

Ministry of Health
Republic of Zambia

No.

BASIC DESIGN STUDY REPORT
ON
THE PROJECT FOR MALARIA CONTROL
IN
THE REPUBLIC OF ZAMBIA

OCTOBER 2006

JAPAN INTERNATIONAL COOPERATION AGENCY

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Preface

In response to a request from the Government of the Republic of Zambia, the Government of Japan decided to conduct the Basic Design Study on the Project for Malaria Control in the Republic of Zambia and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Republic of Zambia the Study Team from June 12 to 30, 2006.

The Team held discussions with the officials concerned of the Government of the Republic of Zambia, and conducted a field study at the study area. After the team returned to Japan, further studies were made and the present report has been 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 Republic of Zambia for their close cooperation extended to the team.

October 2006

Masafumi KUROKI
Vice-President
Japan International Cooperation Agency

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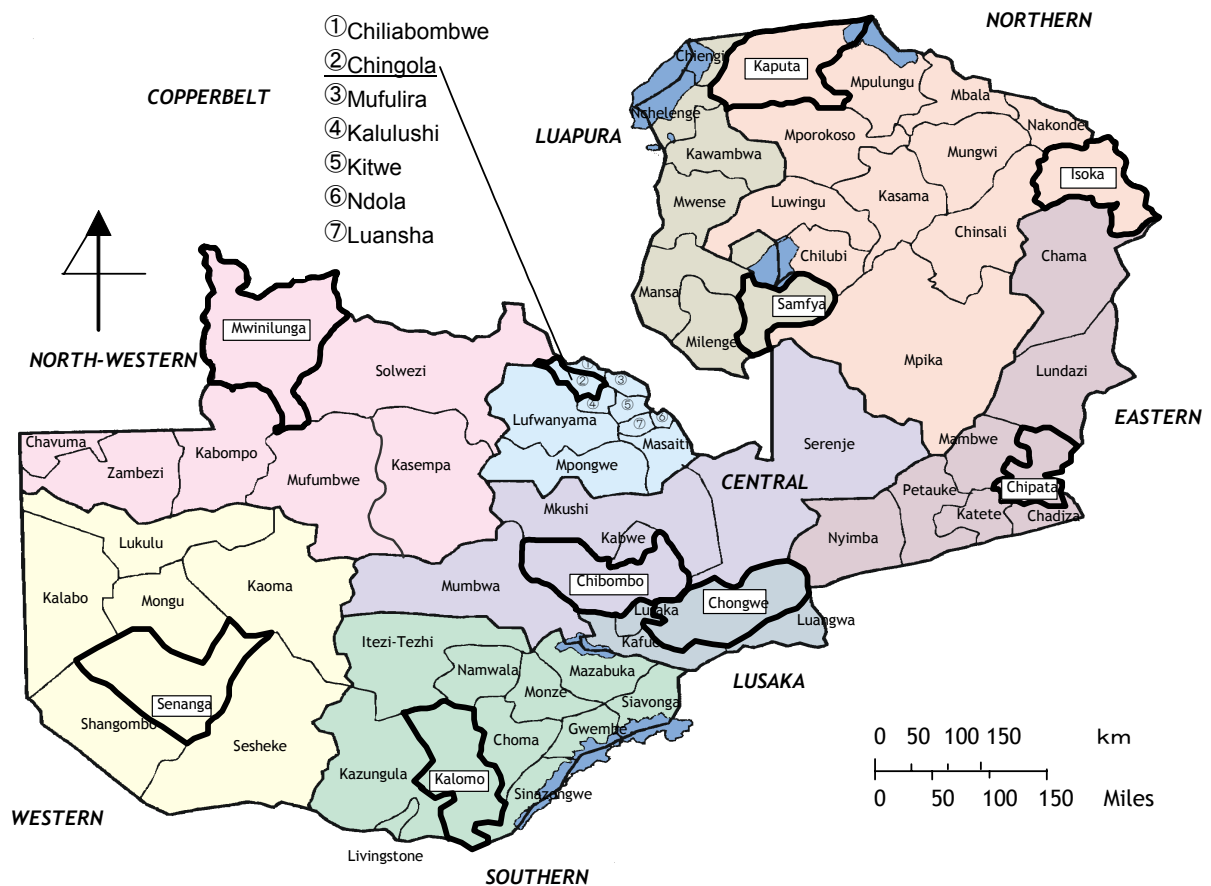
Location Map

10 target sites of the Project

- | | |
|------------|--------------|
| ① Chibombo | ⑥ Kaputa |
| ② Chingola | ⑦ Isoka |
| ③ Chipata | ⑧ Mwinilunga |
| ④ Samfya | ⑨ Kalomo |
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Abbreviations

DFID	Department for International Development
DHMT	District Health Management Team
FNDP	Fifth National Development Plan
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HSSP	Health Services and Systems Program
IEC	Information Education Communication
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Net
KfW	Kreditanstalt für Wiederaufbau
LLIN	Long-lasting Insecticidal Net
MACEPA	Malaria Control and Evaluation Partnership in Africa
MDGs	Millennium Development Goals
MDP	Mass Distribution Program
MIP	Malaria in Pregnancy Program
MIS	Malaria Information Systems
NGO	Non-governmental Organization
NMCC	National Malaria Control Center
PHO	Provincial Health Office
RBM	Roll Back Malaria
SFH	Society For Health
USAID	United States Agency for International Development
UNICEF	United Nations Children's Fund
WB	World Bank
WHOPES	WHO Pesticide Evaluation Scheme
WHO	World Health Organization

Chapter 1 Background of the project

Zambia's Ministry of Health has been continually implementing the National Malaria Control Program in accordance with WHO's Global Malaria Control Strategy adopted in 1992. In 1998, the Government of Zambia made a request to the Government of Japan for the provision of product for the implementation of malaria control measures in 5 malaria infested districts (3 districts in Eastern Province, 1 district in Copperbelt Province, and 1 district in Luapula Province). In response, Japan in close liaison with USAID procured mosquito nets and other product related to malaria control in 2000.

Later, the Government of Zambia continued malaria control measures aiming at international long-term goals such as Millennium Development Goals (MDGs) of the United Nations and the Abuja Declaration on the Roll Back Malaria (RBM) initiative. The Fifth National Development Plan (FNDP) 2006-2010, formulated in 2006, placed malaria among the healthcare issues of the highest priority. Based on this plan, Zambia's Ministry of Health formulated the Five Year Plan for National Malaria Control Strategy (2006-2011) defining more concrete malaria control measures. These goals include the followings: (i) at least 80% of pregnant women and children under the age of 5 should sleep under insecticide treated nets (ITNs), (ii) at least 85% of the inhabitants of selected areas should sleep in houses treated with indoor residual spraying (IRS), and (iii) malaria control measures should be available to at least 80% of pregnant women by 2008. National Malaria Control Center (NMCC), acting as the implementing body, is promoting comprehensive measures including prevention, education, diagnosis, and treatment towards the achievement of these goals. Assistance regarding malaria control has been provided by GFATM, the World Bank, USAID, DFID, Kreditanstalt für Wiederaufbau (KfW), UNICEF, WHO, Malaria Control and Evaluation Partnership in Africa (MACEPA), etc., but DFID and KfW terminated assistance in 2005 and UNICEF reduced the amount of assistance for the malaria control programs. In the face of the decreasing number of donors supporting malaria control, it is necessary to increase assistance from other donors.

Considering the geographical diversity in Zambia, NMCC has selected 10 districts to be designated as malaria monitoring districts, where intensive malaria control measures would be implemented. It intends to feedback the results in these 10 districts to the nationwide implementation of malaria control. As an aid to the above-mentioned National Malaria Control Strategy, the present Project procures long-lasting insecticidal nets (LLINs) that are needed for the achievement of the goal that 80% of pregnant women and children under the age of 5 should sleep under insecticide treated nets (ITNs) in the 10 malaria monitoring districts by 2008, for the purpose of reducing the malaria prevalence and mortality among pregnant women and children under the age of 5 in these districts and hence helping the achievement of the upper-level goals.

Chapter 2 Contents of the Project

2-1 Basic Concept of the Project

Targeted at pregnant women and children under the age of 5 in 10 districts (Mwinilunga, Kaputa, Chingola, Senanga, Chibombo, Samfya, Isoka, Chongwe, Chipata, and Kalomo) in 9 provinces of Zambia, the Project procures the LLINs that are needed for the achievement of the goal that “80% of pregnant women and children under the age of 5 should sleep under ITNs by 2008”.

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

2-2-1-1 Basic Policy

1. Concerning Items Included in Assistance

Originally, the request included not only LLINs but also the materials and IRS product for malaria prevention, 3 types of antimalarial drugs for treatment of malaria, microscopes for diagnosis of malaria and solar power units for the microscopes, and vehicles for the project operation. However, through discussion with the Ministry of Health, it was found that the drugs would be provided by GFATM, diagnostic microscopes would be provided by the World Bank, and IRS product would be provided by USAID in sufficient quantities. These items were therefore excluded from the Project, and a decision was made to focus on the procurement of ITNs, which is a matter of top priority and has not been covered sufficiently by other assistance projects.

In concrete terms, assistance concerning the product for IRS has been given chiefly by HSSP, an NGO supported by USAID, in 15 districts since 2000. These 15 districts include Chingola District and Chongwe District, that are covered by the Project. Because HSSP plans to expand its assistance to cover more districts, it is considered that there is no need for providing, because these are supplied continuously from global funds. As for microscopes, the World Bank and GFATM plan to give assistance in constructing 200 laboratories and supplying 200 microscopes during the period from 2006 to 2007. The number of microscopes to be provided exceeds the number of medical technicians at the survey, and there should be no need for procurement by Japanese assistance. With respect to vehicles, there is no need for procurement, because SFH and DHMTs own vehicles that are sufficient for the distribution of LLINs.

