Informal Copy

Project Preparation Study

Promotion of Livestock Farming in Tsetse Fly Infested Areas in Kenya

Volume 2

Annex 4
Annex 5
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Annex 7

Eschborn, March 1992

ANNEX 4

Detailed Project Cost Tables

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Table 1 : Policy Planning and Coordination Unit

	Unit Price (K.Pounds.)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nel (m/m)															
r Analyst 1)	17,300.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,6
r Planner	1,950.0	12.0	23,400.0	12.0	23,400.0	12.0	23,400.0	12.0	23,400.0	12.0	23,400.0	12.0	23,400.0	12.0	23,4
ical Advisor 1)	17,300.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	12.0	207,6
ign Coordinator	1,950.0	24.0	46,800.0	24.0	46,800.0	24.0	46,800.0	24.0	46,800.0	24.0	46,800.0	24.0	46,800.0	24.0	46,8
nications Adv.	17,300.0	12.0	207,600.0	12.0	207,600.0	12.0	207,600.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
nications Spec.	1,625.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,5
sion Spec.	1,625.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,500.0	12.0	19,5
oring/ Eval.	17,300.0	3.0	51,900.0	0.0	0.0	4.0	69,200.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	103,8
onmental Monit.	17,300.0	4.0	69,200.0	0.0	0.0	4.0	69,200.0	2.0	34,600.0	2.0	34,600.0	2.0	34,600.0	2.0	34,6
tary	150.0	24.0	3,600.0	24.0	3,600.0	24.0	3,600.0	24.0	3,600.0	24.0	3,600.0	24.0	3,600.0	24.0	3,6
istrative Asst.	225.0	12.0	2,700.0	12.0	2,700.0	12.0	2,700.0	12.0	2,700.0	12.0	2,700.0	12.0	2,700.0	12.0	2,7
r	125.0	24.0	3,000.0	24.0	3,000.0	24.0	3,000.0	24.0	3,000.0	24.0	3,000.0	24.0	3,000.0	24.0	3,0
al			862,400.0		741,300.0		879,700.0		568,300.0		568,300.0		568,300.0		672,1
ent															
op Computer	8,650.0	2.0	17,300.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	17,300.0	0.0	0.0	0.0	
ble Computer	5,190.0	2.0	10,380.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	10,380.0	0.0	0.0	0.0	
riter	2,595.0	2.0	5,190.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	5,190.0	0.0	0.0	0.0	
e Furniture	5,190.0	1.0	5,190.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
e Equipment	5,190.0	1.0	5,190.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5,190.0	0.0	0.0	0.0	
Op	34,000.0	2.0	68,000.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	68,000.0	0.0	0.0	0.0	
ng Equipment	2,000.0	2.0	4,000.0	0.0	0.0	0.0	0.0	2.0	4,000.0	0.0	0.0	0.0	0.0	2.0	4,0
al			115,250.0		0.0		0.0		4,000.0		106,060.0		0.0		4,0
nt Expenditure															
nces	2,910.0	1.0	44,880.0	1.0	44,880.0	1.0	44,880.0	1.0	44,880.0	1.0	44,880.0	1.0	44,880.0	1.0	44,8
e Material	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,3
ring Expenditure	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,3
le Running Cost 2)	7,031.3	1.0	7,031.3	1.0	7,031.3	1.0	7,031.3	1.0	7,031.3	1.0	7,031.3	1.0	7,031.3	1.0	7,0
nat. Travel	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,300.0	1.0	17,3
al			103,811.3		103,811.3		103,811.3		103,811.3		103,811.3		103,811.3		103,8
Total			1,081,461.3		845,111.3		983,511.3		676,111.3		778,171.3		672,111.3		779,9

tes

ludes vehicles and vehicle running costs ;

culated for 25,000.0 km. for each vehicle and with a 50 % allowance for oil, lubricants and repairs.

Table 2 : Tsetse Survey Teams

Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
435.3	24.0	10,446.0	24.0	10,446.0	24.0	10,446.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0
208.3	48.0	10,000.1	48.0	10,000.1	48.0	10,000.1	24.0	5,000.0	24.0	5,000.0	24.0	5,000.0	24.0	5,000.0
100.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0
117.8	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0
300.0	18.0	5,400.0	18.0	5,400.0	18.0	5,400.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0
60.0	36.0	2,160.0	36.0	2,160.0	36.0	2,160.0	18.0	1,080.0	18.0	1,080.0	18.0	1,080.0	18.0	1,080.0
45.0	18.0	810.0	18.0	810.0	18.0	810.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0
45.0	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0
		34,852.1		34,852.1		34,852.1		19,244.0		19,244.0		19,244.0		19,244.0
2,000.0	2.0	4,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0
25,000.0	1.0	25,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34,000.0	2.0	68,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0
4,250.0	2.0	8,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
425.0	2.0	850.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	80.0	2,400.0	12.0	360.0	12.0	360.0	40.0	1,200.0	6.0	180.0	6.0	180.0	40.0	1,200.0
1,700.0	2.0	3,400.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		112,150.0		360.0		360.0		3,200.0		34,180.0		180.0		3,200.0
7,031.3	2.0	14,062.5	2.0	14,062.5	2.0	14,062.5	1.0	7,831.3	1.0	7,031.3	1.0	7,031.3	1.0	7,031.3
1,000.0	2.0	2,000.0	2.0	2,000.0	2.0	2,000.0	1.0	1,000.0	1.0	1,000.0	1.0	1,000.0	1.0	1,000.0
500.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
		17,062.5		17,062.5		17,062.5		8,531.3		8,531.3		8,531.3		8,531.3
		164,064.6		52,274.6		52,274.6		30,975.3		61,955.3		27,955.3		30,975.3

000.0 km. for each vehicle and with a 50 % allowance for oil, lubricants and repairs.

m	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
sonnel (m/m)															
aries															
ologist	435.3	0.0	0.0	6.0	2,611.5	6.0	2,611.5	6.0	2,611.5	6.0	2,611.5	6.0	2,611.5	6.0	2,611.5
A	208.3	0.0	0.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0
bordinate Staff	100.0	0.0	0.0	6.0	600.0	6.0	600.0	6.0	600.0	6.0	600.0	6.0	600.0	6.0	600.0
iver	117.8	0.0	0.0	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5
owances															
ologist	300.0	0.0	0.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0
A	60.0	0.0	0.0	9.0	540.0	9.0	540.0	9.0	540.0	9.0	540.0	9.0	540.0	9.0	540.0
bordinate Staff	45.0	0.0	0.0	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5
iver	45.0	0.0	0.0	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5
total			0.0		8,713.0		8,713.0		8,713.0		8,713.0		8,713.0		8,713.0
ipment															
ck Up	34,000.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0
mpound Microscope 1)	4,250.0	0.0	0.0	1.0	4,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ecial Objective	910.0	0.0	0.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
matogrit Centrifuge	1,357.2	0.0	0.0	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
nerator (1.5 kva)	1,700.0	0.0	0.0	1.0	1,700.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
sc. Equipment	850.0	0.0	0.0	1.0	850.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
mping Equipment	2,000.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0
total			0.0		45,067.2		0.0		0.0		2,000.0		34,000.0		0.0
urrent Expenditure															
hicle Running Cost	175.8	0.0	0.0	1.0	175.8	1.0	175.8	1.0	175.8	1.0	175.8	1.0	175.8	1.0	175.8
b. Materials	4,250.0	0.0	0.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0
total			0.0		4,425.8		4,425.8		4,425.8		4,425.8		4,425.8		4,425.8
nd Total			0.0		58,206.0		13,138.8		13,138.8		15,138.8		47,138.8		13,138.8

tnotes
8quipped for dark ground, phase contrast microscopy;
Calculated for 25,000.0 km. and with a 50 % allowance for oil, lubricants and repairs.

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
sonnel (m/m)															
aries															
ologist	435.3	2.0	870.5	2.0	870.5	2.0	870.5	2.0	870.5	2.0	870.5	2.0	870.5	2.0	870.5
IA	208.3	4.0	833.3	4.0	833.3	4.0	833.3	4.0	833.3	4.0	833.3	4.0	833.3	4.0	833.3
bordinate Staff	100.0	2.0	200.0	2.0	200.0	2.0	200.0	2.0	200.0	2.0	200.0	2.0	200.0	2.0	200.0
lowances															
ologist	300.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0
IA	60.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0
bordinate Staff	45.0	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5
otal			2,601.3		2,601.3		2,601.3		2,601.3		2,601.3		2,601.3		2,601.3
pment															
ps	30.0	60.0	1,800.0	9.0	270.0	9.0	270.0	60.0	1,800.0	9.0	270.0	9.0	270.0	60.0	1,800.0
ctr. Screens	850.0	4.0	3,400.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	3,400.0	0.0	0.0	0.0	0.0
otal			5,200.0		270.0		270.0		1,800.0		3,670.0		270.0		1,800.0
rrent Expenditure															
c. Equipment and Materia	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0
icle Running Cost 1)	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1
otal			953.1		953.1		953.1		953.1		953.1		953.1		953.1
d Total			8,754.5		3,824.5		3,824.5		5,354.5		7,224.5		3,824.5		5,354.5

notes

alculated for 5,000.0 km. and with a 50 % allowance for oil, lubricants and repairs.

Table 5 : Kiboko Tsetse Station; Training Unit

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
onnel (m/m)															
ries															
logist	435.3	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0
omologist	435.3	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0
ension Specialist	435.3	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0	12.0	5,223.0
oratory Technician	208.3	24.0	5,000.0	24.0	5,000.0	24.0	5,000.0	24.0	5,000.0	24.0	5,000.0	24.0	5,000.0	24.0	5,000.0
ver	117.8	12.0-	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0
ordinate Staff	100.0	72.0	7,200.0	72.0	7,200.0	72.0	7,200.0	72.0	7,200.0	72.0	7,200.0	72.0	7,200.0	72.0	7,200.0
wances															
logist	300.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0
omologist	300.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0
ver	45.0	6.0	270.0	6.0	270.0	6.0	270.0	6.0	270.0	6.0	270.0	6.0	270.0	6.0	270.0
ordinate Staff	45.0	54.0	2,430.0	54.0	2,430.0	54.0	2,430.0	54.0	2,430.0	54.0	2,430.0	54.0	2,430.0	54.0	2,430.0
otal			35,582.0		35,582.0		35,582.0		35,582.0		35,582.0		35,582.0		35,582.0
pment/Installations															
ibus	37,500.0	1.0	37,500.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	37,500.0	0.0	0.0	0.0	0.0
ycles	160.0	20.0	3,200.0	0.0	0.0	0.0	0.0	20.0	3,200.0	0.0	0.0	0.0	0.0	20.0	3,200.0
ks/ Journals	8,250.0	1.0	8,250.0	0.2	1,650.0	0.2	1,650.0	0.2	1,650.0	0.2	1,650.0	0.2	1,650.0	0.2	1,650.0
ctricity Connection	35,000.0	1.0	35,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ssroom Constr. 1)	48,000.0	0.0	0.0	1.0	48,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ping Equipment	2,000.0	10.0	20,000.0	0.0	0.0	0.0	0.0	10.0	20,000.0	0.0	0.0	0.0	0.0	10.0	20,000.0
ice Equipment	4,000.0	1.0	4,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,000.0	0.0	0.0	0.0	0.0
niture	6,000.0	1.0	6,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ecting Microscope	5,000.0	2.0	10,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
pound Microscope	5,655.0	2.0	11,310.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
matogrit Centrifuge	1,357.2	2.0	2,714.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
nsformer (12-220 volt)	565.5	2.0	1,131.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
otal			139,105.4		49,650.0		1,650.0		24,850.0		43,150.0		1,650.0		24,850.0
rrent Expenditure															
. Consumables	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0	1.0	4,250.0
icle Running Cost 1)	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6
p Maintenance	10,000.0	1.0	10,000.0	1.0	10,000.0	1.0	10,000.0	1.0	10,000.0	1.0	10,000.0	1.0	10,000.0	1.0	10,000.0
ining Allowance	25,000.0	1.0	25,000.0	1.0	25,000.0	1.0	25,000.0	1.0	25,000.0	1.0	25,000.0	1.0	25,000.0	1.0	25,000.0
ice Materials	3,000.0	1.0	3,000.0	1.0	3,000.0	1.0	3,000.0	1.0	3,000.0	1.0	3,000.0	1.0	3,000.0	1.0	3,000.0
ining Materials	4,000.0	1.0	4,000.0	1.0	4,000.0	1.0	4,000.0	1.0	4,000.0	1.0	4,000.0	1.0	4,000.0	1.0	4,000.0
otal			49,765.6		49,765.6		49,765.6		49,765.6		49,765.6		49,765.6		49,765.6
d Total			224,453.1		134,997.7		86,997.7		110,197.7		128,497.7		86,997.7		110,197.7

Notes
alculated for 25,000.0 km. and with a 50 % allowance for oil, lubricants and repairs.

COASTAL FLY BELT

Kwale District

Extent of Tsetse Fly Infestation

The district can broadly be divided into a humid coastal strip ajd the dry savannah type hinterland. Fly infestation is high and the sources of re-infestation are (a) the bush lands along the Tanzania coast through an about 100 km. long strip along the border, (b) the Shimba Hills National Park with 348 sq. km. , and (c) four gazetted forest areas with a total area of about 20 sq. km..

Land use in the hinterland is through nomadic and semi-nomadic forms and the prevalent livestock breed is the Small East African Zebu. The coastal strip is only sparsely populated in the southern parts but population density increases towards Mombasa. Small holdings dominate and livestock numbers are low. Breeds kept are mainly the Small East African Zebu. The coastal strip has generally favorable conditions for intensive dairy production. Intensification and introduction of cross breeds for daiying has so far however been difficult because of the high disease risk; other factors may be alternative employment opportunities, and distance from reliable marketing facilities.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 6 to 12. Operations are designed for fly control as eradication is not a feasible option; they consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 1 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(d) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis infection rates.

(e) Fly control along the Tanzania border, the Shimba Hills National Park and the four gazetted forest reserves, starting in Project year 2. These are separate operations and would be implemented through DOVS. In the case of control operations along the Tanzania border (100 km. barrier) public sector implementation is because the area is only sparsely populated and remote, so

that community management is not practicable. For the Shimba Hills (100 km.barrier) and the national forest reserves (32 km. barriers), the justification is that these are public property. All barriers will use targets.

The control operations along the Tanzania border will reduce fly infestation in the southern part of the district. The other two operations will control flies in the district's central part.

(f) Fly control through topical applications will be tested in one area with about 200 head of cattle; criteria for area selection will be settlement density, number of cross breed dairy cattle and interest of the community to intensify dairying. The programme is scheduled to begin in Project year 2.

(g) Fly control through community managed target operations in the area of one settlement in the coastal strip, beginning with Project year 2. The settlement area will be about 150 sq. km. with an estimated 150 head of cattle. If successful the model will be expanded and starting with Project year 4 each year one additional community would be included in the programme.

(h) Fly control through community managed target operations in the hinterland would start with Project year 4 and would build on the experiences gained in the course of the presently implemented IFAD supported ASAL project. Control operations are scheduled for the entire area, i.e. 1,500 sq. km. and it is assumed that 80 % of the livestock keepers would participate already in the first programme year. This high initial adoption rate has been assumed, as livestock keepers can be assumed to be familiar with the method through the extension work of the ASAL project.

(i) Provision of curative drugs through private sector outlets.

tem	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nvestment															
Targets 1)	10.0	0.0	0.0	928.0	9,280.0	0.0	0.0	464.0	4,640.0	70.0	700.0	464.0	4,640.0	70.0	700.0
Pick Up	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0
Knapsack Sprayer	1,100.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0
Camping Equipment	2,000.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0
Bicycles	160.0	0.0	0.0	2.0	320.0	0.0	0.0	0.0	0.0	2.0	320.0	0.0	0.0	0.0	0.0
ubtotal		-0.0	34,000.0		14,900.0	0.0	0.0		4,640.0		40,320.0		4,640.0		700.0
ecurrent Expenditure															
Sachets 2)	0.4	0.0	0.0	2,784.0	1,044.0	2,088.0	783.0	1,392.0	522.0	1,392.0	522.0	1,392.0	522.0	1,392.0	522.0
Odours: 3)															
Aceton,1tr.	2.3	0.0	0.0	1,856.0	4,176.0	1,392.0	3,132.0	928.0	2,088.0	928.0	2,088.0	928.0	2,088.0	928.0	2,088.0
Octenol,1tr.	300.0	0.0	0.0	7.4	2,227.2	5.6	1,670.4	3.7	1,113.6	3.7	1,113.6	3.7	1,113.6	3.7	1,113.6
3 M-Propyl Phenol,1tr.	2,537.5	0.0	0.0	1.9	4,709.6	1.4	3,532.2	0.9	2,354.8	0.9	2,354.8	0.9	2,354.8	0.9	2,354.8
4-Methyl Phenol,1tr.	37.5	0.0	0.0	14.8	556.8	11.1	417.6	7.4	278.4	7.4	278.4	7.4	278.4	7.4	278.4
Insecticide,1tr. 4)	350.0	0.0	0.0	7.4	2,598.4	5.6	1,948.8	3.7	1,299.2	3.7	1,299.2	3.7	1,299.2	3.7	1,299.2
Treatment,gr. 5)	1.5	0.0	0.0	28,000.0	42,000.0	14,000.0	21,000.0	5,600.0	8,400.0	5,600.0	8,400.0	5,600.0	8,400.0	5,600.0	8,400.0
Camp Maintenance	500.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
Misc. Equipment 6)	57.5	0.0	0.0	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5
Vehicle Running Cost 7)	3,515.6	0.5	1,757.8	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6
ubtotal			1,757.8		61,500.1		36,672.1		20,244.1		20,244.1		20,244.1		20,244.1
rand Total			35,757.8		76,400.1		36,672.1		24,884.1		60,564.1		24,884.1		20,944.1

ootnotes

The area to be treated is 232.0 sq.km. consisting of 100.0 sq.km. barrier at the Shimba Hills, a 100.0 km. barrier to Tanzania and four isolated forest reserves.

the target density in year 1 is 4 per sq.km., 3 in year 2, and 2 in the following years.

the annual replacement rate is 15 % , and initially this is met from the reductions in target numbers;

Replaced three times a year;

Quantities per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 M-Propyl Phenol and 16 ml. 4 Methyl Phenol;

Quantity used per year is 8 ml.;

Curative treatment is calculated twice annually for 10 % of the herd in the first year, 5 % in the second

and 2 % in the third; with a dosage of 7 mg. per kg. body weight; herd size is 100,000.0 head of cattle with an average body weight of 200.0 kg.;

Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;

Calculated for 25,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 7 : Kwale District; Fly Control Topical Applications

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Quant
ent Expenditure														
al Applications	40.0	0.0	0.0	200.0	8,000.0	200.0	8,000.0	0.0	0.0	0.0	0.0	0.0	0.0	
Treatment, gr. 1)	1.5	0.0	0.0	70.0	105.0	70.0	105.0	0.0	0.0	0.0	0.0	0.0	0.0	
al			0.0		8,105.0		8,105.0		0.0		0.0		0.0	
Total			0.0		8,105.0		8,105.0		0.0		0.0		0.0	

tes
ative treatment is for 10 % of the herd in year one and 5 % in year 2; treatment is for all 200.0 animals twice with 7 mg. per kg. body weight,
rage weight is 250.0 kg..

