3-3-4 Administration Plan of Activities

(1) Maintenance of the Materials and Equipment

Consumables such as insecticides and polystyrene beads are to be managed in the same way as conventionally done by the store keepers where those consumables are stored. Other materials or equipment planned to be procured for "phase 4" do not require much maintenance, so operators can handle them by referring to the manuals prepared and supplied with those materials or equipment. In the previous phases, new materials and equipment were procured, but no new types of equipment are planned to be introduced in this phase. However, concerning some items procured for this phase such as vehicles, microscopes, distillers, dryers, and analytical balance, maintenance instructions should be given on the following points. Such instructions should be offered to operators and maintenance staffers before the handing-over of the equipment to the Tanzanian side, within the scope of this grant aid assistance. Especially for the vehicles, a list of spare parts should be prepared to help establish a system which allows easy access to necessary parts by referring to part numbers.

a. Operation, adjustment, and maintenance of the equipment;

b. Easy ways of finding troubles with the equipment and repair work thereof;

c. Use and filing of the manuals of the equipment;

d. Inventory management and storing precautions of the consumables and spare parts.

The maintenance of the vehicles and the procurement of their necessary spare parts will be carried out by the maintenance staff employed by DSM or TNG. However, if any of the vehicles encounters a complicated trouble, then it will be necessary to have professional help from a repair work shop.

(2) Management Expenses of the Activities

The budget necessary for the activities of "phase 4" is estimated, from the past records, to be 101,570,000 Tanzanian shillings for DSM, and 19,946,000 Tanzanian shillings for TNG. The details of each budget for the previous phases have not been accounted yet. It seems that the budgets of the past were all used up for personnel cost and fuel cost. There is a document used for a budgetary request by TNG(refer to 2-2-2 Budget of the Ministry of Health). This document shows the account of the fuel expenses required for the project activities carried out in TNG. From this fuel expenses for TNG, the fuel expenses for DSM can be estimated to be six times as much as the expenses for TNG. This estimation comes from the comparison made in the numbers of houses and the sizes of areas involved in the project in DSM and in TNG. The accounts of executing expenses for both DSM and TNG are shown below.

(Amount : Tsh)

D S M		T N G	
Personnel expense Total 800 (Salary details see table 2-14)	34,770,000	Personnel expense Total 158 (Salary details see table 2-15)	7,896,000
Auto fuels exp.	36,000,000	Auto fuels exp.	6,000,000
Health education exp.	1,000,000	Health education exp.	500,000
Operator training exp.	1,800,000	Operator training exp.	550,000
Auto maintenance exp.	15,000,000	Auto maintenance exp.	2,000,000
Environmental improvement	13,000,000	Environmental improvement	3,000,000
Total	101,570,000	Total	19,946,000

CHAPTER 4 BASIC DESIGN

CHAPTER 4 BASIC DESIGN

4-1 Basic Policies

Before starting basic design, basic policies are set forth in consideration of the activities that have been carried out in the past and the scopes of the project areas learned from the description of the project, both of which criteria are ascertained in Chapter 3. Basing on those criteria, design is carried out.

(1) Policies for Quantity Planning

The quantities of the consumables to be procured, main items of which are insecticides, are planned in consideration of the records of their use in the past and their inventories at present. The procurement of vehicles is considered only for the activities that do not have access to the vehicles currently operable in the project and that need vehicles because of the nature and scopes of the activities. Especially concerning the extensive introduction of impregnated bed nets and of polystyrene beads as new measures in this phase, their quantities should be carefully considered.

(2) Policies for Material Procurement Schedule

The procurement of insecticides should be scheduled in accordance with the spraying activities scheduled even though real spraying activities may get delayed because of natural causes such as weather conditions. It should be so scheduled that those newly procured insecticides can be used for the spraying activities starting from 1993.

(3) Policies Concerning the Ability of the Executing Bodies

The Malaria Control Project has come to the transition from the "attack" stage to the "maintenance" stage. This phase is a period to carry out both the offensive strategies, which have been carried out since the start of the project, and new strategies to maintain the suppressed stage of

malaria infection. As impregnated bed nets and polystyrene beads are to be extensively introduced in this phase, the organizing of the staff to distribute and manage those materials should be planned not to disturb the other activities of the project, especially in the aspects of budget and personnel.

4-2 Study on the Scope of the Activities

The scope of main project activities are decided in consideration of the results of the past activities.

(1) Insecticide spraying

The number of staffers for spraying activity is 625 for DSM and 45 for TNG. In DSM, five staffers organize a group (one as leader and four as spraymen), and IRHS is carried out by 90 such groups for 1,350 houses a day. Each group covers 15 houses a day. If the real working days for one round of IRHS (nominally about two months) is estimated at 30 days, then the number of houses covered will be 40,500. However, the number planned is 40,000.

As for TNG, nine groups are organized for this purpose, and they carry out IRHS for 135 houses a day, each group covering 15 houses a day. If the real working days for one round of spraying activity are taken as 30 days, which estimation is the same as for DSM, then 4,050 houses will be covered by one round of IRHS activity. However, the number planned is 4,000.

The spraying activity executed to eliminate larvae in waste waters and the ULV spraying activity are carried out throughout the year. The areas to be sprayed are selected first, and then spraymen for those activities are arranged. In the case of DSM, those spraying activities are carried out by the spraymen specialized for ULV spraying as leading spraymen. However, when spraymen assigned for IRHS are free, both groups of spraymen carry out those activities together. In TNG all types of spraying activities are carried out by same 45 spraymen, in accordance with the schedule of each spraying activity. The area planned to receive LC spraying in "phase 4" is about 4 square kilometers in DSM and about 1 square kilometer for TNG, and the area planned to be covered by the ULV spraying is about 40 square kilometers in DSM and 10 square kilometers in TNG. Those areas are also receiving spraying activities in "phase 3" of the project.

(2) Impregnated Bed Nets Distribution

The areas to receive impregnated bed nets are mainly those areas that are now receiving IRHS. Larviciding and ULV spraying are planned for urban areas, and IRHS is planned for the areas surrounding those urban centers in the shape of doughnut. In a similar manner to the execution of IRHS, impregnated bed nets are going to be introduced to the areas surrounding those urban areas.

The number of families to receive those impregnated bed nets is limited to 30% of the families that are now receiving IRHS because of tight budget and personnel. Each family is planned to receive an average of 3 bed nets: 1.5 double size nets and 1.5 family size nets, in both DSM and TNG. The number of families receiving those nets is planned to be 16,000 in DSM, and 3,300 in TNG.

(3) Dealing with Polystyrene Beads

The introduction of polystyrene beads is to suppress the breeding of "culex". It can give as strong an impression as ULV spraying in appealing to the community for achieving a good reputation of the Malaria Control Project. Strategic areas for the initial stage of this activity are urban areas, where the installation of toilet facilities is common. Like the distribution of impregnated bed nets, the distribution of polystyrene beads is planned for about 20,000 households or pits in DSM and about 10,000 households or pits in TNG, in consideration of the limited personnel available.

(4) Monitoring and Evaluating Activities

There will be no change in the organization of personnel for the monitoring and evaluating activities, from that organized for "phase 3". Therefore, the quantities of the items necessary for those activities are decided on the basis of the results of the past phases. Blood screening for malaria is planned to involve a few more schools, in addition to the primary schools at which blood screening has been carried out till the third phase of the project, (which are six schools in DSM: Oysterbay, Kimara, Kongowe, Kigamboni, Pugu Kajiungeni, and Kisarawe: and seven

schools in TNG; Kana, Mpirani, Kwanjeka, Kiomoni,Mabokweni, Machui, and Mwakidila). The number of children in each school in DSM is from 250 to 600, and in TNG, it is from 100 to 200.

