, Kyauktagar Township
Ms. Soe Luin	Malaria Supervisor, Kyauktagar Township

Mandalay Region

Dr. Awe Nao Aye	Entomologist, VBDC Mandalay Region
Dr. Zaw Cimu	Field Project Coordinator, WHO
Dr. Myo Myint Tun	Field Project Coordinator, WHO
Mr. Myint Mg	Health Assistant, Patheingyi Township
Mr. Hla Myint	Malaria Supervisor, Patheingyi Township
Mr. Chit Swe	Malaria Inspector, Lewe Township
Mr. Thein Naing	Malaria Supervisor, Lewe Township

Magway Division

Dr. Kyi Thar Swe	Team Leader Magway, VBDC Magway Region
Mr. Tin Nyund	Malaria Inspector, VBDC Magway Region
Mr. Hla Myo Nai	Malaria Supervisor, VBDC Magway Region
Mr. Kyaw Swa Win	Malaria Supervisor, VBDC Magway Region
Mr. Maung Maung Win	Malaria Supervisor, VBDC Minbu District, Magway Region

Development Partners

WHO

Dr. Krongthong Timasarn	Medical Officer (Malaria), WHO Country Office for Myanmar
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UNOPS

Dr. Attila Molnar Programme Coordinator, Principal Recipient for GFATM,
UNOPS-Myanmar

Mr. Vikram Singh Procurement Specialist, Principal Recipient for GFATM,
UNOPS-Myanmar

Save the Children

Mr. Parsa Sanjana Deputy Director, Program Implementation and Management /
GFATM

Mr. Lionel Duinat Senior Procurement and Supply Management Manager

JICA Major Infectious Disease Control Project Phase 2

Dr. Masatoshi Nakamura Malaria Expert

Dr. Wataru Ohira GIS Expert

Ms. Hla Yin Kyawt Consultant

4. Minutes of Discussions

4.1 Minutes of Discussions in Preparatory Survey

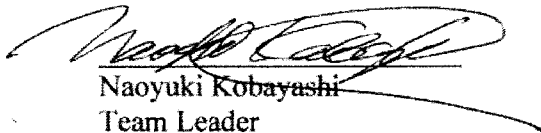
**MINUTES OF DISCUSSIONS
PREPARATORY SURVEY ON
THE PROJECT FOR MALARIA CONTROL
IN THE REPUBLIC OF THE UNION OF MYANMAR**

In response to a request made by the Government of the Republic of the Union of Myanmar (hereinafter referred to as "GOM"), the Government of Japan decided to conduct a preparatory survey on the Project for Malaria Control (hereinafter referred to as "the Project") and entrusted the survey to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA formed a Preparatory Survey Team (hereinafter referred to as "the Team"), which is headed by Mr. Naoyuki Kobayashi, Deputy Director General, Human Development Department, JICA, in order to set a framework for this Project and identify the contents of equipment in consultation with GOM from 16 March to 12 April 2014. The Team held discussions with the representatives of GOM and also conducted field surveys at some of the target areas of the Project.

As a result of the discussions and the field surveys, both parties confirmed the direction of the Project as well as the main items for Japan's Grant Aid as described in the attached sheets. Based on this memorandum, the Team will work to formulate a detailed plan, which will be compiled in a Preparatory Survey Report in a later stage.

Nay Pyi Taw, 2 April, 2014



Naoyuki Kobayashi
Team Leader
Preparatory Survey Team,
Deputy Director General
Human Development Department
Japan International Cooperation Agency
Japan



Dr. Min Than Nyunt
Director General
Department of Health
Ministry of Health
Republic of the Union of Myanmar

ATTACHMENT

1. Objective of the Project

The objective of the Project is to support GOM through the provision of equipment under Japan's Grant Aid scheme in conducting activities to eliminate malaria on a pilot basis in preparation for wider implementation in Myanmar in the future.

GOM is currently preparing a new strategy for National Malaria Control Program. The strategy will include directions to contain malaria as a next step to stop its proliferation to areas inside as well as outside of the country. The containment of malaria is highly anticipated in the country as an important measure to further reduce the morbidity and the mortality of malaria as well as resistance to antimalarial medicine, especially artemisinin-based combination therapies (ACTs). The activities would consist of the identification of malaria foci where malaria infection occurs and effective prevention of future transmission, surveillance, monitoring, case investigation, diagnosis, and treatment activities in remote/hard-to-reach areas where malaria is actively transmitting. The experience of the pilot activities will be used to formulate a model to eliminate malaria on a wider scale. For this purpose, GOM is preparing also a program, which would be entitled, "Subnational Malaria Pre-elimination Program."

2. Project sites

The project sites will be: Yangon, Magway, Bago, Mandalay Regions, and Central Vector Borne Diseases Control Center. (hereinafter referred to as "VBDC"). Specific target areas will be identified in the "Subnational Malaria Pre-elimination Program, which is scheduled to be launched in 2014.

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 of MOH.

4. Contents of the Project requested by the Government of Myanmar

The specific equipment requested by the Government of Myanmar during the preparatory survey is enlisted in ANNEX-1. The team will assess the contents of the requested equipment and will report its findings to the Government of Japan.

5. Japan's Grant Aid Scheme

5-1. GOM understood the Japan's Grant Aid scheme as described in ANNEX-2.

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

6. Schedule of the Survey

6-1. JICA will prepare a draft report in English and dispatch a mission to explain its contents in August, 2014.