Table 8 : Kwale District; Fly Control Settlements (Coastal Strip)-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ent															
1)	10.0	0.0	0.0	600.0	6,000.0	0.0	0.0	900.0	9,000.0	645.0	6,450.0	1,200.0	12,000.0	990.0	9,900.0
ck Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	1.0	1,100.0	2.0	2,200.0	1.0	1,100.0	2.0	2,200.0
			0.0		7,100.0		0.0		10,100.0		8,650.0		13,100.0		12,100.0
it Expenditure															
2)															
m,1tr.	2.3	0.0	0.0	1,200.0	2,700.0	600.0	1,350.0	1,800.0	4,050.0	2,400.0	5,400.0	3,000.0	6,750.0	3,600.0	8,100.0
ol,1tr.	300.0	0.0	0.0	4.8	1,440.0	2.4	720.0	7.2	2,160.0	9.6	2,880.0	12.0	3,600.0	14.4	4,320.0
cide, 1tr. 3)	350.0	0.0	0.0	4.8	1,680.0	2.4	840.0	7.2	2,520.0	9.6	3,360.0	12.0	4,200.0	14.4	5,040.0
reatment, gr. 4)	1.5	0.0	0.0	42.0	63.0	23.1	34.7	52.2	78.2	76.3	114.4	87.6	131.3	101.5	152.2
Equipment	40.0	0.0	0.0	1.0	40.0	1.0	40.0	2.0	80.0	3.0	120.0	4.0	160.0	5.0	200.0
			0.0		5,923.0		2,984.7		8,888.2		11,874.4		14,841.3		17,812.2
tal			0.0		13,023.0		2,984.7		18,988.2		20,524.4		27,941.3		29,912.2

s

rea to be treated is on average 150.0 sq.km for each settlement/community; beginning with year 4 each year one community will be included in the programme;
t density is 4 in year one of the campaign, and 2 in the following;
nnual replacement rate is 15 % and initially this is met from the reductions in target numbers.
ities used per year are 2*1ltr. Aceton and 8 ml. Octenol; other odours are replaced by cow urine;
ticide use is 8 ml. per year and target;
ive treatment is for 10 % of the herd in year 1 of the campaign;
n year 2, and 2 % thereafter; dosage is 7 mg. per kg. body weight and the average weight is 200.0 kg. and two doses per year are given; herd size is 150.0 head of cattle per settlement increasing by 10 % annually.

Table 9 : Kwale District; Fly Control Hinterland-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
	10.0	0.0	0.0	0.0	0.0	0.0	0.0	3,600.0	36,000.0	0.0	0.0	2,400.0	24,000.0	360.0	3,600.0
:r	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	13,200.0	0.0	0.0	0.0	0.0	12.0	13,200.0
			0.0		0.0		0.0		49,200.0		0.0		24,000.0		16,800.0
iditure															
	2.3	0.0	0.0	0.0	0.0	0.0	0.0	7,200.0	16,200.0	4,800.0	10,800.0	4,800.0	10,800.0	4,800.0	10,800.0
	300.0	0.0	0.0	0.0	0.0	0.0	0.0	28.8	8,640.0	19.2	5,760.0	19.2	5,760.0	19.2	5,760.0
tr. 3)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	28.8	10,080.0	19.2	6,720.0	19.2	6,720.0	19.2	6,720.0
, gr. 4)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	44,800.0	67,200.0	22,400.0	33,600.0	8,960.0	13,440.0	8,960.0	13,440.0
t	40.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	480.0	12.0	480.0	12.0	480.0	12.0	480.0
			0.0		0.0		0.0		102,600.0		57,360.0		37,200.0		37,200.0
			0.0		0.0		0.0		151,800.0		57,360.0		61,200.0		54,000.0

be treated is 1,500.0 sq.km. and 80 % thereof is assuemd to participate; target density is 3 in year 1 of the campaign and 2 in the following;
160,000 head of cattle;
eplacement rate is 15 %, and initially this is met from the reductions in target numbers.
sed per year are 2 ltr. Aceton and 8 ml. Octenol; other odours are replaced by cow urine;
use is 8 ml. per target and year;
atment is for 10 % of the herd in year 1 of the campaign, and for 5 % in campaign year 2 and for 2 % subsequently; dosage is 7 mg. per kg. body weight and with an average weight of 200.0 kg.;
ts per year are calculated.

	Unit Price	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7	
	(K.Pounds)	Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost	Quant.	Cost
ent															
s 1)	10.0	50.0	500.0	8.0	80.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0
l)	30.0	50.0	1,500.0	8.0	240.0	100.0	3,000.0	15.0	450.0	15.0	450.0	100.0	3,000.0	15.0	450.0
k Sprayer	1,100.0	2.0	2,200.0	0.0	0.0	2.0	2,200.0	2.0	2,200.0	0.0	0.0	2.0	2,200.0	2.0	2,200.0
Equipment	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0
cycles	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0
s	160.0	1.0	160.0	0.0	0.0	2.0	320.0	1.0	160.0	0.0	0.0	2.0	320.0	2.0	320.0
			9,285.0		320.0		8,520.0		2,960.0		6,375.0		7,670.0		3,970.0
t Expenditure															
s 2)	0.4	150.0	56.3	150.0	56.3	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5
: 3)															
n,1tr.	2.3	110.0	247.5	110.0	247.5	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0
ol,1tr.	300.0	1.2	360.0	1.2	360.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0
ropyl Phenol,1tr	2,537.5	0.3	761.3	0.3	761.3	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5
hyl Phenol,1tr.	37.5	2.4	90.0	2.4	90.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0
cide,1tr. 4)	350.0	0.4	140.0	0.4	140.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0
ration Material	500.0	0.5	250.0	0.5	250.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
quipment 5)	57.5	2.0	115.0	2.0	115.0	4.0	230.0	4.0	230.0	4.0	230.0	4.0	230.0	4.0	230.0
intenance	500.0	0.0	0.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
Running Cost 6)															
icycle	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3
			2,301.3		2,301.3		4,821.3		4,821.3		4,821.3		4,821.3		4,821.3
tal			11,586.3		2,621.3		13,341.3		7,781.3		11,196.3		12,491.3		8,791.3

s

1 replacement for targets and traps is 15 %;
ced three times a year;
argets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
6 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
uantity used is 8 ml.;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
lated for 10,000.0 km. per year ,
ith a 50 % allowance for oil, lubricants and repairs.

Table 11 : Kwale District; Monitoring and Laboratory Equipment

Item	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
Investment															
Traps (Biconnical) 1)	30.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0
Componnd Microscope 2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Special Objective	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haematogrit Centrifuge	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transformer (12-220 vol	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Misc. Equipment	63.7	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cartographic Mat.	1,250.0	1.0	1,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal			15,801.4		900.0		900.0		6,000.0		900.0		900.0		6,000.0
Recurrent Expenditure															
Vehicle Hours: 3)															
Aceton, ltr.	2.3	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0
Octenol,ltr.	300.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0
3 N-Propyl Phenol, ltr	2,537.5	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0
4 Methyl Phenol, ltr.	37.5	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0
Lab. Consumables	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
Subtotal			3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0
Grand Total			19,621.4		4,720.0		4,720.0		9,820.0		4,720.0		4,720.0		9,820.0

Footnotes
Replacement is 15 % annually;
Equipped for dark background, phase contrast microscopy;
Annual quantities per trap are, 200 ml. fnr Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
3 N-Propyl Phenol and 4 Methyl Phennl respectively.

Table 12 : Kwale District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
(m/m)															
st	378.8	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0
	208.3	48.0	10,000.0	60.0	12,500.0	60.0	12,500.0	108.0	22,500.0	132.0	27,500.0	132.0	27,500.0	132.0	27,500.0
chnician	208.3	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0
l Officer	143.3	12.0	1,719.0	12.0	1,719.0	12.0	1,719.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
ry	125.0	12.0	1,500.0	12.0	1,500.0	12.0	1,500.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
nate Staff	100.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	54.0	5,400.0	54.0	5,400.0	54.0	5,400.0	54.0	5,400.0
	117.8	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0
n	100.0	12.0	1,200.0	12.0	1,200.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0
			25,277.0		27,777.0		28,977.0		40,530.5		45,530.5		45,530.5		45,530.5
es (m/m)															
ogist	300.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0
	60.0	36.0	2,160.0	45.0	2,700.0	45.0	2,700.0	81.0	4,860.0	99.0	5,940.0	99.0	5,940.0	99.0	5,940.0
chnician	60.0	6.0	360.0	6.0	360.0	6.0	360.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0
nate Staff	45.0	18.0	810.0	18.0	810.0	18.0	810.0	40.5	1,822.5	40.5	1,822.5	40.5	1,822.5	40.5	1,822.5
	45.0	9.0	405.0	9.0	405.0	9.0	405.0	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0
n	45.0	12.0	540.0	12.0	540.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0
			6,975.0		7,515.0		8,055.0		11,452.5		12,532.5		12,532.5		12,532.5
tal			32,252.0		35,292.0		37,032.0		51,983.0		58,063.0		58,063.0		58,063.0

COASTAL FLY BELT

Mombasa District

Extent of Tsetse Fly Infestation

The district has a medium fly challenge and re-infestation is mainly from Kilifi district. Livestock keeping is not of significant importance as the district is predominantly urban.

Project Activities and Expected Results

Curative drugs will be made available through private sector outlets; because the disease situation poses only a minor problem there will be no special control measures implemented.

COASTAL FLY BELT

Kilifi District

Extent of Tsetse Fly Infestation

As in Kwale, the district can be divided into a humid coastal and dry hinterland part. Fly infestation is high and fly invasions are through (a) the bush vegetation of the surrounding districts, (b) through a gazetted forest of about 72 sq. km., and (c) bush vegetation along the rivers.

In the hinterland, commercial type beef ranching with Boran cattle is important; however there are also group ranches and independent small and medium scale livestock keepers. In the coastal strip there are both large farms and small holdings and the district is quite densely populated, except for its northern part. On the larger farms, where tsetse fly control is relatively easy because of the large areas under one single management, grade dairy cattle are raised. Dairying is also being introduced in the small holding sector, but trypanosomiasis acts as a restricting factor.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 13 to 19. Operations are designed for fly control as eradication is not a feasible option; they consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 1 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(d) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis infection rates.

(e) Fly control around the national forest reserves (72 sq. km. barriers) implemented by DOVS and starting in Project year 2.

(f) Fly control along the rivers (200 km. barrier) implemented by DOVS starting in Project year 2. In this situation there is no unambiguous way to allocate costs and benefits to the various users and public implementation and maintenance is

required.

(g) Community managed fly control through targets in the area of one settlement or village in the coastal strip, beginning in Project year 2. Settlement area and cattle numbers will be as described above for Kwale. If successful the model will be expanded and starting with Project year 4 each year one additional community would be included in the programme.

(h) Fly control through community managed target operations in the hinterland would start with Project year 4 and would build on the experiences gained in the course of the presently implemented IFAD supported ASAL project. Control operations are scheduled for the entire area, i.e. 1,500 sq. km. and it is assumed that 80 % of the livestock keepers would participate already in the first year of the programme . This high initial adoption rate has been assumed, as livestock keepers can be assumed to be familiar with the method through the extension work of the ASAL project.

(i) Provision of curative drugs through private sector outlets.

Table 13 : Kilifi District; Fly Control National Forest Reserves

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nt															
1)	10.0	0.0	0.0	216.0	2,160.0	0.0	0.0	144.0	1,440.0	22.0	220.0	144.0	1,440.0	22.0	220.0
	34,000.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0
k Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0
s	160.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0
			0.0		37,420.0		0.0		1,440.0		1,480.0		35,440.0		220.0
t Expenditure															
s 2)	0.4	0.0	0.0	648.0	243.0	432.0	162.0	432.0	162.0	432.0	162.0	432.0	162.0	432.0	162.0
: 3)															
n,ltr.	2.3	0.0	0.0	432.0	972.0	288.0	648.0	288.0	648.0	288.0	648.0	288.0	648.0	288.0	648.0
ol,ltr.	300.0	0.0	0.0	1.7	518.4	1.2	345.6	1.2	345.6	1.2	345.6	1.2	345.6	1.2	345.6
ropyl Phenol,ltr	2,537.5	0.0	0.0	0.4	1,096.2	0.3	730.8	0.3	730.8	0.3	730.8	0.3	730.8	0.3	730.8
hyl Phenol,ltr.	37.5	0.0	0.0	3.5	129.6	2.3	86.4	2.3	86.4	2.3	86.4	2.3	86.4	2.3	86.4
cide,ltr. 4)	350.0	0.0	0.0	1.7	604.8	1.2	403.2	1.2	403.2	1.2	403.2	1.2	403.2	1.2	403.2
eatment,gr. 5)	1.5	0.0	0.0	2,240.0	3,360.0	1,120.0	1,680.0	448.0	672.0	448.0	672.0	448.0	672.0	448.0	672.0
quipment 6)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5
Running Cost 7)															
p	703.1	0.0	0.0	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1
			0.0		7,684.6		4,816.6		3,808.6		3,808.6		3,808.6		3,808.6
tal			0.0		45,104.6		4,816.6		5,248.6		5,288.6		39,248.6		4,028.6

s

rea to be treated is Sokoke forest with 72.0 sq.km.;
arget density in year 1 is 3 per sq.km., and 2 in the following years;
% annual replacement rate is assumed and initially this is met from the reductions in target numbers;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
ced three times a year;
ities per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
ity used per year is 8 ml.;
ive treatment is calculated twice annually for 10 % of the herd in the first year, 5 % in tbe second
% in the following; with a dosage of 7 mg. per kg. body weight; herd size is 8,000.0 head of cattle and average body weight is 200.0 kg.;
lated for 5,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
tment															
s 1)	20.0	0.0	0.0	600.0	12,000.0	0.0	0.0	0.0	0.0	400.0	8,000.0	60.0	1,200.0	60.0	1,200.0
ing Equipment	2,000.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0
ack Sprayer	1,100.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0
cles	160.0	0.0	0.0	2.0	320.0	0.0	0.0	0.0	0.0	2.0	320.0	0.0	0.0	0.0	0.0
tal			0.0		16,520.0		0.0		0.0		12,520.0		1,200.0		1,200.0
rent Expenditure															
ticide, ltr. 2)	350.0	0.0	0.0	14.4	5,040.0	9.6	3,360.0	9.6	3,360.0	9.6	3,360.0	9.6	3,360.0	9.6	3,360.0
Treatment, gr.3)	1.5	0.0	0.0	4,200.0	6,300.0	2,100.0	3,150.0	840.0	1,260.0	840.0	1,260.0	840.0	1,260.0	840.0	1,260.0
Equipment 4)	57.5	0.0	0.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0
Maintenance	500.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
cle Running Cost 5)	1,406.3	0.0	0.0	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3
tal			0.0		13,361.3		8,531.3		6,641.3		6,641.3		6,641.3		6,641.3
Total			0.0		29,881.3		8,531.3		6,641.3		19,161.3		7,841.3		7,841.3

otes

area to be treated is 200.0 km. with a trap density of 3 per km. in the first year and 2 in the following years;
annual replacement rate is 15 % and initially this is met from the reductions in target numbers;
ntity used per year is 24 ml.;
ative treatment is for 10 % of the herd in the first year, for 5 % in the second year and fur
in the following; herd size is 15,000.0 head of cattle with an average weight of 200.0 kg.;
atment is twice per year and the dosage is 7 mg. per kg. body weight;
sisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
culated for 10,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

t														
1)	10.0	0.0	0.0	600.0	6,000.0	0.0	0.0	900.0	9,000.0	645.0	6,450.0	1,200.0	12,000.0	990.0
sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	1.0	1,100.0	2.0	2,200.0	1.0	1,100.0	2.0
			0.0		7,100.0		0.0		10,100.0		8,650.0		13,100.0	
Expenditure														
2)														
,ltr.	2.3	0.0	0.0	1,200.0	2,700.0	600.0	1,350.0	1,800.0	4,050.0	2,400.0	5,400.0	3,000.0	6,750.0	3,600.0
1,ltr.	300.0	0.0	0.0	4.8	1,440.0	2.4	720.0	7.2	2,160.0	9.6	2,880.0	12.0	3,600.0	14.4
ide, ltr. 3)	350.0	0.0	0.0	4.8	1,680.0	2.4	840.0	7.2	2,520.0	9.6	3,360.0	12.0	4,200.0	14.4
atment, gr. 4)	1.5	0.0	0.0	42.0	63.0	23.1	34.7	52.2	78.2	76.3	114.4	87.6	131.3	101.5
uipment	40.0	0.0	0.0	1.0	40.0	1.0	40.0	2.0	80.0	3.0	120.0	4.0	160.0	5.0
			0.0		5,923.0		2,984.7		8,888.2		11,874.4		14,841.3	
al			0.0		13,023.0		2,984.7		18,988.2		20,524.4		27,941.3	

ea to be treated is on average 150.0 sq.km for each settlement/community; beginning with year 4 each year one community will be included in the programme;
density is 4 in year one of the campaign, and 2 in the following;
nual replacement rate is 15 % and initially this is met from the reductions in target numbers.
ties used per year are 2 ltr. Aceton and 8 ml. Octenol; other odours are replaced by cow urine;
icide use is 8 ml. per year and target;
ve treatment is for 10 % of the herd in year 1 of the campaign;
year 2, and 2 % thereafter; dosage is 7 mg. per kg. body weight and the average weight is 200.0 kg. and two doses per year are given; herd size is 300.0 per settlement increasing by 10 % annually.

tem	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nvestment															
Targets 1)	10.0	50.0	500.0	8.0	80.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0
Traps 1)	30.0	50.0	1,500.0	8.0	240.0	100.0	3,000.0	15.0	450.0	15.0	450.0	100.0	3,000.0	15.0	450.0
Knapsack Sprayer	1,100.0	2.0	2,200.0	0.0	0.0	2.0	2,200.0	2.0	2,200.0	0.0	0.0	2.0	2,200.0	2.0	2,200.0
Camping Equipment	2,000.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0
Motorbicycles	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0
Bicycles	160.0	1.0	160.0	0.0	0.0	2.0	320.0	1.0	160.0	0.0	0.0	2.0	320.0	1.0	160.0
ubtotal			9,285.0		2,320.0		6,520.0		2,960.0		8,375.0		5,670.0		3,810.0
ecurrent Expenditure															
Sachets 2)	0.4	150.0	56.3	150.0	56.3	150.0	56.3	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5
Odours: 3)															
Aceton,ltr.	2.3	110.0	247.5	110.0	247.5	110.0	247.5	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0
Octenol,ltr.	300.0	1.2	360.0	1.2	360.0	1.2	360.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0
3 N-Propyl Phenol,ltr	2,537.5	0.3	761.3	0.3	761.3	0.3	761.3	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5
4-Methyl Phenol,ltr.	37.5	2.4	90.0	2.4	90.0	2.4	90.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0
Insecticide,ltr. 4)	350.0	0.4	140.0	0.4	140.0	0.4	140.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0
Demonstration Material	500.0	0.5	250.0	0.5	250.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
Misc. Equipment 5)	57.5	2.0	115.0	2.0	115.0	4.0	230.0	4.0	230.0	4.0	230.0	4.0	230.0	4.0	230.0
Camp Maintenance	500.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
Vehicle Running Cost 6)															
Motorbicycle	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3	1.0	281.3
ubtotal			2,301.3		2,801.3		3,166.3		4,821.3		4,821.3		4,821.3		4,821.3
rand Total			11,586.3		5,121.3		9,686.3		7,781.3		13,196.3		10,491.3		8,631.3

ootnotes

) Annual replacement for targets and traps is 15 %;
) Replaced three times a year;
) For targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
and 16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
) The quantity used per year and trap is 8 ml.;
) Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
) Calculated for 10,000.0 km. per year ,
and with a 50 % allowance for oil, lubricants and repairs.