The mosquito net procurement plans and roles of donors identified in the field study are shown in Table 2-1.

The impact of assistance of LLINs would be significant, because the procurement of LLINs would contribute to the attainment of Zambia’s numerical goals. Furthermore, because distribution of LLINs can be conducted using established distribution systems, LLINs can be sent reliably to beneficiaries with minimal expenditure of transportation cost. A synergic effect is also expected with the educational activities conducted by other donors concerning the use of LLINs (Table 2-2).

Table 2-1 Mosquito Net Procurement Plans (2006-2007)

Program	Needed *1	Decided		Not decided	Procurement plan				
		Total	Each target		Japan	UNICEF	World Bank	USAID	GFATM
For pregnant / perinatal women and under-5 children	3.00 million	2.70 million	660,000	236,000	360,000 (The Project)	—	—	200,000 (2006)	100,000 (2006)
For general households			2,045,000	64,000	25,000 *2	20,000	1.00 million	—	1.00 million

(Unit: nets)

*1) Quantity estimated by the Ministry of Health / NMCC

*2) Distributed in 2006 under FY 2005 “Medical Product Supply for maternal and child health”

Table 2-2 Demarcation of Mosquito Net Distribution (2006-2007)

Program	Fiscal year	USAID	Japan	GFATM	UNICEF	World Bank
For pregnant / perinatal women and under-5 children	2007	Districts other than the target districts of Japanese project	10 target districts	Districts other than the target districts of Japanese project	--	--
For general households	2006	--	Eastern Province (5 districts), North-western Province (4 districts), Western Province (1 district) and Luapula Province (5 districts)			
	2007	--	Southern Province (all districts except Kalomo) and Northern Province (all districts)			

2. Concerning the Project Receiving the Procured Product

While mosquito nets are distributed through 3 different malaria control programs in Zambia as shown in Table 2-3, it was decided through discussion with NMCC and donors that all items procured under the Project will be used in Malaria in Pregnancy Program (MIP). The reasons are as follows:

- The beneficiaries of the Project are pregnant women and under-5 children, which coincides with the targets of MIP.
- For the purpose of distributing mosquito nets in the 10 districts as requested, MIP is appropriate because Society for Family Health (SFH; an NGO supported by USAID), working for the distribution of the LLINs in MIP, is able to distribute specified quantities to specified districts. The Mass Distribution Program (MDP) is not appropriate for the purpose of the Project, because it performs intensive distribution in a few locations each year. In addition, there is no assurance that the items would reliably reach the target areas, because MSL implementing MDP also distributes upon necessity to locations other than the target areas of the Project.
- SFH plans to expand MIP to cover all provinces, including Lusaka and Copperbelt in this fiscal year, ensuring the ability to cover all target areas of the Project.

Table 2-3 Malaria Control Mosquito Net Distribution Programs in Zambia

	Project	Target population	Target areas	Method	Donor	Implementing body
1	Mass Distribution Program (MDP)	All families in target area	Provinces and districts selected every year	Free distribution of 3 nets per family	World Bank GFATM UNICEF	NMCC MSL ¹
2	Malaria in Pregnancy (MIP)	Pregnant women and under-5 children	Whole country except Lusaka and Copperbelt provinces	Sold at a low price to target persons at perinatal care units	USAID GFATM	NMCC SFH
3	Social Marketing	All	Whole country	Sold at supermarkets and other retailers (terminated in September 2006)	USAID	SFH Netmark

The system for the distribution of ITNs for pregnant women and under-5 children in MIP has been established by SFH and DHMT in each province. It consists of the flow from SFH warehouse in each province to DHMT warehouse in each district and then to each healthcare facility (and outreach activity). Since the distribution of ITN for pregnant women and under-5 children in the Phase 1 Project was also successfully conducted through SFH, the distribution of LLINs in the present Project will also be conducted using the same system.

At the present, MIP is selling mosquito nets at a very low price and managing the revolving fund. The price of an LLIN is as low as 3,000 Kwacha (about the price of a copy of newspaper), which is affordable to poor people. Of the 3,000 Kwacha, a half (1,500 Kwacha) is used for repurchase of LLINs in a revolving fund scheme, and SFH is in charge of recovery and management of funds. Because the amount of fund that would be recovered for each net would be small in the Project, the Project will procure LLINs in quantities needed for the achievement of the goals without subtracting the number of mosquito nets that may be purchased using the recovered fund. It has been confirmed that the revolving fund system has been used in MIP for about 4 years and has been making important contribution to the operating fund for malaria control programs.

2-2-1-2 Policy Concerning Natural Conditions

The prevalence of malaria is known to increase generally in the rainy season. For example, a survey in a community in southern Zambia has shown that the malaria infection rate is 30% in the dry season (from June to October) and 85% in the rainy season (from November to May)². Considering seasonal factors like this, it is desirable that the Project be scheduled so that the beneficiaries can use mosquito nets before the beginning of the rainy season.

2-2-1-3 Policy Concerning the Operation and Management Abilities of Implementing Body

While NMCC is the organization that is responsible for the implementation of the Project, the organizations in direct charge of storage and distribution of LLINs are SFH and DHMT in each district. Of the budget for distribution and storage, the operating costs regarding existing storage and distribution activities will be covered by the budget allocated

¹ MSL(Medical Store Limited): A private transport company entrusted with the transportation of medicines and medical items by the Ministry of Health.

² Quoted from the report of Macha Malaria Research Institute (<http://www.mmri.net/prevalence.htm>).

from the Ministry of Health to SFH and DHMTs. Based on the performance of distribution and educational activities in the past, the amount of new fund needed by SFH to cover the distribution cost and IEC education cost in relation to the distribution in 10 districts in the Project is estimated to be about US\$ 210,000 (US\$ 0.57 per net) and US\$ 244,300 (in the case of Olyset Net; US\$ 138,000 in the case of PermaNet), respectively. These costs will also be borne by the Ministry of Health/NMCC. Because these costs occupy only very small percentages in the total budget (about 0.9% and 1%, respectively, of the total US\$ 23 million budget for malaria control in 2007), it is considered possible to expend them within the national budget. SFH and DHMT in each district keep records of data regarding the LLINs to be procured, including destinations of distribution (names of healthcare facilities), quantities, and cash balance concerning the sales of LLINs. Because SFH conducted the management of revolving fund in the Phase 1 Project and proved efficient in performing data management, its ability for the management and storage of data can be trusted. In addition, SFH monitors the quantities of distribution to each DHMT and the usage of LLINs. NMCC as the implementing body will supply reports to Japan on the progress of distribution quarterly and the attainment of project goals generally after the completion of distribution.

2-2-1-4 Policy Concerning the Grading of Facilities and Product

Among the types of ITNs, the Project will procure LLINs because they are considered the most effective for malaria prevention. The Project will procure either of the 2 types of LLINs (Olyset Net, manufactured by Sumitomo Chemical Co., Ltd. or PermaNet, manufactured by Vestergaard), which have been approved by the WHO based on the evaluation of effectiveness and safety. The characteristics of these products are shown in the table below (Table 2-4).

Table 2-4 Specifications for LLIN

Name	Manufacturer	Country origin	Insecticide	Material	Denier of filament
Olyset Net	Sumitomo Chemical Co., Ltd.(Japan)	China, Tanzania	Permethrin	Polyethylene Monofilament	150
Permanet	Vestergaard Frandsen (Switzerland)	Vietnam	Deltamethrin	Polyester Multifilament	70 or 100

With respect to the size of LLIN, the request specified 2 sizes: 190 (W) x 180 (L) x 170 (H) cm for pregnant women and 160 (W) x 180 (L) x 170 (H) cm for under-5 children. However, our field survey concerning the typical size of houses in rural areas and the usage of mosquito nets in the household (e.g., the number of persons sharing a net) revealed that the size of 160 (W) x 180 (L) x 170 (H) cm (family special size) is appropriate. This size is the same as the size of LLINs distributed by SFH and the size of mosquito nets commonly available in the market. It is considered appropriate to procure LLINs in the size that is common in Zambia.

With respect to the color of LLIN, the original request specified white or blue. White is preferred in Zambia because of the convenience in judging the need for washing, as dusts and stains stand out against white and white mosquito nets are actually used commonly. Therefore, white LLINs will be procured.

With respect to the thickness of LLIN, the nets with the thickness of 70 denier in the case of PermaNet would be procured, as such nets are widely distributed and already used in existing programs. In the case of Olyset nets, the nets with the thickness of 150 deniers would be procured, as this is the only thickness available.

The specifications of the LLINs planned to be procured in the Project are shown in Table 2-5.

Table 2-5 Specifications for LLINs Planned to Be Procured in The Project

Color	Denier of filament	Size
White	70 Denier (Permanet)	Lsize
	150 Denier (Olyset net)	(W)160cm×(L) 180cm×(H) 170cm

2-2-2 Basic Plan

2-2-2-1 Product Plan

As shown in Table 2-6, the original request contained all elements of malaria control, including prevention, treatment, diagnosis, and project operation. However, through the discussion with NMCC based on the afore-mentioned design policy and the following survey results, it was decided that the Project will procure only LLINs.

