JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT (MOARD)

THE STUDY ON THE INTEGRATED RURAL DEVELOPMENT PROJECT IN THE BARINGO SEMI ARID LAND AREA (MARIGAT AND MUKUTANI DIVISIONS) IN THE REPUBLIC OF KENYA

FINAL REPORT

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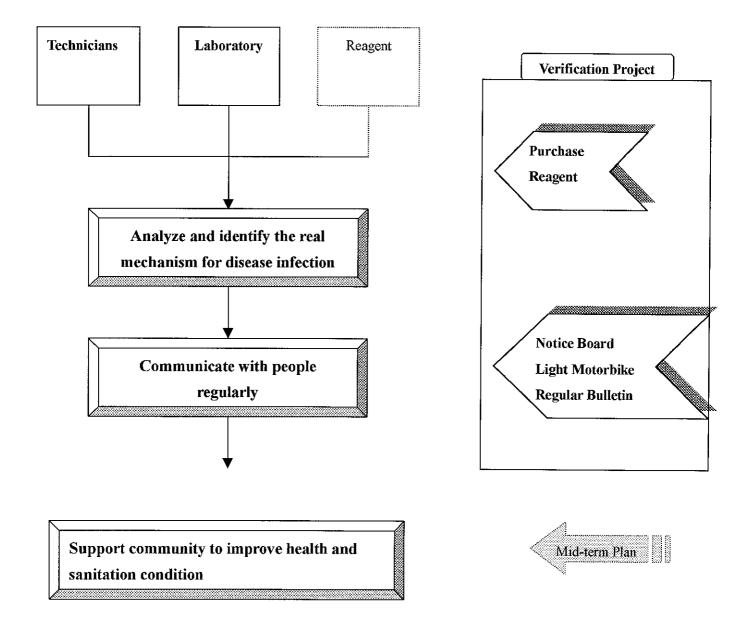
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Figure 1.1-1 Verification Project ① Surveillance, Information and Support System Improvement of Epidemic and Endemic Diseases

Activity of Marigat Health Centre

INPUT

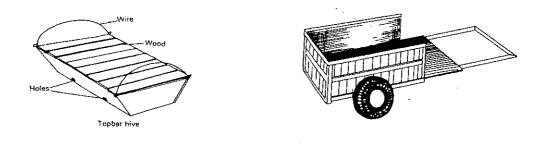


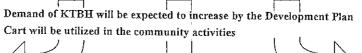
Verification Project ② Strengthening of Marigat Youth Polytechnic

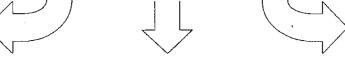
1. New Items for the Woodworking Course at Marigat Youth Polytechnic (Making of KTBH, Cart)

2. Invitation of Trainer

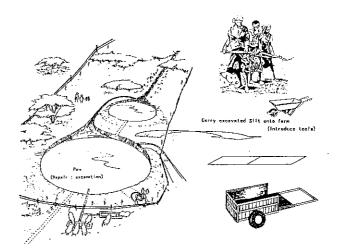
- 3. Supply of Equipment
- 4. Schooling
- 5. Demonstration of Tools Made by the School
- 6. Organize People to try to use cart and provide KTBH to bee-keeping group



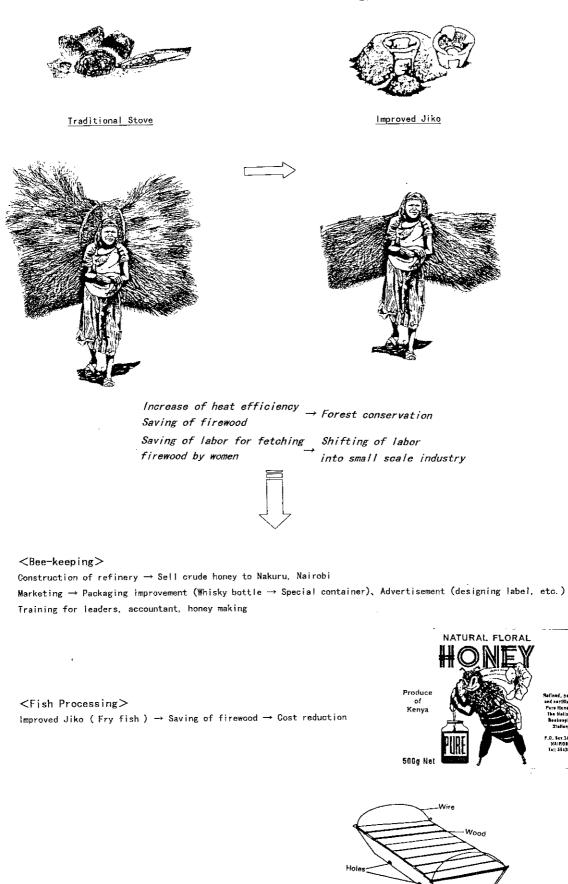








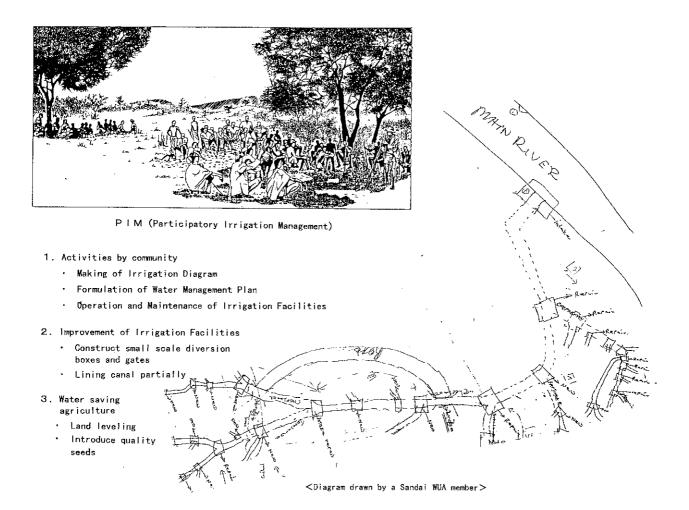
Verification Project (3) Improved Stove + Small Scale Industry (Bee-keeping, Fish Processing)



I-3

Topbar hive

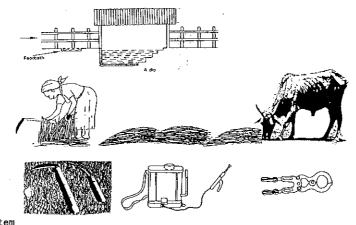
Verification Project (4) Communal Resource Management (PIM+Livestock Improvement)



<Livestock Improvement>

1) Animal Health Control

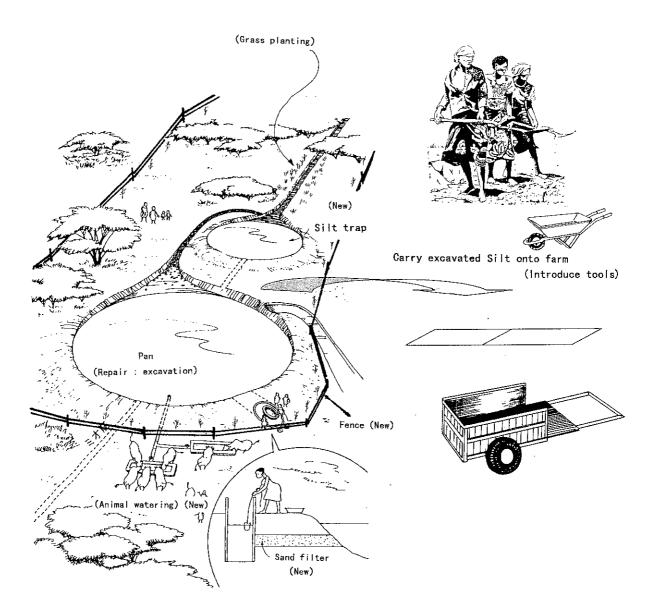
- Rehabilitate dip
- Introduce sprayer
- · Reorganize dip community



2)Livestock Up-grading

- Promote cross breeding System
- Promote castrating system
- Promote cut and carry system (utilize by-product of crops)

Verification	Project	(5)	Rehabilitation	of	Pan
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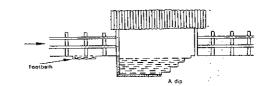


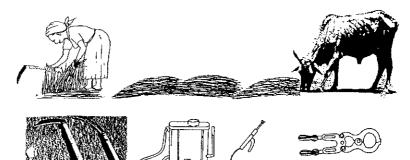
Verification Project (6) Food Security (Livestock Improvement + Rain Water Harvesting)

1. Livestock Improvement

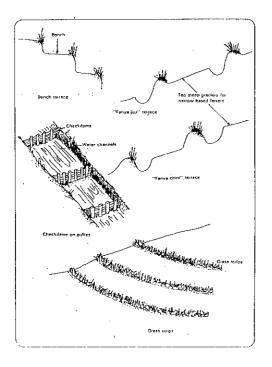
1) Animal Health Control

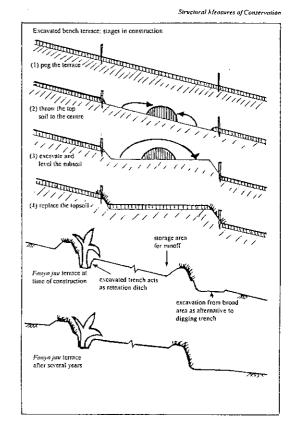
- Rehabilitate dip
- Introduce sprayer
- Reorganize dip community
- 2)Livestock Up-grading
 - · Promote cross breeding System
 - Promote castrating system
 - Promote cut and carry system (utilize by~product of crops)





- 2. Rain Water Harvesting
 - · Construct small canal
 - Construct terrace
 - Construct silt trap
 - Fencing
 - · Increase Millet, Sorghum





Verification Project ⑦ Learning from Best Practices



Kerio Valley : SARDEP Project (Presentation on the Rural Water Supply Project by community members)



Kitui District : JICA Forestry Extension Model Development Project for Semi Arid in Kenya

												1		<u> </u>		
JICA	- Equipment and reagent supply		- Technical assistance									- Technical assistance		- Technical assistance		
Relevant GOK Administrations	- Ministry of Health, Department of Vector Borne Diseases	 Marigat sub-district hospital 	 Bacteriological investigation of water resources (DVBD) 	- Epidemiological	investigation for past	outbreaks	 Organization of appropriate 	message	 Public relations 	 School health education 	(Ministry of education)	 Monitoring impact of 	messages	- Evaluate change of hygiene	practice	
Local Consultants/NGOs	- Support in community mobilization		- Support in community mobilization									- Participatory monitoring	procedure	- Participatory evaluation	procedure	
Work progress Community Local Consultants/N	- Gathering together to discuss project		- Community health meeting	- Activation of village	health committee						-	- Gathering together to	discuss project	- Discussing and	agreeing on evaluation	procedure
Work progress	1. Preparation		2. Implementation									3. Monitoring		4. Evaluation	-	:

Component of Verification Projects: Strengthening of Marigat Health Center

Task Allocation of Verification Project

Table I.1-1

JICA	 Equip polytechnic with appropriate equipment Support new project on income generation 	- Monitoring of progress	- Evaluation of the project
Local Consultants/NGOs	 Facilitate the management committee to establish the problems facing the polytechnic through a PCM workshop Assist management committee to draw up a business focused plan of action Design short-term courses (module) 	- Monitoring of progress	- Evaluation of the project
Relevant GOK Administrations		- Monitoring of progress	- Evaluation of the project
Community	 Determine the problems facing the institution in a PCM workshop Assist the management committee to restructure Draw up a business focused plan of action Initiate and implement income generating projects Design short-term courses (module) Implementation of new training modules 	- Monitoring of progress	- Evaluation of the project
Work Progress	 Preparation Stage Implementation Stage 	3. Monitoring Stage	4. Evaluation Stage

Component of Verification Projects: Strengthening Marigat Youth Polytechnic

Task Allocation of Verification Projects.

Table I.1-2

Table I.1-3Task Allocation of Verification Projects

Components of Verification Projects: Environmental Conservation (Promotion of Improved Stove)

Work Progress	Community	Relevant Administrations	Local Consultants/NGOs	JICA
1. Preparation Stage		- Identify women who are		- Assist the relevant administration
		the most suffering from		in doing the left.
		firewood shortage.		- Prepare a progress form to be filled
		 Identify the women 		by Local Consultants.
		groups that are eager to introduce improved Jiko.		
2. Planning Stage	- Organize women groups,	- Facilitate the set up of the	- Prepare the progress	- Assist the relevant administration
	composed of 3 to 5 members each	women groups.	report in a form given by JICA.	to facilitate the grouping.
3. Implementation Stage	- Chose the leader of the	- Facilitate the selection of	 Prepare the progress 	- Avail the transportation to be
	group.	the leaders.	report in a form given by	required for taking the leaders to
	- Do study tour for seeing	- Give the opportunities of	JICA.	the area where improved Jiko is in
	the real improved Jiko.	showing real improved Jiko		use.
	 Collect money for buying 	to the leaders.		- Avail the transportation for
	the improved Jiko.	- Avail the Jiko by using the	_	bringing the improved Jiko to the
	- Construct the improved	money collected.		community.
	Jiko by merry-go-around.	- Disseminate the effective		- Assist the relevant administration
	- Disseminate the Jiko to	use of firewood, good		in doing the left.
	neighbors.	cooking to reduce)
		firewood, storing		
		LITEWOOD DUTING DIV Season, etc.		
4. Monitoring Stage	- Check the amount of	- Analyze the data collected	- Collect and summarize	- Assist the relevant administration
	firewood used under the	by local consultants.	the data given by the	for analyzing the data.
	 Improved Jiko. Check the time to cook. 		Jiko users.	
5. Evaluation Stage		- Evaluate the impact of the		- Evaluate the impact of the
		improved Jiko together with IICA		improved Jiko and explore to
				uissemmate the Jiko over the Study
Į				in o m

Table I.1-4 Task Allocation of Verification Projects

Component of Verification Project : Small-Scale Industry (Bee-Keeping)

Work Progress	Community	Relevant GOK Administrations	Local Consultants/NGOs	JICA
1. Preparation Stage	- Take training course provided	- Explain about the potential of	- Provide training on leadership	- Provide initial cost.
	by NGOs.	honey business to the	quality, gender, awareness	- Prepare detail implementation
	- Organize group(s) and elect	community and identify	building and marketing.	plan.
	committee members.	participants.		- Assist activities of GOK and
	- Contribute money to start	- Supervise training and election		NGO.
	business.	of committee members.		
	- Take technical training course	- Provide technical information.		
	provided by the staff of			
	National Beekeeping Station.			
2. Implementation	- Contribute labor to construct	- Provide technical information.	- Supervise and assist the	- Assist activities of relevant
Stage	the building of honey refinery.	- Assist to obtain and prepare a	activities of committee	administrations.
	- Refine and bottle honey.	space to construct building.	members.	
	- Sell bottled honey.			
3. Monitoring Stage	- Check the number of bottled	- Analyze the benefit from	- Monitor the activities of	- Assist relevant
	honey produced and sold.	honey business.	committee members.	administrations to analyze
	- Check the benefit.			benefit.
4. Evaluation Stage	- Evaluate the activities of each	- Evaluate the impact of honey	- Evaluate the activities of each	- Evaluate the impact of honey
	committee members and other members	project with JICA.	committee members and other	project and explore to apply
			TITCHINGS.	unis pusiness to other areas.

Task Allocation of Verification Project
Table I.1-5

Component of Verification Project: Participatory Irrigation Management Project (Sandai)

	community Local Consultants/NGOs Relevant GOK Administrations JJCA	orkshops - Traverse survey of canal - Plan making for lan duse and - Provision of initial cost system and target farmland on of project and its - system and target farmland - copping pattern - Plan making for water no of project and its - plan making for - Design and making of water - Plan making for magement by using survey no and discussion - Preparation of data collection - Provision of an echnical - Discussion with community no and discussion - Preparation of data collection - Provision of a tarch and set echnical - Discussion with community no project with - Provision of tarc and meighbor - Provision of tarch y tour to no project with - Proparation of data collection - Provision of tarch y tour to na and discost - Proparation of data collection - Provision of travel na direighbor - Proparation of data collection - Provision of travel na direighbor - Proparation of data collection - Provision of travel na direighbor - Proparation of a set concellation - Prevision of travel na direighbor - Prevision of implementation - Prevision of travel na direighbor - Prevision of implementation - Technical assistance for GOK na equipment and - Supervision of implementation - Advice on water abstraction
•	Community	 Holding workshops Explanation of project and its task allocation to NGOS, GOK in and JICA Explanation and discussion and JICA Explanation and discussion about a number of unskilled labor with NGOs and GOK Getting agreement for verification project with downstream and neighbor communities. Plan making to strengthen water user's association Decision of responsible person to a provision of unskilled labor, and an equipment and material keeper Plan making of cost sharing and allocation Plan making of annual work of community Strengthen of water user's association Plan making of annual work of community Holding workshops Strengthen of water user's association Hire a gate operator to divert water water
	Work Progress	 Preparation Stage Implementation Stage

JICA		- Assistance for GOK			- Evaluation of the project and make recommendation of	possibility for expansion of this kind of project to another Locations or ASAL areas.
Relevant GOK Administrations		- Technical advice to NGOs and community			- To record of monitoring results and to prepare	recommendation what can we learn from PIM in ASAL area through verification
Local Consultants/NGOs		 data collection from community and confirmation of it 	- Record of monitoring results		- Preparation of recommendation what can we	learn from PIM in ASAL area through verification
Community	fallow practice - Job simulation by actual responsible person	 Holding workshops Check of O/M practice Check of crop growth 	condition, production and irrigated water quantity - Check of account - Check of affecting condition at	downstream and neighbor community	- Review for initial plan and re- allocation of each task and	responsibility - Holding workshops
Work Progress		3. Monitoring Stage			4. Evaluation Stage	

Components of the V	Components of the Verification Project: Improvement of Irrigated	s ed Agriculture		
Work Progress	Community		Local Consultants/NGOs	JICA
1 Preparation Stage	 Identification of three sample irrigation blocks(upper to down) 	-Traverse survey of canals from main to tertiary canals	 Investigation on problems of water management 	
			- Indication of irrigation block on map	
			 survey on on-farm irrigation facilities 	
			-Survey on plot boundary and topographic conditions(sample blocks)	
			Identification of irrigation improvement	
			schemes	
			- Survey on irrigation area by crop by season	
			 Survey on farming practices and possible improvement 	
			- Improvement of agricultural supporting	
			services	
		- Holding PCM workshops		- Assistance to GOK
2 Planning Stage	- Preparation of implementation plan	- Evaluation of implementation plan	- Preparation of technical planning report	- Assistance to GOK
	and cost sharing plan		-	administration for designing
	- Plan preparation on on-farm irrigation	- improvement of agricultural supporting	- Design of project facilities	
	facilities	services		
	- Plan preparation on cropping pattern		- Planning on precise land leveling	
	- Plan preparation on Improvement of			
	farming practices			
3 Implementation Stage	-Strengthening of Water User	- Improvement of structures from main		
2990	- Improve ment of eater management hv			
	Water Users' Association and members			
	- Improvement of on-farm irrigation facilities	- Improvement of agricultural supporting services		
	- Improvement of cropping pattern			
	including introduction of high valued			
	crops/varieties			
	 Improvement of farming practices 			
4. Monitoring Stage	 Operation and management of the project 	- Holding PCM workshop	- Monitoring of the project	- Monitoring of the project
5. Evaluation Stage	- Operation and management of the	- Evaluation of the project	- Fuelination of the avaiant	
	project			 Evaluation of the project