As for the collection of mosquitoes, at first, houses are selected from each area with respect of a differnt combination of spraying activities. Then, mosquitoes are collected. There have been eight areas for mosquito collection in DSM, and four areas in TNG. In the "phase 4", a few more areas are planned to be newly added to the list of areas where mosquitoes are to be collected. The areas planned are: Kinondoni, Oysterbay, Magomeni, Kimara, Kibamba, Upanga, Grezani, Kinyerezi, Pugu Kajiungeni (area not sprayed), Magogoni, Kigamboni, and Kongowe in DSM and Mabokweni (area not sprayed), Makorora, Kisosora, and Kiomoni in TNG. Those areas of either DSM or TNG include one area which does not receive insectcide spraying for the purpose of making comparison in evaluation.

4-3 Basic Plan

4-3-1 Material and Equipment Plan

Items of materials and equipment and their quantities are determined from the scopes of the activities planned and the inventories of those items currently stored. The activities planned are ascertained on those criteria described in the previous section.

(1) Insecticides

a. Fenitrothion 40% WP

The amount of Fenitrothion 40% WP used for one round of spraying activity in the past phases was about 15,000 kilograms (covering about 35,000 houses) in DSM, and about 2,500 kilograms (covering about 3,500 houses) in TNG Basing on this information, the amount of Fenitrothion 40% WP necessary for the "phase 4" is 30,000 kilograms for DSM, and 5,000 kilograms for TNG. Each of those amounts suffices two rounds of spraying activity.

b. Fenitrothion 80% EC

The amount of Fenitrothion 80% EC used for one round of spraying activity in the past phases was about 1,800 liters (covering about 7,000 houses) in DSM, and about 80 liters (covering about 400 houses) in TNG. Though two rounds of spraying activity are planned for this coming phase, no supply of Fenitrothion 80% EC is planned for this phase because there is much Fenitrothion 80% EC in inventory enough to cover two rounds of spraying activity.

c. Fenitrothion 50% EC

Fenitrothion 50% EC is an insecticide sprayed for eliminating larvae. Spraying of Fenitrothion 50% EC is carried out throughout the year. The amount sprayed is about 13,000 liters (covering about 4 square kilometers) a year in DSM, and about 3,500 liters (covering about 1

square kilometer) a year in TNG. The procurement of Fenitrothion 50% EC for this phase is planned as 1,000 liters for DSM and 500 liters for TNG. Those amounts have been decided in consideration of the current inventory of Fenitrothion 50% EC stored.

d. Pyrethroid 10% EC

Pyrethroid 10% EC is an insecticide used for ULV spraying. The amount sprayed in one round of spraying activity in the past phases was about 900 liters (covering 40 square kilometers) in DSM, and about 250 liters (covering 10 square kilometers) in TNG. The amount of Pyrethroid 10% EC planned to be supplied for this phase is 2,000 liters for DSM and 500 liters for TNG. Those amounts can cover two rounds of spraying activity.

e. Permethrin 10% EC

Permethrin 10% EC is an insecticide absorbed in the bed nets that are to be introduced in this phase. Those nets are to be impregnated with the insecticide twice a year. There are two types of bed nets to be treated so. They are double size and family size bed nets. The number of double size bed nets to be distributed is 30,000 (25,000 in DSM and 5,000 in TNG), and family size nets 30,000 (25,000 in DSM and 5,000 in TNG). Permethrin 10% EC is planned to be procured in an amount necessary to impregnate all the nets four times (i.e., an amount necessary for two years).

f. Insect Growth Regulator (IGR)

This chemical is in a granular form and used for eliminating larvae. For this phase, 900 kilograms of IGR is planned to be supplied to DSM, and 100 kilograms to TNG. Those amounts will be resolved into a body of water of 90,000 cubic meters and 10,000 cubic meters, respectively, because IGR is effective in a capacity of 1 cubic meter/10 g.

(2) Materials and Equipment for the Monitoring and Evaluating Activities

There will be no change in the staff carrying out monitoring and evaluat-

ing activities from "phase 3". The quantities of the items used for monitoring and evaluating are determined from the record of the past activities. The quantities of Light Traps, hand atomizers, etc. used for the collection of mosquitoes in entomological evaluation are determined from the number of the households planned to be involved in the mosquito collection activity. As for the consumables used for epidemiological evaluation, the quantity of blood lancets to be supplied is determined from the number of the children to be screened and the frequency of the execution of blood screening activity. The quantity of the microscopes to be supplied is determined from the number of staffers who have to use a microscope.

(3) Vehicles

For a new supply of vehicles, priority has been placed to allocate new vehicles to newly starting activities, with some consideration of the vehicles procured for the previous phases and of the operability of those vehicles. Two pickup trucks are planned, one for DSM and the other for TNG, to transport impregnated bed nets and polystyrene beads. Since there has always been a transportation problem for the staffers carrying out activities, one microbus having a seating capacity of 20 passengers is planned for DSM to alleviate this problem. Two vehicles which are to be used in connection with the ULV spraying activity are planned: one for DSM and the other for TNG. Also, two station wagons (land cruisers) are planned to be provided for data collection in relation with monitoring and evaluating activities for establishing good communication: one for DSM and the other for TNG. Furthermore, a dump truck is planned for DSM to facilitate the treatment of the mosquito breeding sites (i.e., environmental improvement). All together, eight vehicles are planned to be procured.

For the vehicles newly procured, spare parts necessary for the first year of the vehicles' use are provided in consideration of the road conditions in Tanzania. The spare parts requested by the project staff for the vehicles that have been procured in the past have been listed after their necessity has been confirmed.

4-3-2 List of Materials and Equipments

(1) Material and Equipments for Mosquito Control Operation by Insecticide spraying

A 1	Pyrethroid EC	2,500	lts
A 2	Hand compression Sprayer	300	pcs
A 3	Assorted Spare Parts	25	set
A 4	Nozzle for A 2	1,300	pcs
A 5	Extension Metal Pipes	130	pcs
A 6	Polyethylene Bucket	400	pcs
A 7	Safety Suit	600	set
A 8	Rubber Boots (White)	500	pair
A 9	Toner	20	box
A 10	Drum for Photocopy Machine	7	unit
A 11	Acetylcholine Perchlorate	13	bttl
A 12	B.T.B. Powder for Lovibond	30	bttl
A 13	Blood Lancet 200pcs/box	70	box
A 14	Tip for micropippet 0.01ml	8,000	pcs
A 15	Double Cabin Pick-up 5 seater	2	unit
A 16	Single Cabin Pick-up for ULV	2	unit
A 17	ULV Applicator, Truck Mounted	3	unit
A 18	Bus. 20 Seater	1	unit
A 19	Fenitrothion 40WP	35	ton
A 20	Fenitrothion 50%EC	1,500	lts
A 22	Permethrin EC (10%)	7,500	lts
A 23	Motor Cycles 125cc	6	unit
A 24	Helmet for Motor Cycles	65	pcs
A 25	Polystyrene Beads	15	ton
A 26	Mosquito Net-Double Size	30,000	pcs
A 27	Mosquito net-Family Size	30,000	pcs
A 28	Hand Atomizer	70	pcs
A 29	Pyriproxygen	1,000	kgs

(2) For source reduction (environmental improvement)

B	1	Clinometer	3	pcs
B	2	Glass Fiber Tape Measure	3	pcs
B	3	Long Gum Boots (Black)	400	pair
B	4	Rubber Gloves	400	pair
B	5	Dump track Tipper Function 7 ton	1	unit
B	6	Spirit Level	9	unit
B	7	Automatic level with Tripod	2	unit
B	8	Level Stuff (Folding)	2	unit
B	9	calculator (Scientific)	3	pcs