Table 2-6 Comparison between the Content of Request and Final Plan

No.	Items	Request Quantities	Final Quantities
1	Malaria prevention (Mosquito nets)		
1-1	Long-lasting Insecticidal Nets (W190×L180×H170cm)	120,000 nets	0 Nets
1-2	Long-lasting Insecticidal Nets (W160×L180×H170cm)	180,000 nets	366,000 Nets
	Malaria prevention(Indoor Residual Spraying)		
1-3	Spray Pump	102 Units	0 Units
1-4	Maintenance Kits for Spray Pump	50 Sets	0 Sets
1-5	Personal Protective Equipment (Clothes, Gumboots, Gloves, Masks)	100 Sets	0 Sets
2	Malaria Treatment		
2-1	Coartem (6 Tabs x 30 Strip/box)	500 Boxes	0 Boxes
2-2	Coartem (12 Tabs x 30 Strip/box)	500 Boxes	0 Boxes
2-3	Coartem (18 Tabs x 30 Strip/box)	500 Boxes	0 Boxes
2-4	Coartem (24 Tabs x 30 Strip/box)	500 Boxes	0 Boxes
2-5	Sulfadoxine/Pyrimethamine (1,000 tabs/Tin)	250 Tins	0 Boxes
2-6	Quinine Tablet (1,000 tabs/Tin)	500 Tins	0 Boxes
3	Malaria Diagnosis		
3-1	Microscopes	50 Units	0 Units
3-2	Solar Units for microscopes	50 Units	0 Units
4	Management of the Project		
4-1	4WD Station Wagon	1 Units	0 Units
4-2	10t Truck	1 Units	0 Units

2-2-2-2 Basis for Calculation

The estimated population in 2007 was calculated based on the national census of Zambia conducted in 2000 and

assuming the population growth rate of 2.5%. The percentage of pregnant women and that of under-5 children were 5.4% and 20%, respectively, in this census, and the populations of the target groups in each district were estimated based on these figures³.

The target value of 80% in the goal that “at least 80% of pregnant women and children under the age of 5 should sleep under ITNs by 2008” is based on the goal of “protecting 80% of the persons at risk for malaria by 2010,” which was proposed in the RBM forum in 2005.

With respect to the percentage of pregnant women and under-5 children sleeping under ITNs, WHO and UNICEF conducted followup RBM surveys in target districts in 2004, and the percentage of persons using ITNs was clarified by district and by target group.

The percentage of persons using ITNs in each district and target group at the time of the above survey was subtracted from the target value of 80%, and the quantity of LLINs needed for the attainment of goals was calculated from these data and the estimated populations of pregnant women and under-5 children in 2007 (Tables 2-7 and 2-8). The buffer stock was set at 10%, based on the NMCC’s experience in past mosquito net distribution and considering the unexpected increase in target population due to population inflow and the need for replacement of old ITNs. According to the discussion with NMCC, numbers were rounded down to the nearest thousands.

Table 2-7 Calculation of the Number of LLINs Needed for Pregnant Women

Target district	Estimated population in 2007	Percent using ITNs	80%—percent using ITNs	Number of LLINs needed
Chibombo	16,196	1.3	78.7	12,746
Chingola	11,582	15.7	64.3	7,447
Chongwe	9,179	11.0	69.0	6,334
Chipata	22,880	27.9	52.1	11,920
Isoka	6,566	10.8	69.2	4,544
Kalomo	11,611	5.1	74.9	8,697
Kaputa	5,768	39.3	40.7	2,348
Mwinilunga	7,929	11.8	68.2	5,408
Samfya	10,642	5.0	75.0	7,982
Senanga	6,969	27.3	52.7	3,673
Total	109,322	—	—	71,099

Number of LLINs procured for pregnant women = 71,099×1.1 (incl. buffer stock) = 78,209≈78,000 nets (rounded down to nearest thousands)

Table 2-8 Calculation of the Number of LLINs Needed for Under-5 Children

Target district	Estimated population in 2007	Percent using ITNs	80%—percent using ITNs	Number of LLINs needed
Chibombo	54,881	1.7	78.3	42,972
Chingola	42,896	8.5	71.5	30,671
Chongwe	33,994	8.0	72.0	24,476
Chipata	84,746	19.2	60.8	51,526
Isoka	24,321	11.5	68.5	16,660
Kalomo	41,927	9.0	71.0	29,768
Kaputa	21,363	43.7	36.3	7,755
Mwinilunga	28,350	12.9	67.1	19,023
Samfya	36,164	5.2	74.8	27,051
Senanga	22,035	23.6	56.4	12,428

³ Data from National Statistics Center.

Target district	Estimated population in 2007	Percent using ITNs	80%—percent using ITNs	Number of LLINs needed
Total	390,677	—	—	262,330

Number of LLINs procured for children under 5 = $262,330 \times 1.1$ (incl. buffer stock) = 288,563 ≈ 288,000 nets (rounded down to nearest thousands)

2-2-2-3 Distribution Plan

According to the manufacturers, 360,000 LLINs can be produced in about 2 months. The SFH warehouse in Lusaka can store 360,000 LLINs at a time. Considering these facts, the items procured in the Project will be delivered all at once.

2-2-3 Basic Design Drawing

The Project involves no items requiring installation work.

2-2-4 Implementation Plan

2-2-4-1 Implementation Policy

The product will be procured from a third country, and the procurement will be conducted using a Japanese corporation as the contractor following public tender procedure. With respect to third-country products, preshipment inspection will be conducted by an entrusted independent inspecting organization and on-site inspection will be conducted by the procurement supervisor.

NMCC is the implementing body that is responsible for the expansion of the use of LLINs in the 5-year plan for National Malaria Control Strategy. Actual storage and distribution of LLINs will be conducted by SFH concerning the process from the central level to the district levels and by DHMTs concerning the process from district levels to each healthcare facility.

In the framework of the Japanese grant aid assistance, the Project will be implemented officially after the conclusion of the Exchange of Notes approved by the Government of Japan and the Government of Zambia. Thereafter, a Japanese corporation working as the consultant will perform the work of implementation design, and the procurement of product will be conducted by the procuring agent, which is a Japanese corporation determined by tender.

(1) Implementing System in Recipient Country

The implementing system for the Project in Zambia is as follows:

Supervising organization: The Ministry of Health.

Implementing organization: NMCC, Public Health Department, the Ministry of Health.

(2) Consultant

After the conclusion of Exchange of Notes between the Governments, the Japanese consultant will promptly make a consultant contract with Zambia's Ministry of Health according to the procedures of Japanese grant aid assistance. This contract will take effect after approval by the Government of Japan. Based on this contract, the consultant will perform the following tasks:

1, Pre-tendering stage: Preparation of tender documents and final confirmation of specification documents.

- 2, Tendering stage: Work assistance concerning the selection of the procuring agent and procurement contract.
- 3, Procurement stage: Supervision of procurement tasks and distribution.

(3) Procuring Agent

The procuring agent will be selected by tendering and make a contract with the Zambian side. This contract will take effect after approval by the Government of Japan. Based on this contract, the procuring agent will conduct procurement and transportation of the planned product, and deliver them to the Zambian side. LLINs will be delivered to the central warehouse owned by SFH in Lusaka City, and the Ministry of Health/NMCC and SFH will confirm the receipt of goods.

2-2-4-2 Implementation Conditions

The LLINs procured in the Project are made in a third country. It is the responsibility of the Japanese side to clear the customs in Lusaka City and then transport them to the SFH warehouse in Lusaka city. LLINs will be distributed from the SFH warehouse to the DHMT warehouse in each district, to each healthcare facility, and then to the final users, who are pregnant women and children under the age of 5. Because all the costs for the storage and transportation in this process will be paid by Zambia's Ministry of Health using the pooled funds of the Ministry of Health and GFATM, adequate attention should be paid to ensure the appropriate transfer of funds to the implementing bodies.

2-2-4-3 Scope of Works

The scope of works regarding procurement to be borne by the Japanese side and the Zambian side is as listed in Table 2-9.

Table 2-9 Scope of Works

Division	Japanese side	Zambian side
Procurement of LLINs	○	—
Transportation of LLINs	○ Distribution from the third country to the SFH central warehouse in Lusaka City	○ Transportation and distribution from the SFH central warehouse to the final users, who are pregnant women and under-5 children in the target areas.

2-2-4-4 Consultant Supervision

Because the Project consists of the procurement of product, the supervision of procurement will be conducted in the following stages.

(1) Preshipment

Preshipment inspection to check the product will be conducted by an independent organization. This task includes the following:

- 1, Check of shipping documents against the list of product in the contract.
- 2, Confirmation of the delivery date.
- 3, Quantity and packaging of LLINs.
- 4, Confirmation of the production date or storage period.

(2) At the Time of Delivery to SFH Warehouse in Lusaka City, Zambia

1. Receiving inspection: The consultant will confirm the specifications of LLINs, quantity, damage, etc.
2. Sorting: SFH will divide the products in quantities to be distributed to the 10 target districts.

2-2-4-5 Quality Control Plan

The Project will procure WHOPEs-approved⁴ LLINs having the quality needed in Zambia. The LLINs should be in rectangular in shape, sized 160 (W) x 180 (L) x 170 (H) cm (family special size), and colored white.

2-2-4-6 Procurement Plan

The expected procurement source of LLINs is as shown in Table 2-10.

Table 2-10 Procurement Source of LLINs

Planned product	Local	Japan	Third country	Reason
Long-lasting Insecticidal Nets			○	All mosquito nets approved by WHO are produced in third countries.