Table 18 : Kilifi District; Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
stment															
ps (Biconnical) 1)	30.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0
pound Microscope 2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
cial Objective	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
matogrit Centrifuge	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
nsformer (12-220 vol	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Equipment	63.7	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tographic Mat.	1,250.0	1.0	1,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
otal			15,801.4		900.0		900.0		6,000.0		900.0		900.0		6,000.0
rrent Expenditure															
nrs: 3)															
eton, ltr.	2.3	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0
tenol,ltr.	300.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0
N-Propyl Phenol, ltr	2,537.5	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0
Methyl Phenol, ltr.	37.5	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0
. Consumables	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
otal			3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0
d Total			19,621.4		4,720.0		4,720.0		9,820.0		4,720.0		4,720.0		9,820.0

notes
eplacement is 15 % annually;
quipped for dark background, phase contrast microscopy;
nnual quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
N-Propyl Phenol and 4 Methyl Phenol respectively.

Table 19 : Kilifi District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
s (m/m)															
ist	378.8	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0
	208.3	12.0	2,500.0	60.0	12,500.0	60.0	12,500.0	96.0	20,000.0	108.0	22,500.0	108.0	22,500.0	108.0	22,500.0
echnician	208.3	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0
al Officer	143.3	12.0	1,719.0	12.0	1,719.0	12.0	1,719.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
ary	125.0	12.0	1,500.0	12.0	1,500.0	12.0	1,500.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
inate Staff	100.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	30.0	3,000.0	30.0	3,000.0	30.0	3,000.0	30.0	3,000.0
	117.8	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0
an	100.0	0.0	0.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0
l			15,377.0		27,777.0		27,777.0		35,467.5		37,967.5		37,967.5		37,967.5
ces (m/m)															
ist	300.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0
	60.0	9.0	540.0	45.0	2,700.0	45.0	2,700.0	72.0	4,320.0	81.0	4,860.0	81.0	4,860.0	81.0	4,860.0
echnician	60.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0
inate Staff	45.0	9.0	405.0	9.0	405.0	9.0	405.0	22.5	1,012.5	22.5	1,012.5	22.5	1,012.5	22.5	1,012.5
	45.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0
an	45.0	0.0	0.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0
l			4,410.0		7,650.0		7,650.0		9,877.5		10,417.5		10,417.5		10,417.5
otal			19,787.0		35,427.0		35,427.0		45,345.0		48,385.0		48,385.0		48,385.0

COASTAL FLY BELT

Lamu District

Extent of Tsetse Fly Infestation

The considerable part of the district is covered with dense bush vegetation and fly infestation is continuous and extremely high. There are no natural fly barriers.

Human population density is low except in the few organized settlements. Livestock keeping is in many areas not possible; however there are a few commercial ranches that keep beef cattle with chemotherapeutic programmes.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 20 to 23. Operations are designed for fly control as eradication is not a feasible option; they consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 1 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(d) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis infection rates.

(e) Community managed fly control through targets in the area of one settlement beginning with Project year 2. The settlement area will be about 150 sq. km. with an estimated 300 head of cattle. If successful the model will be expanded and starting with Project year 4 each year one additional community would be included in the programme.

(f) Provision of curative drugs through private sector outlets.

Table 20 : Lamu District; Fly Control- Settlements; Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nt															
1)	10.0	0.0	0.0	600.0	6,000.0	0.0	0.0	900.0	9,000.0	645.0	6,450.0	1,200.0	12,000.0	990.0	9,900.0
ksprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	1.0	1,100.0	2.0	2,200.0	1.0	1,100.0	2.0	2,200.0
			0.0		7,100.0		0.0		10,100.0		8,650.0		13,100.0		12,100.0
t Expenditure															
2)															
n,1tr.	2.3	0.0	0.0	1,200.0	2,700.0	600.0	1,350.0	1,800.0	4,050.0	2,400.0	5,400.0	3,000.0	6,750.0	3,600.0	8,100.0
ol,1tr.	300.0	0.0	0.0	4.8	1,440.0	2.4	720.0	7.2	2,160.0	9.6	2,880.0	12.0	3,600.0	14.4	4,320.0
cide, 1tr. 3)	350.0	0.0	0.0	4.8	1,680.0	2.4	840.0	7.2	2,520.0	9.6	3,360.0	12.0	4,200.0	14.4	5,040.0
eatment, gr. 4)	1.5	0.0	0.0	42.0	63.0	23.1	34.7	52.2	78.2	76.3	114.4	87.6	131.3	101.5	152.2
quipment	40.0	0.0	0.0	1.0	40.0	1.0	40.0	2.0	80.0	3.0	120.0	4.0	160.0	5.0	200.0
			0.0		5,923.0		2,984.7		8,888.2		11,874.4		14,841.3		17,812.2
tal			0.0		13,023.0		2,984.7		18,988.2		20,524.4		27,941.3		29,912.2

s

rea to be treated is on average 150.0 sq.km for each settlement/community; beginning with year 4 each year one community will be included in the programme;
t density is 4 in year one of the campaign, and 2 in the following;
anual replacement rate is 15 % and initially this is met from the reductions in target numbers.
ities used per year are 2 ltr. Aceton and 8 ml. Octenol; other odours are replaced by cow urine;
ticide use is 8 ml. per year and target;
ive treatment is for 10 % of the herd in year 1 of the campaign;
a year 2, and 2 % thereafter; dosage is 7 mg. per kg. body weight and the average weight is 200.0 kg. and two doses per year are given; herd size is 150.0 head of cattle per settlement increasing by 10 % annually.

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ment															
ts 1)	10.0	10.0	100.0	2.0	20.0	10.0	100.0	20.0	200.0	3.0	30.0	30.0	300.0	5.0	50
1)	30.0	10.0	300.0	2.0	60.0	2.0	60.0	20.0	600.0	3.0	90.0	3.0	90.0	30.0	900
ack Sprayer	1,100.0	1.0	1,100.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200
bicycles	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0
les	160.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160
al			6,425.0		80.0		160.0		3,160.0		5,045.0		390.0		3,310
ent Expenditure															
ets 2)	0.4	30.0	11.3	30.0	11.3	30.0	11.3	60.0	22.5	60.0	22.5	90.0	33.8	90.0	33
rs: 3)															
ton,1tr.	2.3	22.0	49.5	22.0	49.5	22.0	49.5	44.0	99.0	44.0	99.0	66.0	148.5	66.0	148
enol,1tr.	300.0	0.2	72.0	0.2	72.0	0.2	72.0	0.5	144.0	0.5	144.0	0.7	216.0	0.7	216
-Propyl Phenol,1tr	2,537.5	0.1	152.3	0.1	152.3	0.1	152.3	0.1	304.5	0.1	304.5	0.2	456.8	0.2	456
ethyl Phenol,1tr.	37.5	0.5	18.0	0.5	18.0	0.5	18.0	1.0	36.0	1.0	36.0	1.4	54.0	1.4	54
ticide,1tr. 4)	350.0	0.1	28.0	0.1	28.0	0.1	28.0	0.2	56.0	0.2	56.0	0.2	84.0	0.2	84
stration Material	500.0	0.2	100.0	0.2	100.0	0.2	100.0	0.4	200.0	0.6	300.0	0.8	400.0	1.0	500
Equipment 5)	57.5	1.0	57.5	1.0	57.5	1.0	57.5	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115
le Running Cost 6)															
bicycle	70.3	1.0	70.3	1.0	70.3	1.0	70.3	2.0	140.6	3.0	210.9	4.0	281.3	5.0	351
al			558.8		558.8		558.8		1,117.6		1,287.9		1,789.3		1,959
Total			6,983.8		638.8		718.8		4,277.6		6,332.9		2,179.3		5,269

es

ial replacement for targets and traps is 15 %;
laced three times a year;
targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
quantity used per target and year is 8 ml.;
isting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
ulated for 2,500.0 km. per year and setlement,
with a 50 % allowance for oil, lubricants and repairs.

Table 22 : Lamu District: Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ıment															
(Biconnical) 1)	30.0	40.0	1,200.0	6.0	180.0	6.0	180.0	60.0	1,800.0	9.0	270.0	9.0	270.0	80.0	2,400.0
ıund Microscope 2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al Objective	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ıtogrit Centrifuge	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
former (12-220 vol	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	63.7	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
graphic Mat.	1,250.0	1.0	1,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tal			11,001.4		180.0		180.0		1,800.0		270.0		270.0		2,400.0
ent Expenditure															
s: 3)															
on, 1tr.	2.3	8.0	18.0	8.0	18.0	8.0	18.0	12.0	27.0	12.0	27.0	12.0	27.0	16.0	36.0
nol,1tr.	300.0	0.6	192.0	0.6	192.0	0.6	192.0	1.0	288.0	1.0	288.0	1.0	288.0	1.3	384.0
Propyl Phenol, 1tr	2,537.5	0.2	406.0	0.2	406.0	0.2	406.0	0.2	609.0	0.2	609.0	0.2	609.0	0.3	812.0
thyl Phenol, 1tr.	37.5	1.3	48.0	1.3	48.0	1.3	48.0	1.9	72.0	1.9	72.0	1.9	72.0	2.6	96.0
Consumables	500.0	0.5	250.0	0.5	250.0	0.5	250.0	0.6	300.0	0.7	350.0	0.7	350.0	0.8	400.0
tal			914.0		914.0		914.0		1,296.0		1,346.0		1,346.0		1,728.0
Total			11,915.4		1,094.0		1,094.0		3,096.0		1,616.0		1,616.0		4,128.0

tes
lacement is 15% annually;
ipped for dark background; phase contrast micrnscopy;
ual quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
-Propyl Phenol and 4 Methyl Phenol respectively.

Table 23 : Lamu District: Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
(m/m)															
t	378.8	2.0	757.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5
	208.3	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	36.0	7,500.0	36.0	7,500.0	36.0	7,500.0	36.0	7,500.0
hnician	208.3	3.0	625.0	3.0	625.0	3.0	625.0	3.0	625.0	3.0	625.0	3.0	625.0	3.0	625.0
Officer	143.3	3.0	429.8	3.0	429.8	3.0	429.8	3.0	429.8	3.0	429.8	3.0	429.8	3.0	429.8
y	125.0	3.0	375.0	3.0	375.0	3.0	375.0	3.0	375.0	3.0	375.0	3.0	375.0	3.0	375.0
ate Staff	100.0	6.0	600.0	6.0	600.0	6.0	600.0	18.0	1,800.0	18.0	1,800.0	18.0	1,800.0	18.0	1,800.0
	117.8	2.0	235.5	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5
			5,522.8		7,508.8		7,508.8		13,708.8		13,708.8		13,708.8		13,708.8
s (m/m)															
t	300.0	1.5	450.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0
	60.0	9.0	540.0	9.0	540.0	9.0	540.0	27.0	1,620.0	27.0	1,620.0	27.0	1,620.0	27.0	1,620.0
hnician	60.0	1.5	90.0	1.5	90.0	1.5	90.0	1.5	90.0	1.5	90.0	1.5	90.0	1.5	90.0
ate Staff	45.0	4.5	202.5	4.5	202.5	4.5	202.5	13.5	607.5	13.5	607.5	13.5	607.5	13.5	607.5
	45.0	1.5	67.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5
			1,350.0		2,385.0		2,385.0		3,870.0		3,870.0		3,870.0		3,870.0
al			6,872.8		9,893.8		9,893.8		17,578.8		17,578.8		17,578.8		17,578.8

COASTAL FLY BELT

Taita Taveta District

Extent of Tsetse Fly Infestation

Incidence of trypanosomiasis is restricted to the districts low land, savannah type areas. The tsetse fly challenge is high and permanent sources of re-infestation are the Tsavo National Park. The wet season fly area covers most of the lowlands, about 4,500 sq. km.; dry season fly areas extend over an area of about 400 sq.km..

Land use is both large scale commercial ranching and small holder mixed farming with extensive small stock and cattle keeping. Breeds kept are Boran and the Small East African Zebu.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 24 to 27. Operations are geared towards tsetse fly control; they consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 3 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 3.

(d) Equipment for the district laboratory in Project year 3, to allow for monitoring of trypanosomiasis infection rates.

(e) Fly control through community managed target operations. Control operations are scheduled for the entire area, i.e. 1,000 sq. km. and will start in Project year 4. It is assumed that 80 % of the livestock keepers would participate already in programme year 1, as the control technique has been demonstrated for some time already with the IFAD supported ASAL project.

(f) Provision of curative drugs through private sector outlets.

estment															
rgets 1)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	2,400.0	24,000.0	0.0	0.0	1,600.0	16,000.0	240.0	2,400.
apsack Sprayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8,800.0	0.0	0.0	0.0	0.0	8.0	8,800.
otal			0.0		0.0		0.0		32,800.0		0.0		16,000.0		11,200.
rrent Expenditure															
urs: 2)															
eton,1tr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	4,800.0	10,800.0	3,200.0	7,200.0	3,200.0	7,200.0	3,200.0	7,200.
tenol,1tr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	5,760.0	12.8	3,840.0	12.8	3,840.0	12.8	3,840.
ecticide, 1tr. 3)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	19.2	6,720.0	12.8	4,480.0	12.8	4,480.0	12.8	4,480.
phyl. Treatment 4)	7.5	0.0	0.0	0.0	0.0	0.0	0.0	8,000.0	60,000.0	0.0	0.0	0.0	0.0	0.0	0.
. Treatment, gr. 5)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	5,600.0	8,400.0	2,800.0	4,200.0	1,120.0	1,680.0	1,120.0	1,680.
sc. Equipment	40.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	320.0	8.0	320.0	8.0	320.0	8.0	320.
otal			0.0		0.0		0.0		92,000.0		20,040.0		17,520.0		17,520.
d Total			0.0		0.0		0.0		124,800.0		20,040.0		33,520.0		28,720.

notes

The area to be treated is 1,000.0 sq.km. and 80 % would participate ; target density is 3 in year 1 of the campaign and 2 in the following years;
be annual replacement rate is 15 %, and initially this is met from the reductions in target numbers;
Quantities used per year are 2 ltr. Aceton and 8 ml. Octenol; other odours are replaced by cow urine:
Calulated with 8 ml. per target and year;
Prophylactic treatment is once per year in the first campaign year and with a dosage of 1 mg. per kg. body weight and the average weight is 200.0 kg., herd size is 40,000.0 head of cattle
Curative treatment is for 10 % of the herd in year 1 of the campaign;
i % in year 2, and 2 % thereafter; dosage is once per year with 7 mg. per kg. body-weight.

Table 25 : Taita Taveta District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
	10.0	0.0	0.0	0.0	0.0	75.0	750.0	12.0	120.0	75.0	750.0	12.0	120.0	75.0	750.0
	30.0	0.0	0.0	0.0	0.0	75.0	2,250.0	12.0	360.0	12.0	360.0	75.0	2,250.0	12.0	360.0
prayer	1,100.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0.0
les	4,925.0	0.0	0.0	0.0	0.0	2.0	9,850.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	9,850.0
	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0
			0.0		0.0		16,310.0		480.0		1,110.0		5,830.0		10,960.0
xpenditnre															
)	0.4	0.0	0.0	0.0	0.0	225.0	84.4	225.0	84.4	225.0	84.4	225.0	84.4	225.0	84.4
)															
tr.	2.3	0.0	0.0	0.0	0.0	165.0	371.3	165.0	371.3	165.0	371.3	165.0	371.3	165.0	371.3
ltr.	300.0	0.0	0.0	0.0	0.0	1.8	540.0	1.8	540.0	1.8	540.0	1.8	540.0	1.8	540.0
yl Phenol,ltr	2,537.5	0.0	0.0	0.0	0.0	0.5	1,141.9	0.5	1,141.9	0.5	1,141.9	0.5	1,141.9	0.5	1,141.9
Phenol,ltr.	37.5	0.0	0.0	0.0	0.0	3.6	135.0	3.6	135.0	3.6	135.0	3.6	135.0	3.6	135.0
e,ltr. 4)	350.0	0.0	0.0	0.0	0.0	0.6	210.0	0.6	210.0	0.6	210.0	0.6	210.0	0.6	210.0
ion Material	500.0	0.0	0.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
pment 5)	57.5	0.0	0.0	0.0	0.0	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5
nning Cost 6)															
cles	225.0	0.0	0.0	0.0	0.0	0.5	112.5	1.0	225.0	1.0	225.0	1.0	225.0	1.0	225.0
			0.0		0.0		3,267.5		3,380.0		3,380.0		3,380.0		3,380.0
			0.0		0.0		19,577.5		3,860.0		4,490.0		9,210.0		14,340.0

eplacement rate is 15 %;
three times a year;
ets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
1.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
tity used per year and target is 8 ml.;
ng of unifnrm, gumboots, pangas, strings and minor equipment for each AHA.;
ed for 8,000.0 km. per year,
a 50 % allowance for oil, lubricants and repairs.

Table 26 : Taita Taveta District; Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ment															
(Biconnical) 1)	30.0	0.0	0.0	0.0	0.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0	30.0	900.0
and Microscope 2)	5,655.0	0.0	0.0	0.0	0.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al Objective	910.0	0.0	0.0	0.0	0.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tocrit Centrifuge	1,357.2	0.0	0.0	0.0	0.0	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
former (12-220 vol	565.5	0.0	0.0	0.0	0.0	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	63.7	0.0	0.0	0.0	0.0	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
graphic Mat.	1,250.0	0.0	0.0	0.0	0.0	1.0	1,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al			0.0	0.0	0.0		15,801.4		900.0		900.0		6,000.0		900.0
ent Expenditure															
s: 3)															
on, ltr.	2.3	0.0	0.0	0.0	0.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0
nol,ltr.	300.0	0.0	0.0	0.0	0.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0
Propyl Phenol, ltr	2,537.5	0.0	0.0	0.0	0.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0
thyl Phenol, ltr.	37.5	0.0	0.0	0.0	0.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0
Consumables	500.0	0.0	0.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.9	450.0
al			0.0		0.0		3,820.0		3,820.0		3,820.0		3,820.0		3,770.0
Total			0.0		0.0		19,621.4		4,720.0		4,720.0		9,820.0		4,670.0

tes
lacement is 15% annually;
ipped for dark background, phase contrast microscopy;
ual quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
-Propyl Phenol and 4 Methyl Phenol respectively.