6-2. As the contents of the report is accepted by GOM, JICA will finalize the contents

of the report as the "Preparatory Survey Report" and send it to GOM by the end of October, 2014.

7. Other relevant issues

- 7-1. GOM agreed to secure and allocate budget and human resources necessary for the distribution, operation/maintenance, and storage of the equipment that will be procured under the Grant Aid scheme.
- 7-2. Both sides agreed that the distribution plan will need to be finalized in due consideration of other donors' activities in order to avoid any overlaps. Both sides will check whether such overlaps can occur again at the time of explaining the draft basic design.
- 7-3. GOM will provide JICA with official and informal documents related to policies/strategies for malaria pre-elimination.
- 7-4. GOM will make sure that equipment such as vehicles, motorcycles and personal computers will be used for monitoring and surveillance conducted by VBDC staff.
- 7-5. GOM will ensure to issue visa and travel permissions for Japanese team members to enter Myanmar and the project site for the Project. 7-5.

ANNEX 1 The List of equipment requested for the Project

ANNEX 2 Japan's Grant Aid scheme

ANNEX 3 Major Undertakings to be taken by Each Government

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ANNEX 1 Requested Equipment List of the Project

Purpose	Sr no.	Type of Logistics
I. Malaria Diagnosis	1	Compound Microscope
	2	Glass slides
	3	Anizol (500ml/bottle for 3,000 slides)
	4	100% Giemsa solution (500ml/bottle for 1500 slides)
	5	Methyl Alcohol (500ml/bottle for 1500 slides)
	6	Disposable gloves
	7	Slide box (100's)
	8	Bench aide
	9	RDT(Rapid Diagnosis Test)
II. Monitoring and Surveillance	10	Antibody detection test
	11	Equipment for entomology lab (Including PCR system)
	12	Equipment for parasitology lab (Including PCR system)
	13	Vehicles (Off road double Cabs)
	14	Motorcycles
	15	GPS reciever
	16	Personal computer (Desktop)
	17	Personal computer(Laptop)
	18	UPS
	19	Scanner
	20	Printer
	21	Ploter
	22	GIS soft ware
	23	Satelite images
III. Malaria Treatment	24	CHW kit (community health workers)
	25	Weighing scale (bathroom scale)
IV. Malaria Prevention and Vector control	26	LLIN
	27	Hudson sprayer (3 sprayer per Team for 2 teams/ township)
	28	Spare parts(packets)
	29	Insecticide for IRS in Kg for eliminating foci and attack phase (Deltamethrin 25WG contain Deltamethrin 250g active ingredient /kg)
	30	Protective clothes, Caps, Masks(packets)
	31	Insecticide for bed net treatment (K-O Tab contain Deltamethrin 25%)
V. Human resource development	32	PA system (Portable)
	33	LCD projector
	34	Screen
	35	Multi viweing microscope
VI. Printing materials	36	Photographic system with microscope (Stereo and Compound)
	37	Patient record, supply record, case investigation record (Carbonless or A4 Sheets)
	38	Printing materials for education and advocacy
VII. Entomology	39	manuals and technical release (books) (2 guidelines book/staffs and volunteers/year)
	40	Entomological Surveylance Instruments
	41	Stereoscope for mosquito dissection and identification
	42	Compound biocular microscopes for larval identification

Note: ACT,CQ, PQ, Artemether injection were excluded from original equipment list, because these are supplied by GF (Global Fund)

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ANNEX 2

Japan's Grant Aid

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of operations of the Official Development Assistance (ODA), and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

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

1 Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures:

- Preparatory Survey
 - The Survey conducted by JICA
- Appraisal & Approval
 - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
 - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
 - Agreement concluded between JICA and a recipient country
- Implementation
 - Implementation of the Project on the basis of the G/A

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2 Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of a basic design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve 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 of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

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3 Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.

(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority 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, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

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

(5) Major undertakings to be taken by 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 shown in the table on page 4 of this report.

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(6) "Proper Use"

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

(7) "Export and Re-export"

The products purchased under the Grant Aid should not be exported or 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 under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA 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 designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the Bank to JICA 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 paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.