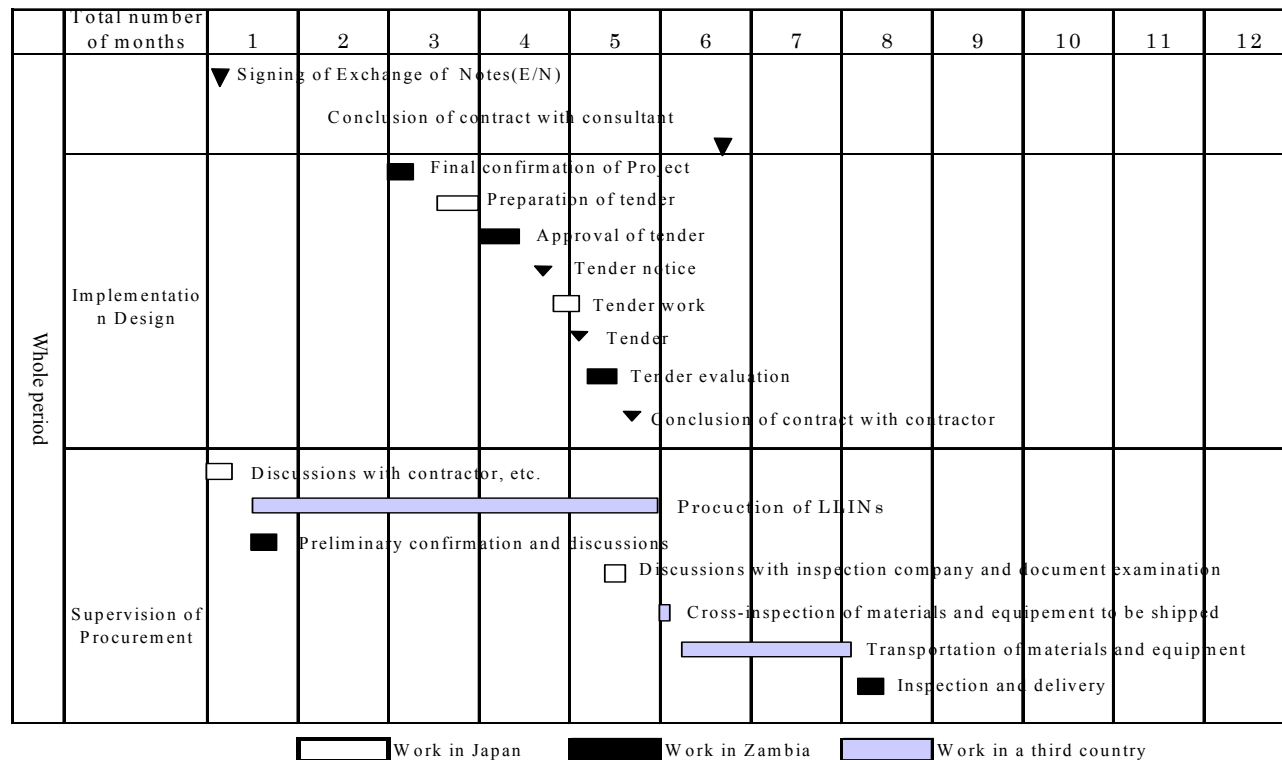
2-2-4-7 Implementation Schedule

The items procured in the Project will be delivered all at once. The procurement and distribution of LLINs will be conducted as follows:

Total work schedule(from E/N to deliver): 13 months

From E/N to conclusion of contract with consultant : 5 months

Delivery schedule(from conclusion of contract with consultant to delivery) : 12 months



⁴ The WHO has established WHOPEs (WHO Pesticide Evaluation Scheme) for the purpose of ensuring the safety of insecticides and products containing insecticides, such as ITNs. WHOPEs conducts safety evaluation and approval concerning products containing insecticides according to the prescribed evaluation methods.

2-3 Obligations of Recipient Country

If and when the Japanese grant aid assistance is implemented, the Zambian side should fulfill the following obligations:

- 1) To make banking arrangement.
- 2) To conduct customs clearance procedures and inspection of procured product.
- 3) To bear the cost of transportation of LLINs from the SFH warehouse in Lusaka City to the DHMT warehouse in each district and to manage the distribution from SFH.
- 4) To distribute LLINs regularly from the DHMTs in the 10 target districts to healthcare facilities and distribute them to the target persons (pregnant women and children under the age of 5).
- 5) To confirm the progress of distribution at intervals of 1 or 2 months via DHMTs and submit the reports of the result of monitoring to JICA, as well as the quarterly reports of the result of Malaria Information System (MIS) to JICA. In addition, to submit reports to the Japanese side concerning the effects of the Project, such as the increase in the percentage of persons using ITNs in each district and associated decreases in malaria prevalence and mortality among pregnant women and children under the age of 5.
- 6) To take measures for the Japanese or third country personnel related to the Project so that the product procurement and services based on the approved contract will be exempted from customs duties and internal taxes.
- 7) To provide the Japanese or third country personnel related to the Project with the convenience regarding the entry to and stay in Zambia for the purpose of work execution.
- 8) To secure the budget and personnel needed for the distribution of LLINs procured in the Project, as well as IEC education and other activities for the effective use of the mosquito nets.
- 9) To issue a certificate of receipt of product to the JICA office.
- 1 0) To hold a delivery ceremony and announce a press release.
- 1 1) To conduct monitoring of the operation of the revolving fund.

With respect to the distribution of the items procured in the Project, the Japanese side will take charge of the transportation to Lusaka, NMCC will take charge of the transportation from the central warehouse to DHMTs, and DHMTs will take charge of the transportation from DHMTs to healthcare facilities, including the coverage of cost and other factors.

The distribution from the central warehouse to DHMTs will be conducted by SFH under commission from NMCC. SFH has crudely estimated that the newly needed costs for the distribution, storage, and monitoring concerning the items procured in the Project would be about US\$ 210,000 in total (US\$ 0.57 per net), and NMCC has promised to cover these costs by making additional allocation of the budget under the control of NMCC to SFH. In addition, the expenditure of up to US\$ 244,300 will be needed newly for educational and promotional activities related to the use of mosquito nets according to past experience of SFH, and this entire amount will also be borne by the Ministry of Health/NMCC. Because these expenditures occupy very small percentages in the US\$ 23 million budget for malaria control in 2007, representing about 0.9% and about 1%, respectively, it is considered possible to expend them within the national budget. The crude estimation of the project cost borne by the Zambian side is shown in Table 2-11.

Table 2-11 Crude Estimation of Project Cost (Zambian Side)

Item of expenditure	Crude estimation of project cost (US\$)	
	Procurement of PermaNet	Procurement of Olyset
Additional transportation and storage costs	210,000	210,000
Educational and promotional activity costs	138,000	244,300
Total	348,000	454,300

In Zambia, the transportation of medicines and medical items including malaria control product from DHMTs to medical facilities is conducted by DHMTs at monthly intervals using its own budget. Because the transportation of mosquito nets procured in the Project from DHMTs to healthcare facilities will be conducted using the DHMTs' existing system for routine distribution, there will be no new costs generated by the implementation of the Project. Zambia has achieved a high degree of decentralization, and the funds for activities needed for the achievement of national goals are allocated from the central government to districts through Provincial Health Offices (PHOs). Each district has its own budget for malaria programs related to the Project, as well as the management and operating costs needed for the storage and transportation of medical product.

With respect to the monitoring concerning the distribution and use of mosquito nets in the Project, Zambia's Ministry of Health and the Japanese side have reached an agreement that the monitoring will be conducted using the monitoring sheets attached to the Minutes and NMCC will submit reports to JICA at intervals of 1 or 2 months concerning the receipts of procured items, distribution to districts, and distribution at medical facilities. In addition, NMCC will submit reports to JICA concerning the result of MIS it receives quarterly from districts, as well as yearly reports to JICA concerning the result of the Project. If the revolving funds are employed, the result of fund management will also be monitored and reported regularly.

2-4 Project Operation Plan

SFH has the central office and warehouse in Lusaka and offices and warehouses in all 9 districts. The central warehouse has the storage space of 4,133 m³, where 360,000 mosquito nets (requiring the storage capacity⁵ of about 1,200 to 1,300 m³) can be stored at a time. Table 2-12 shows the size of central and district warehouses and the number of vehicles belonging to them.

Table 2-12 List of Warehouses and Vehicles Owned by SFH

Province	Place of Warehouse	Size	Vehicles	Total Units	Working	Not working
Central	Kabwe	50 m ³	Pick-up Truck	2	1	1
Copperbelt	Kitwe	118 m ³	Pick-up Truck	3	3	—

⁵ The space of 36 m³ is required for the storage of 10,000 mosquito nets.

Province	Place of Warehouse	Size	Vehicles	Total Units	Working	Not working
Eastern	Chipata	215 m ³	Pick-up Truck	3	3	—
Luapula	Mansa	147 m ³	Pick-up Truck	2	2	—
Lusaka	Lusaka	Central : 4133 m ³ State : 86 m ³	Pick-up Truck	7	4	3
			Sedan	2	2	—
			Truck	2	2	—
Northern	Kasama	136 m ³	Pick-up Truck	2	2	—
North-Western	Solwezi	66 m ³	Pick-up Truck	1	1	—
Southern	Livingstone	77 m ³	Pick-up Truck	3	3	—
Western	Mongu	87 m ³	Pick-up Truck	1	1	—

Source: Compiled from the data submitted by SFH.

After delivery from the SFH provincial warehouse to each DHMT, the mosquito nets will be stored in the DHMT warehouse and delivered to health centers and hospitals at the frequency of once a month using the vehicles owned by DHMTs. The summary of the warehouses and vehicles owned by DHMTs are shown in Table 2-13.