Table 27 : Taita-Taveta District: Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ies (m/m)															
ogist	378.8	0.0	0.0	0.0	0.0	8.0	3,030.0	8.0	3,030.0	8.0	3,030.0	8.0	3,030.0	8.0	3,030.0
	208.3	0.0	0.0	0.0	0.0	48.0	10,000.0	48.0	10,000.0	48.0	10,000.0	48.0	10,000.0	48.0	10,000.0
Technician	208.3	0.0	0.0	0.0	0.0	4.0	833.3	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0
ical Officer	143.3	0.0	0.0	0.0	0.0	4.0	573.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
etary	125.0	0.0	0.0	0.0	0.0	4.0	500.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
rdinate Staff	100.0	0.0	0.0	0.0	0.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0
er	117.8	0.0	0.0	0.0	0.0	6.0	706.5	8.0	942.0	8.0	942.0	8.0	942.0	8.0	942.0
tal			0.0		0.0		18,042.8		19,231.5		19,231.5		19,231.5		19,231.5
ances (m/m)															
ogist	300.0	0.0	0.0	0.0	0.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0	6.0	1,800.0
	60.0	0.0	0.0	0.0	0.0	36.0	2,160.0	36.0	2,160.0	36.0	2,160.0	36.0	2,160.0	36.0	2,160.0
Technician	60.0	0.0	0.0	0.0	0.0	2.0	120.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0
rdinate Staff	45.0	0.0	0.0	0.0	0.0	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0
er	45.0	0.0	0.0	0.0	0.0	4.5	202.5	6.0	270.0	6.0	270.0	6.0	270.0	6.0	270.0
tal			0.0		0.0		5,092.5		5,220.0		5,220.0		5,220.0		5,220.0
Total			0.0		0.0		23,135.3		24,451.5		24,451.5		24,451.5		24,451.5

COASTAL FLY BELT

Tana River District

Extent of Tsetse Fly Infestation

Tsetse flies are concentrated along the Tana river system and in the wide ranging dense bush vegetation.

In the vicinity of the rivers the land use system is partly sedentary crop agriculture. Throughout most of the district, nomadic and semi-nomadic livestock keeping prevails however. The district has a high disease challenge and the fly habitat stretches over an area of about 720 km.; it is connected with the Lamu, Garissa and Kilifi districts.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 28 to 31. Operations are geared towards tsetse fly control; they consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(c) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis incidence.

(d) Fly control along the Tana river and its tributaries (1,000 km.) implemented by DOVS beginning in Project year 2. Public sector involvement is because large areas are communally used, the population and livestock move over large areas, and costs and benefits for the use of river banks are difficult to attribute.

(e) Provision of curative drugs through private sector outlets.

Table 28 : Tana River District; Fly Control Rivers

m	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
estment															
aps 1)	20.0	0.0	0.0	3,000.0	60,000.0	0.0	0.0	0.0	0.0	2,000.0	40,000.0	300.0	6,000.0	300.0	6,000.0
mping Equipment	2,000.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0	1.0	2,000.0	0.0	0.0	0.0	0.0
apsack Sprayer	1,100.0	0.0	0.0	5.0	5,500.0	0.0	0.0	0.0	0.0	5.0	5,500.0	0.0	0.0	0.0	0.0
ck Up	34,000.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0
cycles	160.0	0.0	0.0	5.0	800.0	0.0	0.0	0.0	0.0	5.0	800.0	0.0	0.0	0.0	0.0
total			0.0		102,300.0		0.0		0.0		48,300.0		40,000.0		6,000.0
urrent Expenditure															
secticide, ltr. 2)	350.0	0.0	0.0	72.0	25,200.0	48.0	16,800.0	48.0	16,800.0	48.0	16,800.0	48.0	16,800.0	48.0	16,800.0
r. Treatment, gr.3)	1.5	0.0	0.0	42,000.0	63,000.0	21,000.0	31,500.0	8,400.0	12,600.0	8,400.0	12,600.0	8,400.0	12,600.0	8,400.0	12,600.0
sc. Equipment 4)	57.5	0.0	0.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0
mp Maintenance	500.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
hicle Running Cost 5)	2,812.5	0.5	1,406.3	1.0	2,812.5	1.0	2,812.5	1.0	2,812.5	1.0	2,812.5	1.0	2,812.5	1.0	2,812.5
total			1,406.3		91,627.5		51,727.5		32,827.5		32,827.5		32,827.5		32,827.5
ıd Total			1,406.3		193,927.5		51,727.5		32,827.5		81,127.5		72,827.5		38,827.5

tnotes
The area to be treated is 1,000.0 km. with a trap density of 3 per km. in the first year and 2 in the following years;
the annual replacement rate is 15 % and initially this is met from the reductions in target numbers;
Quantity used per year is 24 ml.;
Curative treatment is for 10 % of the herd in the first year, for 5 % in the second year and for
2 % in the following; herd size is 150,000.0 head of cattle with an average weight of 200.0 kg.;
Treatment is twice per year and the dosage is 7 mg. per kg. body weight;
Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
Calculated for 20,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 29 : Tana River District: Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
tment															
ets 1)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
s 1)	30.0	100.0	3,000.0	15.0	450.0	15.0	450.0	100.0	3,000.0	15.0	450.0	15.0	450.0	100.0	3,000.0
sack Sprayer	1,100.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200.0
-Up	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0
rbicycles	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0
cles	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tal			44,125.0		450.0		450.0		5,200.0		39,375.0		450.0		5,200.0
rent Expenditure															
hets 2)	0.4	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5
urs: 3)															
eton,1tr.	2.3	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0
tenol,1tr.	300.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0
M-Propyl Phenol,1tr	2,537.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5
Methyl Phenol,1tr.	37.5	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0
cticide,1tr. 4)	350.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0
nstration Material	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
. Equipment 5)	57.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5
cle Running Cost 6)															
k-Up	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5
orbicycle	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0
tal			5,940.0		5,940.0		5,940.0		5,940.0		5,940.0		5,940.0		5,940.0
Total			50,065.0		6,390.0		6,390.0		11,140.0		45,315.0		6,390.0		11,140.0

otes

e annual replacement rate is 15 %;
placed three times a year;
r targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 M-Propyl Phenol,
d 16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
e quantity used per year and target is 8 ml.;
nsisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
lculated for 10,000.0 km. per year for pick-up and 8,000.0 km for motorbicycle,
d with a 80 % allowance for oil, lubricants and repairs.

Table 38 : Tana River District: Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nent															
(Biconnical) 1)	30.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0
und Microscope 2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al Objective	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tocrit Centrifuge	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
former (12-220 vol	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	63.7	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
graphic Mat.	1,250.0	1.0-	1,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al			15,801.4		900.0		900.0		6,000.0		900.0		900.0		6,000.0
ent Expenditure															
s: 3)															
on, ltr.	2.3	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0
ol,ltr.	300.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0
Propyl Phenol, ltr	2,537.5	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0
thyl Phenol, ltr.	37.5	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0
Consumables	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
al			3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0
Total			19,621.4		4,720.0		4,720.0		9,820.0		4,720.0		4,720.0		9,820.0

tes

lacement is 15 % annually;

ipped for dark background, phase contrast microscopy;

ial quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,

-Propyl Phenol and 4 Methyl Phenol respectively.

Table 31 : Tana River District: Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
s (m/m)															
ist	378.8	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0
	208.3	24.0	5,000.0	84.0	17,500.0	84.0	17,500.0	84.0	17,500.0	84.0	17,500.0	84.0	17,500.0	84.0	17,500.0
echnician	208.3	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0
al Officer	143.3	12.0	1,719.0	12.0	1,719.0	12.0	1,719.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
ary	125.0	12.0	1,500.0	12.0	1,500.0	12.0	1,500.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
inate Staff	100.0	12.0	1,200.0	42.0	4,200.0	42.0	4,200.0	42.0	4,200.0	42.0	4,200.0	42.0	4,200.0	42.0	4,200.0
	117.8	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0
an	100.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0
l			19,077.0		34,577.0		34,577.0		32,967.5		32,967.5		32,967.5		32,967.5
ces (m/m)															
ist	300.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0
	60.0	18.0	1,080.0	63.0	3,780.0	63.0	3,780.0	63.0	3,780.0	63.0	3,780.0	63.0	3,780.0	63.0	3,780.0
echnician	60.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0	6.0	360.0
inate Staff	45.0	9.0	405.0	31.5	1,417.5	31.5	1,417.5	31.5	1,417.5	31.5	1,417.5	31.5	1,417.5	31.5	1,417.5
	45.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0
an	45.0	12.0	540.0	12.0	540.0	12.0	540.0	12.0	540.0	12.0	540.0	12.0	540.0	12.0	540.0
l			5,490.0		9,202.5		9,202.5		9,202.5		9,202.5		9,202.5		9,202.5
otal			24,567.0		43,779.5		43,779.5		42,170.0		42,170.0		42,170.0		42,170.0

COASTAL FLY BELT

Garissa District

Extent of Tsetse Fly Infestation

Tsetse fly infestation and land use are comparable to those found in Tana River district. Fly infestation is believed to be restricted to the Tana river banks but there is little detailed information available.

Project Activities and Expected Results

The Garissa district borders Tana River along the river course and will benefit through the control operations there. Other measures are provision of curative drugs through private sector outlets.

COASTAL FLY BELT

Machakos District

Extent of Tsetse Fly Infestation

The southern part of the district connects with the Coastal Fly Belt through the Taita Taveta district. Permanent sources of infestation are the 400 sq. km. large Kibwezi forest and an about 20 km. strip along the foot of the Chyulu Range. The trypanosomiasis challenge is moderate.

The prevailing land use system is small holder dry land crop agriculture, which occupies those areas that were previously used for extensive cattle keeping. Extensive cattle keeping continues to a considerably reduced extent and the prevalent breed is the Small East African Zebu. The rapid settlement of the area has and continues to destroy much of the previous, more wide spread fly habitat.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 32. Control operations will be implemented with the beginning of Project year 2 and are used as demonstration and training case for courses conducted in the Kiboko Tsetse Training Station. Control operations consist of:

(a) Fly control in the Kibwezi Forest (400 sq. km.) and along the foot of the Chyulu Hills (20 km.); these will be maintained by trainees and departmental personnel.

(b) Provision of curative drugs through private sector outlets.

Item	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
Investment															
Targets 1)	10.0	0.0	0.0	1,680.0	16,800.0	0.0	0.0	840.0	8,400.0	126.0	1,260.0	840.0	8,400.0	126.0	1,260.0
Pick Up	34,000.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0
Knapsack Sprayer	1,100.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0
Bicycles	160.0	0.0	0.0	2.0	320.0	0.0	0.0	0.0	0.0	2.0	320.0	0.0	0.0	0.0	0.0
Subtotal			0.0		53,320.0		0.0		8,400.0		3,780.0		42,400.0		1,260.0
Recurrent Expenditure															
Sachets 2)	0.4	0.0	0.0	5,040.0	1,890.0	2,520.0	945.0	2,520.0	945.0	2,520.0	945.0	2,520.0	945.0	2,520.0	945.0
Odours: 3)															
Aceton,1tr.	2.3	0.0	0.0	3,360.0	7,560.0	1,680.0	3,780.0	1,680.0	3,780.0	1,680.0	3,780.0	1,680.0	3,780.0	1,680.0	3,780.0
Octenol,1tr.	300.0	0.0	0.0	13.4	4,032.0	6.7	2,016.0	6.7	2,016.0	6.7	2,016.0	6.7	2,016.0	6.7	2,016.0
3 N-Propyl Phenol,1tr.	2,537.5	0.0	0.0	3.4	8,526.0	1.7	4,263.0	1.7	4,263.0	1.7	4,263.0	1.7	4,263.0	1.7	4,263.0
4-Methyl Phenol,1tr.	37.5	0.0	0.0	26.9	1,008.0	13.4	504.0	13.4	504.0	13.4	504.0	13.4	504.0	13.4	504.0
Insecticide,1tr. 4)	350.0	0.0	0.0	13.4	4,704.0	6.7	2,352.0	6.7	2,352.0	6.7	2,352.0	6.7	2,352.0	6.7	2,352.0
Prophyl. Treatment, gr. 5)	7.5	0.0	0.0	10,000.0	75,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cur. Treatment,gr. 6)	1.5	0.0	0.0	7,000.0	10,500.0	3,500.0	5,250.0	1,400.0	2,100.0	1,400.0	2,100.0	1,400.0	2,100.0	1,400.0	2,100.0
Misc. Equipment 7)	57.5	0.0	0.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0
Vehicle Running Cost 8)															
Pick Up	1,406.3	0.0	0.0	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3	1.0	1,406.3
Subtotal			0.0		114,741.3		20,631.3		17,481.3		17,481.3		17,481.3		17,481.3
Grand Total			0.0		168,061.3		20,631.3		25,881.3		21,261.3		59,881.3		18,741.3

Footnotes

1) The area to be treated is 420.0 sq.km. consisting of 400.0 sq.km. in the Kibwezi Forest and 20.0 km. at the foot of the Chuyugu Hills;
the target density in year 1 is 4 per sq.km. and 2 in the following years;
The annual replacement rate is 15 % , and initially this is met from the reductions in target numbers;

2) Replaced three times a year;

3) Quantities per year are 2 ltr. Aceton, 8 ml. Octenol, 1 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;

4) Quantity used per year is 8 ml.;

5) Once a year with 1 mg. per kg. body weight and 200.0 kg. average body weight; herd size is estimated to be 50,000.0 head of cattle;

6) Curative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
and 2 % in the third; treatment is once a year and the dosage is 7 mg. per kg. body weight;

7) Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;

8) Calculated for 10,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

NYANZA-WESTERN PROVINCE FLY BELT

South Nyanza District

Extent of Tsetse Fly Infestation

Fly infestation is in three un-connected areas where it presents a moderate disease risk. The first area is the lake shore and the rivers draining into the lake, covering a stretch of about 840 km. The vicinity of the shore is sparsely populated; where accessible, river and lake shore areas are used for grazing and watering of livestock. The second area is Lambwe Valley, a National Park, covering 348 sq.km.. The park area is surrounded by small holdings, maintaining mixed crop and livestock enterprises. The third area is in the Oyugis, Kendu and Rangwe divisions, where about 250 sq.km. are infested.

The divisions are densely populated and intensive agriculture is practiced. An outbreak of trypanosomiasis about four years ago, led to substantial de-stocking. As cattle are used also as draft animals, de-stocking is reported to have had a marked negative impact on crop agriculture. The predominant cattle breed in all three areas is the Small East African Zebu. In the Oyugis, Kendu and Rangwe divisions there is scope for more intensive dairy production, but the disease makes introduction of cross breeds risky.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 33 to 38. Project activities are geared both towards control and eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(c) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis infection rates.

(d) Fly eradication in Lambwe Valley (348 sq. km.) implemented by DOVS and beginning in Project year 2.

(e) Fly eradication in Oyugis, Kendu and Rangwe divisions (250 sq. km.) implemented by DOVS and starting in Project year 2. Public sector implementation here is because previous control operations have significantly reduced the fly population. In this situation eradication requires very precise operations with little visual effect, i.e. a very low fly catch, and farmers interest may be difficult to maintain.

Fly control along the lake shore, river and on islands (843 km.) implemented by DOVS and beginning in Project year 2 .

Provision of prophylactic and curative drugs through private sector outlets.

Table 33: South Nyanza District; Fly Eradication in Lambwe Valley

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nt															
1)	10.0	0.0	0.0	1,044.0	10,440.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
k Sprayer	1,100.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			34,000.0		13,740.0		0.0		0.0		0.0		0.0		0.0
t Expenditure															
s 2)	0.4	0.0	0.0	3,132.0	1,174.5	2,088.0	783.0	2,088.0	783.0	0.0	0.0	0.0	0.0	0.0	0.0
: 3)															
n,ltr.	2.3	0.0	0.0	2,088.0	4,698.0	1,392.0	3,132.0	1,392.0	3,132.0	0.0	0.0	0.0	0.0	0.0	0.0
ol,ltr.	300.0	0.0	0.0	8.4	2,505.6	5.6	1,670.4	5.6	1,670.4	0.0	0.0	0.0	0.0	0.0	0.0
ropyl Phenol,ltr	2,537.5	0.0	0.0	2.1	5,298.3	1.4	3,532.2	1.4	3,532.2	0.0	0.0	0.0	0.0	0.0	0.0
hyl Phenol,ltr.	37.5	0.0	0.0	16.7	626.4	11.1	417.6	11.1	417.6	0.0	0.0	0.0	0.0	0.0	0.0
cide,ltr. 4)	350.0	0.0	0.0	8.4	2,923.2	5.6	1,948.8	5.6	1,948.8	0.0	0.0	0.0	0.0	0.0	0.0
Treatment gr. 5)	7.5	0.0	0.0	6,000.0	45,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
eatment,gr. 6)	1.5	0.0	0.0	4,200.0	6,300.0	2,100.0	3,150.0	840.0	1,260.0	0.0	0.0	0.0	0.0	0.0	0.0
quipment 7)	57.5	0.0	0.0	3.0	172.5	3.0	172.5	3.0	172.5	0.0	0.0	0.0	0.0	0.0	0.0
Running Cost 8)															
p	1,054.7	0.5	527.3	1.0	1,054.7	1.0	1,054.7	1.0	1,054.7	0.0	0.0	0.0	0.0	0.0	0.0
intenance	500.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	0.0	0.0	0.0	0.0	0.0	0.0
			527.3		70,253.2		16,361.2		14,471.2		0.0		0.0		0.0
tal			34,527.3		83,993.2		16,361.2		14,471.2		0.0		0.0		0.0

s

rea to be treated is 348.0 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3.
nnual replacement rate is 15 % ,and this is met initially from the reductions in target numbers;
ced three times a year;
ities per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
ity used per year is 8 ml.;
nimals once a year with 1 mg. per kg. body weight and 200.0 kg. average body weight; herd size is 30,000,0 head of cattle;
ive treatment is calculated for 10 % of the herd in the first year, 5 % in the second
% in the third; treatment is once a year with a dosage of 7 mg. per kg. body weight;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
lated for 7,500.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 34 : South Nyanza District; Fly Eradication in Oyugis Kendu and Rangwe

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
tment															
ets 1)	10.0	0.0	0.0	750.0	7,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
sack Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
cles	160.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tal			0.0		8,760.0		0.0		0.0		0.0		0.0		0.0
rent Expenditure															
hets 2)	0.4	0.0	0.0	2,250.0	843.8	1,500.0	562.5	1,500.0	562.5	0.0	0.0	0.0	0.0	0.0	0.0
urs: 3)															
eton,ltr.	2.3	0.0	0.0	1,500.0	3,375.0	1,000.0	2,250.0	1,000.0	2,250.0	0.0	0.0	0.0	0.0	0.0	0.0
tenol,ltr.	300.0	0.0	0.0	6.0	1,800.0	4.0	1,200.0	4.0	1,200.0	0.0	0.0	0.0	0.0	0.0	0.0
N-Propyl Phenol,ltr	2,537.5	0.0	0.0	1.5	3,806.3	1.0	2,537.5	1.0	2,537.5	0.0	0.0	0.0	0.0	0.0	0.0
Methyl Phenol,ltr.	37.5	0.0	0.0	12.0	450.0	8.0	300.0	8.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0
:ticide,ltr. 4)	350.0	0.0	0.0	6.0	2,100.0	4.0	1,400.0	4.0	1,400.0	0.0	0.0	0.0	0.0	0.0	0.0
Treatment,gr. 5)	1.5	0.0	0.0	2,100.0	3,150.0	1,050.0	1,575.0	420.0	630.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment 6)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0	0.0	0.0	0.0	0.0
:le Running Cost 7)	703.1	0.5	351.6	1.0	703.1	1.0	703.1	1.0	703.1	0.0	0.0	0.0	0.0	0.0	0.0
tal			351.6		16,285.6		10,585.6		9,640.6		0.0		0.0		0.0
Total			351.6		25,045.6		10,585.6		9,640.6		0.0		0.0		0.0

)tes
area to be treated is 250 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3;
annual replacement rate is 15 %, and this is met from the reductions in target numbers;
)laced three times a year;
mtities per year are 2 ltr. Aceton, 8 ml. Octenol, 3ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
ntity used per year is 8 ml.;
:ative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
id 2 % in the third year; treatment is once a year with 7 mg. per kg. body weight; herd size is 15,000.0 head of cattle with an average weight of 200.0 kg.;
sisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
lculated for 5,000.0 km per year and with a 20% allowance for oil, lubricants and repairs.