(3) For Epidemiological evaluation

C	1	Stain Giemsa 500ml/bottle	50	bttl
C	2	Stain Field Solution Kit	110	kit
C	3	Stain Eosin, 500ml/bottle	15	bttl
C	4	Staining Jar	20	pcs
C	5	Staining Rack	20	pcs
C	6	Staining Trough	20	pcs
C	7	Electric Hair Dryer with stand	3	unit
C	8	burner Spirit, Power Type	6	unit
C	9	Lancet, Disp., 200pcs/box	250	box
C	10	Calculator (Scientific)	3	unit
C	11	Microscope Glass Slide, 100/box	440	box
C	12	Immersion Oil for Microscope	15	bttl
C	13	Data Cabinet	2	unit
C	14	Slide cover glass 100pcs/box	12	bttl
C	15	Petri Dish, Glass Type	300	pcs
C	16	Slide Box	60	box
C	17	Reagent, methylalcohol, 500ml	60	bttl
C	18	Reagent, Ethylalcohol, 500ml	100	bttl
C	20	Reagent, Formalin, 500ml	33	bttl
C	22	Reagent, Acetone 500ml	13	bttl
C	23	Buffer solution PH7.2	60	pack
C	24	Reagent Xylene, 500ml	25	bttl
C	25	Computer Floppy Disk, 10/pack	15	pack
C	26	computer Output Sheet size A4	16	box

C 27	White Paper for Photocopy A4,B4	60	box
C 28	Toner	20	box
C 29	Drum for Photocopy machine	7	unit
C 30	Hot Plate	2	unit
C 31	Water Distillation Apparatus	3	unit
C 32	Bath Weight Scale	5	unit
C 33	Disposable Gloves, size 7/8	10,000	pcs
C 34	Spare Bulb for Microscope	55	pcs
C 35	Lens cleaning Paper 100/box	30	box
C 38	Generators	3	unit
C 39	Film Projector	2	set
C 40	Poster paper	3	box
C 41	Microscope	3	pcs
C 44	Type writer electrical	3	pcs
C 45	Over head Projector	3	set
C 46	Transparent sheet OHP	1,500	pcs
C 47	Analytical Balance	2	set
C 48	Sterilizer (Boiling 100C)	2	unit
C 49	Centrifuge Micro	1	set
C 51	Peste and Mortar	75	pcs
C 52	Test Tubes (Knan Tubes)	15	doz
C 53	Volumetric Pipettes, Bulb Pipettes	150	doz
C 54	Graduates Pipettes	150	doz
C 55	Pastem Pipettes 4 Metres of thin gas tubing	18	rod
C 56	Dispensers	5	pcs
C 57	Filter funnels	6	doz
C 58	Separating Funnel	6	doz
C 59	Lovibond comparator	4	pcs
C 60	PH Meter	2	pcs
C 62	Deep Freezer	2	unit
C 63	Drying Oven 70C	2	unit
C 64	Stop watches	7	pcs
C 65	Lens paper	15	book
C 66	PH Paper	30	pack
C 67	Hand Counter (tally)	25	pcs
C 68	Stand fan	3	set
C 69	Filter Paper diameter 5cm	15	box
C 70	Coloured Grease Pencil	30	box
C 71	Cover Glass for use with Counting Chamber	150	pcs

C 72	Hole Metal Rack for 76x12mm t/tube		75	set
C 73	Wooden Rack for Draining washed g/ware		4	set
C 74	Metal Rack for draining washed g/ware		4	set
C 75	Plastic Rack for Draining washed g/ware		4	set
C 76	Test Tubes (Small)		25	pcs
C 77	Test Tubes (large)		25	pcs
C 78	Rubber Cork for 120x2mm tubes		25	pcs
C 79	Rubber Cork for Flask 40mm		25	pcs
C 80	Bottles			
	1)1 Liter scew Caped		15	pcs
	2)1 Liter Reagent		15	pcs
	3)2.5 Liter Reagent		15	pcs
	4)Drop for staining		15	pcs
	5)Plastic Bottle		15	pcs
C 81	Flasks			
	1)10ml		15	pcs
	2)50ml		15	pcs
	3)100ml	15	pcs	
	4)200ml	15	pcs	
	5)250ml	15	pcs	
	6)500ml	15	pcs	
	7)1 liter	15	pcs	
	8)2 liter	15	pcs	
C 82	Beaker			
	1)50ml	15	pcs	
	2)100ml	15	pcs	
	3)250ml	15	pcs	
	4)300ml	15	pcs	
	5)500ml	15	pcs	
	6)1 liter	15	pcs	
C 83	Liquid Nitrogen container 15 liter		2	pcs
C 84	Station Wagon 8 Seater		2	unit
C 85	Air conditioner(wall type)		3	unit

(4) For Entomological evaluation

D 1	Light Trap CDC 6 Battery Type	28	pcs
D 2	Six(6) V Battery 30 amps/h	55	pcs

D	3	Battery Charger	8	unit
D	4	White cloth Sheets (flat)	150	sheet
D	5	Recording Paper	30	set
D	6	Forceps with Sharp Tip 14cm	30	pcs
D	7	Test Tube with Screw Cap 5cc	60	box
D	8	Test Tube with Screw Cap 10cc	60	box
D	9	Test Tube with Screw Cap 30cc	250	pcs
D	10	Flashlight, 2 Batteries of UM1	110	pcs
D	11	Recharger for N.K. Battery	15	set
D	12	Down Transformer 220 to 100	4	unit
D	13	Table Top 100V with 4 Mouths	30	pcs
D	14	Rechargeable N.K. Battery	220	pcs
D	15	Aspirator for Mosquitoes collection	200	pcs
D	16	Sealed Bottle, 60 Circle	1,200	pcs
D	17	P.Bottle with Mouth. 100ml	600	pcs
D	18	P.Bottle with Mouth, 50ml	150	pcs
D	19	Steel cabinet	2	pcs
D	20	P.Bottle with mouth, 500ml	120	pcs
D	21	Magnifying Lens	50	pcs
D	22	Automatic rainfall Recorder	3	unit
D	23	Gum Boots (White)	60	pair
D	24	Mask (Washable)	60	pcs
D	25	Rain Protect Working Wear	60	pcs
D	27	Hand shovel	300	pcs
D	28	Filter Paper 60x60cm 100/box	10	box
D	29	Filter Paper 20cm 100/box	10	box
D	30	Test Tube Eppendorf	10,000	pcs
D	31	Silica Gel 500g/bottle	7	bttl
D	32	Bucket, 5 lit.	15	pcs

(5) Spare Parts for Vehicles

E	1	Spare Parts for Toyota Dyna	2	sets
E	2	Spare Parts for motorcycle	2	sets
E	3	Spare Parts for Single Cabin pick-up	2	sets
E	4	Spare Parts for Double Cabin pick-up	2	sets

4-4 Implementation Plan

4-4-1 Implementation Method

(1) Japanese Grant Aid Assistance System

The procurement for "phase 4" of the Malaria Control Project will be implemented in accordance with the system of the Japanese government's grant aid assistance. This grant aid assistance will be commenced formally after it receives approval in a cabinet meeting of the Government of Japan and is acknowledged in an Exchange of Notes signed by the governments of both countries. Upon receiving this grant aid, the Ministry of Health of Tanzania is the one to conclude a contract with a consultant as well as with a supplier to implement this materiel procurement for "phase 4" of the project.

(2) Consultant

After the signing of the above mentioned Exchange of Notes, the Ministry of Health of Tanzania is to conclude a consultant service agreement with the Japanese consultant firm that has participated in this basic design study for "phase 4" of the project. It is important for the Ministry of Health of Tanzania to conclude this consultant agreement immediately after the signing of the Exchange of Notes in order to implement the procurement smoothly. After the verification of the said agreement by the Government of Japan, the consultant is to prepare a document of detailed design for the procurement on the basis of this basic design study report, through consultation with the Ministry of Health. After this document of detailed design for the procurement is approved by the Ministry of Health, the consultant will carry out a bidding for selecting a supplier and then supervise the procurement work carried out by the supplier so selected.

(3) Supplier of Materials and Equipment

The supplier to carry out this procurement must be a Japanese corporation having a certain qualification. It is to be selected through a bidding. The Ministry of Health will conclude a contract with the supplier that has been selected as best suited for the procurement work, having been judged by its tender against the other tenders submitted. This contract with the supplier must be also certified by the Government of Japan. The supplier will complete the delivery and hand-over of the materials and equipment to the Government of Tanzania by the date agreed.