Table 2-13 Condition of Warehouses and Vehicles in Districts

District	Warehouse			Vehicles		
	Size	Condition	administration authority	Type	Units	Condition
Chibombo	140 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
	120 m ³	Good	DHMT Director/Warehouse manager			
Chingola	120 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
	280 m ³	Good	Mine administration			
Chipata	180 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
	128 m ³	Leaking	DHMT Director/Warehouse manager	Van	1	Good
Samfya	128 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
				Van	1	Good
Chongwe	50 m ³	Small	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
Kaputa	130 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
Isoka	128 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
Mwinilunga	200 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
Kalomo	180 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good
Senanga	130 m ³	Good	DHMT Director/Warehouse manager	Pick-up Truck	1	Good

Source: Compiled from the data submitted by SFH.

For the purpose of confirming the storage capacity of each DHMT, the planned number of nets to be distributed (for 3 months) and the storage space needed has been calculated (Table 2-14). The result showed that the warehouses in all districts have sufficient space for the storage of mosquito nets planned to be distributed.

Table 2-14 Comparison between the Space Needed for Storing Mosquito Nets to Be Distributed and Actual Storage Space of Warehouses (by District)

District	Total number of mosquito nets to be distributed (nets)	Number of nets needed for 3 months (nets)	Space needed	Actual space
Chibombo	55,718	13929.5	19.08 m ³	140+120 m ³
Chingola	38,118	9529.5	27.73 m ³	120+280 m ³
Chipata	63,446	15861.5	31.53 m ³	180+128 m ³
Samfya	35,033	8758.25	34.62 m ³	128 m ³
Chongwe	30,810	7702.5	21.99 m ³	50 m ³
Kaputa	10,103	2525.75	34.31 m ³	130 m ³
Isoka	21,204	5301	9.09 m ³	128 m ³
Mwinilunga	24,431	6107.75	50.15 m ³	200 m ³

Mosquito nets are distributed by nurses, midwives, and clinical officers at the maternal and child health units and perinatal care units of medical facilities. When the nets are distributed, a stamp is placed on the maternal and child health card held by each mother and child. To prevent duplication, this card is checked to confirm whether or not the person already has a mosquito net, and a net is sold to the target person who does not own one. In addition to the distribution at healthcare facilities, each healthcare facility conducts distribution in monthly outreach services.

At the present, mosquito nets are sold at a very low price and making use of the revolving fund in MIP. In concrete terms, each mosquito net is sold at 3,000 Kwacha (about US\$ 0.73 = about 84 yen) at medical facilities (it is normally sold at 45,000 Kwacha in the market). Of this price, 1,000 Kwacha is taken by the medical facility selling the net and 500 Kwacha is taken by the DHMTs to cover the cost of mosquito net distribution. The remaining 1,500 Kwacha is returned to SFH and used for the purchase of new mosquito nets. MIP has been conducted with operating this revolving fund system since 4 years ago, and it has been confirmed that the money is used as an important source of funds for the operation of MIP. The system for mosquito net distribution and the flow of money involving the use of revolving fund are shown in Fig. 2-1. It should be noted that in MIP, the 10 target districts will receive the mosquito nets procured in the Japanese project and the mosquito nets procured using USAID and global funds will be distributed to other areas. Therefore, there will be no overlapping between the Japanese project and the projects of other donors.

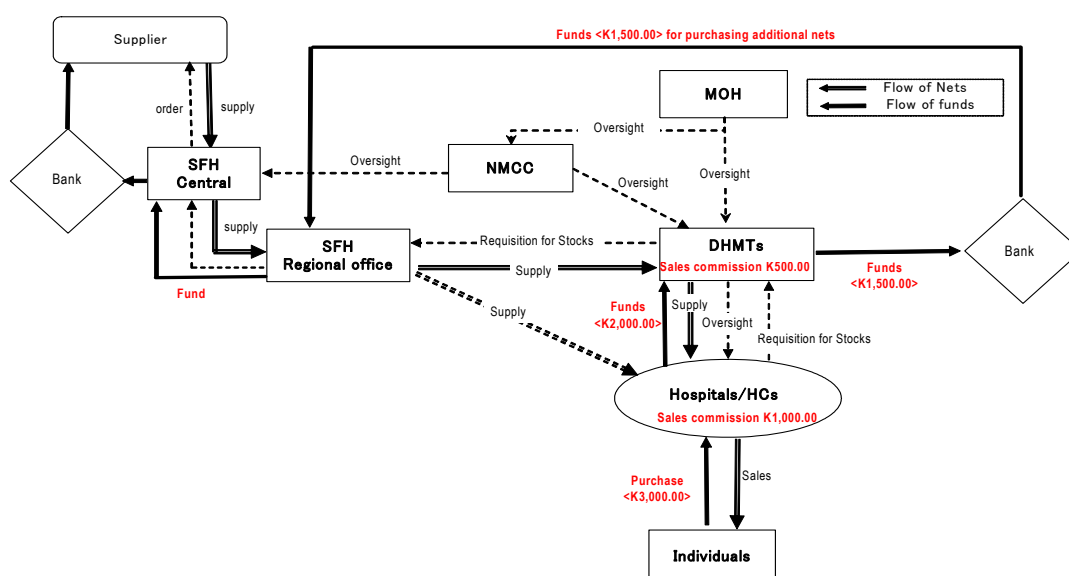


Figure 2-1 Distribution flow of the nets and revolving fund

Chapter 3 Project Evaluation and Recommendations

3-1 Project Effect

(1) Direct Effect

- ① As a result of the implementation of the Project, the use of mosquito nets among the pregnant women and children under the age of 5 in the 10 target districts will reach the national target that “80% of persons sleep under the mosquito net” by the end of 2008.
- ② As a result of the proper use of mosquito nets, malaria prevalence (383 cases per 1,000 persons in population) and mortality rate (33 cases per 1,000 in-patients with malaria) will decrease.

2) Indirect Effect

- ① The appropriate distribution of mosquito nets will help residents gain correct understanding about mosquito nets and facilitates appropriate preventive activities.
- ② The decrease in malaria prevalence will lead to the reduction of healthcare costs and the reduction of the workload of healthcare workers.
- ③ The decrease in malaria prevalence is expected to accompany the improvement of the growth of infant, in particular the improvement of anemia.
- ④ The decrease in malaria prevalence is expected to accompany the improvement of working ability and productivity.

3-2 Recommendations

The system of clinical laboratories in medical facilities in Zambia is fragile. In particular, shortage of trained workforce is a serious problem. Although the Ministry of Health recognizes the importance of workforce planning, it takes time to implement concrete action plans for the training of medical technicians. Workforce and personnel costs should be also secured. In addition to the shortage of medical technicians, the number of nurses, clinical officers, and other healthcare workers are also insufficient. In this situation of medical facilities, it is very difficult to have the current medical workers conduct microscopic diagnosis. It is necessary to train healthcare workers urgently and to establish a system for diagnosis in the meantime.

While the system for the distribution of medicines and medical product has been established in Zambia, the country lacks a system for planned procurement and distribution of medicines, product at the central level. Activities are often obstructed because long time is needed before the planned funds are actually allocated from the Ministry of Health to organizations working on the basis of global funds, such as MSL and SFH. Therefore, it is necessary to enhance the operating capabilities of the Ministry of Health/NMCC.

Appendices

1 Member List of the Survey Team

- | | | |
|---------------------|---------------------|---|
| (1) Eiji Inui | Team Leader | JICA Zambia Office |
| (2) Kanako Tanigaki | Equipment Planner | Japan International Cooperation Systems |
| (3) Keiko Kobayashi | Procurement Planner | Japan International Cooperation Systems |

2 Survey Schedule

No.	Date		Assignment	Stay
1	10-Jun	Sat	Tokyo→	
2	11-Jun	Sun	→Lusaka	
3	12-Jun	Mon	8:00 JICA Office, 10:00 NMCC, 11:45 MOH (Canceled), 14:00 JICA Office, 16:00 Embassy of Japan	Lusaka
4	13-Jun	Tue	8:00 UNICEF, 10:00 NMCC, 12:00 World Bank, 14:00 SFH, 16:00 Local Consultant	Lusaka
5	14-Jun	Wed	10:00 MSL, 12:30 USAID, 14:00 HSSP/HCP, 16:00 Malaria Consortium	Lusaka
6	15-Jun	Thu	8:00 WHO, 10:00 NMCC, 14:00 MOF, 16:00 Standard Chartered, Netmark	Lusaka
7	16-Jun	Fri	8:00 NMCC, 10:00 Chongwe DHMT, 14:00 Mpango RHC, Chinyunyu RHC, CHongwe RHC	Lusaka
8	17-Jun	Sat	Market Research	Lusaka
9	18-Jun	Sun	Moving to Chipata	Chipata
10	19-Jun	Mon	8:00 Chipata DHMT, 9:00-pm Kapata HP, Chiparamba RHC, Chogwe RHC	Chipata
11	20-Jun	Tue	8:00 Chipata DHMT, 14:00 Madzimoyo RHC Moving to Lusaka	Lusaka
12	21-Jun	Wed	Visiting Transportation Companies PM: NMCC, JICA meeting	Lusaka
13	22-Jun	Thu	10:00 Chibombo DHMT, PM Chisamba RHC, Chipembi RHC	Lusaka
14	23-Jun	Fri	10:00 Chibombo DHMT, pm:Chitanda RHC, Ipongo RHC, 15:00 Chibombo DHMT	Lusaka
15	24-Jun	Sat	Market Research	Lusaka
16	25-Jun	Sun	Data analysis	Lusaka
17	26-Jun	Mon	9:00 SFH, 12:30 NMCC, 14:00 Local Consultants, 15:30 Internal meeting for Minutes	Lusaka
18	27-Jun	Tue	10:30 Discussion on Minutes of Discussion with NMCC, 15:00 JICA, 16:30 NMCC	Lusaka
19	28-Jun	Wed	11:00 SFH, MACEPA, 16:00 Discussion on Minutes of Discussion (Canceled)	Lusaka
20	29-Jun	Thu	9:00 Signing of Minutes (Canceled) 11:00 Report to Embassy of Japan 15:00 NMCC	Lusaka
21	30-Jun	Fri	Lusaka→	
22	1-Jul	Sat	→Narita	