Table 35 : South Nyanza District; Fly Control Lake Shore, Rivers and Islands

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ient															
1)	20.0	0.0	0.0	2,529.0	50,580.0	0.0	0.0	0.0	0.0	1,686.0	33,720.0	253.0	5,060.0	253.0	5,060.0
ick Sprayer	1,100.0	0.0	0.0	4.0	4,400.0	0.0	0.0	0.0	0.0	4.0	4,400.0	0.0	0.0	0.0	0.0
p	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0
es	160.0	0.0	0.0	4.0	640.0	0.0	0.0	0.0	0.0	4.0	640.0	0.0	0.0	0.0	0.0
l		-	34,000.0		55,620.0		0.0		0.0		72,760.0		5,060.0		5,060.0
nt Expenditure															
icide, ltr. 2)	350.0	0.0	0.0	60.7	21,243.6	40.5	14,162.4	40.5	14,162.4	40.5	14,162.4	40.5	14,162.4	40.5	14,162.4
treatment,gr. 3)	1.5	0.0	0.0	14,000.0	21,000.0	7,000.0	10,500.0	2,800.0	4,200.0	2,800.0	4,200.0	2,800.0	4,200.0	2,800.0	4,200.0
Equipment 4)	57.5	0.0	0.0	4.0	230.0	4.0	230.0	4.0	230.0	4.0	230.0	4.0	230.0	4.0	230.0
e Running Cost 5)															
Up	1,757.8	0.5	878.9	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8
ire	25.0	0.0	0.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0
aintenance	500.0	0.0	0.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0
l			878.9		46,131.4		28,550.2		22,250.2		22,250.2		22,250.2		22,250.2
otal			34,878.9		101,751.4		28,550.2		22,250.2		95,010.2		27,310.2		27,310.2

es

area to be treated is 843.0 km. with a target density of 3 per km. in the first year and 2 in the following years.
annual replacement rate is 15 % , and for year two and three this is met from the reductions in target numbers;
tity used per year is 24 ml.;
tive treatment is calculated for 10 % of the herd in the first year, 5 % in the second
2 % thereafter; treatment is once a year with a dosage of 7 mg. per kg. body weight. Cattle population is estimated at 100,000 head
an average body weight of 200.0 kg.;
isting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
ulated for 12,500.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 36 : South Nyanza District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
stment															
gets 1)	10.0	50.0	500.0	8.0	80.0	50.0	500.0	0.0	0.0	0.0	0.0	20.0	200.0	3.0	30.0
ps 1)	30.0	50.0	1,500.0	8.0	240.0	8.0	240.0	20.0	600.0	3.0	90.0	3.0	90.0	20.0	600.0
psack Sprayer	1,100.0	2.0	2,200.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0
orbicycle	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0
ycles	160.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0
otal			9,285.0		320.0		740.0		1,860.0		5,015.0		290.0		1,890.0
rrent Expenditure															
chets 2)	0.4	150.0	56.3	150.0	56.3	150.0	56.3	60.0	22.5	60.0	22.5	60.0	22.5	60.0	22.5
ours: 3)															
ceton,ltr.	2.3	110.0	247.5	110.0	247.5	110.0	247.5	44.0	99.0	44.0	99.0	44.0	99.0	44.0	99.0
ctenol,ltr.	300.0	1.2	360.0	1.2	360.0	1.2	360.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0
N-Propyl Phenol,ltr	2,537.5	0.3	761.3	0.3	761.3	0.3	761.3	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5
-Methyl Phenol,ltr.	37.5	2.4	90.0	2.4	90.0	2.4	90.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0
ecticide,ltr. 4)	350.0	0.4	140.0	0.4	140.0	0.4	140.0	0.2	56.0	0.2	56.0	0.2	56.0	0.2	56.0
onstration Material	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.5	250.0	0.5	250.0	0.5	250.0	0.5	250.0
c. Equipment 5)	57.5	2.0	115.0	2.0	115.0	2.0	115.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5
icle Running Cost 6)															
ck Up	1,125.0	1.0	1,125.0	1.0	1,125.0	1.0	1,125.0	1.0	1,125.0	0.5	562.5	0.5	562.5	0.5	562.5
torbicycle	225.0	1.0	225.0	1.0	225.0	1.0	225.0	1.0	225.0	0.5	112.5	0.5	112.5	0.5	112.5
otal			3,620.0		3,620.0		3,620.0		2,319.5		1,644.5		1,644.5		1,644.5
d Total			12,905.0		3,940.0		4,360.0		4,179.5		6,659.5		1,934.5		3,534.5

notes

arget and trap requirement reduces to 20 beginning year 4, and for targets the requirements for year 4 and 5 are met out of reductions in numbers;
eplaced three times a year;
or targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
nd 16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
he quantity used per target and year is 8 ml.;
onsisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
alculated for 8,000.0 km. per year for pick-up and motorbicycle for the first four years and 50 % of this for the remainder,
nd with a 50 % allowance for oil, lubricants and repairs.

Table 37 : South Nyanza District; Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
;)	30.0	150.0	4,500.0	23.0	690.0	23.0	690.0	80.0	2,400.0	12.0	360.0	12.0	360.0	80.0	2,400.0
2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
je	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
volt)	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	63.7	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1,500.0	1.0	1,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			14,551.4		690.0		690.0		2,400.0		360.0		360.0		2,400.0
	2.3	30.0	67.5	30.0	67.5	30.0	67.5	16.0	36.0	16.0	36.0	16.0	36.0	16.0	36.0
	300.0	2.4	720.0	2.4	720.0	2.4	720.0	1.3	384.0	1.3	384.0	1.3	384.0	1.3	384.0
tr.	2,537.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.3	812.0	0.3	812.0	0.3	812.0	0.3	812.0	
:	37.5	4.8	180.0	4.8	180.0	4.8	180.0	2.6	96.0	2.6	96.0	2.6	96.0	2.6	96.0
	750.0	1.0	750.0	1.0	750.0	1.0	750.0	0.5	375.0	0.5	375.0	0.5	375.0	0.5	375.0
			3,240.0		3,240.0		3,240.0		1,703.0		1,703.0		1,703.0		1,703.0
			17,791.4		3,930.0		3,930.0		4,103.0		2,063.0		2,063.0		4,103.0

; annually;
background, phase contrast micoscropy;
ter trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
and 4 Methyl Phenol respectively.

Table 38 : South Nyanza District: Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
es (m/m)															
gist	378.8	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0
	208.3	36.0	7,500.0	132.0	27,500.0	132.0	27,500.0	132.0	27,500.0	84.0	17,500.0	84.0	17,500.0	84.0	17,500.0
Technician	208.3	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0
cal Officer	143.3	12.0	1,719.0	12.0	1,719.0	12.0	1,719.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
tary	125.0	12.0	1,500.0	12.0	1,500.0	12.0	1,500.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
dinate Staff	100.0	18.0	1,800.0	66.0	6,600.0	66.0	6,600.0	66.0	6,600.0	66.0	6,600.0	66.0	6,600.0	42.0	4,200.0
r	117.8	24.0	2,826.0	24.0	2,826.0	24.0	2,826.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0
man	100.0	12.0	1,200.0	36.0	3,600.0	36.0	3,600.0	36.0	3,600.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0
al			23,590.0		50,790.0		50,790.0		46,517.5		35,317.5		35,317.5		32,917.5
nces (m/m)															
gist	300.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0
	60.0	27.0	1,620.0	99.0	5,940.0	99.0	5,940.0	99.0	5,940.0	63.0	3,780.0	63.0	3,780.0	63.0	3,780.0
Technician	60.0	6.0	360.0	6.0	360.0	6.0	360.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0
dinate Staff	45.0	13.5	607.5	49.5	2,227.5	49.5	2,227.5	49.5	2,227.5	49.5	2,227.5	49.5	2,227.5	31.5	1,417.5
r	45.0	18.0	810.0	18.0	810.0	18.0	810.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0
man	45.0	12.0	540.0	36.0	1,620.0	36.0	1,620.0	36.0	1,620.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0
al			6,637.5		13,657.5		13,657.5		13,072.5		10,372.5		10,372.5		9,562.5
Total			30,227.5		64,447.5		64,447.5		59,590.0		45,690.0		45,690.0		42,480.0

NYANZA-WESTERN PROVINCE FLY BELT

Kisumu District

Extent of Tsetse Fly Infestation

Fly infestation is along a 56 km. strip along the lake shore. The impact on livestock is negligible, but there is a human health risk.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 39 to 42. The district has only a small allocation for monitoring of fly incidence and for laboratory consumables; for laboratory analysis, the equipment in one of the neighboring districts will be used. Project operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Fly control along the lake shore, rivers and on islands (56 km.) implemented by DOVS beginning in Project year 2.

(c) Provision of prophylactic and curative drugs through private sector outlets.

. Table 39 : Kisumu District: Fly Control Lake Shore, Rivers and Islands

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ent															
.)	20.0	0.0	0.0	168.0	3,360.0	0.0	0.0	0.0	0.0	112.0	2,240.0	17.0	340.0	17.0	340.0
k Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0
s	160.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0
		-	0.0		4,620.0		0.0		0.0		4,600.0		340.0		340.0
t Expenditure															
cide, 1tr. 2)	350.0	0.0	0.0	4.0	1,411.2	2.7	940.8	2.7	940.8	2.7	940.8	2.7	940.8	2.7	940.8
intenance	500.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
quipment 3)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5
Running Cost 4)															
p	703.1	0.0	0.0	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1	1.0	703.1
re	25.0	0.0	0.0	12.0	300.0	12.0	300.0	12.0	300.0	12.0	300.0	12.0	300.0	12.0	300.0
			0.0		2,971.8		2,501.4		2,501.4		2,501.4		2,501.4		2,501.4
tal			0.0		7,591.8		2,501.4		2,501.4		7,101.4		2,841.4		2,841.4

s

rea to be treated is 56.0 km. with a trap density of 3 per km. in the first year and 2 in the following years.
nnual replacement rate is 15 %; initially this is met from the reductions in target numbers;
ity used per year is 24 ml. ;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
lated for 5,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nt															
1)	10.0	15.0	150.0	3.0	30.0	15.0	150.0	3.0	30.0	15.0	150.0	3.0	30.0	15.0	150.0
)	30.0	15.0	450.0	3.0	90.0	3.0	90.0	15.0	450.0	3.0	90.0	3.0	90.0	15.0	450.0
k Sprayer	1,100.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0
cycles	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0
			6,625.0		120.0		240.0		1,580.0		5,165.0		120.0		1,700.0
t Expenditure															
s 2)	0.4	45.0	16.9	45.0	16.9	45.0	16.9	45.0	16.9	45.0	16.9	45.0	16.9	45.0	16.9
: 3)															
n,ltr.	2.3	33.0	74.3	33.0	74.3	33.0	74.3	33.0	74.3	33.0	74.3	33.0	74.3	33.0	74.3
ol,ltr.	300.0	0.4	108.0	0.4	108.0	0.4	108.0	0.4	108.0	0.4	108.0	0.4	108.0	0.4	108.0
ropyl Phenol,ltr	2,537.5	0.1	228.4	0.1	228.4	0.1	228.4	0.1	228.4	0.1	228.4	0.1	228.4	0.1	228.4
hyl Phenol,ltr.	37.5	0.7	27.0	0.7	27.0	0.7	27.0	0.7	27.0	0.7	27.0	0.7	27.0	0.7	27.0
cide,ltr. 4)	350.0	0.1	42.0	0.1	42.0	0.1	42.0	0.1	42.0	0.1	42.0	0.1	42.0	0.1	42.0
ration Material	500.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0
quipment 5)	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5
Running Cost 6)															
p	140.6	0.5	70.3	1.0	140.6	1.0	140.6	1.0	140.6	1.0	140.6	1.0	140.6	1.0	140.6
ike	28.1	0.5	14.1	1.0	28.1	1.0	28.1	1.0	28.1	1.0	28.1	1.0	28.1	1.0	28.1
			763.4		847.8		847.8		847.8		847.8		847.8		847.8
tal			7,388.4		967.8		1,087.8		2,427.8		6,012.8		967.8		2,547.8

s

nnual replacement rate of targets and traps is 15 %;
ced three times a year;
argets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
6 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
uantity used is 8 ml.;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
lated for 2,000.0 km. per year for pick-up and motorbicycle
ith a 50 % allowance for oil, lubricants and repairs.

Table 41 : Kisumu District: Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ment															
(Biconnical) 1)	30.0	30.0	900.0	5.0	150.0	5.0	150.0	30.0	900.0	5.0	150.0	5.0	150.0	30.0	900.0
graphic Mat.	250.0	1.0	250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al			1,150.0		150.0		150.0		900.0		150.0		150.0		900.0
ent Expenditure															
s: 2)															
on, ltr.	2.3	6.0	13.5	6.0	13.5	6.0	13.5	6.0	13.5	6.0	13.5	6.0	13.5	6.0	13.5
nol,ltr.	300.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0
Propyl Phenol, ltr	2,537.5	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5
thyl Phenol, ltr.	37.5	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0
Consumables	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0
al			748.0		748.0		748.0		748.0		748.0		748.0		748.0
Total			1,898.0		898.0		898.0		1,648.0		898.0		898.0		1,648.0

tes .
lacement is 15 % annually;
nal quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
-Propyl Phenol and 4 Methyl Phenol respectively.

Table 42 : Kisumu District: Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
es (m/m)															
;ist	378.8	2.0	757.5	2.0	757.5	2.0	757.5	2.0	757.5	2.0	757.5	2.0	757.5	2.0	757.5
	208.3	6.0	1,250.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0
Technician	208.3	2.0	416.7	2.0	416.7	2.0	416.7	2.0	416.7	2.0	416.7	2.0	416.7	2.0	416.7
:al Officer	143.3	2.0	286.5	2.0	286.5	2.0	286.5	2.0	286.5	2.0	286.5	2.0	286.5	2.0	286.5
:ary	125.0	2.0	250.0	2.0	250.0	2.0	250.0	2.0	250.0	2.0	250.0	2.0	250.0	2.0	250.0
linate Staff	100.0	3.0	300.0	6.0	600.0	6.0	600.0	6.0	600.0	6.0	600.0	6.0	600.0	6.0	600.0
	117.8	2.0	235.5	2.0	235.5	2.0	235.5	2.0	235.5	2.0	235.5	2.0	235.5	2.0	235.5
ian	100.0	0.0	0.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0	12.0	1,200.0
al			3,496.2		6,246.2		6,246.2		6,246.2		6,246.2		6,246.2		6,246.2
ices (m/m)															
ist	300.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0
	60.0	4.5	270.0	9.0	540.0	9.0	540.0	9.0	540.0	9.0	540.0	9.0	540.0	9.0	540.0
Technician	60.0	1.0	60.0	1.0	60.0	1.0	60.0	1.0	60.0	1.0	60.0	1.0	60.0	1.0	60.0
linate Staff	45.0	2.3	101.3	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5
	45.0	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5
ian	45.0	0.0	0.0	12.0	540.0	12.0	540.0	12.0	540.0	12.0	540.0	12.0	540.0	12.0	540.0
l			948.8	-	1,860.0		1,860.0		1,860.0		1,860.0		1,860.0		1,860.0
Total			4,444.9		8,106.2		8,106.2		8,106.2		8,106.2		8,106.2		8,106.2

NYANZA-WESTERN PROVINCE FLY BELT

Siaya District

Extent of Tsetse Fly Infestation

Fly infestation in two separate areas where it presents a moderate disease risk. The first area is the lake shore and the related drainage system, covering a stretch of about 585 km.. The vicinity of the shore is sparsely populated, but where accessible, river and lake shore areas are used for grazing and watering of livestock. The second area is the Siaya Hills with an area of 250 sq.km..

Settlement density is fairly high and small scale mixed crop/livestock enterprises are predominant. Most cattle are of the Small East African Zebu breed; recently programmes to introduce cross breeds for intensive dairy production have begun.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 43 to 47. Project activities are geared both towards control and eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 1 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(d) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis infection rates.

(e) Fly eradication in the Siaya Hills (250 sq. km.) through community management, beginning in Project year 2. This strategy assumes that there is no connection to fly habitats in Uganda. Should survey work however establish that there is such connection, long term control operations would be the appropriate strategy; the resulting cost increase would be small and would not affect donor or government contributions as the activity is community financed.

(f) Fly control along the lake shore, rivers and islands (585 km.) implemented by DOVS and beginning in Project year 2.

(g) Partial bush clearing to be carried out by the beneficiaries in support of the operations described under para "e" and "f" above.

(h) Provision of prophylactic and curative drugs through private sector outlets.