Task Allocation of Verification Projects	Commences of the Verification Durings (Incurrent of the Verification During)
Table I.1-6	fo otococco

 Table I.1-7
 Task Allocation of Verification Projects

Components of Verification Projects: Livestock Project

Work Progress	Community	Relevant GOK Administrations	Local Consultants/NGO's	JICA
Preparation Stage	1.Preparation Stage - All the community members discuss how they should cope with the matter and deepen their awareness.	- Assist and ca (M		- Assistance to GOK administration for planning
	 To organize farmers association to improve existing systems and form a committee. Allot a portion of the work each. 	- Holding PCM workshops.	- Attend the PCM.	- Assistance to GOK administration for PCM workshops.
	 Selected community members trained at KARI, RRC, Perkerra, promote a better understanding. 	- Conduct of intensive training for the selected farmers. (KARI, RRC, Perkerra)		
2. Implementation Stage		 Design of project facilities Make a selection advice for materials/equipment. 	- Implementation and supervision including procurement of materials and equipment.	- Assistant to GOK administrations for designing and selection materials.
Monitoring Stage	- As the need arise expenses will be shared each association members. 3.Monitoring Stage - Operation, management and maintenance of the project.	 To provide expertise to animal project management. Holding PCM workshops 	he project	- Monitoring of the project
	a joint	 To assist management advice. To assist record keeping 	- Attend the PCM.	
. Evaluation Stage	- Maintenance of the project. - Record keeping of the project 4. Evaluation Stage - Assist Evaluation Team	-Improvement information network of animal production - Evaluation of the project	- Assist Evaluation Team	- Evaluation of the project

JICA	- Provision of initial cost	- Assistance for GOK	- Assistance for GOK	- Evaluation of the project and make recommendation of possibility for expansion of this kind of project to another Locations or ASAL areas.
Relevant GOK Administrations	 Investigation of catchment area where is proposed conservation for Pan Design and making work schedule of rehabilitation 	- Technical advice for rehabilitation	- Technical advice to NGOs and community	- To record of monitoring results and to prepare recommendation what can we learn from rehabilitation of pan in ASAL area through verification
Local Consultants/NGOs	 Explanation of rehabilitation method of Pan through primary school (capacity building). Plan making for implementation 	 Supervision of rehabilitation Opinion exchange with community and adjust usual rehabilitation work plan 	 data collection from community and confirmation of it Record of monitoring results 	- Preparation of recommendation what can we learn from rehabilitation of pan in ASAL area through verification
Community	 Holding workshops Identification for a number of Pan users in each season Decision of equipment store place and responsible person 	 Holding workshops Contribution of unskilled labor works Job simulation by actual responsible users for usual rehabilitation and exchange an opinion with NGO s and GOK (work shop) 	 Holding workshops Check of participant person in each season Check of water fetching and desilting frequency Check of desilted silt quantity Check of number and damage condition of equipment Check of plant growth condition of fence 	 Holding workshops Review for initial plan and reallocation of each job and responsibility
Work Progress	1. Preparation Stage	2. Implementation Stage	3. Monitoring Stage	4. Evaluation Stage

 Table I.1-8
 Task Allocation of Verification Project

JICA	- Assistance to GOK and community on workshop procedures	- Assistance in technical design and implementation	- Assistance in monitoring	- Assistance in monitoring
Local Consultants/NGOs	 Support in community mobilization Group strengthening, Baseline data-stimulate linkages with other support agencies 	 Group strengthening Prepare participatory monitoring format Group skills upgrading 	 Monitoring data Other project related data 	 Participatory evaluation procedures Project review and re- planning
Relevant Administration	 Identify groups that will participate Mobilize the groups and facilitate their deliberations Provide guidelines in preparation of by-laws and facilitate registration of the groups 	 Provide assistance in interpreting technical requirements Facilitate understanding of quality control during implementation stage 	 Participate in formulating progress indicators alongside local consultants and JICA Facilitate groups' understanding of participatory monitoring and evaluation Analyze performance data collected by local consultants 	 Assess impact of project interventions in conjunction with JICA Facilitate participation evaluation
Community	 Gathering together to discuss project Discussing and agreeing on project guidelines, be laws Registering with Department of Social services and complying with any other legal requirements 	 Discussing project plan, targets and budgets Agreeing who will supervise projects works and how 	- Reaching a consensus on how project will monitored	- Discussing and agreeing on evaluation procedures
Work Progress	1. Preparation Stage	2. Implementation Stage	3. Monitoring Stage	4. Evaluation Stage

Components of Verification Projects: Community Organization

Task Allocation of Verification Projects

Table I.1-9

Illillino. all and a second CONCISCON OF CONCI 2001 and the second se 2 Hony Harv. The second ç σ Vater Melor 2000 G 00000000 4 in the second second 100000 and the second Maize Activites of Verification Projects Laboratory equipment setup
 Laboratory equipment setup
 Water source investigation
 Epidemiological investigation
 A School program development
 Dublic message development
 Operation of the project Year Month Farming Lobour Demand High Marigat Health Center **Monthly Rainfall Crop Planting** School Term Low

Surveilance, Information and Support System Improvement of Epidemic and Endemic Diseases at Marigat Health Centre Table I.2-1

2000	7 8 0 1 10 11 10 2001		たちはある市場というない。国外市地でいたでもある事を	Vater Melor	Hony Harv. 2. THE APPLICATION HARV. HONY HARV. HONY HARV.																					
	1 2 3 4		Maize http://www.weighter.com														-									
Year	Month	Monthly Rainfall	Crop Planting			Farming Lapour Demand	Low	School Term	Activities of Verification Projects	1. Strengthening of Marigat Youth Poly.	1.1 Development of curriculum	1.2 Training for making carts and tools	1.3 Demonstration and selling the products	1.4 Study tours to preceding areas	2. Ksearch for Blacksmith Development	2.1 Research for present marketing conditions	01 tools	2.4 Study on making new tools for agriculture	and livestock							

Table I.2-2 Strengthening of Marigat Youth Polytechnic

Year						2000	9						1006	
Month	-	6	~		u u	8	-	0	-	01			107	-
Monthly Rainfall					Ż							21-	→ ////////////////////////////////////	
Crop Planting			Maize				Wat	Water Melor					-	
							Hony Harv.	_ 8	Hony Harv.					
Farming Lopour Jemand High			Illun.											
Low			lllllla.											IIII IIIIIII
School Term							000000000000000000000000000000000000000							
Activities of Verification Projects														
1. Improved Jiko							-							
1.1 Demonstration of Improved Jiko														
1.2 Identify and forming women group		200000												
1.3 Study tour to preceding areas		ß	200										-	
1.4 Collection of money for Jiko														
1.5 Purchasing the Jiko inner liner										-				
1.6 Construction of Jiko by Merry-go-around														
1.7 Promotion of firewood conservation practices				E TRANSPORT	80000									
1.8 Improved Jiko in use														
2. Small Scale Industry(Fish processing)														
2.1 Fry fish, (Individual basis)														
3. Small Scale Industry(Bee Keeping)														
3.1 Mobilizing bee keeping groups				0 	one beside	promoting	done beside promoting improved Jiko	iko						
3.2 Study tour to preceding areas just nearby						-								
3.3 Collection of money for bee keeping					0.000									
3.4 Material purchase					8									
3.5 Training and Setting up Hives						000000000000000000000000000000000000000	including first harvesting	sluding first	harvestine	se	Dart of the training	6		
3.6 In operation														
3.7 Harvesting										I F				
3.8 Semi-refinery & Bottling									+-					
3.9 Marketing												000000000000000000000000000000000000000		
											-		-	
										+	+	-		
						T			+					
												+		

 Table I.2-3
 Improved Stove + Small Scale Industry at Kampi ya Samaki

Communal Resource Management (Participatory Irrigation Management + Modernized Livestock Feeding at Sandai Irrigation Scheme) Table I.2-4

l car					"	2000								2001			
Month			3 4	5	8	-	8	10	11	12	1	6	4	1 5	9	R I	a
Monthly Rainfall																	
Crop Planting		Ma	Maize			Wat	Water Melon	1 123			-						
Compared Above Descended						Hony Harv.		Hony Harv.	A CONTRACTOR OF A CONTRACTOR A	2. 210 2 2 C (See							
High		illin.	and the state of the second se					and a contract									
Low			9														
School Term												Marth Milline					
Activities of Verification Projects	-																
1. Participatory Irrigation Management														-		_	
1.1 Assessment of present irrigation conditions		-														-	
1.2 Review/preparation of group by-law		9													-		
1.3 Preparation of rehabilitation plan			inclu	including canal system survey	tem survev		-								-		
1.4 Election of management committee		- 	00000000	, 			-					+					
1.5 Compilation of rehabilitation budget								-	+-							-	
1.6 Implementation of rehabilitation works	-							-									
1.7 Routine operation and maintenance																	
1.8 Review of irrigation performance and budget				-								4					
Approval																	
1.9 Study tours to preceding areas					٥					+-					-		
												-					
2. On-farm Water Saved Irrigation (9 acres)																	-
2.1 Identification of sample blocks and farmers																	-
2.2 Preparation of on-farm water saved irrigation						-							-				
plan																-	
2.3 Planning go cropping schedule			_												_		
2.4 Planning of improved farming practices	_									+.					-	ł	
2.5 Strengthening of water user's association		-									-					-	
2.6 Implementation of land leveling																	-
2.1 Operation of on-farm saved irrigation							•										1
		_	+				8										
3. Modernized Livestock Feeding							_					-					
3.1 Identification of typical livestock farmers										-	_			_			
3.2 Planning of modernized livestock feeding									+	+							
3.3 Promotion of new breeding and production			0.0000						-+								
system												+					-
3.4 Promotion of new feeding system			000000000000			1000001 0000000000000000000000000000000	100000000000000000000000000000000000000						-				
3.5 Improvement of animal health system											+		য় চ				
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Rehabilitation of Pan in Rugus	
Table I.2-5	

Year					0000	ç								
Manth	с 	c				2							2001	
MOULLI	7 1	2	4	C	۵	/	8	6	0	÷	12	-	2	
Monthly Rainfall														
Crop Planting	-	Maize				Vater Melor	ter Melor	1 100 12		A STATE OF STATE				
					<u> </u>	Hony Harv.	100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100	Hony Harv, Hunster and Hony Harv,	ny Harv.	and a survey of				
- rarming Lapour Demand High		IIIIIII.												
Low		and an and an												
School Term			- 602											[[[[[]]]]]
Activities of Verification Projects														
1. Rehabilitation of Pan						-		_						
1.1 Review of general conditions of pan														
1.2 Election of management committee					-						i	İ		
1.3 Review/preparation of pan by-law		-												
1.4 Preparation of rehabilitation plan and budget					1				1					
1.5 Registration with Dept. of Social Services	:													
1.6 Implementation of rehabilitation									-					
1.7 Routine operation and maintenance														
1.8 Study tours to preceding areas														•
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Security
Food
Table I.2-6

Year						2000	0							2001	
Month	-	2	3	4	ß	6	7	8	6		11	12	1	2	
Monthly Rainfall															
Crop Planting			Maize				N	Water Melor							
Ecomical chaire Domond						<u>-</u>	Hony Harv.			Hony Harv.	A TRANSPORTED AND A TRANSPORTE				
ramme caucur Demana High			Illinine.												IIIIIII.
Low			IIIIII							autilli					(1111111
School Term										-8-					
Activites of Verification Projects															
1. Modernized Livestock Feeding															
1.1 Identification of typical livestock farmers															
1.2 Planning of modernized livestock feeding															
1.3 Promotion of new breeding and production			B												
system					-										
1.4 Promotion of new feeding system		-		10000000000000000000000000000000000000											
1.5 Improvement of animal health system															
1.6 Study tours to preceding areas		123					0								
							+								-
2. Implementation of Rain Water Harvest															
2.1 Identification of run-off catchment and rain															
water harvest areas															
2.2 Preparation of rain water harvest plan	-														
2.3 Planning of cropping schedule		62													
2.4 Planning of improved farming practices				•					-						
2.5 Implementation of run-off catchment facilities			₽									 			
2.6 Implementation of on-farm water saved															
irrigation									 						
2.7 Crop production with rain water harvest															
2.8 Study tours to preceding areas	_				8										
									-						
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Best Practices
Learning from
Table I.2-7

2001	2 3																						
	12 1																	 	 				
	11														 								
	10			Hony Harv.				-	 										 		 		
	8		Vater Melor	Hony Harv. Warren and Andre Hony Harv. Warren and					 	-				 						 	 	 	
2000	7			Hony Harv.																 			
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	2 3		Maiz		lllller.					-			-	 					 	 			
Year	Month				nand			ation Projects	Leaning from Best Practices Semi-Arid Rural Development Docernum (SADAED)		1.1 Project in the Neiyo & Marakwet Ulvision 1.9 Samburi District Internated Davidson and Distant		Nitsui Forest Development Project										
		Monthly Rainfall	Crop Planting		Farming Labour Demand	Low	School Term	Activities of Verification Projects	1. Leaning from Best Practices		1.1 Project in the Net		I.3 NITSULFOREST DEV										

Table I.3-1 Cost Estimation for Verification Projects

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(Summary	

3	tems		Cost Allocation		-
		JICA	GOK	Community	otal
	Total Cost (Ksh portion)	Ksh 17,755,990	Ksh 921,000	Ksh 1,663,965	Ksh 20,340,955
	Total Cost (Yen portion)	¥4,098,000	0#	0#	¥4,098,000
	Ground Total (Ksh)	Ksh 20,672,000	Ksh 921,000	Ksh 1,664,000	Ksh 23.257.000
	Ground Total (Yen)	¥29,053,000	¥1,294,000	¥2,339,000	¥32,686,000
1	- i				
	Improved Stove + Small Scale Industry	Ksh 3,853,900	Ksh 75,000	Ksh 232,500	Ksh 4,161,400
		Ksh 3,854,000	Ksh 75,000	Ksh 233,000	Ksh 4,162,000
2	Health Center	Ksh 1 227 765	Keh 240 000	Keh O	Kch 1 AG7 765
		¥3,799,700	0#	0#	Ksh 3.799.700
		Ksh 3,931,000	Ksh 240,000	Ksh 0	Ksh 4,171,000
3	Strengthening of Marigat Youth Polytechnic	Ksh 2,871,534	Ksh 260,000	Ksh 18,625	Ksh 3.150.159
		¥99,100	0 ,	0 ,	Ksh 99,100
1		Ksh 2,942,000	Ksh 260,000	Ksh 19,000	Ksh 3,221,000
4	Communal Resource Management	Ksh 4,797,928	Ksh 154,000	Ksh 1,220,450	Ksh 6,172,378
		499,600	¥0	0,*	Ksh 99,600
		Ksh 4,869,000	Ksh 154,000	Ksh 1,220,000	Ksh 6,243,000
5	Rehabilitation of Pan	Ksh 832 714	Ksh 64 000	Keh 43 480	Keh ann 104
		Ksh 833,000	Ksh 64,000	Ksh 43,000	Ksh 940,000
9	Food Security	Ksh 1,315,796	Ksh 128.000	Ksh 148.910	Ksh 1 592 706
		¥99,600	0 ,	0 ,	Ksh 99.600
		Ksh 1,387,000	Ksh 128,000	Ksh 149,000	Ksh 1,664,000
	Field Visit to Observe On-going Projects	Ksh 2,856,354	Ksh 0	Ksh 0	Ksh 2.856.354
T		Ksh 2,856,000	Ksh 0	Ksh 0	Ksh 2.856.000
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Note: US\$ = 74 Ksh = 104 Yen Ksh = 1.4054 Yen