3 List of Parties Concerned in the Recipient Country

Embassy of Japan

Masaaki Miyashita	Ambassador
Takahito Katayama	Second Secretary

JICA Zambia office

Taro Kikuchi	Assistant Resident Representative
Festus Lubinga	Programme Officer

Ministry of Health

Dr.Naawa Sipilanyambe	National Malaria Control Center
Mrs. Masela Chinyama	National Malaria Control Center
Mr. Leonard Mwansa	National Malaria Control Center
Ms. Esnat Mwape	Drug Regulatory Authority Deputy Director

Ministry of Finance

Mr.M.D.Ndopu	Director
Mr. W.S.Akapelwa	Senior Economist
Mr. Tsuneo Tsurusaki	JICA Advisor

Chongwe DHMT

Mr. C. T. Kaipa	DHMT Deputy Director
Mr. Alex Chilabi	DHMT Health Investigator
Ms. Cecilia Siacitwewa	DHMT Maternal and Child Health Coordinator
Ms. P.L.Tilimboyi	Mpango RHC
Ms. Alice Mawba	Chinyunyu RHC
Mr.Ngwele Goodness	Chongwe RHC

Chipata DHMT

Dr. P. M. Zulu	DHMT Director
Mr. H. Soko	DHMT Nutrition/Malaria Program Officer
Ms. R. M. Moyo	DHMT Maternal and Child Health Coordinator
Mr. Banda Yolami	DHMT Planning and Development
Mr. Mutibo	Kapata UHC
Mr. Chizispin Chatipwa	Kapata UHC

Chibombo DHMT

Ms. V. M. Mwape	DHMT Deputy Director
Mr. E. Banda	DHMT Environmental officer
Mr. R. J Tembo	DHMT Information and Systems
Ms. A. N. Malambo	DHMT Maternal and Child Health Coordinator
Mr. Given Hamwami	Chitanda RHC
Mr. Luwau Michael	Chisamba RHC

World Bank

Ms. Musonda R. Sunkutu	Senior PHN Specialist
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WHO

Mr. Fred Masaninga	Zambia Professional Officer
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UNICEF

Mr. Rodgers K Mwale	Malaria Control Project Officer
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Medical Stores Limited (MSL)

Mr. David Thompson	Managing Director
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USAID

Ms. Dyness Kasungami	Senior Health Advisor
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Society for Family Health (SFH)

Mr. Richard Harrison	Deputy Country Director
Mr. Brian Mckenna	Business Operations Director
Ms. Esnea Mlewa	Program Operations Manager

Health services and Systems program (HSSP)

Mr. Robert Hollister	
Dr. Lastone Chitenibo	C-IMCI Coordinator
Ms. Elijah Sinyinza	

HealthCommunication Partnership Zambia (HCP)

Ms. Lynn Lederer	Chief of Party
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Malaria Consortium

Dr. Albert Kilian	Infectious Diseases Specialist
Mr. Emmanuel Kooma	Representative of Zambia Office

Netmark

Mr. Kafula Silumbe	Academy for Educational Development
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Standard Chartered

Mr. Sonny Zulu	Head of Corporate Affairs
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**MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY ON
THE PROJECT FOR CHILD HEALTH INTEGRATED MALARIA CONTROL
INITIATIVE PHASE 2
IN THE REPUBLIC OF ZAMBIA**

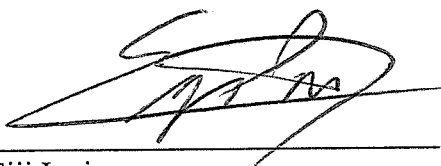
In response to a request from the Government of the Republic of Zambia (hereinafter referred to as "Zambia"), the Government of Japan decided to conduct a Basic Design Study on the Project for Child Health Integrated Malaria Control Initiative Phase 2 (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Zambia the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Eiji Inui, Resident Representative, JICA Zambia Office, and conducted the study from June 12th to June 30th, 2006.

The Team held discussions with the officials concerned of Zambia 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.

Lusaka, August 28th, 2006

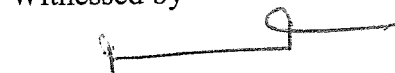


Eiji Inui
Leader
Basic Design Study Team
Japan International Cooperation Agency
Japan



Dr. Simon K. Miti
Permanent Secretary
Ministry of Health
Republic of Zambia

Witnessed by



Mr. Davis M. Chimfwembe
Director
Planning and Development
Ministry of Health
Republic of Zambia

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ATTACHMENT

1. Objective of the Project

The objective of the Project is to support Zambia in strengthening its malaria control program through procurement of necessary equipment in order to contribute to the reduction of morbidity and mortality caused by malaria among children under 5 years old and pregnant women.

2. Project sites

Mwinilunga, Kaputa, Chingola, Senanga, Chibombo, Samfya, Isoka, Chongwe, Chipata, and Kalomo districts

3. Responsible and Implementing Agency

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

The implementing agency is the National Malaria Control Centre (hereinafter referred to as "NMCC") of the MOH.

4. Item requested by Zambia

4-1. After discussions with the Team, Zambia 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

After detailed examination of the study results, JICA will complete a final report on the Project and send it to MOH around October, 2006.

7. Other relevant issues

7-1. Both sides agreed that the equipment procured under the Project will be integrated into the "Malaria in Pregnancy (MIP)" Program which targets children under 5 years old and pregnant women.

7-2. Both sides agreed on responsibilities of the related organizations regarding the Project as described in ANNEX-4.

7-3. Both sides agreed that the equipment procured under the Project will be distributed as follows:
Japanese side will deliver the equipment to the designated warehouse for the MIP Program which is currently the central storage of Society for Family Health (hereinafter referred to as "SFH") in Lusaka. Under supervision of MOH, SFH, which is currently the organization responsible for delivering nets related to MIP Program to District Health Management Teams (hereinafter referred to as "DHMTs") in the Project sites, will deliver the equipment to DHMTs. DHMTs will deliver the equipment to hospitals and health centers in charge of distributing the equipment to children under 5 years old and pregnant women.



- 7-4. MOH agreed to secure and allocate necessary budget and human resources for distribution and storage of the equipment procured under the Project as well as for educational and awareness campaign activities related to the procured equipment. MOH also agreed to coordinate to secure necessary storage space for the procured equipment.
- 7-5. The Team explained the importance of monitoring the distribution of the procured equipment and achievement of the Project. The Zambian side agreed to submit a series of monitoring reports as attached in Annex-5 as well as a quarterly report of the Malaria Information Systems to JICA Zambia office.
- 7-6. The Zambian side will ensure prompt execution of the unloading and customs clearance of the equipment procured under the Project at the port of disembarkation and bear all necessary expenses.
- 7-7. The Zambian side shall take necessary measures to exempt Japanese nationals who will be engaged in the Project from all duties and related fiscal charges which may be imposed in Zambia with respect to the import and local procurement of equipment and services supplied under the verified contract.

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 4 Responsibilities of the related organizations for the Project

ANNEX 5 Monitoring sheet for the Project

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ANNEX 1 Final request item in the Project

No.	Categories	Items	Description	Quantities
1	Insecticide-Treated Nets	Long Lasting Insecticidal Net (LLIN)	Color: white Size: W160×L180×H170mm	366,000 pcs

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ANNEX 2 Japan's Grant Aid Scheme

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through 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 (The Notes exchanged between the Governments of Japan and the recipient country)

Implementation and the recipient country)

2) 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 Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA send a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, 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 signed by the Governments of Japan and the recipient country.

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

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic

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document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
- d) preparation of a basic design of the Project; and
- e) estimation of costs 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 through 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 the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

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3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Program 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. Grant Aid is not supplied through the donation of materials as such.

2) 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.

3) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, 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.

4) Under the Grant, 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, contracting 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.)

5) 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 the Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.



- 6) Undertakings required to the Government of the recipient country
- a) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
 - d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
 - e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
 - f) to ensure that the products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
 - g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

7) "Proper Use"

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

8) "Re-export"