Table 43 : Siaya District; Fly Eradication Siaya Hills-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ment															
ts 1)	10.0	0.0	0.0	750.0	7,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
ack Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
al			0.0		8,600.0		0.0		0.0		0.0		0.0		0
ent Expenditure															
rs: 2)															
ton,ltr.	2.3	0.0	0.0	1,500.0	3,375.0	1,000.0	2,250.0	1,000.0	2,250.0	0.0	0.0	0.0	0.0	0.0	0
enol,ltr.	300.0	0.0	0.0	6.0	1,800.0	4.0	1,200.0	4.0	1,200.0	0.0	0.0	0.0	0.0	0.0	0
ticide,ltr. 3)	350.0	0.0	0.0	6.0	2,100.0	4.0	1,400.0	4.0	1,400.0	0.0	0.0	0.0	0.0	0.0	0
yl. Treatment 4)	7.5	0.0	0.0	6,000.0	45,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Treatment,gr. 5)	1.5	0.0	0.0	4,200.0	6,300.0	2,100.0	3,150.0	840.0	1,260.0	0.0	0.0	0.0	0.0	0.0	0
Equipment	40.0	0.0	0.0	1.0	40.0	1.0	40.0	1.0	40.0	0.0	0.0	0.0	0.0	0.0	0
al			0.0		58,615.0		8,040.0		6,150.0		0.0		0.0		0
Total			0.0		67,215.0		8,040.0		6,150.0		0.0		0.0		0

tes
area to be treated is 250.0 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3.
annual replacement rate is 15 %, and this is net from the reductions in target numbers;
ntities per year are 2 ltr. Aceton, 8 ml. Octenol;
ntity used per year is 8 ml;
phylactic treatment is once a a year for the entire herd with 1 mg. per kg. body weight; herd size is 30,000.0 head of cattle;
ative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
2 % in the third; treatment is once a year, with a dosage of 7 mg. per kg. body weight;

Table 44 : Siaya District; Fly Control Lake Shore, Rivers and Islands

em	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
vestment															
raps 1)	20.0	0.0	0.0	1,755.0	35,100.0	0.0	0.0	0.0	0.0	1,170.0	23,400.0	176.0	3,520.0	176.0	3,520.0
napsack Sprayer	1,100.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0
ick-Up	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0
icycles	160.0	0.0	0.0	3.0	480.0	0.0	0.0	0.0	0.0	3.0	480.0	0.0	0.0	0.0	0.0
btotal			34,000.0		38,880.0		0.0		0.0		61,180.0		3,520.0		3,520.0
current Expenditure															
nsecticide,ltr. 2)	350.0	0.0	0.0	42.1	14,742.0	28.1	9,828.0	28.1	9,828.0	28.1	9,828.0	28.1	9,828.0	28.1	9,828.0
ur. Treatment,gr. 3)	1.5	0.0	0.0	11,200.0	16,800.0	5,600.0	8,400.0	2,240.0	3,360.0	2,240.0	3,360.0	2,240.0	3,360.0	2,240.0	3,360.0
isc. Equipment 4)	57.5	0.0	0.0	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5
ehicle Running Cost 5)															
Pick Up	1,757.8	0.0	0.0	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8
oat Hire	25.0	0.0	0.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0
amp Maintenance	500.0	0.0	0.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0
btotal			0.0		35,372.3		22,058.3		17,018.3		17,018.3		17,018.3		17,018.3
and Total			34,000.0		74,252.3		22,058.3		17,018.3		78,198.3		20,538.3		20,538.3

otnotes

The area to be treated is 585.0 km. with a trap density of 3 per km. in the first year and 2 in the following years;
the annual replacement rate is 15 %; initially this is met from the reductions in target numbers;
Quantity used per year is 24 ml.;
Curative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
and 2 % thereafter; treatment is once a year and with a dosage of 7 mg. per kg. body weight; herd size is 80,000.0 head of cattle with average weigth of 200.0 kg.;
Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
Calculated for 12,500.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 45 : Siaya District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
)	10.0	40.0	400.0	6.0	60.0	40.0	400.0	0.0	0.0	0.0	0.0	20.0	200.0	3.0	30
	30.0	40.0	1,200.0	6.0	180.0	6.0	180.0	20.0	600.0	3.0	90.0	3.0	90.0	20.0	600
Sprayer	1,100.0	2.0	2,200.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100
cles	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0
	160.0	1.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
			8,885.0		240.0		580.0		1,700.0		5,015.0		290.0		1,730
Expenditure															
2)	0.4	120.0	45.0	120.0	45.0	120.0	45.0	60.0	22.5	60.0	22.5	60.0	22.5	60.0	22
3)															
ltr.	2.3	88.0	198.0	88.0	198.0	88.0	198.0	44.0	99.0	44.0	99.0	44.0	99.0	44.0	99
,ltr.	300.0	1.0	288.0	1.0	288.0	1.0	288.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144
pyl Phenol,ltr	2,537.5	0.2	609.0	0.2	609.0	0.2	609.0	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304
l Phenol,ltr.	37.5	1.9	72.0	1.9	72.0	1.9	72.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36
de,ltr. 4)	350.0	0.3	112.0	0.3	112.0	0.3	112.0	0.2	56.0	0.2	56.0	0.2	56.0	0.2	56
tion Material	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.5	250.0	0.5	250.0	0.5	250.0	0.5	250
ipment 5)	57.5	2.0	115.0	2.0	115.0	2.0	115.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57
unning Cost 6)															
	1,125.0	0.5	562.5	1.0	1,125.0	1.0	1,125.0	1.0	1,125.0	0.8	900.0	0.8	900.0	0.8	900
e	225.0	0.5	112.5	1.0	225.0	1.0	225.0	1.0	225.0	0.8	168.8	0.8	168.8	0.8	168
			2,614.0		3,289.0		3,289.0		2,319.5		2,038.3		2,038.3		2,038
l			11,499.0		3,529.0		3,869.0		4,019.5		7,053.3		2,328.3		3,768

and trap requirement reduces to 20 beginning year 4, and for targets the requirements for year four and five are met out of reductions in numbers;
l three times a year;
jets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 M-Propyl Phenol,
ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
ntity used is 8 ml.;
ing of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
ted for 8,000.0 km. per year for pick-up and motorbicycle,
a 50 % allowance for oil, lubricants and repairs.

Item	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
Investment															
Traps (Biconnical) 1)	30.0	100.0	3,000.0	15.0	450.0	15.0	450.0	80.0	2,400.0	12.0	360.0	12.0	360.0	80.0	2,400.0
Compound Microscope 2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Special Objective	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haematogrit Centrifuge	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transformer (12-220 vol	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Misc. Equipment	63.7	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cartographic Mat.	1,250.0	1.0	1,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal			12,801.4		450.0		450.0		2,400.0		360.0		360.0		2,400.0
Recurrent															
Odours: 3)															
Aceton, ltr.	2.3	20.0	45.0	20.0	45.0	20.0	45.0	16.0	36.0	16.0	36.0	16.0	36.0	16.0	36.0
Octenol,ltr.	300.0	1.6	480.0	1.6	480.0	1.6	480.0	1.3	384.0	1.3	384.0	1.3	384.0	1.3	384.0
3 N-Propyl Phenol, ltr	2,537.5	0.4	1,015.0	0.4	1,015.0	0.4	1,015.0	0.3	812.0	0.3	812.0	0.3	812.0	0.3	812.0
4 Methyl Phenol, ltr.	37.5	3.2	120.0	3.2	120.0	3.2	120.0	2.6	96.0	2.6	96.0	2.6	96.0	2.6	96.0
Lab. Consumables	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.5	250.0	0.5	250.0	0.5	250.0	0.5	250.0
Subtotal			2,160.0		2,160.0		2,160.0		1,578.0		1,578.0		1,578.0		1,578.0
Grand Total			14,961.4		2,610.0		2,610.0		3,978.0		1,938.0		1,938.0		3,978.0

Footnotes

1) Replacement is 15% annually;
2) Equipped for dark background, phase contrast microscopy;
3) Annual quantities per trap are, 200 ml. for Aceton; and 16 ml., 4 ml., and 32 ml. for Octenol, 3 N-Propyl Phenol and 4 Methyl Phenol respectively.

tem	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
alaries (m/m)															
Zoologist	378.8	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5
AHA	208.3	36.0	7,500.0	72.0	15,000.0	72.0	15,000.0	72.0	15,000.0	60.0	12,500.0	60.0	12,500.0	60.0	12,500.0
Lab. Technician	208.3	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0
Clerical Officer	143.3	8.0	1,146.0	8.0	1,146.0	8.0	1,146.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
Secretary	125.0	8.0	1,000.0	8.0	1,000.0	8.0	1,000.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
Subordinate Staff	100.0	18.0	1,800.0	18.0	1,800.0	18.0	1,800.0	36.0	3,600.0	36.0	3,600.0	36.0	3,600.0	36.0	3,600.0
Driver	117.8	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5
Watchman	100.0	0.0	0.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0
ubtotal			19,904.0		29,804.0		29,804.0		26,838.5		24,338.5		24,338.5		24,338.5
llowances (m/m)															
Zoologist	300.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0
AHA	60.0	27.0	1,620.0	54.0	3,240.0	54.0	3,240.0	54.0	3,240.0	45.0	2,700.0	45.0	2,700.0	45.0	2,700.0
Lab. Technician	60.0	6.0	360.0	6.0	360.0	6.0	360.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0
Subordinate Staff	45.0	13.5	607.5	13.5	607.5	13.5	607.5	27.0	1,215.0	27.0	1,215.0	27.0	1,215.0	27.0	1,215.0
Driver	45.0	9.0	405.0	9.0	405.0	9.0	405.0	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5
Watchman	45.0	0.0	0.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0
ubtotal			5,692.5		8,392.5		8,392.5		7,267.5		6,727.5		6,727.5		6,727.5
rand Total			25,596.5		38,196.5		38,196.5		34,106.0		31,066.0		31,066.0		31,066.0

NYANZA-WESTERN PROVINCE FLY BELT

Busia District

Extent of Tsetse Fly Infestation

The situation for Busia district is about the same as in Siaya district except that, the length of the lake shore is with 545 km. slightly shorter.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 48 to 52. Project activities are geared both towards control and eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 1 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(d) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis infection rates.

(e) Fly eradication in the Busia Hills (250 sq. km.) through community management; should the habitat be connected to others in Uganda, the same strategy as outlined above for the Siaya district applies.

(f) Fly control along the lake shore, rivers and islands (545 km.) implemented by DOVS.

(g) Partial bush clearing to be carried out by the beneficiaries in support of the operations described under para "e" and "f" above.

(h) Provision of prophylactic and curative drugs through private sector outlets.

Table 48 : Busia District; Fly Eradication Busia Hills-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
estment															
rgets 1)	10.0	0.0	0.0	750.0	7,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
apsack Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
total			0.0		8,600.0		0.0		0.0		0.0		0.0		0.0
urrent Expenditure															
lours: 2)															
Aceton,ltr.	2.3	0.0	0.0	1,500.0	3,375.0	1,000.0	2,250.0	1,000.0	2,250.0	0.0	0.0	0.0	0.0	0.0	0.0
Octenol,ltr.	300.0	0.0	0.0	6.0	1,800.0	4.0	1,200.0	4.0	1,200.0	0.0	0.0	0.0	0.0	0.0	0.0
secticide,ltr. 3)	350.0	0.0	0.0	6.0	2,100.0	4.0	1,400.0	4.0	1,400.0	0.0	0.0	0.0	0.0	0.0	0.0
ophyl. Treatment 4)	7.5	0.0	0.0	6,000.0	45,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
r. Treatment,gr. 5)	1.5	0.0	0.0	4,200.0	6,300.0	2,100.0	3,150.0	840.0	1,260.0	0.0	0.0	0.0	0.0	0.0	0.0
sc. Equipment	40.0	0.0	0.0	1.0	40.0	1.0	40.0	1.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0
total			0.0		58,615.0		8,040.0		6,150.0		0.0		0.0		0.0
id Total			0.0		67,215.0		8,040.0		6,150.0		0.0		0.0		0.0

notes
The area to be treated is 250.0 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3.
The annual replacement rate is 15 %, and this is met from the reductions in target numbers;
Quantities per year are 2 ltr. Aceton, 8 ml. Octenol;
Quantity used per year is 8 ml;
Prophylactic treatment is one per year for the entire herd with 1 mg. per kg. body weight; herd size is 30,000.0 head of cattle;
Curative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
and 2 % in the third; treatment is once per year ,with a dosage of 7 mg. per kg. body weight;

Table 49 : Busia District; Fly Control Lake Shore, Rivers and Islands

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
it															
	20.0	0.0	0.0	1,635.0	32,700.0	0.0	0.0	0.0	0.0	1,090.0	21,800.0	164.0	3,280.0	164.0	3,280.0
: Sprayer	1,100.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0
	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0
:	160.0	0.0	0.0	3.0	480.0	0.0	0.0	0.0	0.0	3.0	480.0	0.0	0.0	0.0	0.0
			34,000.0		36,480.0		0.0		0.0		59,580.0		3,280.0		3,280.0
: Expenditure															
:ide,ltr. 2)	350.0	0.0	0.0	39.2	13,734.0	26.2	9,156.0	26.2	9,156.0	26.2	9,156.0	26.2	9,156.0	26.2	9,156.0
:atment,gr. 3)	1.5	0.0	0.0	11,200.0	16,800.0	5,600.0	8,400.0	2,240.0	3,360.0	2,240.0	3,360.0	2,240.0	3,360.0	2,240.0	3,360.0
uipment 4)	57.5	0.0	0.0	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5
Running Cost 5)															
	1,757.8	0.0	0.0	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8	1.0	1,757.8
e	25.0	0.0	0.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0	36.0	900.0
ntenance	500.0	0.0	0.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0	2.0	1,000.0
			0.0		34,364.3		21,386.3		16,346.3		16,346.3		16,346.3		16,346.3
al			34,000.0		70,844.3		21,386.3		16,346.3		75,926.3		19,626.3		19,626.3

ea to be treated is 545.0 km. with a trap density of 3 per km. in the first year and 2 in the following years.
nual replacement rate is 15 %; initially this is met from the reductions in target numbers;
ty used per year is 24 ml.;
ve treatment is calculated for 10 % of the herd in the first year, 5 % in the second
% thereafter; treatment is once a year and with a dosage of 7 mg. per kg. body weight; herd size is 80,000.0 head of cattle with average weigth of 200.0 kg.;
ting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
ated for 12,500.0 km. per year and with a 50 % allowance for oil, luhricants and repairs.

Table 50 : Busia District; Extension Programme

Item	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost
Investment													
Targets 1)	10.0	40.0	400.0	6.0	60.0	40.0	400.0	0.0	0.0	0.0	0.0	20.0	200.0
Traps 1)	30.0	40.0	1,200.0	6.0	180.0	6.0	180.0	20.0	600.0	3.0	90.0	3.0	90.0
Knapsack Sprayer	1,100.0	2.0	2,200.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0
Motorbicycles	4,925.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0
Bicycles	160.0	1.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal			8,885.0		240.0		580.0		1,700.0		5,015.0		290.0
Recurrent Expenditure													
Sachets 2)	0.4	120.0	45.0	120.0	45.0	120.0	45.0	60.0	22.5	60.0	22.5	60.0	22.5
Odours: 3)													
Aceton,ltr.	2.3	88.0	198.0	88.0	198.0	88.0	198.0	44.0	99.0	44.0	99.0	44.0	99.0
Octenol,ltr.	300.0	1.0	288.0	1.0	288.0	1.0	288.0	0.5	144.0	0.5	144.0	0.5	144.0
3 N-Propyl Phenol,ltr	2,537.5	0.2	609.0	0.2	609.0	0.2	609.0	0.1	304.5	0.1	304.5	0.1	304.5
4-Methyl Phenol,ltr.	37.5	1.9	72.0	1.9	72.0	1.9	72.0	1.0	36.0	1.0	36.0	1.0	36.0
Insecticide,ltr. 4)	350.0	0.3	112.0	0.3	112.0	0.3	112.0	0.2	56.0	0.2	56.0	0.2	56.0
Demonstration Material	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.5	250.0	0.5	250.0	0.5	250.0
Misc. Equipment 5)	57.5	2.0	115.0	2.0	115.0	2.0	115.0	1.0	57.5	1.0	57.5	1.0	57.5
Vehicle Running Cost 6)													
Pick Up	1,125.0	0.5	562.5	1.0	1,125.0	1.0	1,125.0	1.0	1,125.0	0.8	900.0	0.8	900.0
Motorbike	225.0	0.5	112.5	1.0	225.0	1.0	225.0	1.0	225.0	0.8	168.8	0.8	168.8
Subtotal			2,614.0		3,289.0		3,289.0		2,319.5		2,038.3		2,038.3
Grand Total			11,499.0		3,529.0		3,869.0		4,019.5		7,053.3		2,328.3

Footnotes

1) Target and trap requirement reduces to 20 beginning year 4, and for targets the requirements for year four and five are met out of reductions in numbers;
2) Replaced three times a year;
3) For targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
and 16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
4) The quantity used is 8 ml.;
5) Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
6) Calculated for 8,000.0 km. per year for pick-up and motorbicycle,
and with a 50 % allowance for oil, lubricants and repairs.

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
estment															
ips (Biconnical) 1)	30.0	100.0	3,000.0	15.0	450.0	15.0	450.0	80.0	2,400.0	12.0	360.0	12.0	360.0	80.0	2,400.0
mpound Microscope 2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
cial Objective	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
matogrit Centrifuge	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
nsformer (12-220 vol	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c. Equipment	63.7	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tographic Mat.	1,250.0	1.0	1,250.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
otal			12,801.4		450.0		450.0		2,400.0		360.0		360.0		2,400.0
rrent Expenditure															
urs: 3)															
eton, 1tr.	2.3	20.0	45.0	20.0	45.0	20.0	45.0	16.0	36.0	16.0	36.0	16.0	36.0	16.0	36.0
tenol,1tr.	300.0	1.6	480.0	1.6	480.0	1.6	480.0	1.3	384.0	1.3	384.0	1.3	384.0	1.3	384.0
N-Propyl Phenol, 1tr	2,537.5	0.4	1,015.0	0.4	1,015.0	0.4	1,015.0	0.3	812.0	0.3	812.0	0.3	812.0	0.3	812.0
Methyl Phenol, 1tr.	37.5	3.2	120.0	3.2	120.0	3.2	120.0	2.6	96.0	2.6	96.0	2.6	96.0	2.6	96.0
. Consumables	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.5	250.0	0.5	250.0	0.5	250.0	0.5	250.0
otal			2,160.0		2,160.0		2,160.0		1,578.0		1,578.0		1,578.0		1,578.0
d Total			14,961.4		2,610.0		2,610.0		3,978.0		1,938.0		1,938.0		3,978.0

notes
eplacement is 15% annually;
quipped for dark background, phase contrast microscopy;
nnual quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
N-Propyl Phenol and 4 Methyl Phenol respectively.