4-4-2 Supervisory Plan

The Japanese consultant firm, upon concluding an agreement with the Tanzanian executing body of this project, is to conduct detailed design for "phase 4" of the project and supervise the implementation work in compliance with the Japanese grant aid assistance system. The purpose of supervising the procurement process is to raise the quality of the work carried out by the supplier. While the supplier works to fulfill the contract agreed with the Ministry of Health, the consultant will provide appropriate guidance, advice, and adjustment in unprejudiced manner. The consultant is to perform the following tasks:

(1) Assisting with Tender Procedures and Contracting

The consultant will conduct a bidding to select a Japanese supplier for the procurement of materials and equipment necessary for "phase 4" of the project, by preparing documents necessary for holding a bidding, making publication of the bidding to be held, receiving applications from prospective tenderers, issuing the documents describing the bidding, receiving tenders, evaluating the tenders, and making a table to show the results of the analysis of the bidding. The consultant will also advise the Tanzanian executing body in concluding a contract with the supplier selected as described above.

(2) Instructions, Advice, and Coordination to the Supplier

After determining a delivery plan for the procurement, the consultant will provide guidance, advice, and adjustment to the supplier.

(3) Examination and Approval of Materials and Equipment to be Procured

The consultant will ascertain or examine the appropriateness or suitability of materials or equipment that are to be delivered by the supplier, in reference to their corresponding items described in the contract document. If they are appropriate, then the consultant will approve those items selected by the supplier.

(4) Witnessing Inspection

The consultant will secure the quality and performance of all materials and equipment by supervising the quality inspection carried out at the factories where they are produced.

(5) Reporting on the Progress of the Work

The consultant will report on the progress of the procurement work carried out in accordance with the implementation plan to the officials of both countries concerned with the project.

(6) Inspection and Handing-Over

As needs arise, the consultant will check up the performance of some equipment and the numbers of some items supplied. Ascertaining the compliance of those items so checked to the supplier's contract document, the consultant will submit a document of inspection completion.

(7) Training

In the materials and equipment procured for "phase 4" of the project, there are a few items of equipment that require some basic knowledge in operation and maintenance. Accordingly, it is necessary that training on those items be offered to some of the staff or engineers of the Tanzanian side, concerning their operation, trouble shooting, and repair. This training session should be held when and where the installation and test running of those items take place after delivery. The consultant will give guidance and advice on the planning of such training.

In consideration of the scope of the procurement, in order to carry out the above mentioned tasks smoothly, the consultant will dispatch engineers who will make some adjustment, give instructions, and make inspection on some equipment. The consultant will also secure an engineer who is to be positioned in Japan and to be specialized for this procurement in order to make smooth communications with those sent to Tanzania. Thus, a back-up system is established to help carry out the work smoothly in Tanzania. Also, the consultant will inform the Government of Japan of such matters as the progress of this procurement work, the procedure of payment concerning the procurement, and the handing-over of the materials and equipment delivered.

4-4-3 Procurement Plan

The following are the points that should receive special attention in order to carry out this procurement work smoothly.

(1) Materials/Equipment Procurement Criteria

As a fundamental rule, all items should be procured in Tanzania or from Japan. However, if there exist some problems of inferior quality, high price, and short supply, then the items that encounter such problems can be imported from countries other than Japan. The supplier should manage all the items that are imported to Tanzania to pass through the customs smoothly by receiving help from the Tanzanian executing body of the project. Some of such items going through the customs are impregnated bed nets, polystyrene beads, etc.

(2) Policy based on Past Procurement

Consumables to be procured, such as insecticides, should be preferably the same brands as those procured for the past phases of the project in order to avoid any confusion in their use. Also, for the same reason, equipment should be purchased from the producers that have provided the same items in the past since most of the items to be procured this time have also been procured for the prior phases of the project, excluding some equipment which is going to be newly introduced for this phase.

As some items of equipment are liable to be damaged, in their effectiveness or performance, from impacts, moisture, or heat, care should be taken in packing and transporting those items. For some items which require special handling, moisture-proof packing should be applied to protect them against tropical weather during their transportation.

4-4-4 Implementation Schedule

After the conclusion of the Exchange of Notes by the Government of the United Republic of Tanzania and the Government of Japan concerning the implementation of this assistance, the following three processes have to follow in order to implement the materiel procurement for "phase 4" of the project. Those processes are designing the procurement work in detail, preparing for a bidding and holding it, and managing the procurement work.

(1) Detailed Design

After the consultant service agreement is concluded by the executing body of the project, i.e., the Ministry of Health of Tanzania, with a consultant, this agreement has to be certified by the Government of Japan. After the certification, the consultant starts designing the procurement plan in detail. In this designing work, the consultant compiles a set of documents necessary for holding a bidding to have a best supplier for this procurement. This set of documents consists of a document of detailed design and specifications and instructions to tenderers. While compiling this set of documents, the consultant discusses, with the Tanzanian side, the items of the materials and equipment to be procured. That discussion finally leads to the approval of that set of documents by the Tanzanian side. It is expected that this work of designing in detail will take one month.

(2) Tender

The following work will be carried out to select the most suitable supplier by tender. Publication is made announcing that a bidding will be held; applications from prospective tenderers are received; their qualifications are examined; documents describing the bidding are distributed; the bidding is held and tenders are received; tenders are evaluated; a winner, i.e., the supplier for this procurement, is selected; and a contract is concluded with the supplier. This process requires 1.5 months.

(3) Management of Implementation

The contract concluded with the supplier must be also certified by the Government of Japan. After this certification, orders are made for the items to be procured. After receiving those orders, it takes about six months for the producers to produce the ordered items. Finally, the items produced are shipped out of the factories after receiving the consultant's quality inspection. This process takes about 11 months.

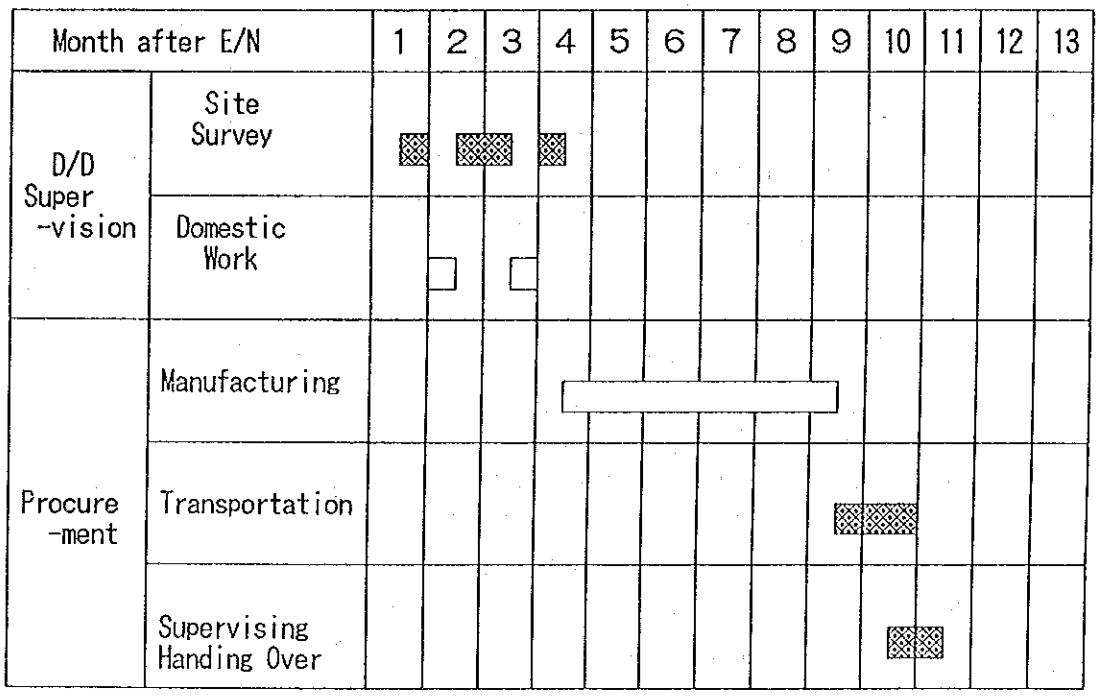


Fig.4-1 Project Implementation Schedule

4-4-5 Scope of Work

(1) Scope of Work

This procurement is to be implemented jointly by both countries in accordance with the system of the Japanese Government's grant aid assistance. The scope of work to be carried out by each side is as follows:

1) Scope of Work by the Government of Japan

a. Procuring the materials and equipment necessary for "phase 4";

b. Transporting the materials and equipment to Dar es Salaam City and Tanga Municipality, where the Malaria Control Project is going on;

c. Checking the quantities of the items of the materials and equipment delivered, performing test running of some items of machinery, and handing over all those items to the Tanzanian side; and

d. Explaining maintenance procedures of some complex items.