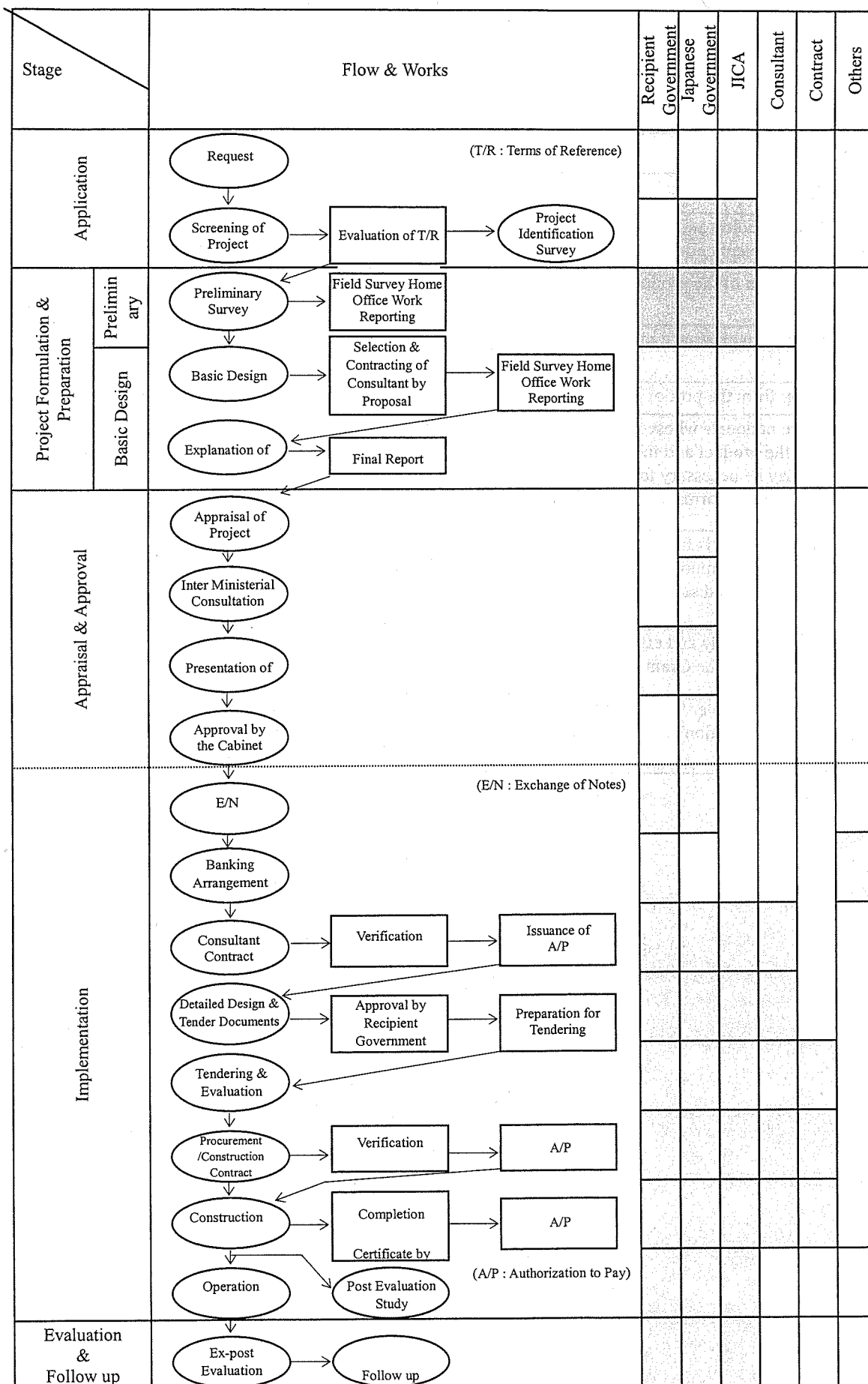
The products purchased under the Grant Aid shall not be re-exported from the recipient country.

9) Banking Arrangement (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 an authorized foreign exchange 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 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 recipient country or its designated authority.



FLOW CHART OF JAPAN's GRANT AID PROCEDURES



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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
1	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		•
2	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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ANNEX- 4 Descriptions of responsibilities of the related organizations for the Project

Stages	Responsibilities	Implementing Organizations
Receipt of Equipment	Custom clearance of equipment	MOH
	Delivery of the equipment to the designated warehouse	Contractor
	Inspection of equipment by the recipient government with observation of Contractor and Consultant	NMCC
	To issue report on receipt of the equipment to JICA Office	NMCC
Publicity	Hand over ceremony / Press release	MOH
Storage and Distribution	Storage of equipment	SFH, under supervision by MOH
	Distribution to 10 District Health Management Team (DHMTs)	
	Storage of equipment	DHMTs
	Distribution from DHMTs to health facilities (HFs)	HFs
Utilization	To give recipients appropriate knowledge of the item	HFs/DHMTs/SFH, under supervision by MOH
Monitoring & Evaluation	Submission of distribution and utilization report to DHMT on when, how many items were distributed, how many people received, which group received (under 5 children, pregnant women, etc)	HFs
	<ul style="list-style-type: none"> • Submission of distribution report to NMCC on when, how many items were delivered to which HFs • To summarize the above reports from HFs and send quarterly distribution and utilization report to NMCC 	DHMTs
	<ul style="list-style-type: none"> • Submission of distribution report to JICA Office on when, how many items were distributed to which DHMTs. • To summarize the above reports from DHMTs and send quarterly distribution and utilization report to JICA Zambia Office 	NMCC
	To submit a annual report of an achievement of the Project from NMCC to JICA Zambia Office	NMCC

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Date : _____

Japan Grant Aid Project

"The Project for Child Health Integrated Malaria Control Initiative Phase 2"

Report on Receipt of Equipment at Lusaka

Attn: JICA Zambia Office

This is to report that the National Malaria Control Centre (hereinafter referred to as NMCC), Ministry of Health, Republic of Zambia received the equipment provided by the above project.

Please find attached the list of received equipment.

Sincerely,

(Signature)

Name:

Title:

NMCC

Ministry of Health

Witness:

(Signature)

Name of responsible person:

Title:

Organization:





LIST OF RECEIVED EQUIPMENTThe Project for Child Health Integrated Malaria Control Initiative Phase 2
(year: 2007)

1. Responsible department of MOH

Department name: NMCC

Responsible person on the receipt of equipment

Name :

Title :

2. Received item(s) & quantities:

Item(s)	Received Q'ty	Date of Reception	Remarks
Long Lasting Insecticidal Net (LLIN) Size: W160×L180×H170mm	pcs.	XX/XX/2007	

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Date : _____

Japan Grant Aid Project

“The Project for Child Health Integrated Malaria Control Initiative Phase 2”

Distribution Report of Equipment to DHMTs

Attn: JICA Zambia Office

This is to report that the National Malaria Control Centre (hereinafter referred to as NMCC), Ministry of Health, Republic of Zambia distributed the equipment provided by the above project to the District Health Management Teams (hereinafter referred to as DHMTs).

Please find attached the list of equipment distributed.

Sincerely,

(Signature)

Name:

Title:

NMCC

Ministry of Health

Witness:

(Signature)

Name of responsible person:

Title:

Organization:

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LIST OF EQUIPMENT DISTRIBUTED

The Project for Child Health Integrated Malaria Control Initiative Phase 2 (year: 2007)

1. Responsible department & person for the distribution of equipment:

Department : NMCC

Name :

Title :

2. Distributed item(s)

Item(s)	DHMTs	Distribution Date	Quantity	Remarks
Long Lasting Insecticidal Net (LLIN) Size: W190×L180×H170 mm	Chibombo	(XX/XX/2007)	pcs.	
	Chingola	:	:	
	Chongwe	:	:	
	Chipata	:	:	
	Isoka	:	:	
	Kalomo	:	:	
	Kaputa	:	:	
	Mwinilunga	:	:	
	Samfya	:	:	
	Senanga	:	:	

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Date : _____

Japan Grant Aid Project

"The Project for Child Health Integrated Malaria Control Initiative Phase 2"

Distribution Report of Equipment from (*name of district*) Health

Management Team to Health Facilities

Attn: JICA Zambia Office

This is to report that the (*name of district*) Health Management Team distributed the equipment provided by the above project to the health facilities as attached.

Please find attached the list of equipment distributed.

Sincerely,

(Signature) _____

Name:

Title:

NMCC

Ministry of Health

Witness:

(Signature) _____

Name of responsible person:

Title:

Organization:

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LIST OF EQUIPMENT DISTRIBUTED

The Project for Child Health Integrated Malaria Control Initiative Phase 2 (year: 2007)

2. Responsible department & person for the distribution of equipment:

Department : (name of district) Health Management Team

Name :

Title :

2. Distributed item(s)

Item(s)	Health facilities to which equipment was distributed	Distribution Date	Quantity	Remarks
Long Lasting Insecticidal Net (LLIN) Size: W160×L180×H170mm	~~~~ hospital ~~~~ health center : : : : : : : :	(XX/XX/2007) : : : : : : : :	pcs. : : : : : : : :	

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Date : _____

Japan Grant Aid Project
"The Project for Child Health Integrated Malaria Control Initiative Phase 2"
Report of Follow-Up Survey

Attn: JICA Zambia Office

This is to report that the National Malaria Control Centre (hereinafter referred to as NMCC), Ministry of Health, Republic of Zambia implemented follow-up survey regarding the equipment provided by the above project.

Please find attached the table.

Sincerely,

(Signature)

Name:

Title:

NMCC

Ministry of Health

Witness:

(Signature)

Name of responsible person:

Title:

Organization:



Report of Follow-Up Survey

1. Project title & year: The Project for Child Health Integrated Malaria Control Initiative Phase 2 (year: 2007)

2. Result (as of 2008 yr.)

	District Name	Percentage of U5 children who slept under ITN or LLIN	Percentage of pregnant women who slept under ITN or LLIN	Number of U5 deaths of Malaria	Number of pregnancy deaths of Malaria	Remarks
1	Chibombo	%	%			
2	Chingola	:	:			
3	Chongwe	:	:			
4	Chipata	:	:			
5	Isoka	:	:			
6	Kalomo	:	:			
7	Kaputa	:	:			
8	Mwinilunga	:	:			
9	Samfya	:	:			
10	Senanga	:	:			

Source: XXXXXXXX

3. Please describe the comment on the other impact and effects of the project:

8/10/08

5 Result of Phase 1 Project

A study concerning the actual performance of Phase 1 of this Project, requested in 1998 and executed in 2000, was conducted by the local consultant under a commission from the Japanese side. The following sections describe the outline of the study results and the changes in actual malaria situation in the target areas.