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Cost
Table I.3-2

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Items Total Total Improved Stove + Small Scale Industry \overline{Ory} \overline{Orn} \overline{Orn} $\overline{Ornnunty}$ $\overline{Ornnunty}$ 1 Introduction and Marketing 1 La Keh 35300 Keh 3500 Keh 3500 Keh 3000 Keh 30000 Keh 13030 Keh		Ksh 20,340,955					¥4,098,000		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $						Cost Allocation			-
		Items	Q'ty	Unit		GOK	Community	I otal	remarks
	-	+ Small Sca				Ksh 75,000	Ksh 232,500	Ksh 4,161,400	
2) Finit Processing (frah frying) 1 La Kah 2.00 Kah 7000 Kah 7000 Kah 7000 4) Others 1 La Kah 2.27,365 Kah 2.75,000 Kah 1 Kah 1.327,765 Kah 1.227,765 Kah 1.2000 Kah 1.202,700 Kah 1.202,700 Kah 1.202,760 Kah 1.202,760 Kah 1.202,760 Kah 1.202,760 Kah 30,000 Kah 1.202,700 Kah 1.202,700 Kah 1.202,700 Kah			-	S	Ksh 867,000	Ksh 0	Ksh 6,000	Ksh 873,000	
3) Honey Production and Marketing 1 La Kah 1,271,400 Kah 0 Kah 0 Kah 0 Kah 1,300 Kah 0 Kah 0 Kah 0 Kah 0 Kah 0 Kah 1,300 Kah 0 Kah 0 Kah 0 Kah 1,300 Kah 0 Kah 20000 Kah 0 Kah 0 Kah 20000 Kah 20000 Kah 12010 Kah 20000 Kah 200000 Kah 20000 Ka				ട	Ksh 0	Ksh 0	Ksh 7,000	Ksh 7,000	
4) Others 1 Ls Kah 255,00 Kah 75,000 Kah 1,407,105 Kah 1,407,105 Health center I Kah 1,227,756 Kah 25,000 Kah 1,227,756 Kah 1,227,756 Kah 1,227,756 Kah 1,227,757 Kah 1,227,756 Kah 1,220,700 Kah 1,457,300 Stap 100 Kah 1,457,300 Stap 100 Kah 1,457,300 Stap 100 Kah 1,457,300 Kah 1,220,440 Kah 2,50,000 Kah 1,520,440 Kah 2,50,000 Kah 1,520,440 Kah 2,52,000 Kah 1,52,040 Kah 1,52,040 Kah 1,220,440 Kah 2,53,000 Kah 1,52,046 Kah 2,53,000 Kah 2,53,000 Kah 1,52,046 Kah 2,53,000 Kah 2,53,000 Kah 1,52,046 Kah 2,53,000 Kah				ടി	Ksh 2,721,400	Ksh 0	Ksh 219,500	Ksh 2,940,900	
Health center Keh 1,277,755 Keh 20,000 Keh 0 Keh 1,467,767 1) Surveillance of Diseases (Keh) 1 Ls K34,53,000 Ya,0 Y3,799,700 2) Suprovillance of Diseases (Keh) 1 Ls K34,53,000 Yeh 0 Ya,739,700 2) Suprovillance of Diseases (Keh) 1 Ls K54,53,000 Keh 453,000 Keh 453,000 Keh 453,000 Keh 453,000 Keh 20,000 Keh 0 Keh 20,000 Keh 0 Keh 20,000 Keh 1,86,01 Keh 20,000 Keh 0 Keh 20,000 Keh 0 Keh 20,000 Keh 0 Keh 20,000 Keh 1,86,02 Keh 20,000 Keh 0 Keh 20,000 Keh 21,000		- 1	-	5	Ksh 265,500	Ksh 75,000	Ksh 0		
1) ¥3.799,700 ¥0 ¥3.799,700 ¥0 ¥3.799,700 ¥0 ¥3.799,700 1) Surveillance of Diseases (Yeh) 1 Ls ¥3.799,700 ¥0 ¥3.799,700 ¥0 ¥3.799,700 2) Surveillance of Diseases (Yeh) 1 Ls ¥3.799,700 ¥6h K6h K6h K8h \$2.811,534 Keh \$2.9000 Keh Keh \$2.91,534 \$4.793,7000 Keh \$4.90 \$5.9000 Keh \$4.90 \$5.9000 \$5.9000 Keh \$4.795,7000 Keh \$4.795,7000 \$5.9000 Keh \$4.795,7000 \$5.9100	2				Ksh 1,227,765	Ksh 240,000	Ksh 0	Ksh 1,467,765	
(1) Surveillance of Diseases (Kah) (1) Lave kin 30,000 Kah 31,000 Kah 31,001,100 Kah 31,001,100 Kah 31,001,100 Kah 31,001,100 Kah 31,300,100 Kah 31,300,100 </td <td></td> <td></td> <td></td> <td></td> <td>¥3,799,700</td> <td>0*</td> <td>0#</td> <td>¥3,799,700</td> <td></td>					¥3,799,700	0*	0#	¥3,799,700	
2) Surveillance of Diseases (Yen) 1 Ls ¥3,799,700 ¥6h 0 ¥6h 0 ¥3,3000 2) Surpenden activity 1 Ls Ksh 3000 Ksh 10 Ksh 3000 Ksh 10 Ksh 3000 3) Information activity 1 Ls Ksh 240,000 Ksh 10 Ksh 20000 Ksh 10 Ksh 20000 Ksh 100 Ksh 100 Ksh 234,000 5) Strengthening of Marigat Youth Polytechnio 1 Ls Ksh 3033 Ksh 140,000 Ksh 100 Ksh 101 Ksh 100 Ksh 101 Ksh 100 Ksh 100<		Surveillance of Diseases (1	ຮຼ	Ksh 453,000	Ksh 0	Ksh 0	Ksh 453,000	
21 Support System 1 Ls Ksh 3000 Ksh 0 Ksh 0 Ksh 3000 31 Information activity 1 Ls Ksh 20000 Ksh 10 Ksh 3150155 31 Information activity 1 Ls Ksh 247,155 Ksh 140,000 Ksh 13,65155 Ksh 3150155 Stremation activity 1 Ls Ksh 305,375 Ksh 140,000 Ksh 13,65150 ¥99,100 31 Introduction of small equipment 1 Ls Ksh 305,375 Ksh 00 Ksh 13,6520 Ksh 13,27480 31 Introduction of small equipment 1 Ls Ksh 305,375 Ksh 00 Ksh 130,000 Ksh 130,200 31 Introduction of small equipment 1 Ls Ksh 305,305 Ksh 130,000 Ksh 130,200 Ksh 130,230 31 Introduction of small equipment 1 Ls Ksh 315,500 Ksh 11,220,450 Ksh 313,230 31 Introduction of small equipment 1 Ls Ksh 315,500 Ksh 11,220,450 Ksh 313,230 31 Intt		Surveillance of Diseases (t	S	¥3,799,700	0,	0*	¥3,799,700	
3) Information activity 1 Ls Kish 200,000 Kish 240,000 Kish 240,000 Kish 247,65 Strengthening of Marigat Youth Polytechnio Kah 324,155 Kish 240,000 Kish 36,155 Kish 360,159 Kish 360,150 Kish 320,150 1) Enhancement for Woodworker class 1 Ls Kish 31,355 Kish 1000 Kish 1350,150 Kish 324,000 3) Onstruction work by trained poople 1 Ls Kish 31,355 Kish 10000 Kish 135,27 Kish 324,000 4) Others 1 Ls Kish 31,355 Kish 10,000 Kish 135,35 Kish 130,359 5) Onstruction work by trained poople 1 Ls Kish 31,355 Kish 146,200 Kish 132,378 4) Others 1 Ls Kish 31,335 Kish 16,200 Kish 33,359 Communal resource management 1 Ls Kish 31,336 Kish 16,200 Kish 33,350 1) Participatory Irritation management 1 Ls Kish 31,336 Kish 13,200 Kish 33,350 1) </td <td></td> <td>Support System</td> <td>-</td> <td>പ</td> <td>Ksh 30,000</td> <td>Ksh 0</td> <td>Ksh 0</td> <td>Ksh 30,000</td> <td></td>		Support System	-	പ	Ksh 30,000	Ksh 0	Ksh 0	Ksh 30,000	
4) Back up for Project and others 1 Ls Kah 544.765 Kah 240.000 Kah 13,625 Kah 31,50139 Kah 34.765 Strengthening of Marigat Youth Polytechnic Kah 240.000 Kah 140.000 Kah 13,625 Kah 31,50139 Ya99.100 1) Enhancement for Woodworker class 1 Ls Kah 243.000 Kah 140.000 Kah 315.234.000 Kah 315.237.800 Ya99.100 2) Introduction of small equipment 1 Ls Kah 315.231.335 Kah 120.000 Kah 315.237.800 Xah 312.2000 Xah 312.20.200 Xah 312.20.2400 Xah 312.2010 Xah 312.2010			-	<u>_</u>	Ksh 200,000	Ksh 0	Ksh 0	Ksh 200,000	
Strengthening of Marigat Youth Polytechnic Keh 2,871,534 Keh 2,871,534 Keh 2,871,534 Keh 3,150,159 Yes 100		-	-	3	Ksh 544,765	Ksh 240,000	Ksh 0	Ksh 784,765	
¥99,100 ¥99,100 ¥0 ¥99,100 1 Introduction of small equipment 1 Is Kah 30,000 Kah 0 Kah 30,000 Kah 0 Kah 324,000 2) Introduction of small equipment 1 Is Kah 305,375 Kah 0 Kah 0 Kah 10,000 Kah 324,000 3) Construction work by trained people 1 Ls Kah 331,339 Kah 120,000 Kah 0 Kah 451,359 4) Others 1 Ls Kah 331,339 Kah 1000 Kah 0 Kah 451,359 Communal resource management 1 Ls Kah 30,00 Kah 0 Kah 10,90,200 Kah 345,359 Communal resource management 1 Ls Kah 30,00 Kah 0 Kah 43,390 Kah 43,390 Kah 43,490,00 Kah 33,399 Ka	က		nio		Ksh 2,871,534	Ksh 260,000	Ksh 18,625	Ksh 3,150,159	
1) Enhancement for Woodworker class 1 Ls Kish 323,4800 Kish 140,000 Kish 0 Kish 333,359 Kish 136,50 Kish 334,000 2) Introduction of small equipment 1 Ls Kish 331,359 Kish 136,50 Kish 334,000 Kish 135,50 Kish 334,000 Kish 136,50 Kish 344,000 Kish 136,50 Kish 344,000 Kish 12,20,450 Kish 344,000 Kish 344,000 Kish 344,000 Kish 344,000 Kish 344,000 Kish 346,000 Kish 346,000 Kish 346,000 Kish 346,000 Kish 346,000 Kish 346,000 Kish 344,000 Kish 346,000 Kish 346,000 Kish 346,000 Kish 346,000 Kish 334,000					¥99,100	0#	0*	¥99,100	
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4) Others 1 Ls Ksh 331.359 Ksh 120,000 Ksh 61,122,378 Ksh 451,353 Communal resource management 1 Ls Ksh 331.356 Ksh 154,000 Ksh 1,22,376 Xsh 64,172,378 Communal resource management 1 Ls Ksh 35600 Ksh 1090.200 Ksh 4,369.600 1) Participatory Irrigation Management 1 Ls Ksh 356.600 Ksh 1090.200 Ksh 4,369.600 2) Water saved Irrigated Agriculture 1 Ls Ksh 387.240 Ksh 10.902.200 Ksh 4,369.60 3) Modemized Ivestock feeding (Ksh) 1 Ls Ksh 387.240 Ksh 10.902.00 Ksh 4,369.60 2) Water saved Irrigated Agriculture 1 Ls Ksh 387.240 Ksh 136.900 Ksh 130.590 3) Modemized Ivestock feeding (Ksh) 1 Ls Ksh 387.348 Ksh 134.000 Ksh 130.590 Ksh 130.590 4) Others 1 Ls Ksh 755.320 Ksh 130.590 Ksh 130.590 Ksh 130.590 10 Perteilitation of Pan			-	S	Ksh 305,375	Ksh 0	Ksh 18,625	Ksh 324,000	
Communal resource management Ksh 4,797,928 Keh 154,000 Ksh 1,220,450 Ksh 6,172,378 1 Participatory Irrigation Management 1 Ls Ksh 3,756,600 Ksh 1 Ksh 1090,200 Ksh 1090,200 Ksh 1030,500 2) Water saved Irrigation Management 1 Ls Ksh 69,300 Ksh 1090,200 Ksh 1030,500 3) Modemized Iivestock feeding (Ken) 1 Ls Ksh 69,300 Ksh 1040,000 Ksh 1030,500 Ksh 1030,500 3) Modemized Iivestock feeding (Yen) 1 Ls Ksh 64,000 Ksh 1040,000 Ksh 1040,000 Ksh 1031,394 4) Others 1 Ls Ksh 64,000 Ksh 1031,394 Ksh 1031,394 1) Rehabilitation of Pan 1 Ls Ksh 705,320 Ksh 1031,394 2) Others 1 Ls Ksh 64,000 Ksh 131,394 2) Others 1 Ls Ksh 705,320 Ksh 131,394 2) Others 1 Ls Ksh 64,000 Ksh 131,394 1) <td></td> <td></td> <td>-</td> <td>S</td> <td>Ksh 331,359</td> <td>Ksh 120,000</td> <td>Ksh 0</td> <td>Ksh 451,359</td> <td></td>			-	S	Ksh 331,359	Ksh 120,000	Ksh 0	Ksh 451,359	
¥99,600 ¥0 ¥0 ¥0 ¥0 ¥99,600 1) Participatory Irrigation Management 1 Ls Ksh 69,300 Ksh 0 Ksh 10,90,200 Ksh 130,590 2) Water saved Irrigated Agriculture 1 Ls Ksh 69,300 Ksh 0 Ksh 154,000 Ksh 130,590 3) Modernized livestock feeding (Ksh) 1 Ls Ksh 69,300 Ksh 154,000 Ksh 132,590 Ksh 130,590 4) Others 1 Ls Ksh 69,300 Ksh 154,000 Ksh 134,00 Ksh 133,789 10 Others 1 Ls Ksh 69,300 Ksh 154,000 Ksh 134,00 Ksh 133,383,783 11 Behabilitation of Pan 1 Ls Ksh 67,334 Ksh 64,000 Ksh 134,300 Ksh 133,396 12 Others 1 Ls Ksh 151,000 Ksh 143,480 Ksh 131,394 11 Animal breeding (Ksh) 1 Ls Ksh 151,000 Ksh 13,910 Ksh 131,394 12 Animal breeding (Yen) 1 Ls	4	Communal resource manage			Ksh 4.797.928	Ksh 154.000	Ksh 1 220.450	Ksh 6.172.378	
(1) Participatory Irrigation Management 1 Ls Ksh 3,758,600 Ksh 1,090.200 Ksh 484.8.00 2) Water saved Irrigated Agriculture 1 Ls Ksh 69,300 Ksh 10 Ksh 61,290 Ksh 130,590 3) Modernized Ilvestock feeding (Ksh) 1 Ls Ksh 69,300 Ksh 154,000 Ksh 134,000 Ksh 130,590 Ksh 130,590 4) Modernized Ilvestock feeding (Yen) 1 Ls Ksh 68,738 Ksh 154,000 Ksh 839,600 Ksh 836,704 4) Others 1 Ls Ksh 68,738 Ksh 154,000 Ksh 836,704 Ksh 836,704 4) Others 1 Ls Ksh 68,738 Ksh 154,000 Ksh 84,836 Ksh 131,394 1) Rehabilitation of Pan 1 Ls Ksh 64,000 Ksh 133,400 Ksh 133,400 Ksh 131,394 2) Others 1 Ls Ksh 155,300 Ksh 133,400 Ksh 131,394 Ksh 000 Ksh 131,394 Ksh 014,000 Ksh 131,394 Ksh 014,000 Ksh 131,394 Ksh 131,394 Ksh 128,				$\left[\right]$		0#	0*	¥99,600	
2) Water saved Irrigated Agriculture 1 Ls Ksh 63,300 Ksh 0 Ksh 61,290 Ksh 130,590 3) Modernized livestock feeding (Ksh) 1 Ls ¥39,600 ¥0 ¥60 Ksh 130,590 4) Modernized livestock feeding (Ksh) 1 Ls Ksh 832,714 Ksh 64,000 Ksh 43,480 Ksh 940,194 1) Rehabilitation of Pan 1 Ls Ksh 63,314 Ksh 64,000 Ksh 134,00 Ksh 338,788 10 Rehabilitation of Pan 1 Ls Ksh 64,000 Ksh 43,480 Ksh 131,394 2) Others 1 Ls Ksh 155,796 Ksh 13,300 Ksh 13,364 2) Others 1 Ls Ksh 155,300 Ksh 148,910 Ksh 13,396 2) Others 1 Ls Ksh 125,000 Ksh 148,910 Ksh 131,394 1 Animal breeding (Yen) 1 Ls Ksh 128,000 Ksh 148,910 Ksh 13,396 1 Animal breeding (Yen) 1 Ls Ksh 133,006		Participatory Irrigation Ma	-	<u>٢</u>	Ksh 3,758,600	Ksh 0	Ksh 1,090,200		Community: Labor Work
3) Modernized livestock feeding (Ksh) 1 Ls Ksh 285,240 Ksh 0 Ksh 68,960 Y0 Y0 Y0 4) Modernized livestock feeding (Yen) 1 Ls Ksh 68,738 Ksh 154,000 Ksh 43,480 Y6 4) Others 1 Ls Ksh 68,396 Ksh 64,000 Ksh 43,480 Y6 1) Rehabilitation of Pan 1 Ls Ksh 765,320 Ksh 64,000 Ksh 43,480 Ksh 0 Ksh 43,480 Ksh 0 Ksh 43,480 Ksh 13,35,796 Ksh 13,460 Ksh 0 Ksh 10 Ksh 10 </td <td></td> <td>Water saved Irrigated Agri</td> <td>-</td> <td>S</td> <td>Ksh 69,300</td> <td>Ksh 0</td> <td>Ksh 61,290</td> <td></td> <td></td>		Water saved Irrigated Agri	-	S	Ksh 69,300	Ksh 0	Ksh 61,290		
Modernized livestock feeding (Yen) 1 Ls ¥99,600 ¥0 ¥0 4) Others 1 Ls Ksh 684,788 Ksh 154,000 Ksh 43,480 Ksh 43,480 <td< td=""><td></td><td>Modernized livestock feed</td><td>-</td><td>្ប</td><td>Ksh 285,240</td><td>Ksh 0</td><td>Ksh 68,960</td><td>Ksh 354,200</td><td></td></td<>		Modernized livestock feed	-	្ប	Ksh 285,240	Ksh 0	Ksh 68,960	Ksh 354,200	
4) Others 1 Ls Ksh 684,788 Ksh 154,000 Ksh 43,480 Ksh 0 Rehabilitation of Pan 1 Ls Ksh 832,714 Ksh 64,000 Ksh 43,480 Ksh 0 1) Rehabilitation of Pan 1 Ls Ksh 765,320 Ksh 0 Ksh 43,480 Ksh 0 2) Others 1 Ls Ksh 765,320 Ksh 64,000 Ksh 148,910 Ksh 0 2) Others 1 Ls Ksh 17,315,796 Ksh 128,000 Ksh 13,910 Ksh 0 1) Animal breeding (Ksh) 1 Ls Ksh 128,000 Ksh 13,910 Ksh 0 2) Stabilization of Painfed Agriculture 1 Ls Ksh 128,000 Ksh 0 Ksh 0 3) Others 1 Ls Ksh 133,006 Ksh 10 Ksh 0 Ksh 0 3) Others 1 Ls Ksh 133,006 Ksh 10 Ksh 0 Ksh 0 Ksh 0 3) Others 1 Ls Ksh 133,006 Ksh 128,000		Modernized livestock feed		S	\$99,600	0#	0*	¥99,600	
Rehabilitation of PanKsh 832,714Ksh 64,000Ksh 43,480K1)Rehabilitation of Pan1LsKsh 75,320Ksh 64,000Ksh 43,4802)Others1LsKsh 67,394Ksh 64,000Ksh 148,910Ksh 34,802)Food Security1LsKsh 1,315,796Ksh 128,000Ksh 148,910Ksh 01)Animal breeding (Ksh)1LsKsh 285,240Ksh 0¥0¥02)Stabilization of Rainfed Agriculture1LsKsh 285,240Ksh 0¥02)Stabilization of Rainfed Agriculture1LsKsh 133,006Ksh 128,000Ksh 03)Others1LsKsh 133,006Ksh 128,000Ksh 0Ksh 04)Field Visit to Observe Ongoing Project1LsKsh 133,006Ksh 0Ksh 0Ksh 02)Field visit to Samburu1LsKsh 1,80,750Ksh 0Ksh 0Ksh 0Ksh 03)Others1LsKsh 1,180,750Ksh 0Ksh 0Ksh 0Ksh 0Ksh 03)Field visit to Samburu1LsKsh 1,034,420Ksh 0Ksh 0Ksh 0Ksh 0Ksh 0Ksh 04)Other Train and Study1LsKsh 1,034,420Ksh 0Ksh 0 <t< td=""><td></td><td></td><td></td><td>១</td><td>Ksh 684 788</td><td>Ksh 154,000</td><td>Ksh 0</td><td>Ksh 838,788</td><td></td></t<>				១	Ksh 684 788	Ksh 154,000	Ksh 0	Ksh 838,788	
1) Rehabilitation of Pan 1 Ls Ksh 765.320 Ksh 0 Ksh 43,480 Ksh 0 Ksh 128,000 Ksh 148,910 Ksh 0 Ksh 128,000 Ksh 148,910 Ksh 0 Ksh 0	2 2		T		Ksh 832,714	Ksh 64 000	Ksh 43.480	Ksh 940,194	
2) Others 1 Ls Kish 67,394 Kish 64,000 Kish 0 Kish 0 Kish 0 Kish 0 Kish 0 Kish 128,000 Kish 148,910 Kish 138,010 Kish 148,910 Kish 128,000 Kish 0 Kis	:			S	Ksh 765,320	Ksh 0	Ksh 43,480	Ksh 808,800	
Food SecurityKeh 1,315,796Keh 128,000Keh 148,910Keh1)Animal breeding (Keh)1Ls¥99,600¥0¥01)Animal breeding (Yen)1LsKsh 285,240Ksh 0¥02)Stabilization of Rainfed Agriculture1LsKsh 897,550Ksh 0¥02)Stabilization of Rainfed Agriculture1LsKsh 133,006Ksh 128,000Ksh 0¥03)Others1LsKsh 133,006Ksh 128,000Ksh 0Ksh 0Ksh 01)Field Visit to Observe Ongoing Project1LsKsh 133,006Ksh 0Ksh 0Ksh 02)Field visit to SARDEP1LsKsh 1,180,750Ksh 0Ksh 0Ksh 0Ksh 03)Field visit to Samburu1LsKsh 1,034,420Ksh 0Ksh 0Ksh 0Ksh 03)Field visit to Samburu1LsKsh 1,034,420Ksh 0Ksh 0Ksh 03)Field visit to Ktui1LsKsh 1,034,420Ksh 0Ksh 0Ksh 04)Other Train and Study1LsKsh 259,669Ksh 0Ksh 0Ksh 0Ksh 0		2) Others	-	្ត	Ksh 67.394	Ksh 64,000	Ksh 0	Ksh 131,394	
Number (Ke) Key ¥99,600 ¥0 ¥0 1) Animal breeding (Keh) 1 Ls Keh 285,240 Keh 0 Keh 68,960 ¥0 2) Arimal breeding (Yen) 1 Ls Keh 897,550 Keh 0 ¥0 ¥0 2) Stabilization of Rainfed Agriculture 1 Ls Keh 133,006 Keh 128,000 Keh 0 Keh 0 3) Others 1 Ls Keh 133,006 Keh 128,000 Ksh 0 Keh 0 1) Field Visit to Observe Ongoing Project 1 Ls Keh 133,006 Keh 0 Keh 0 Keh 0 2) Field visit to SARDEP 1 Ls Keh 1,180,750 Keh 0 Keh 0 Keh 0 2) Field visit to Samburu 1 Ls Keh 1,034,420 Keh 0 Keh 0 Keh 0 Keh 0 3) Field visit to Kitui 1 Ls Keh 1,034,420 Keh 0	ဖ	+ +				Ksh 128,000	Ksh 148,910	Ksh 1,592,706	
1) Animal breeding (Ksh) 1 Ls Ksh 285.240 Ksh 0 Ksh 68.960 ¥0 2) Animal breeding (Yen) 1 Ls ¥99.600 ¥0 ¥0 ¥0 2) Stabilization of Rainfed Agriculture 1 Ls Ksh 897.550 Ksh 0 Ksh 0 ¥sh 0 3) Others 1 Ls Ksh 133.006 Ksh 128.000 Ksh 0 Ksh 0 1) Field Visit to Observe Ongoing Project 1 Ls Ksh 131.005 Ksh 0 Ksh 0 1) Field visit to SARDEP 1 Ls Ksh 1.180.750 Ksh 0 Ksh 0 2) Field visit to Samburu 1 Ls Ksh 1.180.750 Ksh 0 Ksh 0 2) Field visit to Samburu 1 Ls Ksh 1.034.420 Ksh 0 Ksh 0 Ksh 0 3) Field visit to Samburu 1 Ls Ksh 1.034.420 Ksh 0 Ksh 0 Ksh 0 3) Field visit to Samburu 1 Ls Ksh 1.034.420 Ksh					¥99,600	0*	0,	¥99,600	
Animal breeding (Yen) 1 Ls ¥99,600 ¥0 ¥0 ¥0 2) Stabilization of Rainfed Agriculture 1 Ls Ksh 897,550 Ksh 0 Ksh 79,950 Ksh 0 Ksh 0 <td></td> <td>1) Animal breeding (Ksh) -</td> <td>-</td> <td>S</td> <td>Ksh 285.240</td> <td>Ksh 0</td> <td>Ksh 68,960</td> <td>Ksh 354,200</td> <td></td>		1) Animal breeding (Ksh) -	-	S	Ksh 285.240	Ksh 0	Ksh 68,960	Ksh 354,200	
2) Stabilization of Rainfed Agriculture 1 Ls Ksh 897.550 Ksh 0 Ksh 79,950 3) Others 1 Ls Ksh 133,006 Ksh 128,000 Ksh 0 1) Field Visit to Observe Ongoing Project 1 Ls Ksh 133,006 Ksh 0 Ksh 0 1) Field Visit to SARDEP 1 Ls Ksh 130,056 Ksh 0 Ksh 0 Ksh 0 2) Field visit to SARDEP 1 Ls Ksh 11,80,750 Ksh 0 Ksh 0 Ksh 0 2) Field visit to Samburu 1 Ls Ksh 1,034,420 Ksh 0 Ksh 0 Ksh 0 3) Field visit to Kitui 1 Ls Ksh 1,034,420 Ksh 0 Ksh 0 Ksh 0 4) Other Train and Study 1 Ls Ksh 259,669 Ksh 0 Ksh 0 Ksh 0				S	499,600	0#	0,	¥99,600	
31 Others 1 Ls Ksh 133,006 Ksh 128,000 Ksh 0				S	Ksh 897,550	Ksh 0	Ksh 79,950	Ksh 977,500	
Field Visit to Observe Ongoing Project Ksh 2,856,354 Ksh 0 Ksh 0 Ksh 0 <td></td> <td>_</td> <td>=</td> <td><u>_</u></td> <td>Ksh 133,006</td> <td>Ksh 128,000</td> <td>Ksh 0</td> <td>Ksh 261,006</td> <td></td>		_	=	<u>_</u>	Ksh 133,006	Ksh 128,000	Ksh 0	Ksh 261,006	
Field visit to SARDEP 1 Ls Ksh 381,515 Ksh 0 Ksh 0 Field visit to Samburu 1 Ls Ksh 1,180,750 Ksh 0 Ksh 0 Ksh 0 K Field visit to Kitui 1 Ls Ksh 1,034,420 Ksh 0 K<	~	Field Visit to Observe Ongoi			Ksh 2,856,354	Ksh 0	Ksh 0	Ksh 2,856,354	
Field visit to Samburu 1 Ls Ksh 1.180.750 Ksh 0 Ksh 0 Field visit to Kitui 1 Ls Ksh 1.034.420 Ksh 0 Ksh 0 Other Train and Study 1 Ls Ksh 259.669 Ksh 0 Ksh 0			-	្ត	Ksh 381,515	Ksh 0	Ksh 0	Ksh 381,515	
Freid visit to Kitui 1 Ls Ksh 1,034,420 Ksh 0 Ksh 0 Other Train and Study 1 Ls Ksh 259,669 Ksh 0 Ksh 0			-	പ	Ksh 1,180,750	Ksh 0	Ksh 0	Ksh 1,180,750	
Uutrer i rain and ocudy 1 Ls / Ksh 209,669 Ksh 0 Ksh 0				9	Ksh 1,034,420	Ksh 0	Ksh 0	Ksh 1,034,420	
			-	S	Leod, 802 NSN	Ksh U	Ksh U	Ksh 239,009]	