2) Scope of Work by the Government of Tanzania

a. Securing places or storage for receiving all the items delivered;

b. Some procedural work and expenses;

- To conclude a banking arrangement (B/A) with an authorized Japanese foreign exchange bank and to bear the necessary commissions to the bank for the banking services based on the B/A, and to issue necessary Authorization(s) to Pay (A/P) and to bear the necessary payment commissions for A/P based on the B/A.

- to ensure prompt unloading, tax exemption, customs clearance at the port of disembarkation in Tanzania, and prompt internal transportation of imported materials and equipment for the project, and to pay

customs, internal taxes, value added taxes and other fiscal levies for unloading, customs clearance, inland transportation, etc. of imported materials and equipment for the project.

- To exempt Japanese nationals involved in the project from customs, internal taxes, value added taxes, and other fiscal levies which may be imposed in Tanzania with respect to the supply of the products and services under the verified contracts.

- To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such facilities as may be necessary for their entry into Tanzania and stay therein for the duration of their work.

- To secure funds for activities that utilize effectively the materials and equipment acquired.

- To bear all necessary expenses for the project, other than those to be borne by the Japanese grant aid.

(2) Estimated Cost to be Borne by the Government of Tanzania

a. Procedural expenses

Fees to establish a banking arrangement (B/A) concerning this procurement and fees to issue Authorization(s) to Pay (A/P).

5 million Tanzanian shillings

CHAPTER 5 PROJECT EVALUATION AND CONCLUSION

CHAPTER 5 PROJECT EVALUATION AND CONCLUSION

(1) Expected Effects of the Project

If appropriate management is executed by the Tanzanian side for "phase 4" of the Malaria Control Project, then the resulting effect or improvement can be expected as listed in the following table.

Current Circumstances and Problems	Measures to Be Taken in this Project	Expected Output
The Materials and equipment necessary for the execution of the Malaria Control Project have been procured through grant aid assistance offered by the Government of Japan since the beginning of the Project up until "phase 3". The project has attained a right course, in which the project is smoothly operated. The project has come to the transition from the "attack" stage to the "maintenance" stage in its fight against malaria. Considering the financial conditions of the Government of Tanzania, it is very difficult for them to procure the materials and equipment necessary for the execution of "phase 4" without receiving foreign assistance. If this grant aid from the Government of Japan were not offered, the project would have to end, and the condition of malaria control would return to where it had started.	Materials and equipment necessary for the "maintenance" stage is procured through the grant aid, assist to keep the activities of the Malaria Control Project going.	In this project, parasite infection rates among primary school children has decreased to 15 - 20 % in some areas, and this rate is expected to be maintained or even reduced further.
It is difficult for Tanzania to develop, by itself, human resources necessary for controlling malaria because of their technical and budgetary difficulty.	Assistance is offered to support the executing bodies of the project so that materials and equipment acquired through this procurement will be effectively utilized by them with instructions offered from the experts dispatched from the JICA for technical assistance or from members of JOCV.	The Tanzanian staff will experience a series of strategies for malaria control, methods of data collection and evaluation through the activities carried out in the project. These experiences will, as expected, make them be the human foundation of future malaria control activities that are to be executed by the Tanzanian side alone.
Considering the current situation that health and hygiene education are being executed to the residents and environment is being improved through the Urban Malaria control campaign, though they are being done on a small scale, the interruption of the campaign affects these activities.	By executing this phase of the Malaria Control Project, the activities of health education and environmental improvement can be continued. The community involvement in the project should be also promoted further.	This project is a model case which promotes not only malaria control but also health education and basic environmental improvement in Tanzania. Those activities can be continued even after the completion of this Project by efforts of the Tanzanian side alone without increasing expenses for the maintenance of the materials and equipment procured, and the effect coming out of those activities is expected to propagate throughout the country.

(2) Appropriateness of the Project Implementation

Here, the feasibility of executing the project is examined in terms of the organization to execute the project as well as of the budgetary allocation to the project.

1) Management Plan

This Malaria Control Project has been carried out by two executing bodies. They are Dar es Salaam City and Tanga Municipality. Although there have been budgetary limitations, the project has been being carried out with some satisfaction, so far. There are 800 staff members in DSM, and 158 staff members in TNG. For either project area, no new staff members are going to be recruited for "phase 4" of the project. Now that the project has come to the transition from the "attack" stage to the "maintenance" stage in its fight against malaria, two types of activities are planned to be carried out in parallel in this coming phase of the project: one being activities of "attack", and the other being activities of "maintenance". Because a new type of activities, i.e., activities of "maintenance", are being introduced while conventional activities are still continued as have been carried out in "phase 3" of the project, some difficulty in activity scheduling is expected. However, the maintenance required for the impregnated bed nets, after their distribution, needs to be carried out only with a frequency of every six months and only by impregnating them in an insecticide, which procedure is much simpler than the maintenance procedure required for IRHS. Moreover, while the areas receiving "attack" activities with IRHS decrease and get converted to receive "maintenance" activities gradually, the difficulty in scheduling project activities will be alleviated. Also, it is considered possible to introduce polystyrene beads extensively as a new measure for malaria control if the conventional spraying activities receive rescheduling through a critical review.

2) Budgetary Allocation

Four years have passed since the Malaria Control Project had started with use of the materials and equipment procured through a first grant aid offered by the Government of Japan. Now, the project seems to have

finally gotten into its right track, even though the project has encountered, almost every year, problems in securing a budget enough to carry out the activities. However, it has been recently promised by the Department of Economy of the Ministry of Finance that a high priority will be placed in the allocation of budget to both the municipalities for carrying out the project. It was announced with the ministry's recognition of budgetary need for the project in the allocation of the budget of the local government (governing body of DSM and TNG). The mayors of both the municipalities are also showing their understanding of the importance of the project, so the circumstances surrounding the project are getting better for the securing of a budget enough to cover two main activities expenses, which are the personnel cost of the project and the fuel expenses for vehicles used for the project.

(3) Conclusion

As described so far, great effect and improvement are expected on "the Urban Malaria Control Project" from the implementation of this project. Malaria is an infectious disease that is ranked at the top or second in the nation's mortality in Tanzania. This is discernible from a statistic showing that 10 - 15% of the patients visiting major medical facilities are affected from malaria. The implementation of this project will contribute to the security of health for 1.36 million people living in DSM and 190 thousand people in TNG. As for the budget of the project, a total of 15 million shillings was allocated to the Malaria Control Project in the fiscal year of 1991/1992. It is a 87% increase from the previous year. Even though the inflation rate of 20 - 25% and the changes in the exchange rate to the yen of 25 - 30% are taken into consideration, this amount will be enough to cover the project activities planned. As for the fiscal year of 1992/1993, it is expected that a budget enough to cover the inflation rate and the changes in the exchange rate will be also allocated for the project. This trend in the budgetary allocation shows that the Tanzanian government appreciates the project deeply and has a great interest in the project. Therefore, it is judged appropriate to implement this materiel procurement for "phase 4" of the project through a grant aid assistance extended the Government of Japan.