ANNEX 3

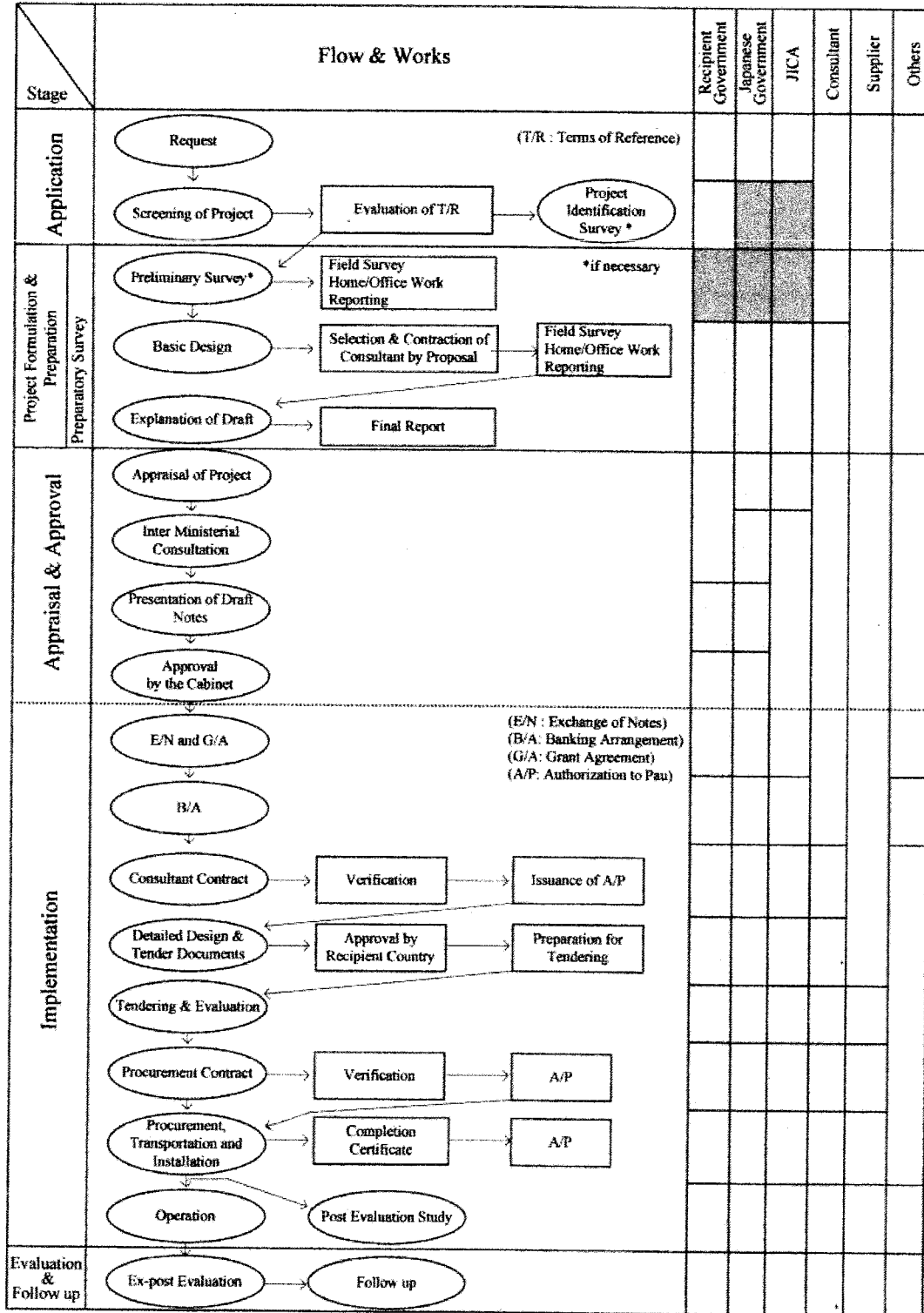
Major Undertakings to be taken by Each Government

No.	Items	To be covered by the Grant Aid	To be covered by the Recipient Side
1	To bear the following commissions to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		•
	2) Payment commission		•
2	To ensure prompt unloading and customs clearance at the port of disembarkation in the recipient country		
	1) Marine(Air) transportation of the products from Japan or third countries to the recipient country	•	
	2) Tax exemption and custom clearance of the products at the port of Disembarkation		•
	3) Internal transportation from the port of disembarkation to the project site	(•)	(•)
3	To accord Japanese nationals, whose services may be required in connection with the supply of the products 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 products and services under the verified contracts		•
5	To utilize properly and effectively the 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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Flow Chart of Japan's Grant Aid Procedure



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4.2 Minutes of Discussions in Explanation of Draft Report

**MINUTES OF DISCUSSIONS
ON THE PREPARATORY SURVEY
ON THE PROJECT FOR THE IMPROVEMENT
OF MALARIA CONTROL EQUIPMENT
IN THE REPUBLIC OF THE UNION OF MYANMAR
(EXPLANATION OF THE DRAFT REPORT)**

In April 2014, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team on the Project for Improvement of Malaria Control Equipment (hereinafter referred to as "the Project") to the Government of the Republic of the Union of Myanmar (hereinafter referred to as "GOM"), 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 GOM 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. Hiroe ONO, Director of Health Team 4, Human Development Department, from 17-21 August 2014.

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

Nay Pyi Taw, 20 August 2014



Ms. Hiroe ONO
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Dr. Min Than Nyunt
Director General
Department of Health
Ministry of Health
Republic of the Union of Myanmar

ATTACHMENT

1. Components of the Draft Final Report

The GOM agreed and accepted in principle the components of the Draft of the Final Report explained by the Team.

2. Japan's Grant Aid scheme

Myanmar side understands the Japan's Grant Aid (hereinafter referred to as "JGA") Scheme and the necessary measures to be taken by the GOM as explained by the Team and described in Annex-2 and Annex-3 of the Minutes of Discussions signed by both parties on 2 April 2014.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the GOM by the end of October 2014.

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. Schedule of the Project

Both sides agreed the tentative schedule of the Project described on the Draft of the Final Report and Annex 1.

5-2. Implementation of the pilot project for the malaria elimination

Both sides agreed the plan of the pilot project described on the Draft of the Final Report and its implementation by the Vector Borne Disease Control (hereinafter referred to as "VBDC"). The objective of the pilot project is to develop a Myanmar model of activities by using equipment provided by JGA to introduce malaria elimination into the national strategy. Myanmar side also agreed to allocate the budget for the management of the overall project.

5-3. Operational costs

Both sides agreed that operational costs including personal expenses shall be borne by the Myanmar side except for the training costs covered by the soft component of JGA. Equipment and materials other than those covered by JGA shall be borne by the Myanmar side.

5-4. Room conditions for provided equipment

Both sides agreed that Myanmar side is responsible for physical conditions of rooms where the equipment provided by JGA is installed.