Table I.3-3 Cost Estimation for Verification Projects

			Ksh 4,161,400	1,400	1		
1+2000	$\left \right $	-		Ċ	not Allocation		
1-1 Introduction of Improved (liko	- 1,1,0	l Init	Unit Price			Community	Remarks
1) Material (inner ring of the Jiko)		Nos	Ksh 150			Ksh 3,000	
	ł	Sets	Ksh 150			Ksh 3,000	
3) 4WD for organizing the Community	Ŧ	days	Ksh 17,000	Ksh 272,000			(5groups x 3days
	11 c	days	Ksh 17,000	Ksh 187,000			(20pers/4pers. X 2times + 1day)
		days	Ksh 17,000	Ksh 119,000			/4pers
	17	day	Ksh 17,000	Ksh 289,000			(3day x 5gruop +2day)
Sub-total				Ksh 867,000	Ksh 0	Ksh 6,000	
1-2 Fish Processing (fish frying)	_	_					
1) Fry pan for fish frying	5	Nos	Ksh 1,400			Ksh 7,000	
Sub-total				Ksh 0	Ksh 0	Ksh 7,000	
1-3 Honey Production and Marketing							
1) Bee Hive	20	Nos	Ksh 900			Ksh 18,000	
2) Other Material for Hive(smoker, gloves, etc]		Nos	Ksh 1,000			Ksh 20,000	
3) Refining material (straining cloth, bag, etc)	20 5	Sets	Ksh 450			Ksh 9,000	
4) Honey jars	500 1	Nos	Ksh 15			Ksh 7,500	
1		Nos	Ksh 15			Ksh 7,500	
6) Multi-purpose building		m2	Ksh 22,500	Ksh 1,417,500		Ksh 157,500 Masonry,	Masonry, Community: 10%
1	17 d	days	Ksh 17,000	Ksh 289,000			
	17 d	days	Ksh 17,000	Ksh 289,000			(5group x 3day+2day)
9) 4WD for study tour for preceding area		days	Ksh 17,000	Ksh 374,000			(5group x 4day +2day)
10) Trainer's transportation from NBKS(*1		days	Ksh 17,000	Ksh 289,000			(5days/week × 3week+2days)
11) Perdiem and lodging for trainer	17 d	days	Ksh 3,500	Ksh 59,500			
12) Training book published by NBKS(*1	2	Nos	Ksh 1,700	Ksh 3,400			
Sub-total				Ksh 2,721,400	Ksh 0	Ksh 219,500	
1-4 Others							
							5% of above all items' cost (Ksh)
1) Miscellaneous	╞┼	s	5%	Ksh 85,645			excluding 4DW rental costs
() () ()			č				10% of above all items' cost
Ţ		s]	10%	Ksh 1 /9,800			ĉ
3) Perdiem for counterpart		days	Ksh 1,000		Ksh 75,000		1month(Jiko), 1.5 month(Honey)
Sub-total		-		Ksh 265,500	Ksh 75,000	Ksh 0	
Grand total		•••		Ksh 3,853,900 Ksh 75,000	Ksh 75,000	Ksh 232,500	
(*1; NBKS: National Bee Keeping Station							