(4) Recommendations

The following recommendations are presented so that the project can be carried out smoothly and effectively to attain the intended objectives.

1) Adjustment of the Strategies

It has been five years since a master plan was established for the Malaria Control Project in 1987. The third grant aid assistance has been recently implemented. Now, it is high time that the geographical areas having a small population of people afflicted with malaria were studied through an epidemiological research, and an analysis were made to find out the distribution of the infection. On the basis of this analysis, all areas should be divided into two groups: one with an epidemic condition, which group is to receive the "attack" operations of the project, and the other group with a lesser severity, which is to receive the "maintenance" operations of the project. Then, realistic targets should be assigned for each group to suppress the malarial morbidity. The cycles of the activities now carried out should be also modified, or new activities be added, or even some activities be omitted in accordance with the conditions of each group. By the end of "phase 4" of the project, the effectiveness of the new measures against malaria (i.e., the applications of impregnated bed nets, polystyrene beads, and IGR) will be ascertained. Then, the conventional strategy for malaria control, which is centered at insecticide spraying, can be replaced with a new form of strategy more suitable to protecting the environment. Also, by simplifying and routinizing the methods used for malaria control, the project costs and personnel and activity expenses, will be reduced. As a result, the project will be possibly continued independently by the efforts of the Tanzanian staff in the future.

2) Distribution and Management of the Bed Nets

The Malaria Control Project is a public project promoted at national level. Impregnated bed nets were introduced for a trial use during "phase 3" and distributed to a small number of people free of charge. Tanzanians usually spend part of their income for protecting themselves against mosquitoes. They purchase insecticide sprays, mosquito-repellent incense, and bed nets for their home use, and they also in-

stall net to the windows of their houses. Therefore, it is not fair to distribute impregnated bed nets free to some particular people while most of them want to have such nets. Distributing impregnated bed nets free of charge this time again may anger some people who do not get them. As a result, the project may suffer an adverse effect and a negative influence on the people who are participating in malaria control activities and educational publication activities. When the levels of incomes they receive are taken into consideration, it may not be possible to recover all the cost of the impregnated bed nets distributed including the expenses for giving maintenance to the nets after their distribution. However, by making the people bear part of the cost, fairness may be maintained for the act of distributing impregnated bed nets. This cost sharing can also work to induce in the people's mind ownership consciousness, which helps lead to a smooth execution of the maintenance procedure required for the nets. This, in turn, will work to involve the people in other activities as well. The funds gained from the cost recovery of the impregnated bed nets will be used to suffice budgetary shortages encountered by both the municipalities or be used for future purchases of impregnated bed nets or an insecticide that is used to impregnate the nets. It is advised that the Tanzanian side consider and execute what is described in "Proposals for Managing Bed Nets Distribution" (attached at the end of this report, Appendix 5).

3) Epidemiological Analysis of Malaria in Urban Areas

It is very difficult to wipe out malarial infection from the region south of the Sahara. At present, measures to control malaria are mostly directed to the areas surrounding the desert and areas of big cities. This Malaria Control Project is one of that kind, but the size of the project is the largest of all. The project has grown or developed enough to be expected as self-sustainable with the efforts of the Tanzanian staff even after the cessation of Japanese assistance. In the latter half of this phase of the project, the following four materials will be prepared so that "the Malaria Control Project in Urban Areas" will be continued independently by the efforts of the Tanzanian staff later and that those materials and equipment will be useful for solving similar problems in other African countries.

a. Manuals

Manuals are prepared for the operators and people involved in the project for the understanding of how to use the materials or equipment. They are prepared for clarifying the use of impregnated bed nets, polystyrene beads, and IGR, all of which are applied to new malaria control operations as well as of those used in the conventional activities.

b. Maps

Maps are made in a scale of approx. 1/10,000 to show the geography, distribution of bodies of water, roads, sewage treatment facilities, houses and their types, malaria-control facilities, mosquito breeding sites, and drainage facilities, etc. in DSM and TNG. The goal of making those maps is to illustrate clearly the pattern of urban malarial epidemic in Africa as well as to facilitate the establishment of a system that help determine strategies for malaria control. Those maps will be a model case for making "Stratification", which is advocated by WHO.

c. Cost Table

Cost for each measure taken to malaria control (e.g., indoor spraying of insecticides, distribution of impregnated bed nets and beads, larva elimination, drainage ditch improvement, and environmental improvement) should be listed on a table in terms of material cost and activity expenses.

d. Strategic Option

By utilizing the above mentioned maps together with the cost table, it will be possible to determine the most suitable measure from several options for various conditions or budgetary limitations. Simulation is possible with information of given funds for materials and expected activity expenses, to predict resulting effects. By doing this way, the best budgetary allocation can be determined to help the continuation of the Malaria Control Project.

4) Dispatch of Resident Experts

When the materials and equipment acquired in this procurement reach the project sites, the Malaria Control Project will enter into its final phase. In this phase, it is necessary to compile the documents mentioned above. Desirably, several long-term experts who can supervise the following tasks should be dispatched to Tanzania to stay throughout this period.

a. To play a core role in compiling the manuals and in making the cost table while assisting daily activities carried out by the Tanzanian staff, and to give instructions to the Tanzanian staff for making an execution plan that is cost effective and involves people's cooperation.

b. To analyze urban malaria epidemiologically, ecologically, and geographically; to determine strategic alternatives; to make up the maps; and to give instructions so that the Tanzanian staff will grow independent in carrying out the project.

5) Dispatch of JOCV Members

The technical knowhow transfer concerning blood screening and the Spray Catch method used for collecting mosquitoes has almost completed. It is desirable, from now on, to have JOCV members who can work as assistant to the experts dispatched from the JICA for the project. JOCV members who can offer assistance in the field of civil engineering, e.g., surveying and constructing sewage treatment facilities, are needed for compiling the previously mentioned documents for the completion of the project.

6) Technical and Academic Exchanges with Domestic or International Institutions

The epidemiological evaluation of this Malaria Control Project has been being helped by the National Institute of Medical research (NIMR) and Amani Medical Research Center. However, it is the University of London that has developed the use of polystyrene beads for mosquito suppression,

and such beads are to be introduced extensively in this phase of the project. The Government of Tanzania has requested the University of London to send researchers and carry out a field survey in Tanzania. Now, technical and academic exchanges are being held periodically with those researchers. Continued meeting during this coming phase can make it possible not only to have access to another group's research and to receive technical information but also to enhance the level and reliability of the project, in cooperation domestically in Tanzania as well as internationally. Accordingly, it is desired to hold such amicable, technical and academic exchanges with research institutions of other countries, and such exchanges should be promoted by some institutions of Tanzania.

[APPENDIX]

1. Member list of Basic Design Study Team

Yoichi Yamagata	Team Leader (Malaria Control Project) JICA, Japan International Cooperation Specialist
Shinichi Ishihara	Grant Aid Cooperation JICA Third Training division Training affairs Department
Kaoru Goto	Material / Equipment Plan ITEC(International Total Engineering Corporation)
Tamotsu Nozaki	Material / Equipment Plan ITEC(International Total Engineering corporation)

2. Survey Schedule

No.	Date	Survey Schedule
1.	Jan. 31 (Fri)	Lv. Tokyo (Dr. Yamagata, Mr. Ishihara, Mr. Goto, Mr. Nozaki)
2.	Feb. 1 (Sat)	Lv. Amsterdam
3.	Feb. 2 (Sun)	Ar. Dar es Salaam
4.	Feb. 3 (Mon)	Meeting at JICA office Courtesy call on the Embassy of Japan Meeting with JICA specialist and national coordinator at Ocean Road Hospital
5.	Feb. 4 (Tue)	Courtesy call on Minister of the Ministry of Health Courtesy call on director of the Ministry of Finance Courtesy call on Mayor of Dar es Salaam Survey on Magomeni area - Investigation of ULV activity
6.	Feb. 5 (Wed)	Survey of Ilala district - Investigation on the application of Polystyrene beads Survey on Kibugumo district - investigation on the application of bed nets and I.R.H.S.
7.	Feb. 6 (Thu)	Survey of Kinondoni district - Investigation of Source Reduction Activities Survey of Majani ya chai/Msimbazi Creek areas - Investigation of LARVICIDING Investigation of Parasitological Evaluation on Ocean Road Hospital Lv. Dar es Salaam Ar. Tanga