Table 52 : Busia District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ries (m/m)															
logist	378.8	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5
	208.3	36.0	7,500.0	72.0	15,000.0	72.0	15,000.0	72.0	15,000.0	60.0	12,500.0	60.0	12,500.0	60.0	12,500.0
. Technician	208.3	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0
rical Officer	143.3	8.0	1,146.0	8.0	1,146.0	8.0	1,146.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
retary	125.0	8.0	1,000.0	8.0	1,000.0	8.0	1,000.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
ordinate Staff	100.0	18.0	1,800.0	18.0	1,800.0	18.0	1,800.0	36.0	3,600.0	36.0	3,600.0	36.0	3,600.0	36.0	3,600.0
ver	117.8	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5
chman	100.0	0.0	0.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0
otal			19,904.0		29,804.0		29,804.0		26,838.5		24,338.5		24,338.5		24,338.5
wances (m/m)															
logist	300.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0
	60.0	27.0	1,620.0	54.0	3,240.0	54.0	3,240.0	54.0	3,240.0	45.0	2,700.0	45.0	2,700.0	45.0	2,700.0
. Technician	60.0	6.0	360.0	6.0	360.0	6.0	360.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0
ordinate Staff	45.0	13.5	607.5	13.5	607.5	13.5	607.5	27.0	1,215.0	27.0	1,215.0	27.0	1,215.0	27.0	1,215.0
ver	45.0	9.0	405.0	9.0	405.0	9.0	405.0	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5
chman	45.0	0.0	0.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0	24.0	1,080.0
otal			5,692.5		8,392.5		8,392.5		7,267.5		6,727.5		6,727.5		6,727.5
d Total			25,596.5		38,196.5		38,196.5		34,106.0		31,066.0		31,066.0		31,066.0

NAROK-NGURUMAN FLY BELT

Narok District

Extent of Tsetse Fly Infestation

Narok district can be divided into two distinctly different parts; the Transmara in the north and the Cismara in the south. Fly infestation in Transmara is spread over about 1,600 sq. km., or 70 % of the area; both river banks and bush land are infested. Transmara is a high to medium potential area and until recently was utilized exclusively through semi-nomadic, communal ranching, and by wildlife. Since some time private land titles are being issued and private ranching replaces semi-nomadic forms of land use. Also, crop agriculture is spreading rapidly and bush clearing is done on a significant scale. This changing land-use pattern continues to destroy part of the fly habitat and reduces disease incidence somewhat. The connections to the southern part of the district and the riverain habitats will however remain and can only be controlled through targeted interventions. The predominant cattle breed is the Small East African Zebu. In the northern areas, grade dairy cattle are being introduced and their is considerable potential for expansion of dairying.

Fly infestation and disease risk are also high in the Cismara. Fly infestation is along river banks and in the wide ranging bush lands. The area is dry and extensive, semi-nomadic systems predominate. With the establishment of the wheat farms north of Narok town, traditional migratory routes were cut, and overgrazing and serious range degradation is taking place.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 53 to 60. Project activities are geared towards control as well as eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 1.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 1 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 1.

(d) Equipment for the district laboratory in Project year 1, to allow for monitoring of trypanosomiasis infection rates.

(e) Fly eradication along the Migori and its tributaries (160 km.) implemented by

DOVS and starting in Project year 1. This strategy assumes that there is no connection to fly habitats in Tanzania. Should survey work however establish that there is such connection, long term control operations would be the appropriate strategy; the resulting cost increase would be small and can be accommodated within the allocation made for physical contingencies.

(f) Fly control in Transmara through community management (1,200 sq. km.) starting in Project year 2; there has been no previous vector control programme in the area and participation is likely to be gradual as the technique gains acceptance; participation is forecasted to be 10 % in Project year 2 increasing to 80 % in year 7.

(g) Fly control in Transmara-topical applications (starting with 8,000 head in year 2, and increasing to 18,000 head in year 7); the technique will be used in high potential areas where cross bred dairy cows are already kept, or with communities that wish to introduce intensive dairying. In both cases, care would be taken to ensure that milk marketing channels exist. The programme includes trials to determine optimal treatment densities and frequencies. Trial work with 2,000 head of indigenous zebu cattle will be organized to determine the economics of topical applications there.

(h) Fly control in the Mara ranches through community management (250 sq. km.) beginning in Project year 2.

(i) Fly control in Cismara (1,400 sq. km.) through community management beginning in Project year 4. There has been no previous vector control programme but participation is forecasted to be high from the beginning because of the demonstration effect of the programme in Transmara.

(j) Provision of prophylactic and curative drugs through private sector outlets.

Table 53 : Narok District; Fly Eradication Migori and Tributaries

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ent															
Vavoa 1)	20.0	0.0	0.0	480.0	9,600.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
p	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
k Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
s	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-	34,000.0		10,700.0		0.0		0.0		0.0		0.0		0.0
t Expenditure															
cide,ltr. 2)	350.0	0.0	0.0	11.5	4,032.0	7.7	2,688.0	7.7	2,688.0	0.0	0.0	0.0	0.0	0.0	0.0
.Treatment gr. 3)	7.5	0.0	0.0	12,000.0	90,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
eatment,gr. 4)	1.5	0.0	0.0	4,200.0	6,300.0	2,100.0	3,150.0	840.0	1,260.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment 5)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0	0.0	0.0	0.0	0.0
Running Cost 6)															
lp	1,687.5	0.0	0.0	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	0.0	0.0	0.0	0.0	0.0	0.0
intenance	500.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0		102,577.0		8,083.0		6,193.0		0.0		0.0		0.0
tal			34,000.0		113,277.0		8,083.0		6,193.0		0.0		0.0		0.0

s

rea to be treated is 160.0 km. with a trap density of 3 per km. in the first year and 2 in year 2 and 3;
nnual replacement rate is 15 % and this is net from the reductions in target numbers.
ity used per year is 24 ml.;
inals twice a year with 1 mg. per kg. body weight and 200.0 kg. average body weight; the herd size is 30,000.0 head of cattle;
ive treatment is calculated for 10 % of the herd in the first year, 5 % in the second
% in the third; treatment is once a year the dosage is 7 mg. per kg. body weight;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
lated for 10,000.0 km. per year and with a 80 % allowance for oil, lubricants and repairs.

t															
1)	10.0	0.0	0.0	360.0	3,600.0	360.0	3,600.0	960.0	9,600.0	996.0	9,960.0	1,476.0	14,760.0	828.0	8,
Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	1.0	1,100.0	2.0	2,200.0	3.0	3,300.0	3.0	3,300.0	2.0	2,
			0.0		4,700.0		4,700.0		11,800.0		13,260.0		18,060.0		10,
Expenditure															
)															
ltr.	2.3	0.0	0.0	720.0	1,620.0	1,200.0	2,700.0	2,400.0	5,400.0	3,360.0	7,560.0	4,320.0	9,720.0	3,840.0	8,
, ltr.	300.0	0.0	0.0	2.9	864.0	4.8	1,440.0	9.6	2,880.0	13.4	4,032.0	17.3	5,184.0	15.4	4,
ide, ltr. 3)	350.0	0.0	0.0	2.9	1,008.0	4.8	1,680.0	9.6	3,360.0	13.4	4,704.0	17.3	6,048.0	15.4	5,
Treatment, gr. 4)	7.5	0.0	0.0	8,000.0	60,000.0	8,000.0	60,000.0	16,000.0	120,000.0	16,000.0	120,000.0	16,000.0	120,000.0	0.0	
atment,gr. 5)	1.5	0.0	0.0	2,800.0	4,200.0	4,200.0	6,300.0	7,560.0	11,340.0	9,520.0	14,280.0	10,640.0	15,960.0	6,160.0	9,
uipment	40.0	0.0	0.0	1.0	40.0	2.0	80.0	4.0	160.0	6.0	240.0	8.0	320.0	8.0	
			0.0		67,732.0		72,200.0		143,140.0		150,816.0		157,232.0		28,
al			0.0		72,432.0		76,900.0		154,940.0		164,076.0		175,292.0		38,

ea to be treated is 1,200.0 sq.km. with 200,000 head of cattle; target density is 3 per sq.km. in the first year and 2 in the following years;
nual replacement rate is 15 % , and initially this is met from the reductions in target numbers.
r 2 livestock keepers in 10 % of the area would participate, in year 3, 20%, in year 4, 40 %, in year 5, 60 % and in year 6, 80 %;
ties per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
ty used per year is 8 ml.;
inals twice a year with 1 mg. per kg. body weight and 200.0 kg. average body weight;
ve treatment is calculated for 10 % of the herd in the first year, 5 % in the second
% in the third; treatment is once a year and the dosage is 7 mg. per kg. body weight;

Table 55 : Narok District; Fly Control Transmara-Topical Applications

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ent Expenditure															
al Applications	40.0	0.0	0.0	10,000.0	400,000.0	12,000.0	480,000.0	14,000.0	560,000.0	16,000.0	640,000.0	18,000.0	720,000.0	20,000.0	800,000.0
yl. Treatment,gr. 1)	7.5	0.0	0.0	4,000.0	30,000.0	800.0	6,000.0	800.0	6,000.0	800.0	6,000.0	800.0	6,000.0	800.0	6,000.0
Treatment,gr. 2)	1.5	0.0	0.0	1,400.0	2,100.0	980.0	1,470.0	700.0	1,050.0	756.0	1,134.0	812.0	1,218.0	868.0	1,302.0
al			0.0		432,100.0		487,470.0		567,050.0		647,134.0		727,218.0		807,302.0
Total			0.0		432,100.0		487,470.0		567,050.0		647,134.0		727,218.0		807,302.0

tes

year 2, 10,000 head of cattle will be treated and each subsequent year 2,000 more will be included, during the first year two doses of prophylaxis would be given ,
rage weight is 200.0 kg.;
ative treatment is for 10 % of the herd in year 1 of the programme, 5 % in year 2 and for 2 % in the following years. ; one treatment per year is given.

Table 56 : Narok District; Fly Control Mara Ranches-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
tment															
ets 1)	10.0	0.0	0.0	1,000.0	10,000.0	0.0	0.0	500.0	5,000.0	75.0	750.0	500.0	5,000.0	75.0	750
sack Sprayer	1,100.0	0.0	0.0	5.0	5,500.0	0.0	0.0	0.0	0.0	5.0	5,500.0	0.0	0.0	0.0	(
tal			0.0		15,500.0		0.0		5,000.0		6,250.0		5,000.0		750
rent Expenditure															
rs: 2)															
ton,ltr.	2.3	0.0	0.0	2,000.0	4,500.0	1,500.0	3,375.0	1,000.0	2,250.0	1,000.0	2,250.0	1,000.0	2,250.0	1,000.0	2,250
enol, ltr.	300.0	0.0	0.0	8.0	2,400.0	6.0	1,800.0	4.0	1,200.0	4.0	1,200.0	4.0	1,200.0	4.0	1,200
cticide, ltr: 3)	350.0	0.0	0.0	8.0	2,800.0	6.0	2,100.0	4.0	1,400.0	4.0	1,400.0	4.0	1,400.0	4.0	1,400
byl. Treatment, gr. 4)	7.5	0.0	0.0	4,000.0	30,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(
Treatment,gr. 5)	1.5	0.0	0.0	1,400.0	2,100.0	700.0	1,050.0	280.0	420.0	280.0	420.0	280.0	420.0	280.0	420
. Equipment	40.0	0.0	0.0	5.0	200.0	5.0	200.0	5.0	200.0	5.0	200.0	5.0	200.0	5.0	200
tal			0.0		42,000.0		8,525.0		5,470.0		5,470.0		5,470.0		5,470
Total			0.0		57,500.0		8,525.0		10,470.0		11,720.0		10,470.0		6,220

otes
area to be treated is 250.0 sq.km. with a target density of 4 per sq.km. in the first year, 3 in the second, and 2 in the following years,
annual replacement rate is 15 %, and initially this is met from the reductions in target numbers;
year 2 ltr. Aceton, and 8 ml. Octenol; cow urine replaces the other odours;
antity per year is 8 ml.;
ophylaxis is two treatments during the first year with 1 mg. per kg. body weight
cattle population is estimated at 10,000.0 head with 200.0 kg. average body weight;
rative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
2 % in the following; treatment is once per year and the dosage is 7 mg. per kg. body weight.

Table 57 : Narok District; Fly Control Cis Mara Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
tment															
sts 1)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	3,360.0	33,600.0	0.0	0.0	2,240.0	22,400.0	336.0	3,360.0
sack Sprayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	11,000.0	0.0	0.0	0.0	0.0	10.0	11,000.0
tal			0.0		0.0		0.0		44,600.0		0.0		22,400.0		14,360.0
rent Expenditure															
rs 2)		-													
ton, ltr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	6,720.0	15,120.0	4,480.0	10,080.0	4,480.0	10,080.0	4,480.0	10,080.0
enol, ltr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	8,064.0	17.9	5,376.0	17.9	5,376.0	17.9	5,376.0
cticide, ltr. 3)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	9,408.0	17.9	6,272.0	17.9	6,272.0	17.9	6,272.0
hyl. Treatment, gr. 4)	7.5	0.0	0.0	0.0	0.0	0.0	0.0	32,000.0	240,000.0	0.0	0.0	0.0	0.0	0.0	0.0
Treatment,gr. 5)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	11,200.0	16,800.0	5,600.0	8,400.0	2,240.0	3,360.0	2,240.0	3,360.0
. Equipment	40.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	400.0	10.0	400.0	10.0	400.0	10.0	400.0
tal			0.0		0.0		0.0		289,792.0		30,528.0		25,488.0		25,488.0
Total			0.0		0.0		0.0		334,392.0		30,528.0		47,888.0		39,848.0

otes
e area to be treated is 1,400.0 sq.km. and 80 % of the farmers would cooperate; target density is 3 per sq.km. in the first year and 2 in the following years;
e annual replacement rate is 15 % , and initially this is met from the reductions in target numbers.
antities per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
antity used per year is 8 ml.;
l animals twice a year with 1 mg. per kg. body weight and 200.0 kg. average body weight; herd size is 80,000.0 head of cattle;
rative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
l 2 % in the third; treatment is once per year and the dosage is 7 mg. per kg. body weight.

Table 58 : Narok District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nt															
1)	10.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0
)	30.0	100.0	3,000.0	15.0	450.0	15.0	450.0	100.0	3,000.0	15.0	450.0	15.0	450.0	100.0	3,000.0
k Sprayer	1,100.0	5.0	5,500.0	0.0	0.0	0.0	0.0	5.0	5,500.0	0.0	0.0	0.0	0.0	5.0	5,500.0
	34,000.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0
cycles	4,925.0	3.0	14,775.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	14,775.0	0.0	0.0	0.0	0.0
s	160.0	2.0	320.0	0.0	0.0	0.0	0.0	2.0	320.0	0.0	0.0	0.0	0.0	2.0	320.0
			58,595.0		600.0		1,450.0		8,970.0		50,225.0		600.0		9,820.0
t Expenditure															
s 2)	0.4	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5
: 3)															
,ltr.	2.3	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0
ol,ltr.	300.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0
ropyl Phenol,ltr	2,537.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5
thyl Phenol,ltr.	37.5	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8
ride,ltr. 4)	350.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0
ration Material	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
quipment 5)	57.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5
Running Cost 6)															
r	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5
icycle	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0	1.0	270.0
			5,940.0		5,940.0		5,940.0		5,940.0		5,940.0		5,940.0		5,940.0
tal			64,535.0		6,540.0		7,390.0		14,910.0		56,165.0		6,540.0		15,760.0

;

inual replacement rate is 15 %;
ced three times a year;
rgets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
; ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
iantity used per year and target is 8 ml.;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
.ated for 10,000.0 km. per year for pick-up and 8,000.0 km for motorbicycle,
ith a 80 % allowance for oil, lubricants and repairs.

Table 59 : Narok District; Monitoring and Laboratory Equipment

m	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost.
estment															
aps (Biconnical) 1)	30.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0
mpound Microscope 2)	5,655.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ecial Objective	910.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
matogrit Centrifuge	1,357.2	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ansformer (12-220 vol	565.5	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
sc. Equipment	63.7	-1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
rtographic Mat.	1,500.0	1.0	1,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
total			16,051.4		900.0		900.0		6,000.0		900.0		900.0		6,000.0
urrent Expenditure															
ours: 3)															
ceton, ltr.	2.3	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0
ctenol,ltr.	300.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0
N-Propyl Phenol, ltr	2,537.5	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0
Methyl Phenol, ltr.	37.5	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0
b. Consumables	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0
total			3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0		3,820.0
nd Total			19,871.4		4,720.0		4,720.0		9,820.0		4,720.0		4,720.0		9,820.0

tnotes
Replacement is 15 % annually;
Equipped for dark background, phase contrast microscopy;
Annual quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
3 N-Propyl Phenol and 4 Methyl Phenol respectively.

NAROK-NGURUMAN FLY BELT

Kajiado District

Extent of Tsetse Fly Infestation

Only the western part of the district with an estimated area of about 750 sq. km. is infested. The infested area stretches from the Ewaso Ngiro River up the Nguruman Escarpment. Fly infestation and disease risk are high.

Land use is semi-nomadic group ranching.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 61 to 64. Project activities are geared towards control. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 3 and continue throughout the duration of the Project.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 3.

(d) Equipment for the district laboratory in Project year 3, to allow for monitoring of trypanosomiasis infection rates.

(e) Fly control through community management (750 sq. km.) beginning in Project year 4.

(f) Provision of prophylactic and curative drugs through private sector outlets.

Table 61 : Kajiado District; Fly Control-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
	10.0	0.0	0.0	0.0	0.0	0.0	0.0	3,360.0	33,600.0	0.0	0.0	2,240.0	22,400.0	336.0	3,360.0
prayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7,700.0	0.0	0.0	0.0	0.0	7.0	7,700.0
			0.0		0.0		0.0		41,300.0		0.0		22,400.0		11,060.0
xpenditure															
tr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	6,720.0	15,120.0	4,480.0	10,080.0	4,480.0	10,080.0	4,480.0	10,080.0
ltr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	8,064.0	17.9	5,376.0	17.9	5,376.0	17.9	5,376.0
e, ltr. 3)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	26.9	9,408.0	17.9	6,272.0	17.9	6,272.0	17.9	6,272.0
reatment, gr. 4)	7.5	0.0	0.0	0.0	0.0	0.0	0.0	40,000.0	300,000.0	0.0	0.0	0.0	0.0	0.0	0.0
ment,gr. 5)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	14,000.0	21,000.0	7,000.0	10,500.0	2,800.0	4,200.0	2,800.0	4,200.0
pment	40.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	280.0	7.0	280.0	7.0	280.0	7.0	280.0
			0.0		0.0		0.0		353,872.0		32,508.0		26,208.0		26,208.0
			0.0		0.0		0.0		395,172.0		32,508.0		48,608.0		37,268.0

to be treated is 750.0 sq.km. and 80 % of the farmers would cooperate; target density is 3 per sq.km. in the first year and 2 in the following years;
al replacement rate is 15 % , and initially this is met from the reductions in target numbers.
es per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 M-Propyl Phenol and 16 ml. 4 Methyl Phenol;
used per year and target is 8 ml.;
als twice a year with 1 mg. per kg. body weight and 200.0 kg. average body weight; herd size is 100,000.0 head of cattle;
treatment is calculated for 10 % of the herd in the first year, 5 % in the second
in the third; treatment is once a year and the dosage is 7 mg. per kg. body weight.