Table I.3-4 Cost Estimation for Verification Projects

Termina Caref Allection Remarks 15 Simonif Interaction ON Main On Simonif Simonif 15 Simonif Interaction 1 Nas Vision OK Simonif	Ksh 1,467,765				Ksh 3,799,700	99,700		
Surveilance of Disease City Unit Discontant Diseaseting Microscope City Unit 2 Biocontant Diseaseting Microscope City Microscope <thcity microscope<="" th=""> <thcity microscope<="" th=""> <t< td=""><td>Items</td><td></td><td></td><td></td><td>0</td><td>ost Allocation</td><td></td><td>Demote</td></t<></thcity></thcity>	Items				0	ost Allocation		Demote
10. Discretistication 2 Nee ¥755.000 ¥70.000 ¥10.000 ¥	Surveillance of Dise			Jnit Price	JICA		ommunity	NGILIALNS
2) Sinsertion Kits 1 Nes ¥205,000 ¥205,000 ¥205,000 3) Tearettion Kits 2 Les ¥10,000 ¥850,000 ¥860,000 3) Tearettion Kits 2 Les ¥10,000 ¥860,000 ¥860,000 3) Tearettion Kits 2 Les ¥10,000 ¥860,000 ¥10,000 3) Tearettion Kits 2 Lin ¥500 ¥10,000 ¥10,000 3) Tearettion for Microscose 10 Nes ¥600 ¥10,000 ¥10,000 3) Steamar Explorate 10 Nes ¥600 ¥10,000 ¥10,000 3) Steamar Explorate 10 Nes ¥600 ¥10,000 ¥10,000 3) Steamar Explorate 10 Nes ¥600 ¥10,000 ¥10,000 3) Steamin Explorate 10 Nes ¥100 ¥10,000 ¥10,000 3) Steamin Explorate 10 Nes ¥100 ¥130,000 ¥10,000 3) Steamin Explorate 10 Nes ¥1000 ¥130,000 ¥10,000 <td>1) Binocular Microscope</td> <td>1 2 N</td> <td>los</td> <td>¥355.000</td> <td>¥710,000</td> <td></td> <td></td> <td>220V, 20V30W Lamp</td>	1) Binocular Microscope	1 2 N	los	¥355.000	¥710,000			220V, 20V30W Lamp
3) Distribution (cf. 2 Nos ¥10000 ¥140000 ¥140000 5) Autoclene 5) Autoclene 1 Nos ¥550.000 ¥550.000 5) Autoclene 1 Nos ¥550.000 ¥550.000 ¥550.000 7) Text tuber for Elload Grouping 100 Nos ¥550.000 ¥550.000 ¥550.000 1) Text tuber for Etaining 500 Nos ¥50.000 ¥50.000 ¥50.000 101 Simmergion for Etaining 500 Nos ¥50.000 ¥50.000 ¥6.55.000 101 Simmergion for Etaining 500 Nos ¥50.000 ¥70.000 ¥70.000 101 Simmergion for Etaining 500 Nos ¥70.000 ¥70.000 ¥70.000 101 Simmergion for Etaining 500 Nos ¥70.000 ¥70.000 ¥70.000 101 Simmergion for Etaining 500 Nos ¥70.000 ¥70.000 ¥70.000 101 Simmergion for Elevet fo	2) Binocular Dissecting Microscope	Z -	105	¥205,000	¥205.000			
5) Alductiere 1 Nes %53.000 %35.000 %35.000 5) Test tubes for Centrifuge 1 Nes %5.83 %6.83 %	3) Dissecting Kit		los	¥70.000	¥140,000			
5 Autoching 1 No. #85.000 No. #85.000 7) Test tubes for Centriting 10 Nos #83.000 #83.000 No. 88.000 No. 88.000<	Бİ		8	¥140,000	¥280,000			
Tert tuber for Contritue 100 Nes Kn 380 Kn 48 80.00 7 Tert tuber for Contritue 100 Nes K5.000 Kn 48 80.00 8 Oil Immerion for Microscope 0 Lit ¥43.000 Kn 48 80.00 10 Himmerion for Microscope 10 Lit ¥43.000 Kn 90.000 10 Hormal Cell Counter 20 Der ¥1.000 ¥1.000 ¥1.0000 11 Hormalehover for staining 00 Ren ¥1.000 ¥1.0000 ¥1.0000 12 Formalehover for staining 00 Ren ¥1.000 ¥1.000 ¥1.000 13 Meauring Cylinder 100m(ligh) 10 Nes ¥1.000 ¥1.000 ¥1.000 14 Meauring Cylinder 100m(ligh) 10 Nes ¥1.000 ¥1.000 ¥1.000 15 Meauring Cylinder 100m(ligh) 10 Nes ¥1.000 ¥1.000 ¥1.000 16 Meauring Cylinder 100m(ligh) 10 Nes ¥1.000 ¥1.000 ¥1.000 <td>5) Autoclave</td> <td></td> <td>05</td> <td>¥850,000</td> <td>¥850,000</td> <td></td> <td></td> <td>Medium Size</td>	5) Autoclave		05	¥850,000	¥850,000			Medium Size
1 Tract state for Blood 100 Near Mode 64.86.800 Kei N8.800 Kei N8.900 Kei N8.9000 Kei N8.900 <td>6) Test tubes for Centrifuge</td> <td>-</td> <td>los</td> <td>Ksh 980</td> <td>Ksh 98,000</td> <td></td> <td></td> <td></td>	6) Test tubes for Centrifuge	-	los	Ksh 980	Ksh 98,000			
8) Manual Gelia Constant 2 Nes \$\$500 \$\$10000 \$\$1000 \$\$10000 <td>7) Test tubes for Blood Grouping</td> <td></td> <td>los</td> <td>Ksh 980</td> <td>Ksh 98,000</td> <td></td> <td></td> <td></td>	7) Test tubes for Blood Grouping		los	Ksh 980	Ksh 98,000			
10 Other second 5 Lit ¥3,000 ¥165,000 N 11 Glennen 10 Lit ¥4,000 ¥100,000 N 12 Cover silp for Microscope 20 Lit ¥4,000 ¥10,000 N 13 Silet Affast for Microscope 20 Dzz. ¥67,00 ¥10,000 N 14 Cover silp for Microscope 20 Dzz. ¥67,00 ¥10,000 N 15 Silet Affast for Microscope 20 Dzz. ¥67,00 ¥10,000 N 16 Dever silp for Microscope 20 Dzz. ¥67,000 ¥10,000 N 19 Measuring Cylinder 1000ml (gis) 10 Nes ¥10,000 ¥15,000 N N 21 Measuring Cylinder 100ml (gis) 10 Nes ¥10,000 N N N N N N N N N N N N N N N N N N N	B) Manual Cell Counter		301	¥5.000	¥10,000			
10 Closerin Disperting 10 Lit No x41000 x410000 Keh 40000 Keh 40000 11 Generaldehyde 10 Lit Nesauring Conditioner State Attas Powder for staining 10 Nes ¥5000 ¥6000 ¥6000 ¥60000 ¥6000 ¥60000 ¥60000 ¥60000 ¥60000 ¥60000 ¥60 ¥60000 ¥60000 ¥6000 ¥60000 ¥60000 ¥60000 ¥6000 ¥6	Sion		<u>ب</u>	¥33.000	¥165.000			
11) Citema Powder for staining 500 gram ¥300.000 ¥300.000 11) Sinder Alass for Microscope 20 Doz. ¥10500 ¥20.300 ¥20.000 13) Formaldshofe 100 Nes ¥3000 ¥50.000 ¥4.200 14) Desc ¥5000 ¥50.000 ¥50.000 ¥4.200 15) Beaker 100mi 10 Nes ¥50.000 ¥50.000 ¥60.000 16) Beaker 100mi 10 Nes ¥50.000 ¥150.000 ¥4.200 16) Beaker 100mi 10 Nes ¥50.000 ¥150.000 ¥6.000 10) Messuring X100mi ¥17.000 ¥17.000 ¥17.000 ¥16.000 21) Holispipete (amil) 5 Nes ¥17.000 ¥17.000 ¥17.000 ¥16.000 ¥0 21) Holispipete (amil) 5 Nes ¥17.000 ¥17.000 ¥17.000 ¥17.000 ¥16.000 ¥16.000 ¥16.000 ¥16.000 ¥16.000 ¥16.000 ¥1	10) Glycerin	-1	it.	¥4,000	Ksh 40.000			
12) File N13,000 N13,0	11) Giemsa Powder for staining	- 1	me	¥600	¥300.000			
13) Test in the conservertion of the construction of the construct		+	ij	¥1,900	¥19,000			
15 Develation 30 Doz. #67.30 #202.500 #202.500 15 Beaker 100ml 10 Nos #3000 #300 #3000 <td></td> <td>-+</td> <td>0Z.</td> <td>¥10,500</td> <td>¥210,000</td> <td></td> <td></td> <td></td>		-+	0Z.	¥10,500	¥210,000			
15) Beaker 300ml 10 Nos ¥930 ¥2,000 15) Beaker 300ml 10 Nos ¥430 ¥2,000 ¥4,000 15) Measuring Cylinder 100ml (gis) 10 Nos ¥1,000 ¥1,000 ¥1,000 19) Measuring Cylinder 100ml (gis) 10 Nos ¥1,700 ¥1,000 ¥1,000 20) Measuring Cylinder 100ml (gis) 10 Nos ¥1,100 ¥5,000 ¥1,000 21) Holepiperte (large) 5 Nos ¥1,000 ¥2,500 ¥2,500 23) Holepiperte (large) 5 Nos ¥1,000 ¥2,500 ¥2,500 23) Rubber belts 10 Nos ¥1,000 ¥6,000 ¥6,000 24) Messipert. 5 Nos ¥1,000 ¥6,000 ¥6,000 29) Rubber belts 10 Nos ¥1,200 ¥6,000 ¥6,000 29) Rubber belts 100 Nos ¥1,200 ¥6,000 ¥6,000 29) Rubber belts 10 Nos ¥1,20 ¥7,000 ¥6,000 ¥6,000		- f	20	¥6,750	¥202.500			
11) Beaker 100ml 10 Nos ¥1200 ¥1300 ¥13000 11) Measuring Cylinder 100ml(gis) 10 Nos ¥1700 ¥13000 ¥13000 11) Measuring Cylinder 100ml(gis) 10 Nos ¥1700 ¥13000 ¥13000 12) Measuring Cylinder 100ml(gis) 10 Nos ¥1700 ¥13000 ¥13000 21) Holepipete (medium) 5 Nos ¥2500 ¥1300 ¥1300 23) Holepipete (margium) 5 Nos ¥2500 ¥1300 ¥2500 23) Neubert (medium) 5 Nos ¥2500 ¥1300 ¥2500 21) Nobert (medium) 5 Nos ¥2500 ¥13000 ¥2500 23) Rubbert give 100 Nos ¥1300 ¥3000 ¥3000 ¥60 ¥0 23) Rubbert give 100 Nos ¥1300 ¥130000 ¥0 ¥0 23) Rubbert givet 1000 Nos	15) Beaker 500ml	-	505	006#	000'6#			
10) Measuring Cylinder 1.000m (gis) 10 Nos ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥150.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.000 ¥15.500 ¥25.000 ¥15.500 ¥15.500 ¥15.500 ¥15.500 ¥15.500 ¥15.500 ¥15.500 ¥15.500 ¥10.500	16) Beaker 100ml	-	los	¥420	¥4,200	-		
(1) Measuring Onlinet: Stoom (1) Nos (2) <th(2)< th=""> <th(2)< th=""> (2)</th(2)<></th(2)<>	17) Measuring Cylinder 1.000ml (gls)	_	los	¥15,000	¥150,000		-	
(16) Messuring Oxinder 100m(lois) 10 Nos ¥6,000 ¥5,000 ¥5,000 ×76,000 ×76,000	18) Measuring Cylinder 500ml (gls)		los	¥7,000	¥70,000			
20) Measuring Oylinder 10mi(ple) 10 Nos ¥1,700 ¥1,700 ¥1,700 ¥1,000 ¥2,500 ¥0 ¥2,500 ¥0 ¥2,500 ¥0 ¥0 ¥0 ¥0 ¥1,20,000 ¥1,20,000 ¥0 ¥0 ¥1,20,000 ¥1,20,000 ¥1,000 ¥1,0000 ¥1,	19) Measuring Cylinder 100ml(pls)		los	¥6,000	¥60,000			
21) Holepippete (large) 5 Nos ¥5,000 ¥25,000	20) Measuring Cylinder 10ml(pls)	• ••	los	¥1,700	\$17,000			
22) Holepipete (medium) 5 Nos ¥4,000 ¥2,500 ¥12,500 ¥12,500 ×10,500	21) Holepippete (large)		los	¥5,000	¥25,000	_		
23) Holepippete (mall) 5 Nos ¥2,500 ¥12,500 ¥12,500 ¥15,500 ¥15,500 ¥10,500	22) Holepippete (medium)		los	¥4,000	¥20,000			
24) Messeipert 5 Nos ¥1,000 ¥5,000 ¥5,000 25) Rubber ball for pippet 5 Nos ¥2,100 ¥15,000 ¥5,000 21) Polyethylene Pots 1000 Nos ¥12,00 ¥15,000 ¥6 28) Universal Bottle 300 Nos ¥15,000 ¥15,000 ¥6 20) Rubber affore 1000 Nos ¥15,000 ¥6 ¥6 30) Rubber affore 1000 Nos ¥50 ¥15,000 ¥6 ¥6 31) Electric refreetant 1 Nos ¥51,000 ¥6 ¥6 ¥6 31) Electric refreetant 1 Nos Ksh 15,000 Ksh 160,000 ¥6 ¥6 32) Rehabilitation for Pater 1 Nos Ksh 15,000 Ksh 160,000 ¥6 ¥6 32) Rehabilitation for Pater 1 Nos Ksh 15,000 Ksh 10,000 ¥6 Ø 32) Rehabilitation for Pater 1 Nos Ksh 15,000 Ksh 10,000 Ksh 0 32) Rehabilitation for Pater 1 Nos Ksh 15,000 Ksh 0 32) Sub-total 1 1 Nos Ksh 15,000 Ksh 0 1 Information activity 1 1 Ksh 200,000 <t< td=""><td>23) Holepippete (small)</td><td></td><td>30</td><td>¥2,500</td><td>¥12.500</td><td></td><td></td><td></td></t<>	23) Holepippete (small)		30	¥2,500	¥12.500			
25) Rubber ball for pippet 5 Nos ¥2.100 ¥10.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.000 ¥2.000 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.500 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.50000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.5000 ¥2.50000 ¥2.50000 ¥2.50000 ¥2.50000 ¥2.50000 ¥2.50000 ¥5.00 ¥5.000 <td>24) Messpippet</td> <td></td> <td>105</td> <td>¥1,000</td> <td>¥5,000</td> <td></td> <td></td> <td></td>	24) Messpippet		105	¥1,000	¥5,000			
26) Glass pipe 10 m ¥2.500 ¥55.000 ¥55.000 27) Polyethylene Pots 1,000 Nos ¥120 ¥120 ¥157.000 Keh Keh </td <td>25) Rubber ball for pippet</td> <td></td> <td>los</td> <td>¥2,100</td> <td>¥10,500</td> <td></td> <td></td> <td></td>	25) Rubber ball for pippet		los	¥2,100	¥10,500			
217 Polyethylene Pots 1.000 Nos ¥120 ¥120.000 ¥120.000 ¥120.000 ¥120.000 ¥120.000 ¥120.000 ¥120.000 ¥120.000 ¥20.000 ¥6 10 10 ¥6 10 10 ¥6 10 10 ¥6 10 10 ¥6 10 10 ¥6 10 10 ¥6 10 10 ¥6 10 10 ¥6 10 10 10 10 10 10 10 10 10 10 10 10	26) Glass pipe	-	ε	¥2,500	¥25,000			
ZB/ Universal Bottle 300 Nos ¥300 ¥90.000 K90.000 K90.000 K91.05/000 K91.05/000 K91.05/000 K91.05/000 K91.05/000 K91.05/000 K91.05/000 K91.05/000 K91.05/000 K81.05/000 K81.05/000 <t< td=""><td>27) Polyethylene Pots</td><td>ᆂ</td><td>90</td><td>¥120</td><td>¥120.000</td><td></td><td></td><td></td></t<>	27) Polyethylene Pots	ᆂ	90	¥120	¥120.000			
30) Rubber afore 100 Nos ¥500 ¥5000 ¥5000 ¥50	28) Universal Bottle	-	los	#300	000'06*			
31) Electric refrigerator 1 Nos Ksh 157,000 Ksh 157,000 Ksh 157,000 Ksh 100,000 ksh 100 ksh 100,000 ksh 100 ksh 10 ksh 100 ksh 10 ksh	30) Rubber glove			¥500	¥50,000			
32) Rehabilitation for Diratting system 1 Nos Ksh 100,000 Ksh 100,000 Ksh 0 ¥0 Sub-total (Yeh) Sub-total (Yeh) Ksh 15,000 Ksh 453,000 Ksh 0 Ksh 0 Support System Sub-total (Xeh) 2 Nos Ksh 15,000 Ksh 30,000 Ksh 0 Ksh 0 1) Handy disinfection sprayer (18L) 2 Nos Ksh 15,000 Ksh 30,000 Ksh 0 Ksh 0 1) Information activity 1 Ls Ksh 200,000 Ksh 0 Ksh 0 Sub-total 1 Ls Ksh 200,000 Ksh 0 Ksh 0 Information activity 1 Ls Ksh 200,000 Ksh 0 Ksh 0 Sub-total 1 Ls Ksh 200,000 Ksh 0 Ksh 0 1) Information activity 1 Ls Ksh 200,000 Ksh 0 Ksh 0 3 Miscellaneous 1 Ls Ksh 200,000 Ksh 120,000 Ksh 0 3 Miscellaneous 1 Ls Ksh 120,000 Ksh 120,000 Ksh 0 3 Miscellaneous 1 Ls Ksh 120,000	31) Electric refrigerator	-		(sh 157,000	Ksh 157,000			medium size
Sub-total (Yen) Way 3, 793, 700 Wold Wold <th< td=""><td>32) Rehabilitation for Drafting system</td><td>-</td><td></td><td>(sh 100,000)</td><td>Ksh 100.000</td><td></td><td></td><td></td></th<>	32) Rehabilitation for Drafting system	-		(sh 100,000)	Ksh 100.000			
Subport System Sub-total (Keh) Keh 453.000 Keh 0 Keh 0 Support System Sub-total No Keh 15,000 Keh 30.000 Keh 0 Keh 0 1) Handy disinfection sprayer (18L) 2 Nos Keh 15,000 Keh 30.000 Keh 0 Keh 0 Information activity 1 Ls Kah 200.000 Keh 0 Keh 0 Keh 0 Information activity 1 Ls Kah 200.000 Keh 0 Keh 0 Keh 0 Back up for Project and others 1 Ls Keh 200.000 Keh 200.000 Keh 0 Keh 0 Back up for Project and others 1 Ls Keh 200.000 Keh 200.000 Keh 0 3) Miscellaneous 1 Ls Keh 120.000 Keh 120.000 Keh 0 3) Miscellaneous 1 Ls Keh 111.615 Keh 120.000 Keh 0 3) Miscellaneous 1 Ls Keh 120.000 Keh 120.000 Keh 0 4) Contingency 1 Ls Keh 11.1615 Keh 120.000 Keh 0 </td <td>Sub-total (Yen)</td> <td></td> <td>_</td> <td>-</td> <td>¥3,799,700</td> <td>0*</td> <td>0#</td> <td></td>	Sub-total (Yen)		_	-	¥3,799,700	0*	0#	
Support System Support System 1) Handy disinfection sprayer (18L) 2 Nos Ksh 15,000 Ksh 30,000 Ksh 0 Ksh 0 1) Information activity 1 2 Nos Ksh 15,000 Ksh 30,000 Ksh 0 Ksh 0 1) Information activity 1 1 Ls Ksh 200,000 Ksh 0 Ksh 0 1) Information bills 1 1 Ls Ksh 200,000 Ksh 0 Ksh 0 Back up for Project and others 1 1 Ksh 200,000 Ksh 120,000 Ksh 0 3) Fuel for 3 Fuel for 1 Ls Ksh 130,000 Ksh 120,000 Ksh 120,000 3) Fordieme 1 Ls Ksh 130,000 Ksh 130,000 Ksh 120,000 Sth 0 3) Fuel for 1 Ls Ksh 130,000 Ksh 120,000 Sth 10	Sub-total (Ksh)	_	_		Ksh 453,000	Ksh 0	Ksh 0	
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Information activity I Ls K ksh 200,000 K sh 200,000 K sh 0 K sh 120,000 K sh 0 K sh 0 K sh 120,000 K sh 0 K	Sub-total		-		Ksh 30,000	Ksh 0	Ksh 0	· · · · · · · · · · · · · · · · · · ·
I) Information bills I Ls Keh 200,000 Ksh 200,000 Ksh 0 Keh 120,000 Keh 0 Contingency Contingency Keh 120,000 Keh 0 Keh 120,000 Keh 0 Contingency Keh 120,000 Keh 0 Keh 120,000 Keh 0 Keh 0 <td>2-3 Information activity</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	2-3 Information activity							
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Back up for Project and others I Nos Keh 380,000 Ksh 380,000 Ksh 120,000	Sub-total		╞	2222	Ksh 200.000	Ksh 0	Ksh 0	
Back up for Project and others 1 Nos Keh 380,000 Keh 380,000 Keh 120,000 1) Motor bike 1 Ls Keh 120,000 Keh 120,000 Keh 120,000 2) Fuel for motor bike 1 Ls Ksh 120,000 Keh 120,000 Keh 120,000 3) Miscellaneous 1 Ls Ksh 11,615 Keh 120,000 Keh 120,000 4) Contingency 1 Ls Ksh 11,615 Keh 120,000 Keh 0 5) Perdiam for counterpart 120 days Ksh 1,000 Keh 120,000 Keh 0 Sub-total 1 Ksh 1,2000 Keh 120,000 Keh 0 Keh 0 Ground total 1 Ksh 1,2000 Keh 0 Keh 0 Keh 0 Keh 0								
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Keh 544.765 Keh 240.000 Ket 240.000	- I	120 d	ays	Ksh 1,000		Ksh 120.000		
Ksh 1,221,765 Ksh 240,000 Ksh ¥3,799,700 ¥0	Sub-total		+		Ksh 544,765	Ksh 240.000	Ksh 0	
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			-		+0./33./00	2	2 ¥	

Project: Surveillance, Information and Support System Improvement of Epidemic and Endemic Diseases