5-5. Target Townships for the pilot project

Both sides confirmed that the target sites for the pilot project are selected 40 Townships in Bago, Magway, Mandalay, Yangon and Nay Pyi Taw Regions and Kayin State. The targeted Townships are described on Annex 2-1 and Annex 2-2.

5-6. Technical specifications of the equipment

Both sides agreed the specification of the planned equipment described in Annex 3.

5-7. Effective use of equipment and supplies

Central VBDC is responsible for effective use of equipment and supplies provided by JGA during and after the pilot project.

5-8. Plan of Soft Component

Both sides agreed the Soft Component Plan described on the Draft of the Final Report. Biological microscope, GPS receivers, and personal computers (laptop) will be delivered after training through the Plan. The result of training and distribution shall be reported by central VBDC office to JICA.

Annex 1: Tentative Schedule of the Project

Annex 2-1: Location of the Project Site

Annex 2-2: List of Townships in the Project Site

Annex 3: Equipment List

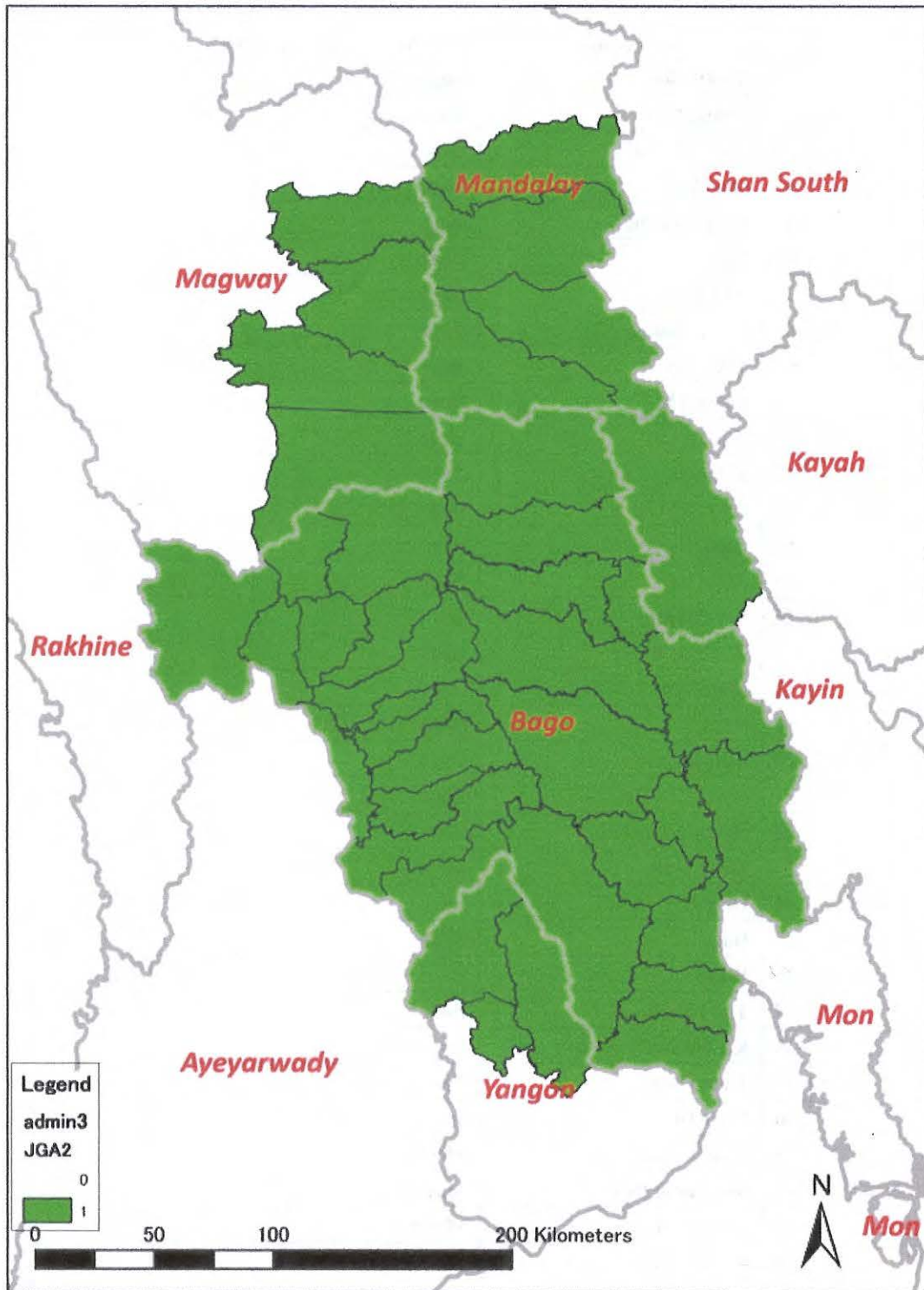
Annex 1: Tentative Schedule of the Project

	Month after signing of E/N and G/A												
	1	2	3	4	5	6	7	8	9	10	11	12	13
<u>Tender stage</u>													
Preparation	█	█											
Tender notice		█											
Tender and evaluation			█	█									
Contract signing				█									
<u>Procurement stage</u>													
Manufacturing				█	█	█	█	█	█				
Inspection								█	█				
Transportation									█	█			
Instllation										█	█		
Final inspection										█	█		
<u>Soft component</u>													
Preparation											█	█	
Training												█	█
Report													█