(1) Outline of Phase 1 Project

The Phase 1 of the Project to Support Malaria Control Program in Zambia was requested from the Government of Zambia and the provision of requested items was executed in 2000. The Phase 1 Project was planned in coordination with USAID, and the target areas of the Phase 1 Project were 5 districts, including 3 districts (Chipata, Chama, and Lundazi) in Eastern Province and Kitwe District in Copperbelt Province, which were covered by the USAID project, and Samfya District in Luapula Province, where UNICEF had been performing distribution of mosquito nets since 1995. The items to be provided were mosquito nets and related goods (insecticide treatment kits, re-treatment kits, etc.), antimalarial drugs, microscopes, solar systems, testing reagents, testing equipment and materials, and vehicles for transportation. Under the leadership of NMCC, mosquito nets were distributed mainly through the channels of UNICEF (Samfya District) and SFH, an American NGO (the other 4 districts). Other equipment and materials were distributed mainly by NMCC. Except for Samfya District, mosquito nets were sold at low prices and the sales income was used for the purchase of new mosquito nets.

(2) Results of Study by the Local Consultant

The local consultant conducted a hearing survey in the 5 districts covered by the Phase 1 Project and the Ministry of Health to examine the present state of the items provided in the Phase 1 Project, as well as the conditions of distribution systems and project operation. The conclusions from this study were as follows.

- ① With respect to the revolving fund, it was found that 91,400 mosquito nets, which had been distributed in the districts under the control of SFH, were sold at low prices (3000 to 10,000 Kwacha), and the income was used for the purchase of new mosquito nets, resulting in the distribution of 189,113 mosquito nets (about twice the quantity provided by Japan) and thus proving the effective and fair use of the revolving fund. Although mosquito nets were purchased using this fund after the items provided by Japan were distributed, the amount of fund inevitably decreases in this system, because the price of mosquito nets sold by SFH is lower than the purchase price. It is impossible to operate this system continually without additional external assistance.
- ② With respect to the tracing of expendable items such as mosquito nets and medical supplies, there were no adequate records because of the long time from the implementation of the Phase 1 Project to this study. However, it was confirmed from the report of SFH, as well as in the Phase 1 Review Survey conducted by the local consultant, that all items were duly delivered to district health management boards. It has been reported that mosquito nets were distributed at the time of patients' visits to medical institutions and during outreach activities.
- ③ The present condition of equipment and materials other than expendable items is as shown in Table 1. Based on the following results of a simple study conducted by the local consultant, we have requested the Zambian Ministry of Health to conduct a research on the present state of items procured in the Phase 1 Project, to consider necessary actions in relation to the outcomes, and to report the result to Japan.

Table 1 Condition of Items Procured in the Previous Phase, Overview

		NMCC	Chipata	Lundazi	Chama	Kitwe	Samfya
Pickup trucks	No. supplied	3	1	1	1	1	1
	Condition	Operating	Operating	Out of order	Out of order	Operating	Out of order
Motorbikes	No. supplied	0	11	5	3	2	8
	Condition		9 in use. 2 missing.	5 in good condition.	3 in good condition.	1 in good condition. 1 damaged due to accident.	8 in good condition.
Microscopes	No. supplied	4	12	7	3	14	8
	Condition	4 units operating.	2 units operating. 10 units not used yet.	4 units operating. 3 units not used yet.	2 units operating. 1 unit out of order.	13 units operating. 1 unit missing.	3 units operating. 4 units not used yet. 1 unit missing.
Solar panels	No. supplied	0	9	7	3	0	6
	Condition		1 unit standby. 8 units missing.	5 units operating. 2 units unknown ^{*1}	2 units operating. 1 unit unknown ^{*1}		5 units operating. 1 unit unknown ^{*1}

^{*1} Unknown: The local consultant could not confirm the destination of distribution.

(3) Malaria Prevalence in the Target Areas of Phase 1 Project

Fig. 1-2 shows the time course of infant prevalence rate and mortality rate in Zambia, published by the Ministry of Health. Although no improvement of disease rate or other parameters was found in Chipata District, where problems regarding the management of equipment were noted at the time of the previous phase, other 3 districts showed decreasing tendencies in several parameters, particularly in the mortality rate, confirming the achievement of this Project.

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Microscopes	No. supplied	4	12	7	3	14	8
	Condition	4 units operating.	2 units operating. 10 units not used yet.	4 units operating. 3 units not used yet.	2 units operating. 1 unit out of order.	13 units operating. 1 unit missing.	3 units operating. 4 units not used yet. 1 unit missing.
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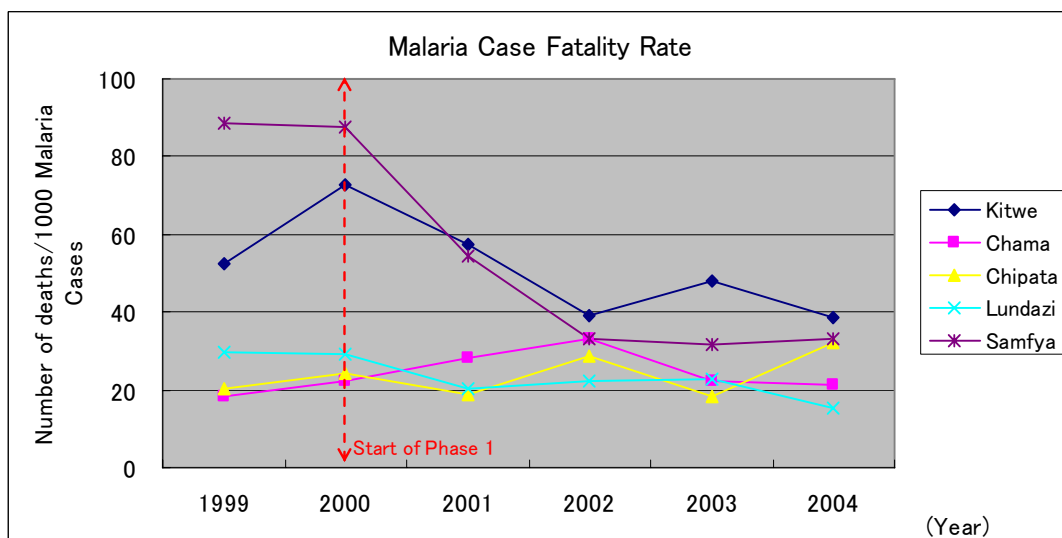
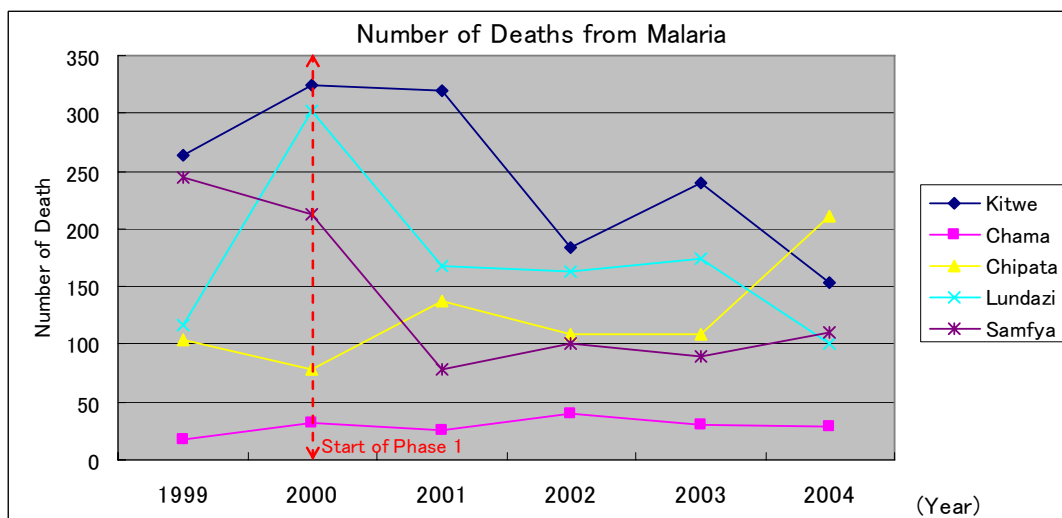
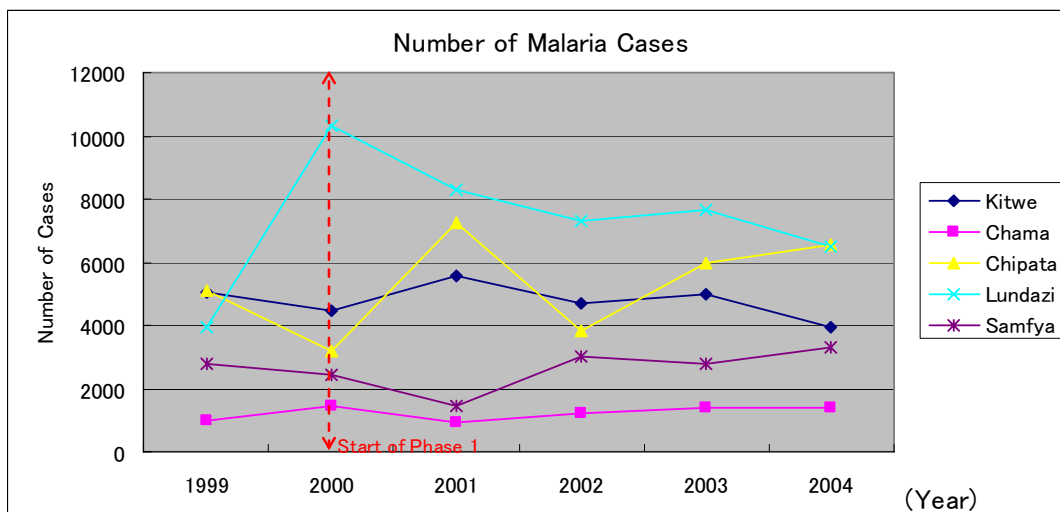


Figure Malaria Situation of Children under 5 in the Phase-1 Target Sites