Cost Estimation for Verification Projects Table I.3-5

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¥99,100 Unit Price Cost Allocation Unit Price UICA Cost Allocation Ksh 7,200 Ksh 36,000 GOK Community Ksh 15,600 Ksh 33,000 Sob Ksh 15,000 Ksh 10,000 Ksh 15,600 Ksh 15,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 11,0000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 11,0000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 11,000 Ksh 10,000 Ksh 110,000 Ksh 110,000 Ksh 110,000 Ksh 110,000 Ksh 110,000 Ksh 11,000 Ksh 110,000 Ksh 110,000 Ksh 110,000 Ksh 120,000 Ksh 120,0	Project: Strengthening Marigat Youth Polytechnic	Polyt	echnic			:		
Thematication Cost Miscation Enhancement for Woodworker class Ory Urit Urit Ore Community 1) Sweet 5 Sets Keh 7.200 Keh 35000 Cond Community 2) Chieles 5 Sets Keh 7.200 Keh 7.200 Keh 7.200 Keh 7.200 Keh 7.200 Men 2000 Ort Demonstration Demonstration <td>Ksh 3,150,159</td> <td></td> <td></td> <td></td> <td></td> <td>¥99,100</td> <td></td> <td></td>	Ksh 3,150,159					¥99,100		
Ethancement for Woodworker class Oth Unit Unit Unit Price UCA COK Community 1) Serves 5	Items				o	ost Allocation		
1) Sawe 5 Sets Keh 7200 Keh 32000	Enhancement for Woodworker class	0 tr	Unit	Unit Price		GOK	Community	
2) Chinete 5 Sets Keh 35000 Keh 222.500 1 3) Filters 5 Sets Keh 15.600 Keh 35000 Keh 36000 Hummer I I Ls Sets Keh 17,000 Keh 202,000 I I I I I Ls Sets Keh 17,000 Keh 202,000 I I I I I Ls Sets Keh 17,000 Keh 202,000 I I I I I I Ls Sets Keh 17,000 Keh 202,000 I </td <td>1) Saws</td> <td>ېد ا</td> <td>Sets</td> <td>Ksh 7,200</td> <td>Ksh 36,000</td> <td></td> <td></td> <td>4 types</td>	1) Saws	ېد ا	Sets	Ksh 7,200	Ksh 36,000			4 types
3) Planes 5 Sets Keh 135000 Keh 72000 Keh 72000 4) Gimlets, augers 5 Sets Keh 15000 Keh 72000 Keh 72000 6) Hammers 5 Sets Keh 10000 Keh 72000 Keh 10000 7) Ness and shakle vices 5 Sets Keh 10000 Keh 10000 Keh 10000 9) Ness and shakle vices 3 Sets Keh 11,000 Keh 10000 Keh 10000 10) Affor study tour 1 Le 20% Keh 10,000 Keh 10,000 11) AffOr for study tour 1 Le Xeh 17,000 Keh 135,000 Keh 14,000 11) AffOr for study tour 1 Le Xeh 17,000 Keh 14,000 Keh 14,000 11) AffOr for study tour 1 Le Xeh 23,000 Keh 14,000 Keh 14,000 11) AffOr for study tour 1 Le Xeh 23,000 Keh 14,000 Keh 14,000 11) AffOr for study tour 1 Keh 23,000 Keh 14,000 Keh 23,000 Keh 14,000 10) Detelegrestext per <td< td=""><td></td><td>5</td><td>Sets</td><td>Ksh 53,000</td><td>Ksh 265,000</td><td></td><td>1</td><td>12 types</td></td<>		5	Sets	Ksh 53,000	Ksh 265,000		1	12 types
4) Gimlets, augers 5 Sets Keh 15,600 Keh 37,800 1 5) Numers 5 Sets Keh 1,2000 Keh 330,000 1 7) Rapes and files 5 Sets Keh 1,0000 Keh 330,000 1 7) Rapes and files 5 Sets Keh 1,0000 Keh 130,000 Keh 14,000 8) Vises and shackle vices 3 Sets Keh 1,0000 Keh 14,000 Keh 14,000 10) HWD for purchasing the material 6 days Keh 1,0000 Keh 140,000 Keh 14,000 11) 4WD for purchasing the material 6 days Keh 17,000 Keh 140,000 Keh 14,000 11) 4WD for purchasing the material 6 days Keh 13,000 Keh 140,000 Keh 13,000 13) Trainer's transportation 80 days Keh 12,000 Keh 140,000 Keh 13,000 13) Trainer's transportation 80 days Keh 12,000 Keh 140,000 Keh 140,000 Keh 140,000		5	Sets	Ksh 44,500	Ksh 222,500			7 types
5) Rulers 5 Sets Ksh 7500 Ksh 75000 Ksh 76000 Ksh 76000 Ksh 76000 Ksh 76000 Ksh 76000 Ksh 76000 Ksh 75000 Ksh 76000 Ksh 75000 Ks	Gimlets,	ъ	Sets	Ksh 15,600				l6 types
6) Harmers 5 Sets Kish 32,000 Kish 15,000 Kish 33,000 3) Rase and files 5 Sets Kish 110,000 Kish 30,000 Kish 30,000 3) Shall equipment 1 Ls 20% Kish 30,000 Kish 30,000 3) Shall equipment 2 Sets Kish 110,000 Kish 30,000 Kish 30,000 10) Electrical equipment 2 Sets Kish 17,000 Kish 130,000 Kish 140,000 12) AWD for study tour 16 days Kish 17,000 Kish 140,000 Kish 0 13) Tainer's transportation 8 days Kish 17,000 Kish 140,000 Kish 0 13) Trainer's transportation 8 days Kish 17,000 Kish 140,000 Kish 0 14) Prodiem and logidig for trainer 80 days Kish 17,000 Kish 140,000 Kish 0 15) Flow 5 Kish 23,000 Kish 140,000 Kish 0 Kish 0 110 hoto Sub-total 2 Sub-total Kish 140,000 Kish 140,000 10	Rulers	2 2	Sets	Ksh 7,500				5 types
7) Raeps and files 5 Sets Kish 130000 Kish 330000 Kish 330000 9) Niese and shackle vices 3 Sets Kish 17000 Kish 330000 Kish 330000 9) Small equipment. 2 Sets Kish 17000 Kish 130000 Kish 140,000 10) Electrical equipment. 2 Sets Kish 17000 Kish 130,000 Kish 140,000 12) AWD for study turn 8 days Kish 17,000 Kish 136,000 Kish 140,000 13) Trainefs transportation 8 days Kish 17,000 Kish 136,000 Kish 0 14) Perdiem and lodging for trainer 80 days Kish 17,000 Kish 136,000 Kish 0 15) Frainefs transportation 8 days Kish 13000 Kish 0 Kish 0 15) Frainefs transportation 8 days Kish 13000 Kish 0 Kish 0 10) Nicolar 2 Nico Xish 140,000 Kish 0 Kish 0 10	6) Hammers	л С	Sets	Ksh 23,000				9 types (Steel, wood)
8) Vises and shackle vices 3 Sets Ksh 110,000 Ksh 230,000 1 L 1) 3 Small equipment 1 Ls Ksh 100,000 Ksh 230,000 1 1 L Ls 20% Ksh 230,000 1 1 L Ls 20% Ksh 100,000 Ksh 100 Ksh 100,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000 Ksh 10,000	7) Rasps and files	5	Sets	Ksh 14,000	Ksh 70,000			5 types
9) Small equipment 1 Ls 20% Ksh 120,000 Ksh 230,600 Ksh 140,000 Ksh 141,000 Ksh 141,0100<	8) Vises and shackle vices	3	Sets	Ksh 110,000	Ksh 330,000			7 types
10) Electrical equipment 2 Sets Ksh 17000 Ksh 20000 Ksh 12000 Ksh 10000	9) Small equipment		Ls	20%				20% of above all items' cost
11) 4WD for purchasing the material 6 days Kish 17,000 Kish 12,000 Kish 140,000 Kish 0 Kish 0 Kish 140,000 Kish 0 Kish 0 Kish 140,000 Kish 0 Kish 140,000 Kish 140,000 Kish 140,000 Kish 140,000 Kish 0 Kish 0 Kish 0 Kish 0 Kish 0 Kish 140,000 Kish 17,000 Kish 140,000 Kish 17,000 Kish 12,500 Kish 12,500 Kish 12,500 Kish 13,500 Kish 12,500 Kish 1	10) Electrical equipment	2	Sets	Ksh 100,000	Ksh 200,000			Dram cord, drill etc
12) 4WD for study tour 16 days Ksh 17,000 Ksh 136,000 Ksh 140,000 Ksh 141,000 Ksh 140,000 <th< td=""><td>11) 4WD for purchasing the material</td><td>6</td><td>days</td><td>Ksh 17,000</td><td>Ksh 102,000</td><td></td><td></td><td>(2day x2time +2day)</td></th<>	11) 4WD for purchasing the material	6	days	Ksh 17,000	Ksh 102,000			(2day x2time +2day)
13) Trainer's transportation 8 days Ksh 17,000 Ksh 140,000 Ksh 140,000 Ksh 0 14) Perdiam and lodging for trainer 80 days Ksh 3500 Ksh 140,000 Ksh 0 13) Trainer's transportation 8 days Ksh 3500 Ksh 140,000 Ksh 0 11) Fordiam and lodging for trainer 80 days Ksh 3500 Ksh 140,000 Ksh 0 1) Sickles and grindstones 2 Sets ¥2,300 ¥19,000 Ksh 0 2) Portable grass chopper 2 Nos ¥8,500 ¥19,000 Ksh 0 3) Hots 2 Sets ¥2,500 ¥19,100 ¥0 ¥0 0 Sub-total 3 Nos ¥8,500 ¥18,000 Ksh 3125 0 Sub-total 10 Nos Ksh 12,500 ¥18,13125 0 Hots Ksh 12,500 Ksh 31,250 Ksh 31,250 1) shovels 0 Nos Ksh 12,500 Ksh 31,250 1) shovels 10 Nos Ksh 100	12) 4WD for study tour	16	days	Ksh 17,000				(3dayx12pers/5pers x 2time+2d)
14) Perdiem and lodging for trainer 80 dws Ksh 3,500 Ksh 140,000 Ksh 0 Throduction of small equipment Sub-total Ksh 2,234,800 Ksh 140,000 Ksh 0 1) Sub-total Sub-total Z Nes ¥9,500 ¥19,000 Ksh 0 2) Portable grass chopper 2 Nes ¥9500 ¥19,000 Ksh 0 3) Hoes 2 Sets ¥25,000 ¥25,000 ¥0 ¥0 3) Hoes Sub-total 3 Nos ¥85,00 ¥99,100 ¥0 ¥6 4) Wooden rack for carrying 3 Nos Ksh 1250 ¥89,100 ¥6 ¥6 0 Sub-total 10 Nos Ksh 1250 Ksh 2,500 ¥6,3125 1) shovels Ksh 1250 Ksh 305,315 Ksh 305,315 Ksh 30,325 2) Humers (woody) 80 Nos Ksh 12,000 Ksh 305,315 Ksh 30,325 3) Sieves Nsh 12,000	13) Trainer's transportation	8	days	Ksh 17,000				2days × 4time
Sub-total Sub-total Ksh 2,234,800 Ksh 140,000 Ksh 0 Introduction of small equipment 2 Sets ¥2,300 Y19,000 Ksh 0 2) Pickles and grindstones 2 Nos ¥9,5000 Y9,000 Ksh 0 3) Hoes 2 Sets ¥2,500 ¥9,000 Ksh 0 3) Hoes 2 Sets ¥2,500 ¥9,000 Ksh 1,500 4) Wooden rack for carrying 3 Nos X8,500 ¥8,500 ¥0 Y0 20nstruction work by trained people 1 Nos Ksh 1250 ¥1,000 Ksh 1,500 Y6 2) Hammers (woody) 80 Nos Ksh 12,500 Y6 Y6 Y6 2) Hammers (woody) 80 Nos Ksh 12,500 Y6 Y6<	14) Perdiem and lodging for trainer	80	days	Ksh 3,500	Ksh 140,000	Ksh 140,000		20days/M × 4months
Introduction of small equipment i <t< td=""><td>Sub-total</td><td>_</td><td></td><td></td><td>Ksh 2,234,800</td><td>Ksh 140,000</td><td>Ksh 0</td><td></td></t<>	Sub-total	_			Ksh 2,234,800	Ksh 140,000	Ksh 0	
1) Sickles and grindstones 2 Sets ¥2,300 ¥4,600 2) Pertable grass chopper 2 Nos ¥9,500 ¥19,000 ×9,000 ×600 ×7,000 ×60 ×60 ×								
2) Portable grass chopper 2 Nos ¥9,500 ¥19,000 ×		2	Sets	¥2,300		•		From Japan
3) Hoes 2 Sets ¥25,000 ¥50,000 ¥50,000 ¥50,000 ¥50,000 ¥6,500 ¥6,500 ¥6,500 ¥6,700 ¥6,700 ¥6,7500 ¥6,8,000 ¥6,7500 ¥6,8,000 ¥6,7500 ¥6,8,000 ¥6,7500 ¥6,8,000 ¥6,8,100 ¥6,8,000 ¥6,8,100 ¥6,8,100 ¥6,8,100 ¥6,8,100 ¥6,8,100 ¥6,8,100 ¥6,8,100		2	Nos	¥9,500				From Japan
4) Wooden rack for carrying 3 Nos ¥8,500 ¥25,500 ¥00 ¥00 Construction work by trained people No ×89,100 ¥0 ¥0 ¥0 Construction work by trained people No Ksh 500 Ksh 22,500 Ksh 7,500 Ksh 7,500 1 shovels No Ksh 100 Ksh 23,000 Ksh 7,500 Ksh 1,500 1 shovels No Ksh 120,000 Ksh 3,050 Ksh 13,500 3) Hammers (woody) No Ksh 13,000 Ksh 13,000 Ksh 13,500 3) Hub brownes No Ksh 1000 Ksh 18,7000 Ksh 18,625 4) wheelbarrow 25 No Ksh 13,000 Ksh 18,625 4) wheelbarrow 25 No Ksh 18,625 Ksh 18,625 4) Wheelbarrow 25 No Ksh 106,890 Ksh 18,625 5) Ubbrow Ksh 106,890 Ksh 106,890 Ksh 18,625 Ksh 18,625 1) Miscellaneous 1		2	Sets	¥25,000				From Japan, 3 types
Sub-total No Y99,100 Y0 Y0 Construction work by trained people 1 1 Y99,100 Y0 Y6 1) shovels 60 Nos Ksh 500 Ksh 2500 Ksh 8,000 Xsh 8,000 2) Hammers (woody) 80 Nos Ksh 1,250 Ksh 2,4000 Ksh 8,000 3) Sieves 10 Nos Ksh 1,250 Ksh 8,000 Ksh 8,000 3) Sieves 10 Nos Ksh 1,250 Ksh 8,000 Ksh 8,000 5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 18,000 Ksh 13,500 5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 18,000 Ksh 18,625 5) 4WD for purchasing equipment 11 Nos Ksh 12,000 Ksh 18,625 60 1 L No Ksh 130,000 Ksh 18,625 61 Niscellaneous 1 Ls Ksh 106,890 Ksh 18,625 61 Niscellaneous 1 Ls Ksh 106,890 Ksh 106,890		3	Nos	¥8,500				From Japan
Construction work by trained people Nos Ksh 500 Ksh 23,000 Ksh 7,500 2) Hammers (woody) 80 Nos Ksh 1250 Ksh 8,000 Ksh 8,000 3) Sieves 10 Nos Ksh 1250 Ksh 9,375 Ksh 8,000 4) wheelbarrow 25 Nos Ksh 17,000 Ksh 187,000 Ksh 13,125 4) wheelbarrow 25 Nos Ksh 17,000 Ksh 187,000 Ksh 18,000 5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 187,000 Ksh 13,25 Others 2 Nos Ksh 17,000 Ksh 187,000 Ksh 18,000 5) 4WD for purchasing equipment 1 Nos Ksh 100,00 Ksh 18,000 0 thers 1 Ls Ksh 106,890 Ksh 18,000 Ksh 18,000 1) Miscellaneous 1 Ls Ksh 106,890 Ksh 18,000 Ksh 18,000 1 Miscellaneous 1 Ls 5% Ksh 106,890 Ksh 18,000 2) Contingency 1 Ls 5% Ksh 120	Sub-total				¥99,100	0 ,	0#	
Construction work by trained people 60 Nos Ksh 500 Ksh 22,500 Ksh 7,500 Ksh 3,125 Ksh 1,0,00 Ksh 1,0,00 Ksh 1,0,00 Ksh 1,0,000 Ksh 1,0,0000 Ksh 1,0,000 Ksh								
1) shovels Ksh 500 Ksh 22,500 Ksh 7,500 2) Hammers (woody) 80 Nos Ksh 400 Ksh 3,375 Ksh 8,000 Ksh 8,000 Ksh 8,000 Ksh 3,125 Ksh 1,16,25 Ksh 3,125 Ksh 1,16,25 Ksh 1,18,625 Ksh 1,18,625 Ksh 1,18,625 Ksh 1,18,625 Ksh 1,06,890 Ksh 1,18,625 Ksh 1,000 Ksh 1,0000 Ksh 1,00,000 Ksh 1,00,000 Ksh 1,0,000 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
2) Harmers (woody) 80 Nos Ksh 400 Ksh 24,000 Ksh 8, 000 3) Sieves 10 Nos Ksh 1,250 Ksh 9,375 Ksh 3,125 4) wheelbarrow 25 Nos Ksh 17,000 Ksh 187,000 Ksh 3,125 5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 187,000 Ksh 18,625 5) 4WD for purchasing equipment 1 L Ksh 305,375 Ksh 0 Ksh 305,375 6) Others 1 Ls 5% Ksh 106,890 Ksh 18,625 1) Miscellaneous 1 Ls 5% Ksh 106,890 Ksh 18,625 2) Contingency 1 Ls 5% Ksh 106,890 Ksh 18,625 3) Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 6 round Total (Ksh) 6 round Total (Ksh) Ksh 2,871,534 Ksh 18,625 Ksh 18,625	- I	8	Nos	Ksh 500	Ksh 22,500		Ksh 7,500	Community: 25%
3) Sieves 10 Nos Ksh 1,250 Ksh 9,375 Ksh 3,125 4) wheelbarrow 25 Nos Ksh 1,250 Ksh 62,500 Ksh 3,125 5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 187,000 Ksh 18,625 5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 187,000 Ksh 18,625 0thers 1 Ls 5% Ksh 106,890 Ksh 18,625 1) Miscellaneous 1 Ls 5% Ksh 106,890 Ksh 18,625 2) Contingency 1 Ls 5% Ksh 106,890 Ksh 120,000 Ksh 0 3) Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 6round Total (Ksh) 6round Total (Ksh) Ksh 2,871,534 Ksh 2,60,000 Ksh 0 6round Total (Yen) x99,100 x01 x00 x01	- 1	8	Nos	Ksh 400	Ksh 24,000		Ksh 8,000	Ksh 8,000 Community: 25%
4) wheelbarrow 25 Nos Ksh 2,500 Ksh 62,500 Ksh 187,000 5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 187,000 Ksh 18,625 Cothers Sub-total 11 Nos Ksh 17,000 Ksh 187,000 Ksh 18,625 Others Image: Sub-total Image: Sub-total Image: Sub-total Image: Sub-total Image: Sub-total 1) Miscellaneous Image: Sub-total Image: Sub-total Image: Sub-total Image: Sub-total Image: Sub-total 2) Contingency Image: Sub-total Ksh 120,000 Ksh 18,625 Sub-total Sub-total Sub-total Ksh 18,625 Sub-total Su		<u>p</u>	Nos	Ksh 1,250	Ksh 9,375		Ksh 3,125	3,125 Community: 25%
5) 4WD for purchasing equipment 11 Nos Ksh 17,000 Ksh 187,000 Ksh 18,625 Sub-total 1 No Ksh 305,375 Ksh 0 Ksh 18,625 Others 5% Ksh 106,890 No Ksh 18,625 1) Miscellaneous 1 Ls 5% Ksh 106,890 Ksh 120,000 2) Contingency 1 Ls 10% Ksh 224,469 Ksh 120,000 Ksh 0 3) Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Contingency 1 Ls 10% Ksh 224,469 Ksh 120,000 Ksh 0 2) Contingency 1 Ksh 1,000 Ksh 120,000 Ksh 0 Ksh 120,000 Ksh 16,55 3) Perdiem for counterpart 120 days Ksh 120,000 Ksh 16,55 Ksh 16,55 6round Total (Ksh) 6round Total (Yen) Ksh 2,871,534 Ksh 260,000 Ksh 18,625	1	25	Nos	Ksh 2,500	Ksh 62,500			shovel 60/6=10
Sub-total Ksh 305,375 Ksh 0 Ksh 18,625 Others 0 1 Ls 5% Ksh 106,890 Ksh 18,625 1) Miscellaneous 1 Ls 5% Ksh 106,890 Ksh 106,000 Ksh 106,000 2) Contingency 1 Ls 10% Ksh 224,469 Ksh 120,000 Ksh 0 3) Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Sub-total 1 Ls Ksh 231,359 Ksh 120,000 Ksh 0 Ground Total (Ksh) Ksh 2,871,534 Ksh 2,60,000 Ksh 18,625 Ground Total (Yen) K99,100 X0 X0		=	Nos	Ksh 17,000	Ksh 187,000			(3day x 3time +2day)
Others Others I Ls 5% Ksh 106.890 I 1) Miscellaneous 1 Ls 5% Ksh 106.890 I 2) Contingency 1 Ls 10% Ksh 224.469 Ksh 120,000 3) Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Contingency 1 Ls 10% Ksh 224.469 Ksh 120,000 Ksh 0 3) Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Ground Total (Ksh) Ksh 2,871,534 Ksh 260,000 Ksh 18,625 Ground Total (Yen) X99100 Xn Xn	Sub-total				Ksh 305,375	Ksh 0	Ksh 18,625	
Others Others I Ls 5% Ksh 106.890 I 1) Miscellaneous 1 Ls 5% Ksh 106.890 Particular 2) Contingency 1 Ls 10% Ksh 224.469 Particular 3) Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Sub-total Nb-total Ksh 1,000 Ksh 120,000 Ksh 0 Ground Total (Ksh) Ksh 2,871,534 Ksh 2,60,000 Ksh 18,625 Ground Total (Yen) X99.100 X0 X0								
Miscellaneous 1 Ls 5% Ksh 106,890 1 Contingency 1 Ls 10% Ksh 224,469 1 1 Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Sub-total Sub-total Ksh 120,000 Ksh 120,000 Ksh 0 16,55 Ground Total (Yen) Ksh 2,871,534 Ksh 260,000 Ksh 18,625 16,55								
Miscellaneous 1 Ls 5% Ksh 106,890 Contingency 1 Ls 10% Ksh 224,469 Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Sub-total 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Ground Total (Ksh) 120 Ksh 2,871,534 Ksh 260,000 Ksh 18,625 Ground Total (Yen) ¥99,100 ¥0 ¥0 ¥0 ¥0	:			Ĭ				5% of above all items' cost (Ksh)
Contingency 1 Ls 10% Ksh 224,469 120,000 Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 0 Sub-total Sub-total Ksh 1,000 Ksh 120,000 Ksh 0 Ksh 120,000 Ksh 0 Ground Total (Ksh) Ksh 2,871,534 Ksh 260,000 Ksh 18,625 K0 X0	1) Miscellaneous	-	S	5%	Ksh 106,890			excluding 4DW rental costs
Perdiem for counterpart 120 days Ksh 1,000 Ksh 120,000 Ksh 120,000 Ksh 0 Ksh 120,000 Ksh 0 Ksh 120,000 Ksh 0 Ksh 120,000 Ksh 18,625 Ground Total (Yen) Y00 Y0 Y00	ł	-	L's	10%				10% of above all items' cost (Ksh) excluding 4DW rental
Ksh 331,359 Ksh 120,000 Ksh h) Ksh 2,871,534 Ksh 260,000 Ksh 18,6 n) ¥99,100 ¥0		120	days	Ksh 1,000		Ksh 120,000		
Ksh 2,871,534 Ksh 260,000 Ksh 18,6	Sub-total				Ksh 331,359	Ksh 120,000	Ksh 0	
	Ground Total (Ksh)		-		Ksh 2,871,534	Ksh 260,000	Ksh 18,625	
	Ground Lotal (Yen)	-			1001,88*	9	%	

Cost Estimation for Verification Projects Table I.3-6

(4day x 20pers/5pers + 2day) Remarks (4day x 5time +2day) Ksh 882,000 Community: 30% Ksh 43,200 Community: 30% Ksh 22,950 Community: 30% Ksh 2,700 Community: 30% Ksh 9,000 Community: 30% Ksh 150,000 Community: 30% Ksh 14,160 Community: 30% Ksh 24,000|Community: 30% Ksh 15,000 Community: 30% Ksh 4,050 Community: 30% Community: 30% Ksh 4,800 Community: 30% Ksh 4,500 Community: 30% From Japan From Japan Ksh 7,500 Ksh 9.000 Ksh 19,440 Ksh 3,150 Ksh 1,090,200 Ksh 61.290 Community Cost Allocation 0 c GOK **499.600** Ksh 2,058,000 Ksh 100,800 Ksh 14,000 ¥4,600 Ksh 520,800 Ksh 350,000 Ksh 261,800 Ksh 214,200 Ksh 53,550 Ksh 6,300 Ksh 9,450 Ksh 17,500 Ksh 11,200 Ksh 33,040 Ksh 56,000 Ksh 35,000 Ksh 69,300 ¥95,000 Ksh 10,500 Ksh 21,000 Ksh 3,554,600 ACIC Modernized Livestock Feeding) at Sandai Irrigation Scheme ¥9,500 Ksh 17,000 Ksh 5,000 Ksh 520,800 Ksh 9,800 ¥2,300 Ksh 500,000 Ksh 144,000 Ksh 50,000 Ksh 20,000 Ksh 17,000 Ksh 8,500 Ksh 1,000 Ksh 1,500 Ksh 1,000 Ksh 2,160 Ksh 350 Ksh 5,000 Ksh 8,000 Ksh 3,000 Ksh 15,000 Ksh 47.200 Ksh 17.000 Ksh 8,000 Unit Price 9 acres 9 acres days acres 9 acres Nos Nos Unit davs 9 acres acres Nos Nos Nos Nos Nos Nos ۵ ് ٤ പ് ് ۵ 18 σ 10 ŝ 2 **თ** ú 22 0 300 ,≩ O 4WD for study tour to preceding area 4WD for purchasing the equipment Handy disinfection sprayer (18L) Participatory Irrigation Management Equipment for concrete mixing 4WD for purchasing equipment Ksh 5,968,378 Concrete lining at Main Canal 4-2 Water saved Irrigated Agriculture Other concrete structures Sickles and grindstones Sub-total Sub-total Portable grass chopper Division box with gate [tems Engine motor pump Livestock improvement B) Net for Tsetse fly Other equipment Land Leveling Field Survey Ear notcher 3) Harrowing Fertilizer Pesticide Castrator Ripping Seeds 1) Buck ഹ ං 3 ଚ୍ଚ 4 5) ଡ 3 ଳ 4 ତ ଳ 4 ନ ন ଲ ൭ Ţ ကို