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Annex 2-1: Location of the Project Site



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Annex 2-2: List of Townships in the Project Site

	Township	State/Regional VBDC
1	Ye Da She	Bago
2	Taung Gu	Bago
3	Htan Ta Bin	Bago
4	Oka Twin	Bago
5	Pauk Khaung	Bago
6	Pyay	Bago
7	Pa Daung	Bago
8	Shwe Daung	Bago
9	The Gon	Bago
10	Paung De	Bago
11	Nat Ta Lin	Bago
12	Zi Gon	Bago
13	Gyo Bin Gauk	Bago
14	Oak Pho	Bago
15	Min Hla	Bago
16	Let Pa Dan	Bago
17	Tha Yar Wady	Bago
18	Moe Nyo	Bago
19	Phyu	Bago
20	Kyauk Kyi	Bago
21	Kyauk Ta Ga	Bago
22	Nyaung Lay Bin	Bago
23	Shwe Gyin	Bago
24	Daik U	Bago
25	Bago	Bago
26	Waw	Bago
27	Tha Nat Pin	Bago
28	Ka Wa	Bago
29	Than Daung	Kayin
30	Myo Thit	Magway
31	Taung Dwin Gyi	Magway
32	Sin Paung Pwe	Magway
33	Aung Lan	Magway
34	Ya Me Thin	Mandalay
35	Le We	Mandalay
36	Pyin Ma Na	Mandalay
37	Tat Kon	Mandalay
38	Taik Kyi	Yangon
39	Hle Gu	Yangon
40	Hmaw Bi	Yangon

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Annex 3: Equipment List

	Ref	Item	Q'ty	Remarks
1. Improvement of malaria diagnosis	A-01	Biological Microscope	100 pcs	
	A-02	Glass Slides	2,000 sets	for 200,000 tests
	A-03	Gienza Staining Solution	68 pcs	ditto
	A-04	Methyl Alcohol	68 pcs	ditto
	A-05	Staining Jar	100 pcs	ditto
	A-06	Disposable Gloves	2,000 boxes	ditto
	A-07	Slide Box	2,000 boxes	ditto
2. Practice of sentinel surveillance	B-01	Antibody Detection Kit	1,400 boxes	for 40,000 samples
3. Practice of intensive interventions	C-01	LLIN	14,000 nets	
	C-02	Insecticide for Bed net Treatment	14,000 tabs	
	C-03	Sprayer Insecticide	155 units	
	C-04	Insecticide for IRS	504 kgs	for 14,000 households
	C-05	Protective clothes set	155 sets	
	C-06	Vehicle	6 units	
	C-07	Motorcycle	12 units	
4. Monitoring and feedback	D-01	GPS Receiver	220 units	
	D-02	Personal Computer (Lap top)	24 units	
	D-03	Printer B/W	12 units	
	D-04	Personal Computer (Desk top)	7 units	
	D-05	UPS	7 units	
	D-06	Scanner	7 units	
	D-07	Printer Color	7 units	
	D-08	Plotter	1 units	
	D-09	GIS Soft ware	1 set	
	D-10	Satellite Images	1 set	
5. Development of human resources	E-01	PA system	40 units	
	E-02	Projector	46 units	
	E-03	Screen	46 units	
	E-04	Multi Viewing Microscope	1 unit	
	E-05	Stereo Microscope with Camera	2 units	
	E-06	Biological Microscope with Camera	2 units	

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Annex 3 (Con'd)

	Ref	Item	Q'ty	Remarks
6. Improvement of malaria laboratory	F-01	Stereo Microscope	7 units	
	F-02	Low speed centrifuge	1 unit	
	F-03	2 ml plasma container	1 unit	
	F-04	-20°C freezer	1 unit	
	F-05	Automated Extraction	1 unit	
	F-06	Biosafety cabinet	1 unit	
	F-07	High speed centrifuge	1 unit	
	F-08	Heat Block	1 unit	
	F-09	Table Top (micro) centrifuge	1 unit	
	F-10	Vortex	1 unit	
	F-11	Pipette (auto/adjustable)	4 sets	
	F-12	Pipette (auto/adjustable)	4 sets	
	F-13	Filter Pipette tip	1 packs	
	F-14	Filter Pipette tip	1 packs	
	F-15	Filter Pipette tip	1 packs	
	F-16	Filter Pipette tip	1 packs	
	F-17	2ml collection tubes	10 packs	
	F-18	1.5 ml micro centrifuge tubes	10 packs	
	F-19	Refrigerator	1 unit	
	F-20	PCR cabinet	2 units	
	F-21	Cool Block / On ice	2 units	
	F-22	Pipette (auto/adjustable)	4 sets	
	F-23	Pipette (8 channel)	4 sets	
	F-24	0.2 ml PCR tubes	10 packs	
	F-25	PCR machine (Thermal cycler)	2 units	
	F-26	Personal Computer (Lap top)	2 units	
	F-27	UPS & Batteries	2 units	
	F-28	0.6 ml micro centrifuge tubes	10 packs	
	F-29	Autoclave	1 unit	
	F-30	Electrophoresis unit	1 unit	
	F-31	UV irradiation unit with Camera	1 unit	
	F-32	Micro wave	1 unit	
	F-33	ICE cube machine	1 unit	
	F-34	Spectrophotometer	1 unit	
	F-35	Electric power Generator	1 unit	
	F-36	Analytical Balance A	1 unit	
	F-37	Analytical Balance B	1 unit	