8.	Feb. 7 (Fri)	Courtesy call on Municipal Director of Tanga Municipality Meeting at Malaria Project Office Investigation of Parasitological Evaluation, warehouse Survey on the activities of LARVICIDING and Source Reduction
9.	Feb. 8 (Sat)	Meeting with research scientist at AMANI (Dr. Yamagata, Mr. Ishihara) Investigation of materials and equipments (Mr. Goto, Mr. Nozaki)
10.	Feb. 9 (Sun)	Investigation of blood sampling from pupils at primary school
11.	Feb. 10 (Mon)	Meeting with National Coordinator at Ocean Road Hospital Investigation of vehicles, materials and warehouse Survey on the Health Education
12.	Feb. 11 (Tue)	Meeting on the contents of minutes at the Ministry of Health Meeting at Ocean Road Hospital Meeting within the study team
13.	Feb. 12 (Wed)	Signing of Minutes of Discussion at the Ministry of Health Meeting at JICA office Meeting at the Embassy of Japan Meeting at WHO Meeting at Ocean Road Hospital Meeting with the study team and JICA specialist
14.	Feb. 13 (Thu)	Lv. Dar es Salaam (Dr. Yamagata, Mr. Ishihara, Mr. Goto, Mr. Nozaki) Ar. Zurich (Mr. Ishihara, Mr. Goto, Mr. Nozaki) Ar. London (Dr. Yamagata)

15. Feb. 14 (Fri) Meeting at London University - Hygiene Tropical Disease Dep. (Dr. Yamagata)
Meeting at Bristol University (Dr. Yamagata)
Lv. Zurich (Mr. Ishihara, Mr. Goto, Mr. Nozaki)

16. Feb. 15 (Sat) Lv. London (Dr. Yamagata)
Ar. Tokyo (Mr. Ishihara, Mr. Goto, Mr. Nozaki)

17. Feb. 16 (Sun) Ar. Tokyo (Dr. Yamagata)

3. Member list of Tanzanian Counterparts and Other Agency

The Ministry of Finance

Mr. Luchibhikiye L. Lungu	Senior Finance Officer

The Ministry of Health

Prof. Philemon Niko Sarungi	Minister for Health
Mr. Rogatian M. Shirima	Principal Secretary
Prof. W. L. Kilama	Director General, N.I.M.R.
Dr. G. P. Temu	S.M.O Vector Borne Diseases Control
Dr. H. J. Chum	Ag. Assist, Chief Medical Officer - Prevent
Dr. B. Ndosi	Ag. Acmo Hospital Services
Dr. R. N. S. Mkerenga	PMO. Epidemiology comm. Disease Control
Dr. D. Charase	Technical Adviser
Mr. Josaphat H. Marijani	National Coordinator

The City office of Dar es Salaam

Mr. Kitwana Kondo	Mayor
Mr. Evarist Kweba	City Director
Dr. M. W. Marero	Project Manager
Mr. C. Madereke	Operations Officer / Vector Control Health Officer

Municipal office of TANGA

Mr. Fuko A.	Municipal Director
Mr. M. W. Kabur	Deputy Director
Dr. C. L. L. Kasililika	Project Manager
Mr. M. P. Membe	Vector control health officer / Operations officer
Mr. Guledi	Deputy Mayor

AMANI medical research center

Mr. Fred Salum	Research Scientist
Mr. Godwin Msuya	Executive Officer

Embassy of Japan

Shigenobu NAGAI	Ambassador Extraordinary and Plenipotentiary
Sumio KUSAKA	Counsellor
Satoshi ITO	First Secretary

WHO - Tanzanian Office

Dr. Elmi A. Duale	WHO Representataive for Tanzania and Seychelles

UNICEF - Tanzania Office

Dr. Boris Tolstopiatof	Project Officer

JICA - Tanzania Office

Ph D. Kazuyo Ichimori	Malaria Control Specialist
Mr. Yukihide Katsuta	Assistant Resident Representative
Mr. Tomiaki Ito	Member of Staff

London School Hygiene Tropical Medicine

Dr. C. Curtis	Professor
Dr. Jo Lines	Lecturer in Vector Biology

Bristol University

Dr. P. Langley	Senior Research Fellow

4. Minutes of Discussion

MINUTES OF DISCUSSIONS
OF THE BASIC DESIGN STUDY
ON THE MALARIA CONTROL PROJECT (PHASE 4)
IN THE UNITED REPUBLIC OF TANZANIA

In response to the request of the Government of the United Republic of Tanzania, the Government of Japan decided to conduct a Basic Design Study on the Malaria Control Project (Phase 4) (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Tanzania a study team, headed by Dr. Yoichi Yamagata, Health Development Specialist, JICA, from February 2 to 13, 1992.

The team held series of discussions with the officials concerned of the Government of Tanzania and conducted a field survey at the study area.

As a result of discussions and field survey, both sides have confirmed the main items described in the attached sheets. The team will proceed to further works and prepare a Basic Design Study Report.

Dar-es-Salaam, February 12, 1992

Dr. Yoichi Yamagata
Leader
Basic Design Study Team
JICA

Mr. Rogatian M.Shirima
Principal Secretary
Ministry of Health
Government of Tanzania

ATTACHMENT

1. The Objectives of the Project

The Objectives of the Project are described as follows:

(1) To reduce mosquito population and malaria prevalence, morbidity and mortality.

(2) To improve environmental conditions and health education systems.

(3) To make suggestions for future malaria control programmes in Tanzania.

2. The Project Sites

The Project sites are Dar-es-Salaam(DSM) City and Tanga Municipality.

3. Administrative and Executing Agencies

Ministry of Health is responsible for the administration, monitering and evaluation, whereas DSM City Council and Tanga Municipality Council are responsible for the execution of the Project.

4. Items requested by the Tanzanian side

The following items were finally requested by the Tanzanian side:

(1) Materials for vector control, i.e., insecticides, bed nets, polystyrene beads, etc.

(2) Equipment and materials for vector control operations, i.e., sprayers, safety suits, etc.

(3) Equipment and materials for source reduction activities

(4) Equipment and materials for community health education

(5) Equipment and materials for parasitological, entmological and sociological evluation activities

(6) Vehicles and spare parts for the Project activities.

However, the final components of the Project may differ, when considered necessary after further studies in Japan.

5. Japan's Grant Aid Programme

(1) The Tanzanian side has understood the system of Japanese Grant Aid explained by the Team.

(2) The Tanzanian side will take the necessary measures described in ANNEX I for smooth implementation of the Project on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

6. Schedule of the Study

Based on the Minutes of Discussions and the results of the study, JICA will compile a Basic Deign Study Report and send it to the Government of Tanzania around June 1992.

ANNEX I

Necessary measures to be taken by the Government of Tanzania on condition that Japan's Grant Aid is extended:

1. To provide data and information necessary for implementation and evaluation of the Project.

2. To ensure prompt unloading, tax exemption, customs clearance of the goods purchased under the Grant Aid for the Project at the port of disembarkation in Tanzania.

3. To exempt Japanese nationals engaged in the Project from customs duties, internal taxes and other fiscal levies which may be imposed in Tanzania with respect to the supply of the goods and services under the verified contracts.

4. To accord Japanese nationals whose services may be required in connection with the Project under the verified contracts such facilities as may be necessary for their entry into Tanzania and stay therein for the duration of their work.