10% of above all items' cost (Ksh)

excluding 4DW rental costs 21 × 2M+4 × 13M+4 × 15M

Ksh 0

Ksh 1,220,450

Ksh 154,000 Ksh 154,000

Ksh 4,593,928 ¥99,600 Ksh 684.788

Ksh 154,000

Ksh 220,900

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1) Miscellaneous

Others

4

Ksh 463,889

10%

80.

days

54

Grand total (Ksh) Grand total (Yen)

Sub-total

Perdiem for counterpart

Contingency

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5% of above all items' cost (Ksh)

(3day x 2time +2day)

Ksh 5.000

Ksh 68,960

Ksh 0

¥99,600

Ksh 285,240

Ksh 136,000

days

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Sub-total (Ksh) Sub-total (Yen)

Rehabilitation of Dip

9

excluding 4DW rental costs

Project: Communal Resource Management (Participatory Irrigation Management +

I LUCCL. INCHAMING AND ALL AND IN RANGUS							
			Ksh 9	Ksh 940,194			
ltems				C	Cost Allocation		-
5-1 Rehabilitation of Pan	Q'ty	Unit	Unit Price	JICA	GOK	Community	Remarks
1) Shovel and hoe	20	Set	Ksh 2,000	Ksh 36,000		Ksh 4,000	Ksh 4,000 Community: 10%
2) Wheelbarrow	10	Nos	Ksh 2,500	Ksh 22,500		Ksh 2,500	Ksh 2,500 Community: 10%
3) Post for fence	1,000	Nos	Ksh 40	Ksh 36,000		Ksh 4,000	Ksh 4,000 Community: 10%
4) Steel wire and barbed wire	16	reels	Ksh 4,500	Ksh 64,800		Ksh 7,200	Ksh 7,200 Community: 10%
5) Equipment (cutter, hammer etc)	5	set	Ksh 1,000	Ksh 4,500		Ksh 500	Ksh 500 Community: 10%
6) Bucket	4	Nos	Ksh 450	Ksh 1,620		Ksh 180	Ksh 180 Community: 10%
7) rope	1	Ls	Ksh 1,000	Ksh 900		Ksh 100	Ksh 100 Community: 10%
8) Nursery tree for fence	1	Ls	Ksh 250,000	Ksh 225,000		Ksh 25,000	Ksh 25,000 Community: 10%
9) 4WD for purchasing equipment	11	days	Ksh 17,000	Ksh 187,000			(3day x 3time +2day)
10) 4WD for study tour to preceding area	11	days	Ksh 17,000	Ksh 187,000			(3day x 3time +2day)
Sub-total				Ksh 765,320	Ksh 0	Ksh 43,480	
5-2 Others							
							5% of above all items' cost(Ksh)
1) Miscellaneous		Ls	5%	Ksh 21,740			excluding 4WD rental costs
							10% of above all items' cost(Ksh)
1	-	Ls	10%	Ksh 45,654			excluding 4WD rental costs
Perdiem for counterpart	64	days	1,000		Ksh 64,000		12days + 4days × 13M
Sub-total				Ksh 67,394	Ksh 64,000	Ksh 0	
Ground total				Ksh 832,714	Ksh 64,000	Ksh 43,480	

 Table I.3-7
 Cost Estimation for Verification Projects

Project: Rehabilitation of Pan in Rugus

ost Estimation for Verification Projects	
Table I.3-8 Co	

Arabal
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Security
Food
Project:
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Project. Food Security III Araual							
Ksh 1,592,706					¥99,600		
- Items				O ·	Cost Allocation		Remarks
6-1 Animal improvement	Q ^t y 1	Unit	Unit Price	JICA	GOK	Community	CV IBUILDY
1) Bucks	in.	Nos	Ksh 5,000	Ksh 17,500		Ksh 7,500	Ksh 7,500 Community: 30%
2) Castrator	2	Nos	Ksh 8,000	Ksh 11,200		Ksh 4,800	Ksh 4,800 Community: 30%
	2 5	sets	¥2,300	¥4,600			From Japan
_	10	Nos	¥9,500	¥95,000			From Japan
5) Ear notcher	5	Nos	Ksh 3,000	Ksh 10,500		Ksh 4,500	Community: 30%
6) Handy disinfection sprayer (18L)	2	Nos	Ksh 15,000	Ksh 21,000		Ksh 9,000	Community: 30%
7) Engine motor pump	-	Nos	Ksh 47,200	Ksh 33,040		Ksh 14,160	Ksh 14,160 Community: 30%
8) Net for Tsetse fly	10	Nos	Ksh 8,000	Ksh 56,000		Ksh 24,000	Ksh 24,000 Community: 30%
9) 4WD for purchasing the equipment	8	days	Ksh 17,000	Ksh 136,000			(3day × 2time + 2day)
10) Rehabilitation for Dip	1	Ls L	⁻ Ksh 5,000			Ksh 5,000	Community: 100%
Sub-total (Ksh)				Ksh 285,240	Ksh 0	Ksh 68,960	
Sub-total (Yen)				¥99,600	0#	0 *	
6-2 Stabilization of Rainfed Agriculture							
1) Field Survey	1	പ	282,000	Ksh 282,000			
2) Terracing	35	hr	Ksh 3,500	Ksh 110,250		Ksh 12,250	7hr × 5days, Community: 10%
	2100	ε	Ksh 65	Ksh 122,850		Ksh 13,650	Community:
4) Silt trap by tree	2100	ε	Ksh 55	Ksh 103,950		Ksh 11,550	Community: 10%
5) Seeds	10	acre	Ksh 1,000			Ksh 10,000	
6) Fertilizer	10	acre	Ksh 800			Ksh 8,000	
7) Fuel for Machine	1	Ls	Ksh 45,000	Ksh 40,500		Ksh 4,500	Ksh 4,500{Community: 10%
8) 4WD for study tour to preceding area	14	day	Ksh 17,000	Ksh 238,000			(4day x15pers/5pers +2day)
9) Small equipment for O/M	0	set	Ksh 2,000			Ksh 20,000	
Sub-total				Ksh 897,550	Ksh 0	Ksh 79,950	
6-3 Others							
1) Miscellaneous	1	Ls L	5%	Ksh 42,905			5% of above all items' cost(Ksh)
2) Contingency	1	S	10%	Ksh 90,101			10% of above all items' cost(ksh)
3) Perdiem for counterpart	128 0	days	1,000		Ksh 128,000		(12+4 × 13M) × 2staffs
Sub-total	-			Ksh 133,006	Ksh 128,000	Ksh 0	
Ground total (Ksh)				Ksh 1,315,796	Ksh	Ksh 148,910	
Ground total (Yen)				009'66 *	0 *	0*	

or Verification Projects	
ation for	
Estima	
Cost	
Table I.3-9	

		Remarks	4cars × 1day, 1cars × 5days	5person X 4days	35person+5person × 5days	2person × 5days	10% of above all items' cost	20% of above all items' cost	(Ksh) excluding transportation	1		4 cars \times 4 days, 1 cars \times 7 days	35pers. × 3dy, 5pers. × 6dy	35pers × 4dy, 5pers. × 7dy	2pers × 5dy, 1pers. × 7dy	10% of above all items' cost	20% of above all items' cost	(Ksh) excluding transportation	t –		5cars × 4days	40person × 3davs	40person × 4davs	3person × 4davs	10% of above all items' cost	20% of above all items' cost (Ksh) excluding transportation			0	0	
		Community								0 HsN									Ksh 0								Ksh (Ksh 0	Ksh 0	Ksh 0
	Cost Allocation	GOK								Ksh 0	~								Ksh 0								Ksh 0		Ksh 0	Ksh 0	Ksh 0
	C	ADICA	Ksh 256,500	Ksh 40,000	Ksh 30,000	Ksh 10,000	Ksh 33,650		Ksh 11,365	Ksh 381,515		Ksh 655,500	Ksh 270,000	Ksh 87,500	Ksh 17,000	Ksh 103,000		Ksh 47,750	Ksh 1,180,750		Ksh 570,000	Ksh 240,000	Ksh 80,000	Ksh 12,000	Ksh 90,200	Ksh 42.220	Ksh 1,034,420		Ksh 259,669	Ksh 259,669	Ksh 2,856,000
2,856,000		Unit Price	Ksh 28,500		Ksh 500	Ksh 1,000	10%		10%			Ksh 28,500		Ksh 500	Ksh 1,000	10%		10%			Ksh 28,500	Ksh 2,000	Ksh 500	Ksh 1,000	10%	10%			10%		
Ksh 2,8		Unit	days		sets	days	Ls		Ls			days		sets	days	Ls		Ls			days		SE	_	Ls	s			Ls		
		Q'ty	9	20	60	10	1		1			23	135	175	17	-		1			20	120	160	12	-						
	ltems	7-1 Field visit to SARDEP	1) Transportation (micro bus)	2) Lodging	3) meals		5) Preparatory activities		6) Contingency	Sub-total (Ksh)	7-2 Field visit to Samburu	1) Transportation (micro bus)	2) Lodging	3) meals	4) Perdiem for resource person	5) Preparatory activities		6) Contingency	Sub-total (Ksh)	7-3 Field visit to Kitui	I	2) Lodging	3) meals	- 1	5) Preparatory activities	6) Contingency	Sub-total	7-4 Other Train and Study	1) Trains and Studies	Sub-total	Ground total (Ksh)

I. Project Evaluation

I.1 Project Impacts of the Verification Projects

The impacts of each verification project are assumed as follows;

(1) Surveillance, Information and Support System Improvement of Epidemic and Endemic Diseases

- People will get knowledge on the mechanism of the disease infection in the area
- People can get informed before the outbreak of diseases
- People can practice measures to prevent the infection of diseases
- After all the disease for human and animals will decrease

(2) Strengthening of Marigat Youth Polytechnic

- Students get skill and job opportunities
- Number of students at the Polytechnic will increase

(3) Improved Stove + Small Scale Industry (Bee-keeping and Fish Processing)

- Amount of firewood will be decreased
- Labor for fetching firewood will be eased
- Income of the people will increase by the small-scale industry

(4) Communal Resource Management (PIM + Livestock Improvement)

- Equitable water distribution will be attained by the effective water management
- Cropping intensity will be increased by the efficient water use
- Crop yield will increase by the efficient water use, quality seeds and so on
- Milk and meat production will increase by the livestock improvement
- Market prices of animals will be raised by the livestock improvement

(5) Rehabilitation of Pan

- Labor for fetching water will be eased
- Water borne disease will decrease
- Crop yield in the rain-fed farmland will increase

(6) Food Security (Livestock Improvement + Rain Water Harvesting)

- Milk and meat production will increase by the livestock improvement
- Market prices of animals will be raised by the livestock improvement
- Crop yield in the rain-fed farmland will increase

(7) Learning from Best Practices

- Government officers and community members will be enlightened for Participatory Rural Development

I.2 Financial and Economic Analyses

Financial and Economic Analyses were conducted to the verification projects whose effects are tangible, namely Improved Jiko + Small-scale Industry in Salabani, Communal Resource Management in Sandai, and Food Security in Arabal. Firstly expected income increase by a household was estimated and the possibility of cost sharing was examined. Secondly Financial Internal Rate of Return (FIRR) and Economic Internal Rate of Return (EIRR) were calculated for the analyses. These FIRR and EIRR of the projects will be compared with the base interest rate and opportunity cost in Kenya. The base interest rate is applied with 13.4 percent, the annual average 90-day treasury rates from September 1998 to August 1999. The opportunity cost is considered as eight percent. Although these rates are regarded as the criteria of feasibility of the projects in terms of economy, the appraisal of the projects should include the viewpoints of poverty alleviation, gender aspect, social conflict management, and environmental conservation.

Standard Conversion Factor (SCF) of 0.923 was adopted to calculate economic prices for domestic goods. For the import/export goods such as maize, fertilizer, the economic prices were calculated according to the projected prices by the World Bank. Shadow exchange rate of unskilled labor was estimated at 0.5. To calculate project costs on economic price, the SCF and shadow exchange rate were applied.

U.2.1 Household Budget

In the three locations, the income increase is expected by the realization of the projects. The expected income increase by a household and the comparison with the cost shared by a household are summarized as follows.

Location	Input	Income w/o project (Ksh)	Income w/ project (Ksh)	Difference (Ksh)	Cost shared (Ksh/year) (*)
Salabani	1Jiko, 1KTBH	4,597	5,831	1,234	784
	1 acre farm	9,425	14,201	4,776	2,177
Sandai	10.5 female goatss	17,955	36,855	18,900	7,241
	1 acre farm	-134	4,914	5,048	7,995
Arabal	16 female goats	27,360	56,160	28,800	11,034

A Household Income Analysis

Note: (*) Cost shared is the one in the initial year.

Among them, the component of rainfed agriculture at Food Security project in Arabal shows high burden for people. A household will take more than a year to recover the cost contributed from their benefit. There might be, however, interest among people to secure the source of food. So in total, the projects in Arabal, the remote area from the town, would still be proposed. Or the cost shared by the other stakeholder can be raised since the project is also considered to be effective for environmental conservation, rather more public interest. Also in the course of the verification project, the distribution of cost sharing should be reviewed.

I.2.2 Cost-benefit analysis

1) Improved Jiko + Small-scale Industry

a) Benefit

The benefit of the project is increase of net profit by the income generating activities. The reduction of labor for fetching firewood will become tangible by engaging to the income generating activities. The benefit is calculated as follows;

	Bee-keeping Gross Income	Fish Processing Cost*
Without Project	28,000 Ksh/20 hives	22,500 Ksh/20 Jiko
With Project	60,000 Ksh/20 hives	11,250 Ksh/20 Jiko
Benefit	32,000 Ksh/20 hives	11,250 Ksh/20 Jiko

Note: * Cost is for firewood purchasing

b) Project Cost

Total Project cost is 4,161,400 Ksh. However for the evaluation the cost for study tour and training was eliminated since it is an extra cost only for the verification projects. The financial cost and economic cost for the evaluation are therefore estimated at 395,514 Ksh and 355,166 Ksh respectively.

c) IRR

Based on the duration of the community building, the IRRs were calculated with 30 years flow period. FIRR and EIRR for the project are calculated at 5.0 percent and 5.3 percent respectively. The rates are both below the criteria. However introduction of Jiko will conserve natural resource and the women's labor will be spared for getting income, which is freer to use for women than men. Therefore taking into consideration the impacts on environment and gender issue, the project will still be significant.

2) Communal Resource Management

a) Benefit

The benefit of the project is increase of net profit on crop production and on livestock improvement. By the PIM activities, Crop yields are expected to increase about 50 percent in maize. By the livestock (goat) improvement, increase of breeding cycle up to 20 percent, decrease of mortality rate up to 20 percent, shortening of growth period up to 20 percent, and the rise of price up to 30 percent will be expected.

Net Profit	Crop production	Livestock (goat)
Without Project	23,834 Ksh/ha	1,710 Ksh/year
With Project	35,504 Ksh/ha	3,510 Ksh/year
Benefit	11,670 Ksh/ha	1,800 Ksh/year

b) Project Cost

Total Project cost is 6,243,016 Ksh (6,172,378Ksh + 99,600¥, 1Ksh = 1.41¥). However for the evaluation the cost for study tour was eliminated since it is an extra cost only for the verification projects. Also for the verification project, the component of water-saved agriculture will be implemented in only 3.6 ha (nine acres) as pilot area and the diversion work will be implemented in one-sixth of the area, while other irrigation work such as lining canal covers whole irrigation area of 240 ha (600 acres). Therefore to estimate economic impact, it is supposed that the water-saved agriculture and diversion work be implemented in the whole area. Under the assumption, financial cost and economic cost for the evaluation are estimated at 16,251,907 Ksh and 14,767,182 Ksh respectively.

c) IRR

Based on the duration of the irrigation work, the IRRs were calculated with 30 years flow period. FIRR and EIRR for the project are calculated at 9.8 percent and 15.0 percent respectively. IRRs are break-downed as follows;

	FIRR (%)	EIRR (%)
Crop production	9.2	14.6
Livestock improvement	31.8	30.0
Total	9.8	15.0

The IRRs for livestock improvement are calculated at quite high rates. The EIRR over the opportunity cost may suggest that the project will be significant in terms of economy.

3) Food Security

a) Benefit

The benefit of the project is same as Communal Resource Management, but the increase of crop production can be expected about 100 percent due to the present severe condition. The benefit basis is as follows;

Net Profit	Crop production	Livestock (goat)
Without Project	-349 Ksh/ha	1,710 Ksh/year
With Project	12,286 Ksh/ha	3,510 Ksh/year
Benefit	12,635 Ksh/ha	1,800 Ksh/year

b) Project Cost

Total Project cost is 1,663,344 Ksh (1,592,706Ksh + 99,600¥, 1Ksh = 1.41¥). However for the evaluation the cost for study tour was eliminated since it is an extra cost for only the verification

projects. The financial cost and economic cost for the evaluation are 1,548,260 Ksh and 1,364,966 Ksh respectively.

c) IRR

Based on the duration of the community building, the IRRs were calculated with 30 years flow period. FIRR and EIRR for the project are calculated at 9.5 percent and 10.6 percent respectively. IRRs are break-downed as follows:

	FIRR (%)	EIRR (%)
Rainfed Agriculture	0.4	2.3
Livestock improvement	31.8	30.0
Total	9.5	10.6

The result of very low IRRs for rainfed agriculture is due to the limited area available to install the water harvest techniques leading to comparatively quite high cost. Although the result of IRRs indicates the inadequacy of the project economically, the techniques of rain water harvest will lead soil conservation which will bring a better future for people to live in the area. Hence in terms of environment, the project should still be taken into consideration its implementation as far as the beneficiaries have interest in it.