5. Project Site

5.1 Map of Project Site



5.2 List of Townships in the Project Site

	Township	State/Regional VBDC
1	Ye Da She	Bago
2	Taung Gu	Bago
3	Htan Ta Bin	Bago
4	Oak Twin	Bago
5	Pauk Khaung	Bago
6	Pyay	Bago
7	Pa Daung	Bago
8	Shwe Daung	Bago
9	The Gon	Bago
10	Paung De	Bago
11	Nat Ta Lin	Bago
12	Zi Gon	Bago
13	Gyo Bin Gauk	Bago
14	Oak Pho	Bago
15	Min Hla	Bago
16	Let Pa Dan	Bago
17	Tha Yar Wady	Bago
18	Moe Nyo	Bago
19	Phyu	Bago
20	Kyauk Kyi	Bago
21	Kyauk Ta Ga	Bago
22	Nyaung Lay Bin	Bago
23	Shwe Gyin	Bago
24	Daik U	Bago
25	Bago	Bago
26	Waw	Bago
27	Tha Nat Pin	Bago
28	Ka Wa	Bago
29	Than Daung	Kayin
30	Myo Thit	Magway
31	Taung Dwin Gyi	Magway
32	Sin Paung Pwe	Magway
33	Aung Lan	Magway
34	Ya Me Thin	Mandalay
35	Le We	Mandalay
36	Pyin Ma Na	Mandalay
37	Tat Kon	Mandalay
38	Taik Kyi	Yangon
39	Hle Gu	Yangon
40	Hmaw Bi	Yangon

6. Summary of Proposed Pilot Project

Purpose	To introduce malaria elimination into the national strategy
Objective	To develop a Myanmar model of activities for malaria elimination
Responsible Ministry	DOH
Implementing Agency	VBDC
Period	12 months after completion of JGA
Sites	Selected 40 townships in the Bago, Magway, Mandalay, Yangon and Nay Pyi Taw Regions and Kayin State, Central and Regional Offices of VBDC covering those 40 townships

Component	Activities	Responsibilities of the Myanmar side	Input by JGA
<u>1. Improvement of malaria diagnosis</u> Parasite-based diagnosis by microscopy shall be enforced in the township level.	1.1 Procurement of microscopes and supplies for testing 1.2 Training of health staffs 1.3 Distribution of microscopes and supplies for testing 1.4 Conducting malaria diagnoses by microscopy <u>100,000 tests or more in a year</u> 1.5 Establishment of a system of malaria diagnosis effective in the elimination phase	- Personnel - VBDC experts (i.e. trainers) - Contents of training materials - Distribution of microscopes to townships - Distribution of supplies to townships half of total amount - Other operating costs including allowances, accommodations and travel costs of personnel	- Biological microscopes 100 units - Testing materials for 10 tests × 100 microscopes × 200 days - Delivery of testing materials to townships half of total amount - Dispatch of an expert for training for 1.5 month - Cost for training materials
<u>2. Practice of sentinel surveillance</u> Sentinel surveillance shall be practiced in the project site.	2.1 Deciding sentinel sites, sampling methods and other details 2.2 Clarifying the roles of the levels of region and township 2.3 Instructing the levels of region and township 2.4 Procurement of materials 2.5 Distribution of materials 2.6 Practicing sentinel surveillance <u>20 sites × 1,000 samples × twice in a year</u> 2.7 Outlining a system of malaria surveillance effective in the elimination phase	- Personnel - Materials other than antibody detection kits - Distribution of materials - Operating costs including personnel expenses	- Antibody detection kits for 40,000 samples

Component	Activities	Responsibilities of the Myanmar side	Input by JGA
<u>3. Practice of intensive interventions</u> Intensive interventions targeting foci of transmission shall be experimented.	3.1 Drafting details of intervention 3.2 Instructing the levels of region and township 3.3 Procurement of materials 3.4 Distribution of materials 3.5 Practicing interventions <u>3 interventions × 30 townships covering 150 households in every intervention</u> 3.6 Developing a guideline of intervention effective in the elimination phase	<ul style="list-style-type: none"> - Personnel - Materials other than LLIN, insecticides, sprayer and protective clothes - Distribution of LLIN and insecticides to township (50%) - Operating costs including personnel expenses 	<ul style="list-style-type: none"> - LLIN, insecticides to cover about 14,000 households in total - Delivery of LLIN and insecticides to townships (50%) - Sprayer, protective clothes - Delivery of sprayer and protective clothes to townships
<u>4. Monitoring and feedback</u> Data management capacity at the township level shall be improved.	4.1 Procurement of equipment 4.2 Training of health staff 4.3 Distribution of equipment 4.4 Practicing monitoring and feed-back 4.5 Practicing data analysis 4.6 Developing a guideline of monitoring and feed-back effective in the elimination phase 4.7 Developing a training plan	<ul style="list-style-type: none"> - Personnel - VBDC staff to support training - Distribution of computers and GPS receivers to townships - Contents of training material - Operating costs including personnel expenses 	<ul style="list-style-type: none"> - GPS receivers, computers, printers, software, etc. - Delivery of computers and GPS receivers to central VBDC - Delivery and installation of other equipment to sites - Appointment of local trainer - Cost for training materials
<u>5. Human resources development</u> Training system shall be strengthened.	5.1 Preparing training guideline 5.2 Procurement of equipment and materials 5.3 Practicing training in the township level 5.4 Practicing training by central VBDC	<ul style="list-style-type: none"> - Personnel - Equipment other than those included in JGA - Teaching materials - Operating costs including personnel expenses 	<ul style="list-style-type: none"> - PA systems, projectors, screens and delivery of them to sites - Teaching microscopes - Delivery and installation of teaching microscopes
<u>6. Improvement of malaria laboratory</u> The entomology laboratory of central VBDC shall be improved.	6.1 Physical preparation 6.2 Procurement of equipment 6.3 Procurement of testing materials 6.4 Commencement of PCR examination of parasites and vectors 6.5 Drafting necessary resources and their availabilities in the elimination phase	<ul style="list-style-type: none"> - Personnel - Physical preparation of laboratory - General equipment for laboratory other than those procured by JGA - Operating costs including personnel expenses 	<ul style="list-style-type: none"> - Equipment for PCR examination - Transportation and installation of equipment