5. To provide necessary permissions, licences and other authorization for carrying out the Project.

6. To bear commissions to the Japanese foreign exchange bank for the banking services based on the Banking Arrangement as follows:
   (1) Advising commission to the Authorization to Pay
   (2) Payment commission

7. To bear all the expenses, other than those to be borne by the Grant Aid.

8. To ensure the necessary budget and personnel for the proper and effective implementation of the Project, including operation and maintenance of the equipment provided under the Grant Aid.

5. PROPOSALS FOR MANAGING BED NETS DISTRIBUTION

5-1. Background

Since "phase 1" of the Malaria Control project, insecticide spraying has been a major activity. However, in "phase 3", it is confirmed in a trial use that bed nets impregnated with an insecticide having an immediate effect can work as an effective instrument against mosquitoes. Thus, an extensive distribution of impregnated bed nets is planned to be carried out in "phase 4" of the project.

5-2. Areas to be Distributed

Seven areas of DSM and five areas of TNG have been selected for the distribution of impregnated bed nets. All of those areas selected are now receiving IRHS because their locations are in the surrounding of city where LC spraying is being carried out. (Refer to Figs.3-6 and 3-9 included in the main body of this report.)

[DSM]

Mikocheni, Ubungo (Kisiwani, Msewe, Baruti), Kimara, Kinyerezi, Kizinga, Yombo Vituka, Mbagala (Kuu, Makuka, Kizuiani, Tatu)

[TNG]

Mabokweni, Kiomoni, Kana (Kati), Makorora, Maweni

5-3. Impregnated Bed Net Distribution Plan

An average size family living in the areas selected to receive impregnated bed nets consists of from four to five family members. The ratio of the number of the families receiving impregnated bed nets to the total number of families in those areas is: 38% in DSM and 36% in TNG. Each family that is to receive the nets in either project area is going to receive an average of 1.5 bed nets of double size (100 x 180 x 150 cm) and 1.5 bed nets of family size (130 x 180 x 150 cm). The number of the families to receive those nets and the number of the nets to be distributed are listed in the following table, for each area of DSM and TNG.

《 Plan of bed nets distribution 》

DSM

Town / village	Population	Total Families No.	Targeted Families No.	Bed nets (double)	Bed nets (Family)
Mikocheni	27,852	6,631	2,600	3,900	3,900
Ubungo	46,980	9,521	3,700	5,550	5,550
Kimara	28,105	6,536	2,500	3,750	3,750
Kinyerezi	3,048	730	300	450	450
Kizinga	23,750	5,654	2,200	3,300	3,300
Yombo Vituka	13,408	2,876	1,100	1,650	1,650
Mbagala	40,866	9,539	3,600	5,400	5,400
T O T A L	184,009	41,487	16,000	24,000	24,000

TNG

Town / village	Population	Total Families No.	Targeted Families No.	Bed nets (double)	Bed nets (Family)
Mabokweni	7,036	1,569	600	900	900
Kiomoni	4,946	1,173	400	600	600
Kana	7,040	1,310	500	750	750
Makorora	14,626	3,222	1,200	1,800	1,800
Maweni	7,874	1,653	600	900	900
T O T A L	41,522	8,954	3,300	4,950	4,950

5-4. Distribution and Maintenance

5-4-1 Cost

Bed net (unit price)	Double size US$ 5.4
	Family size US$ 6.2
Insecticide (permetherin EC10%)	Unit Price US$37.5/lts
Necessary quantity / net	Double size 0.03 lt
	Family size 0.04 lt
Unit Cost of insecticide / net	Double size US$ 1.1
	Family size US$ 1.4

5-4-2 Cost Recovery

Bed nets distributed are to be purchased by those who should receive them, not only to recover part of the cost of those nets but also to avoid causing a discontent on the part of the people who do not receive those nets at all.

50% of the cost of each bed net : Double size, US$2.70
family size, US$3.10

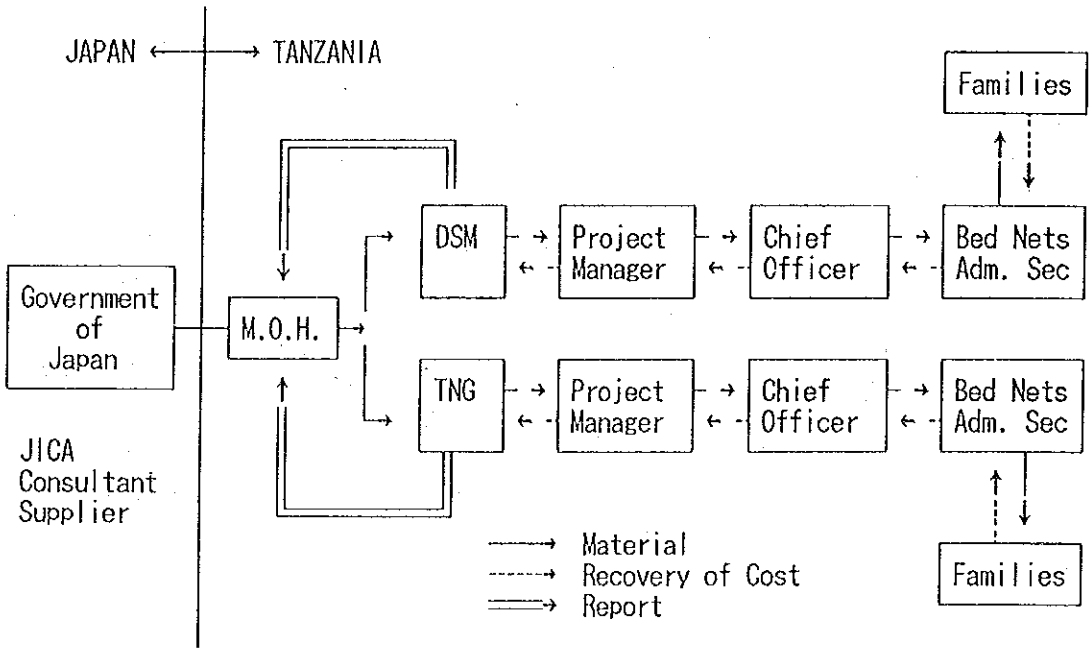
Number of payments to be made : 3

Amount to be received in each payment:
for double size, US$2.00 (2.7/3 + 1.1)
for family size, US$2.40 (3.1/3 + 1.4)

50% of the cost of each bed net is divided by three and then added with the cost of the insecticide used for the net in maintenance to calculate the total amount to be received for one piece. This amount is recovered in three payments made by the receiver of the net: once at the time of the bed net delivery and the other two at the time of the first and second impregnation carried out for the nets every six months.

5-4-3 Flow Chart

Fig.4-3 Flow Chart



5-4-4 Implementation System

A group that will conduct the management, education, execution, and maintenance of those nets will be organized from the present staff members of the project. This group will carry out the distribution, cost recovery, and maintenance of the nets. The group consists of 16 members in DSM, and 8 in TNG.

5-4-5 Work of the Group Handling Bed Nets

1) Preparing a list that shows the households, chiefs and members of each household and the quantities and types of bed nets received by each household for each area where impregnated bed nets are distributed;

2) Collecting order forms filled out by those families for the purchase of bed nets;

3) Recording the person responsible for the purchase of bed nets, his address, the number and type of each bed nets purchased by him, the date on which those nets are delivered, the date on which those nets are to receive impregnation, and the date on which the planned impregnation is actually carried out;

4) Collecting and recording payments made by each family for the purchase of impregnated bed nets; and

5) Giving instructions to carry out the maintenance of impregnation every six months.

5-5. Proposals

Distributing the impregnated bed nets for payment not only avoids irritating the feelings of those who are not receiving them, but also works to induce ownership consciousness in the minds of the people who receive them. This consciousness, in turn, not only helps greatly the execution of the maintenance work required for the nets after their distribution but also promotes the people's cooperation to the project. Therefore, it is proposed that this cost recovery scheme be executed to recover part of the cost of distributing the nets. This cost recovery is also to suffice a budgetary need. The recovered cost will be used as a fund for future purchases of more nets or net-soaking insecticide.

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