T+	Unit	Financial Price	Economic Price	<u>Unit: Ksh</u> Remark
ltem	· · · · ·	<u>rinancial Frice</u> 13		Table U.1-2
Maize	kg	45		Fin.*SCF
Bean	kg	33		Fin,*SCF
Finger Millet	kg	38		Fin.*SCF
Sorghum	kg			Table U.1-3
Groundnuts	kg			Fin.*SCF
Kale	kg	23		
Onion	kg	27		Fin.*SCF
Watermelon	kg	15	14	Fin.*SCF
Maize seed	kg	91	84	Fin.*SCF
Bean seed	kg	55	51	Fin.*SCF
Finger Millet seed	kg	30	28	Fin.*SCF
Sorghum seed	kg	35	32	Fin.*SCF
Groundnuts seed	kg	60	55	Fin.*SCF
Kale seed	kg	23	21	Fin.*SCF
Onion seed	kg	2,350	2,169	Fin.*SCF
Watermelon seed	kg	500	462	Fin.*SCF
Fertilizer				
Diammonium Phosphate (DAP)	kg	30	16	Table U.1−4
Sulphate Ammonia (SA)	kg	14	6	Table U.1-5
Pesticide (Daspand)	lit.	650	600	Fin.*SCF
Tractor renting				
Ploughing	ha	3,500	3,231	Fin.*SCF
Harrowing	ha	1,400	1,292	Fin.*SCF
Ridging	ha	1,400	1,292	Fin.*SCF
Labor (unskilled)	hr	7	3.5	1)
Cattle (adult)	head	10,500	9,692	Fin.*SCF
Goat (adult)	head	900		Fin.*SCF

Table I.4-1 Summary of Financial and Economic Price

Note: SCF = 0.923

 Shadow rate of 0.5 is applied (Refered to "The Study on Community-based Smallholder Irrigation Development Project" by JICA

1. World Bank Projected Price to the year 2010 for Maize	
(US\$/ton in 1990 price)	96.2
2. Adjusted to 1999 price (103.56%) (US\$/ton)	99.6
3. World market equivalent (quality adjustment 90%) (US\$/ton)	90
4. Freight and insurance (US\$/ton)	40
5. CIF Monbasa (US\$/ton)	130
6. Unloading and port handling (US\$/ton)	9
7. Value at Kenya border (US\$/ton)	139
8. Converted to Ksh (US\$1=73.40Ksh)	10,173
9. Domestic handling and transport cost (to Marigat)*	1,200
10. Wholesale price in Marigat (Ksh/ton)	11,373
11. Transport to/from farm (Ksh/ton)**	615
12. Farmgate price (Ksh/ton)	10,758
13. Farmgate price (Ksh/kg)	11

Table I.4-2 Economic Price of Maize

Source: World Bank Global Commodity Markets October 1999, and JICA Study team Note: * 1300Ksh*SCF, ** 666Ksh*SCF

1. World Bank Projected Price to the year 2010 for Maize	
(US\$/ton in 1990 price)	133.2
2. Adjusted to 1999 price (103.56%) (US\$/ton)	137.9
3. Freight and insurance (US\$/ton)	40
4. CIF Monbasa (US\$/ton)	178
5. Unloading and port handling (US\$/ton)	ç
6. Value at Kenya border (US\$/ton)	187
7. Converted to Ksh (US\$1=73.40Ksh)	13,719
8. Domestic handling and transport cost (to Marigat)*	1,200
9. Wholesale price in Marigat (Ksh/ton)	14,919
10. Transport to/from farm (Ksh/ton)**	615
11. Farmgate price (Ksh/ton)	14,304
12. Farmgate price (Ksh/kg)	14

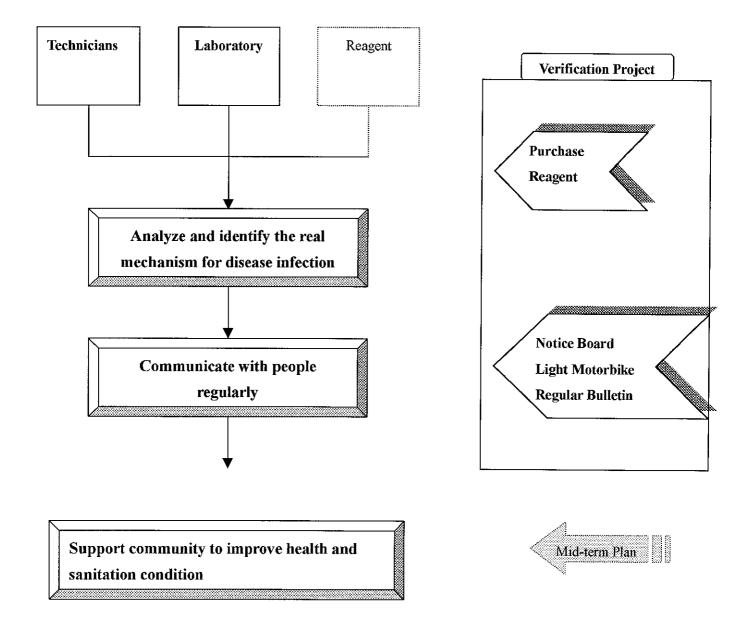
Table I.4-3 Economic Price of Groundnuts

Source: World Bank Global Commodity Markets October 1999, and JICA Study team Note: * 1300Ksh*SCF, ** 666Ksh*SCF

Figure 1.1-1 Verification Project ① Surveillance, Information and Support System Improvement of Epidemic and Endemic Diseases

Activity of Marigat Health Centre

INPUT

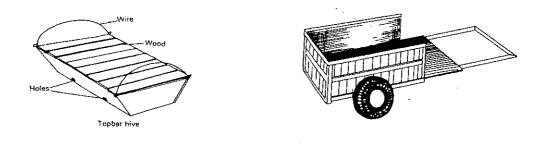


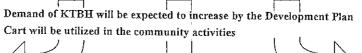
Verification Project ② Strengthening of Marigat Youth Polytechnic

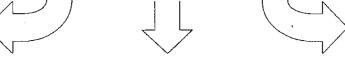
1. New Items for the Woodworking Course at Marigat Youth Polytechnic (Making of KTBH, Cart)

2. Invitation of Trainer

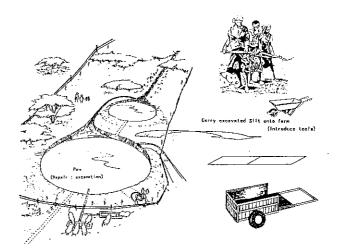
- 3. Supply of Equipment
- 4. Schooling
- 5. Demonstration of Tools Made by the School
- 6. Organize People to try to use cart and provide KTBH to bee-keeping group



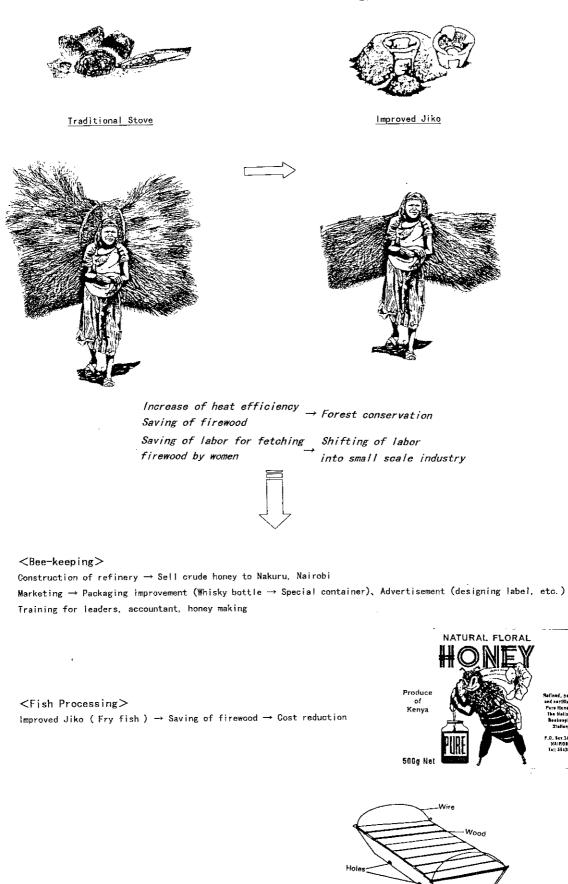








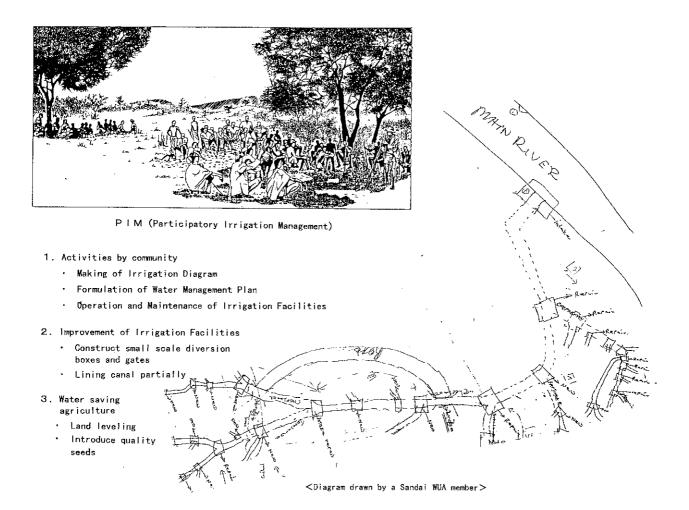
Verification Project (3) Improved Stove + Small Scale Industry (Bee-keeping, Fish Processing)



I-3

Topbar hive

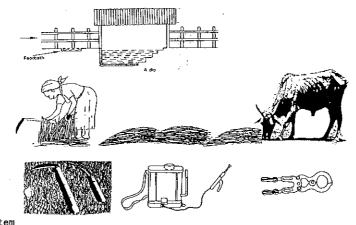
Verification Project (4) Communal Resource Management (PIM+Livestock Improvement)



<Livestock Improvement>

1) Animal Health Control

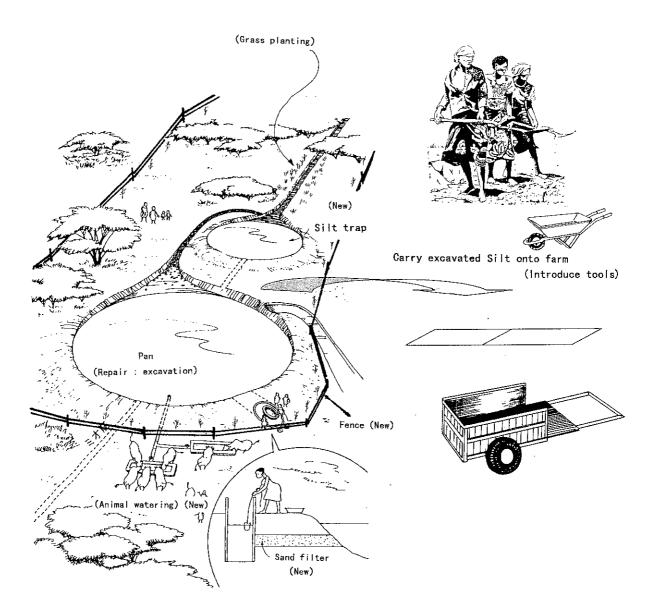
- Rehabilitate dip
- Introduce sprayer
- · Reorganize dip community



2)Livestock Up-grading

- Promote cross breeding System
- Promote castrating system
- Promote cut and carry system (utilize by-product of crops)

Verification	Project	(5)	Rehabilitation	of	Pan
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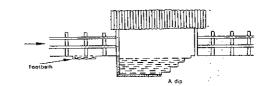


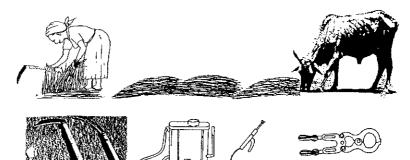
Verification Project (6) Food Security (Livestock Improvement + Rain Water Harvesting)

1. Livestock Improvement

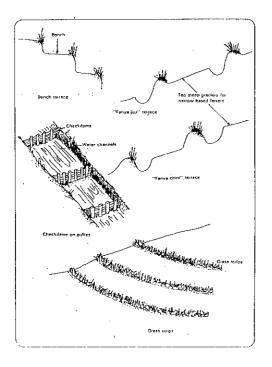
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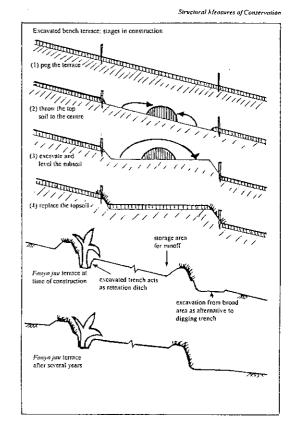
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- Introduce sprayer
- Reorganize dip community
- 2)Livestock Up-grading
 - · Promote cross breeding System
 - Promote castrating system
 - Promote cut and carry system (utilize by~product of crops)





- 2. Rain Water Harvesting
 - · Construct small canal
 - Construct terrace
 - Construct silt trap
 - Fencing
 - · Increase Millet, Sorghum





Verification Project ⑦ Learning from Best Practices



Kerio Valley : SARDEP Project (Presentation on the Rural Water Supply Project by community members)

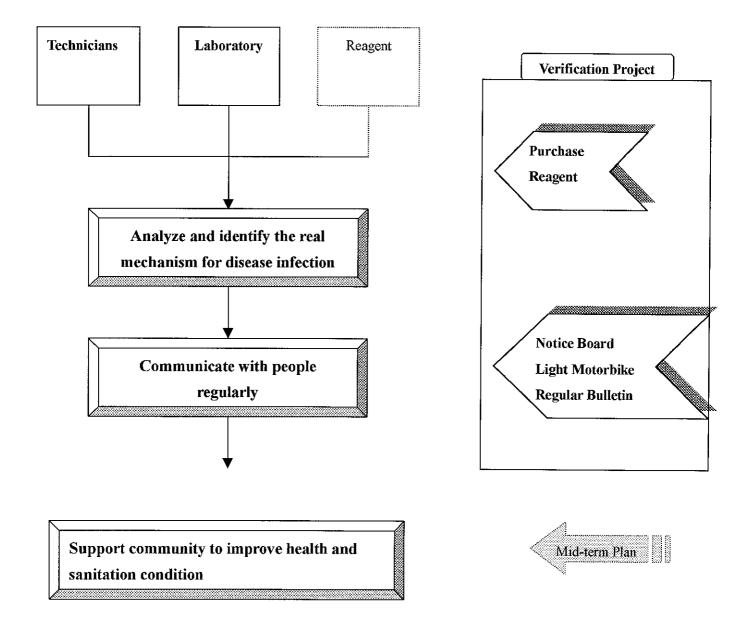


Kitui District : JICA Forestry Extension Model Development Project for Semi Arid in Kenya

Figure 1.1-1 Verification Project ① Surveillance, Information and Support System Improvement of Epidemic and Endemic Diseases

Activity of Marigat Health Centre

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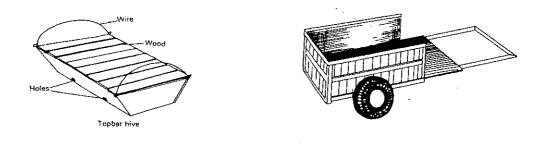


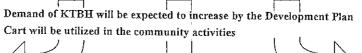
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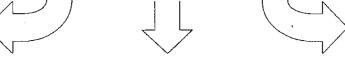
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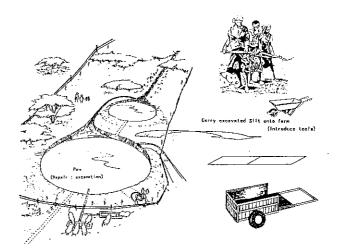
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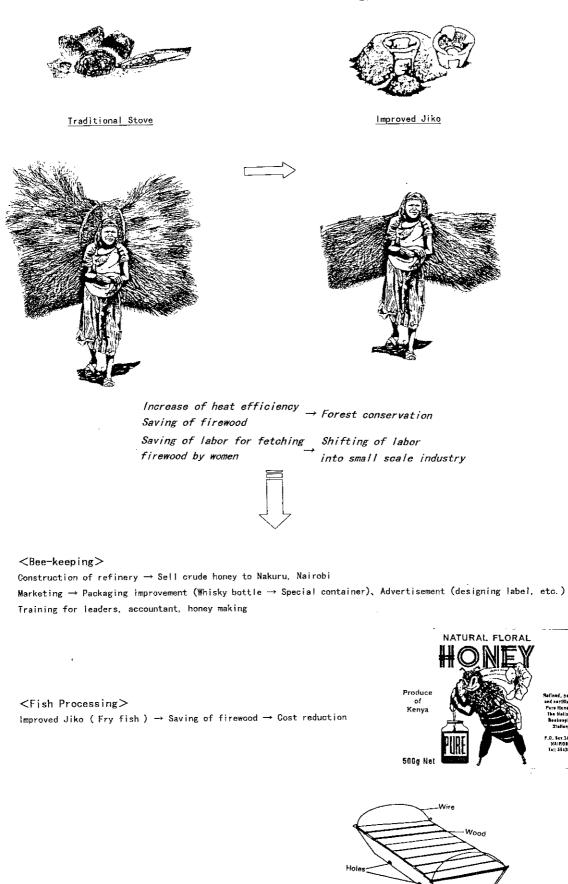








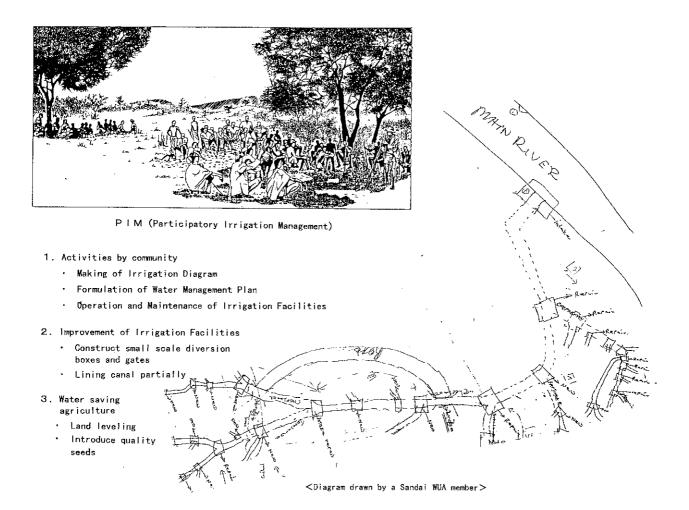
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I-3

Topbar hive

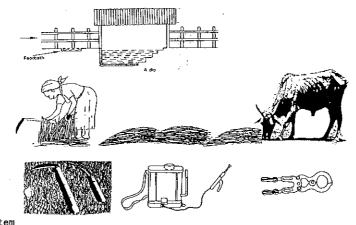
Verification Project (4) Communal Resource Management (PIM+Livestock Improvement)



<Livestock Improvement>

1) Animal Health Control

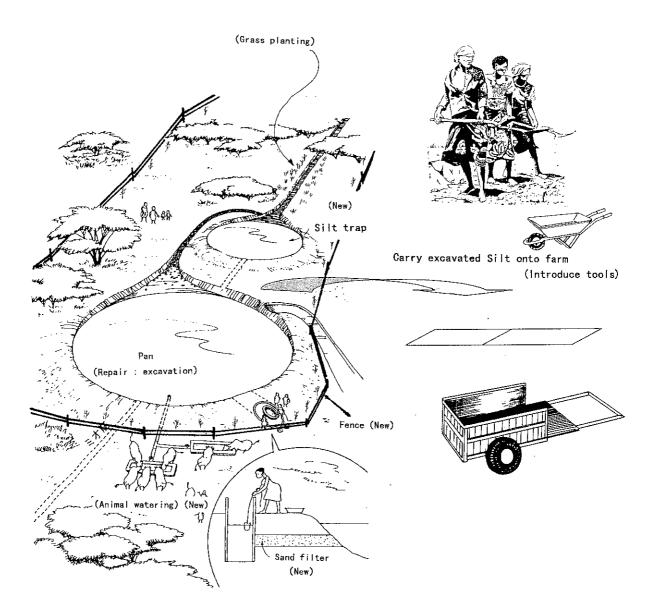
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- · Reorganize dip community



2)Livestock Up-grading

- Promote cross breeding System
- Promote castrating system
- Promote cut and carry system (utilize by-product of crops)

Verification	Project	(5)	Rehabilitation	of	Pan
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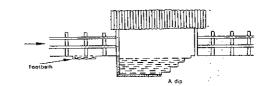


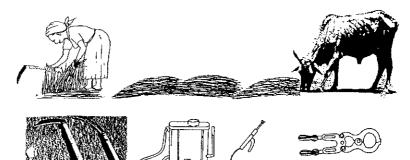
Verification Project (6) Food Security (Livestock Improvement + Rain Water Harvesting)

1. Livestock Improvement

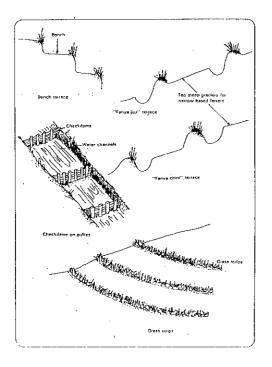
1) Animal Health Control

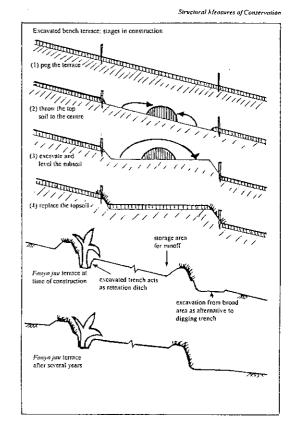
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