7. Transporting Destination and Place of Handing Over

	Ref	Items	Destination, place of handing over	Remarks
1. Improvement of malaria diagnosis	A-01	Biological Microscope	Store of Central VBDC, Yangon	To be brought by trainees
	A-02	Glass Slide	Store of Central VBDC, Yangon (half) Townships and VBDC offices (half)	VBDC distributes (half)
	A-03	Giemza Staining Solution		
	A-04	Methyl Alcohol		
	A-05	Staining Vat		
	A-06	Disposable Glove		
		A-07	Slide Box	
2. Practice of sentinel surveillance	B-01	Antibody Detection Kit	Store of central VBDC, Yangon	VBDC distributes
3. Practice of intensive interventions targeting foci of transmission	C-01	LLIN	Site (half), Store of Central VBDC (half)	VBDC distributes (half)
	C-02	Insecticide for Bed Net Treatment	Store of Central VBDC, Yangon	VBDC distributes
	C-03	Sprayer Insecticide	Townships and VBDC Offices	
	C-04	Insecticide for IRS	Store of central VBDC, Yangon	VBDC distributes
	C-05	Protective Clothes Set	Townships and VBDC Offices	
	C-06	Vehicle	Townships and VBDC Offices	
	C-07	Motorcycle		
4. Monitoring and feedback	D-01	GPS Receiver	Store of Central VBDC, Yangon	To be brought by trainees
	D-02	Personal Computer (Laptop)		
	D-03	Printer B/W		
	D-04	Personal Computer (Desktop)	Central VBDC, Yangon and Nay Pyi Taw Regional VBDC Offices	
	D-05	UPS		
	D-06	Scanner		
	D-07	Printer Color		
	D-08	Plotter	Central VBDC, Yangon	
	D-09	GIS Software		
	D-10	Satellite Image		
5. Development of human resources	E-01	PA System	Townships and VBDC Offices	
	E-02	Projector		
	E-03	Screen		
	E-04	Multi Viewing Microscope	Central VBDC, Yangon	
	E-05	Stereo Microscope with Camera	Central VBDC, Yangon and Nay Pyi Taw	
	E-06	Biological Microscope with Camera		

	Ref	Items	Destination, place of handing over	Remarks
6. Improvement of malaria laboratory	F-01	Stereo Microscope	Central VBDC, regional VBDC	
	F-02	Low Speed Centrifuge		
	F-03	2-millilitre Plasma Container		
	F-04	Freezer		
	F-05	Automatic Nuclear Extractor		
	F-06	Biosafety Cabinet		
	F-07	High Speed Centrifuge		
	F-08	Heat Block		
	F-09	Table Top Centrifuge		
	F-10	Vortex Mixer		
	F-11	Pipette Set		
	F-12	Pipette 20-200 microlitre		
	F-13	Pipette tip 0.5-10 microlitre		
	F-14	Pipette tip 10-100 microlitre		
	F-15	Pipette tip 20-200 microlitre		
	F-16	Pipette tip 100-1000 microlitre		
	F-17	2-millilitre Collection Tube		
	F-18	1.5-millilitre Centrifuge Tube		
	F-19	Refrigerator	Entomology laboratory, Central VBDC, Yangon	
	F-20	PCR cabinet		
	F-21	Cool Block		
	F-22	Pipette 8ch 1-10 microlitre		
	F-23	Pipette 8ch 20-200 microlitre		
	F-24	0.2-millilitre PCR Tube		
	F-25	PCR Machine (Thermal Cycler)		
	F-26	Personal Computer (Laptop)		
	F-27	UPS		
	F-28	0.6-millilitre Centrifuge Tube		
	F-29	Autoclave		
	F-30	Electrophoresis Unit		
	F-31	UV Irradiation unit with Camera		
	F-32	Microwave		
	F-33	Ice Cube Machine		
	F-34	Spectrophotometer		
	F-35	Electric Power Generator		
	F-36	Analytical Balance A		
	F-37	Analytical Balance B		

8. Soft Component (Technical Assistance) Plan

(1) Background

The proposed JGA is planned to support the pilot project to be implemented by VBDC in order to develop a Myanmar model of activities for malaria elimination. Generally, the accuracy of malaria diagnosis underpins a paradigm shift from malaria control to elimination in a country, so does satisfying capacities of monitoring and feedback. In this sense, making the best use of the procured equipment, especially microscopes, computers and GPS receivers, is a prerequisite for the outcome of the pilot project, and it is most important to give effective trainings to the health staffs. For this reason, the training activities are proposed to be included in the soft component of JGA as follows:

(2) Purpose

The health staffs in the township level, acquiring knowledge and skills, are well motivated to work positively in the pilot project.

(3) Expected outcomes

- Accuracy of malaria diagnosis by microscopy is increased at the township level.
- Malaria transmissions monitored at the township level are reported adequately.

(4) Measurement of achieved outcomes

- Good participation by townships sending correct trainees the training activities
- Progress of microscopic examination of both thin and thick films by the health staff who completed the training
- Progress of use of the database in the township level by the health staff who completed the training

(5) Inputs

(5)-1. Parasite diagnosis by microscopy

Training is given to health staffs of the township level on microscopic examination of thin and thick films, management of testing materials and testing records. Trainees, namely prospective users of 100 microscopes, shall be divided into five groups, with 20 to 25 members for each group. Training will be undertaken for five to seven days for each group. A Japanese expert shall be dispatched as a facilitator in the scope of JGA. Several experts of the central VBDC shall be assigned as trainers by the Myanmar side. The team of both Japanese and Myanmar experts prepares the materials, plans in detail and gives training.

In the training, examinations shall be practiced with the procured biological microscopes. Completion of the training shall be a basic condition of distribution of procured microscopes to a respective township, and a microscope can be brought to a township by the trainee sent from said township. For this reason, the procured microscopes shall be inspected and handed over to VBDC in Yangon before the training.

JGA: Dispatch of a Japanese expert for 1 to 1.5 months
Costs of preparing materials
Costs of transportation and others for trainers and trainees

Myanmar side: Assignment of five trainers (members of central VBDC)
Selection of 100 trainees

(5)-2. Data management

Training is given to health staffs in the township level outlining the malaria database of VBDC, data management in daily work at the township level and statistical work as well as computer literacy.

Trainees, namely health staffs of townships in charge of malaria monitoring and data management, shall be divided into five groups, with about 10 members in each. Training will continue for five days for each group. A local expert shall be appointed as a trainer in the scope of JGA. The Japanese expert gives his/her trainers training in advance. The local expert, following instructions by the Japanese expert, prepares training materials, plans in detail and gives training.

In the training, data management shall be practiced with the procured lap-top computers in the same manner as the microscope mentioned above.

JGA: Assignment of a local expert
Costs of preparing materials
Costs of transportation and others for trainers and trainees

Myanmar side: Assignment of supporting staffs (members of central VBDC)
Selection of 25 to 50 trainees

(6) Availability of resources

A Japanese expert in the field of malariology shall be dispatched in the scope of JGA.

VBDC experts as trainers on microscopy shall be assigned by VBDC and DOH.

A local expert with relevant experience through technical assistance by JICA shall be preferably appointed in the scope of JGA for data management training.

(7) Schedule

Training preparation shall be started during the inspection and handing-over of microscopes and computers. The microscopy and data management trainings shall be implemented in parallel as shown below. After completion, the list of trainees and distributing results of microscopes and computers shall be reported to the JICA Myanmar office.

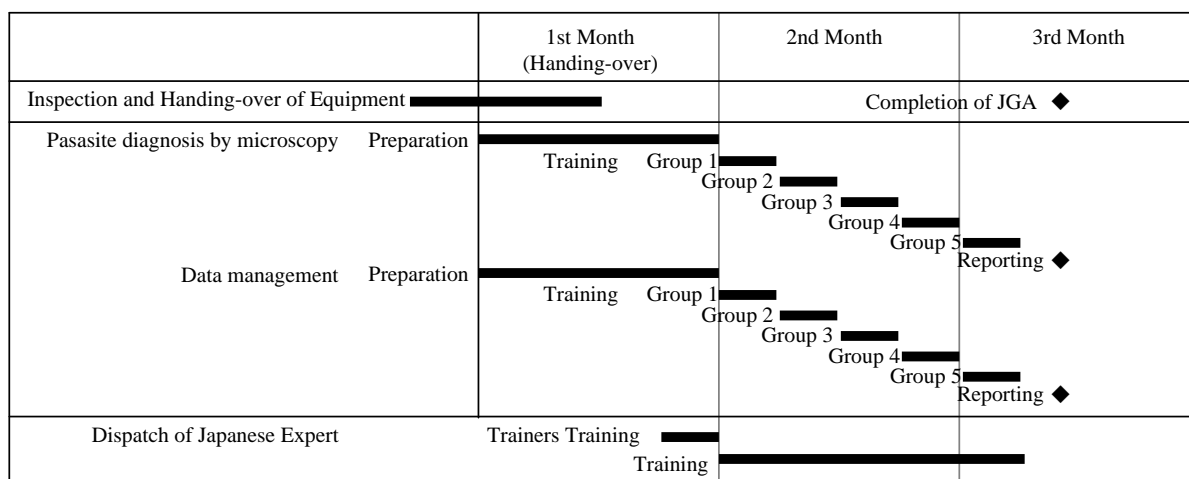


Figure 1 Implementation schedule of soft component

(8) Outputs

The training results shall be reported by VBDC to the JICA Myanmar Office with the following attached:

- Result of training activities with the number of completed trainees by township
- Result of distributing microscopes after training with name of health facility, person in charge and name of township
- Result of distributing laptop computers after training with name of health facility, person in charge and name of township
- Photocopy of set of training materials

(9) Responsibilities of recipient side

VBDC is requested to continue supervising the staffs at the township level in order that the training outcome can be reflected in the activities in the pilot project. It is also expected that VBDC develops a Myanmar model of suitable activities for malaria elimination through ascertaining the capacity of the township level to implement the related activities.