Table 62 : Kajiado District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
nt															
1)	10.0	0.0	0.0	0.0	0.0	100.0	1,000.0	15.0	150.0	100.0	1,000.0	15.0	150.0	100.0	1,000
)	30.0	0.0	0.0	0.0	0.0	100.0	3,000.0	15.0	450.0	15.0	450.0	100.0	3,000.0	15.0	450
k Sprayer	1,100.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0
	34,000.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34,000
cycles	4,925.0	0.0	0.0	0.0	0.0	2.0	9,850.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	9,850
s	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0
			0.0		0.0		51,310.0		600.0		1,450.0		6,610.0		45,300
t Expenditure															
s 2)	0.4	0.0	0.0	0.0	0.0	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112.5	300.0	112
: 3)															
n,1tr.	2.3	0.0	0.0	0.0	0.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495.0	220.0	495
ol,1tr.	300.0	0.0	0.0	0.0	0.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720
ropyl Phenol,1tr	2,537.5	0.0	0.0	0.0	0.0	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522
hyl Phenol,1tr.	37.5	0.0	0.0	0.0	0.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180
cide,1tr. 4)	350.0	0.0	0.0	0.0	0.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280.0	0.8	280
ration Material	500.0	0.0	0.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500
quipment 5)	57.5	0.0	0.0	0.0	0.0	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172.5	3.0	172
Running Cost 6)															
p	1,687.5	0.0	0.0	0.0	0.0	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687.5	1.0	1,687
icycle	270.0	0.0	0.0	0.0	0.0	2.0	540.0	2.0	540.0	2.0	540.0	2.0	540.0	2.0	540
			0.0		0.0		6,210.0		6,210.0		6,210.0		6,210.0		6,210
tal			0.0		0.0		57,520.0		6,810.0		7,660.0		12,820.0		51,510

s

nnual replacement rate is 15 %;
ced three times a year;
argets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
6 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
uantity used per year and target is 8 ml.;
sting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
lated for 10,000.0 km. per year for pick-up and motorbicycle,
a 50 % allowance for oil, lubricants and repairs.

Table 64 : Kajiado District; Personnel-Salaries and Allowances

tem	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ılaries (m/m)															
oologist	378.8	0.0	0.0	0.0	0.0	6.0	2,272.5	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0
HA	208.3	0.0	0.0	0.0	0.0	36.0	7,500.0	48.0	10,000.0	48.0	10,000.0	48.0	10,000.0	48.0	10,000.0
ab. Technician	208.3	0.0	0.0	0.0	0.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0
lerical Officer	143.3	-0.0	0.0	0.0	0.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5
ecretary	125.0	0.0	0.0	0.0	0.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0
ubordinate Staff	100.0	0.0	0.0	0.0	0.0	18.0	1,800.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0	24.0	2,400.0
river	117.8	0.0	0.0	0.0	0.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0
ubtotal			0.0		0.0		15,845.0		21,217.5		21,217.5		21,217.5		21,217.5
lowances (m/m)															
ntomologist	300.0	0.0	0.0	0.0	0.0	4.5	1,350.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0
HA	60.0	0.0	0.0	0.0	0.0	27.0	1,620.0	36.0	2,160.0	36.0	2,160.0	36.0	2,160.0	36.0	2,160.0
ab. Technician	60.0	0.0	0.0	0.0	0.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0
ubordinate Staff	45.0	0.0	0.0	0.0	0.0	13.5	607.5	18.0	810.0	18.0	810.0	18.0	810.0	18.0	810.0
river	45.0	0.0	0.0	0.0	0.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0
btotal		0.0	0.0		0.0		4,162.5		6,255.0		6,255.0		6,255.0		6,255.0
and Total			0.0		0.0		20,007.5		27,472.5		27,472.5		27,472.5		27,472.5

CENTRAL KENYA FLY BELT

Machakos District

Extent of Tsetse Fly Infestation

Fly infestation is over an area of about 100 sq.km. in the north eastern part of the district; disease risk is low.

Land use in these areas is mixed crop/livestock farming with zebu and some grade dairy cattle. The area is densely populated and used. Fly infestation is also from the occasional privately owned plots, that are not used and in whose dense bush vegetation, flies find a suitable habitat. It is unlikely that the area is connected to any other fly habitat.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 65 to 66; allocations for monitoring and personnel are included in the budget for the Kiboko Training Station that has the mandate for control activities in the entire district. Operations are geared to eradicate the fly in the district and consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 2.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 2 and continue throughout the three year eradication campaign.

(c) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 2.

(d) Fly control through community management (100 sq. km.) beginning in Project year 3.

(e) Provision of prophylactic and curative drugs through private sector outlets.

Table 65 : Machakos District; Fly Eradication - Community Management

em	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
vestment															
argets 1)	10.0	0.0	0.0	0.0	0.0	300.0	3,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
apsack Sprayer	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
btotal			0.0		0.0		4,100.0		0.0		0.0		0.0		0.0
current Expenditure															
dours: 2)															
ceton, ltr.	2.3	0.0	0.0	0.0	0.0	600.0	1,350.0	400.0	900.0	400.0	900.0	0.0	0.0	0.0	0.0
Octenol, ltr.	300.0	0.0	0.0	0.0	0.0	2.4	720.0	1.6	480.0	1.6	480.0	0.0	0.0	0.0	0.0
nsecticide, ltr. 3)	350.0	0.0	0.0	0.0	0.0	2.4	840.0	1.6	560.0	1.6	560.0	0.0	0.0	0.0	0.0
ur. Treatment,gr. 4)	1.5	0.0	0.0	0.0	0.0	875.0	1,312.5	437.5	656.3	175.0	262.5	0.0	0.0	0.0	0.0
isc. Equipment	40.0	0.0	0.0	0.0	0.0	1.0	40.0	1.0	40.0	1.0	40.0	0.0	0.0	0.0	0.0
btotal			0.0		0.0		4,262.5		2,636.3		2,242.5		0.0		0.0
and Total			0.0		0.0		8,362.5		2,636.3		2,242.5		0.0		0.0

otnotes
The area to be treated is 100.0 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3;
The annual replacement rate is 15 % , and this is met from the reductions in target numbers;
Quantities per year and target are 2 ltr. Aceton, and 8 ml. Octenol;
Quantity per year and target is 8 ml. Insecticide;
Curative treatment is calculated for 10 % of the herd in the first year, 5 % in the second and 2 % in the third year;
treatment is once per year and the dosage is 7 mg. per kg. body weight; herd size is estimated at 5,000.0 head of cattle and the average body weight is 250.0 kg..

Table 66 : Machakos District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
stment															
ets 1)	10.0	0.0	0.0	10.0	100.0	2.0	20.0	10.0	100.0	2.0	20.0	0.0	0.0	0.0	0.0
s 1)	30.0	0.0	0.0	10.0	300.0	2.0	60.0	2.0	60.0	10.0	300.0	0.0	0.0	0.0	0.0
sack Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0
rbicycles	4,925.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
tal			0.0		6,425.0		80.0		160.0		1,420.0		0.0		0.0
rent Expenditure															
hets 2)	0.4	0.0	0.0	30.0	11.3	30.0	11.3	30.0	11.3	30.0	11.3	0.0	0.0	0.0	0.0
urs: 3)															
eton,ltr.	2.3	0.0	0.0	22.0	49.5	22.0	49.5	22.0	49.5	22.0	49.5	0.0	0.0	0.0	0.0
tenol,ltr.	300.0	0.0	0.0	0.2	72.0	0.2	72.0	0.2	72.0	0.2	72.0	0.0	0.0	0.0	0.0
N-Propyl Phenol,ltr	2,537.5	0.0	0.0	0.1	152.3	0.1	152.3	0.1	152.3	0.1	152.3	0.0	0.0	0.0	0.0
Methyl Phenol,ltr.	37.5	0.0	0.0	0.5	18.0	0.5	18.0	0.5	18.0	0.5	18.0	0.0	0.0	0.0	0.0
cticide,ltr. 4)	350.0	0.0	0.0	0.1	28.0	0.1	28.0	0.1	28.0	0.1	28.0	0.0	0.0	0.0	0.0
nstration Material	500.0	0.0	0.0	0.2	100.0	0.2	100.0	0.2	100.0	0.2	100.0	0.0	0.0	0.0	0.0
. Equipment 5)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0	0.0	0.0
cle Running Cost 6)												0.0			
orbicycles	42.2	0.0	0.0	0.5	21.1	1.0	42.2	1.0	42.2	1.0	42.2	0.0	0.0	0.0	0.0
tal			0.0		509.6		530.7		530.7		530.7		0.0		0.0
					509.6										
Total			0.0		6,934.6		610.7		690.7		1,950.7		0.0		0.0

otes
nual replacement rate is 15 %;
placed three times a year;
r targets quantities per year are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
d 16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
e quantity per year and target is 8 ml.;
nsisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
lculated for 3,000.0 km. per year,
d with a 50 % allowance for oil, lubricants and repairs.

CENTRAL KENYA FLY BELT

Murang'a District

Extent of Tsetse Fly Infestation

Fly infestation, land use and disease risk are comparable to the situation in Machakos district. The infested area is confined to parts of the Makuyu division.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 67 to 69. There is no allocation for monitoring and laboratory activities, as the volume of this work is small and can be covered through the central units that will be established under the Project. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 3 and continue throughout the duration of the Project.

(c) Fly control through community management (100 sq. km.) beginning in Project year 4.

(d) Provision of prophylactic and curative drugs through private sector outlets.

Table 67 : Murang'a District; Fly Eradication-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
:ment															
its 1)	10.0	0.0	0.0	0.0	0.0	300.0	3,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ack Sprayer	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al			0.0		0.0		4,100.0		0.0		0.0		0.0		0.0
ent Expenditure s: 2)															
on, ltr.	2.3	0.0	0.0	0.0	0.0	600.0	1,350.0	400.0	900.0	400.0	900.0	0.0	0.0	0.0	0.0
nol, ltr.	300.0	0.0	0.0	0.0	0.0	2.4	720.0	1.6	480.0	1.6	480.0	0.0	0.0	0.0	0.0
ticide, ltr. 3)	350.0	0.0	0.0	0.0	0.0	2.4	840.0	1.6	560.0	1.6	560.0	0.0	0.0	0.0	0.0
Treatment,gr. 4)	1.5	0.0	0.0	0.0	0.0	875.0	1,312.5	437.5	656.3	175.0	262.5	0.0	0.0	0.0	0.0
Equipment	40.0	0.0	0.0	0.0	0.0	1.0	40.0	1.0	40.0	1.0	40.0	0.0	0.0	0.0	0.0
al			0.0		0.0		4,262.5		2,636.3		2,242.5		0.0		0.0
Total			0.0		0.0		8,362.5		2,636.3		2,242.5		0.0		0.0

tes

area to be treated is 100.0 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3;
annual replacement rate is 15 % , and this is met from the reductions in target numbers;
ntities per year and target are 2 ltr. Aceton, and 8 ml. Octenol;
ntity per year and target is 8 ml. Insecticide;
ative treatment is calculated for 10 % of the Herd in the first year, 5 % in the second and 2 % in the third year;
atment is once per year and the dosage is 7 mg. per kg. body weight; herd size is estimated at 5,000.0 head of cattle and the average body weight is 250.0 kg..

Table 68 : Murang'a District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
t															
l)	10.0	0.0	0.0	10.0	100.0	2.0	20.0	10.0	100.0	2.0	20.0	0.0	0.0	0.0	0.0
	30.0	0.0	0.0	10.0	300.0	2.0	60.0	2.0	60.0	10.0	300.0	0.0	0.0	0.0	0.0
Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0
ycles	4,925.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0		6,425.0		80.0		160.0		1,420.0		0.0		0.0
Expenditure															
2)	0.4	0.0	0.0	30.0	11.3	30.0	11.3	30.0	11.3	30.0	11.3	0.0	0.0	0.0	0.0
3)															
ltr.	2.3	0.0	0.0	22.0	49.5	22.0	49.5	22.0	49.5	22.0	49.5	0.0	0.0	0.0	0.0
l,ltr.	300.0	0.0	0.0	0.2	72.0	0.2	72.0	0.2	72.0	0.2	72.0	0.0	0.0	0.0	0.0
ppyl Phenol,ltr	2,537.5	0.0	0.0	0.1	152.3	0.1	152.3	0.1	152.3	0.1	152.3	0.0	0.0	0.0	0.0
yl Phenol,ltr.	37.5	0.0	0.0	0.5	18.0	0.5	18.0	0.5	18.0	0.5	18.0	0.0	0.0	0.0	0.0
ide,ltr. 4)	350.0	0.0	0.0	0.1	28.0	0.1	28.0	0.1	28.0	0.1	28.0	0.0	0.0	0.0	0.0
ation Material	500.0	0.0	0.0	0.2	100.0	0.2	100.0	0.2	100.0	0.2	100.0	0.0	0.0	0.0	0.0
ipment 5)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0	0.0	0.0
Running Cost 6)															
ycles	42.2	0.0	0.0	0.5	21.1	1.0	42.2	1.0	42.2	1.0	42.2	0.0	0.0	0.0	0.0
			0.0		509.6		530.7		530.7		530.7		0.0		0.0
l			0.0		6,934.6		610.7		690.7		1,950.7		0.0		0.0

replacement rate is 15 %;
d three times a year;
gets quantities per year are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
ntity per year and target is 8 ml.;
ing of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
ted for 3,000.0 km. per year,
h a 50 % allowance for oil, lubricants and repairs.

Table 69 : Murang'a District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
:omologist	378.8	0.0	0.0	1.0	378.8	1.0	378.8	1.0	378.8	1.0	378.8	0.0	0.0	0.0	0.0
	208.3	0.0	0.0	3.0	625.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	0.0	0.0	0.0	0.0
taff	100.0	0.0	0.0	1.5	150.0	3.0	300.0	3.0	300.0	3.0	300.0	0.0	0.0	0.0	0.0
	117.8	0.0	0.0	1.0	117.8	1.0	117.8	1.0	117.8	1.0	117.8	0.0	0.0	0.0	0.0
			0.0		1,271.5		2,046.5		2,046.5		2,046.5		0.0		0.0
'm)															
:omologist	300.0	0.0	0.0	0.8	225.0	0.8	225.0	0.8	225.0	0.8	225.0	0.0	0.0	0.0	0.0
	60.0	0.0	0.0	2.3	135.0	4.5	270.0	4.5	270.0	4.5	270.0	0.0	0.0	0.0	0.0
taff	45.0	0.0	0.0	1.1	50.6	2.3	101.3	2.3	101.3	2.3	101.3	0.0	0.0	0.0	0.0
	45.0	0.0	0.0	0.8	33.8	0.8	33.8	0.8	33.8	0.8	33.8	0.0	0.0	0.0	0.0
			0.0		444.4		630.0		630.0		630.0		0.0		0.0
			0.0		1,715.9		2,676.5		2,676.5		2,676.5		0.0		0.0

CENTRAL KENYA FLY BELT

Meru District

Extent of Tsetse Fly Infestation

Fly infestation is along the Tana river and its contributories and in the vicinity of a few small and isolated forests. The area affected is about 200 sq. km., and disease risk is low. There may be a seasonal connection to the coastal fly belt along the Tana river.

The area is relatively densely populated and farming systems are sedentary mixed crop/livestock enterprises. The predominant cattle breeds are zebus.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 70 to 72. There is no allocation for monitoring and laboratory activities, as the volume of this work is small and can be covered through the central units that will be established under the Project. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 3 and continue throughout the duration of the Project.

(c) Fly control through community management (200 sq. km.) beginning in Project year 4.

(d) Provision of prophylactic and curative drugs through private sector outlets.

Table 70 : Meru District; Fly Eradication-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
	10.0	0.0	0.0	0.0	0.0	600.0	6,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
prayer	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0		0.0		7,100.0		0.0		0.0		0.0		0.0
xpenditure															
tr.	2.3	0.0	0.0	0.0	0.0	1,200.0	2,700.0	800.0	1,800.0	800.0	1,800.0	0.0	0.0	0.0	0.0
ltr.	300.0	0.0	0.0	0.0	0.0	4.8	1,440.0	3.2	960.0	3.2	960.0	0.0	0.0	0.0	0.0
e, ltr. 3)	350.0	0.0	0.0	0.0	0.0	4.8	1,680.0	3.2	1,120.0	3.2	1,120.0	0.0	0.0	0.0	0.0
ment,gr. 4)	1.5	0.0	0.0	0.0	0.0	1,750.0	2,625.0	875.0	1,312.5	350.0	525.0	0.0	0.0	0.0	0.0
pment	40.0	0.0	0.0	0.0	0.0	1.0	40.0	1.0	40.0	1.0	40.0	0.0	0.0	0.0	0.0
			0.0		0.0		8,485.0		5,232.5		4,445.0		0.0		0.0
			0.0		0.0		15,585.0		5,232.5		4,445.0		0.0		0.0

to be treated is 200.0 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3;
al replacement rate is 15 % , and this is met from the reductions in target numbers;
es per year and target are 2 ltr. Aceton, 8 ml. Octenol, and 8 ml. Insecticide;
per year and target is 8 ml. Insecticide;
treatment is calculated for 10 % of the herd in the first year, 5 % in the second and 2 % in the third year;
t is once per year and the dosage is 7 mg. per kg. body weight: herdsize is estimated at 10,000 head of cattle and the average body weight is 250.0 kg..

Table 71 : Meru District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ıent															
:s 1)	10.0	0.0	0.0	20.0	200.0	3.0	30.0	20.0	200.0	3.0	30.0	0.0	0.0	0.0	0.0
1)	30.0	0.0	0.0	20.0	600.0	3.0	90.0	3.0	90.0	20.0	600.0	0.0	0.0	0.0	0.0
ıck Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0
›icycles	4,925.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
:es	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ıl			0.0		6,825.0		120.0		290.0		1,730.0		0.0		0.0
ınt Expenditure															
:ts 2)	0.4	0.0	0.0	60.0	22.5	60.0	22.5	60.0	22.5	60.0	22.5	0.0	0.0	0.0	0.0
:s: 3)															
:on,ltr.	2.3	0.0	0.0	44.0	99.0	44.0	99.0	44.0	99.0	44.0	99.0	0.0	0.0	0.0	0.0
ınol,ltr.	300.0	0.0	0.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0	0.0	0.0	0.0	0.0
-Propyl Phenol,ltr	2,537.5	0.0	0.0	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5	0.0	0.0	0.0	0.0
ıthyl Phenol,ltr.	37.5	0.0	0.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0	0.0	0.0	0.0	0.0
:icide,ltr. 4)	350.0	0.0	0.0	0.2	56.0	0.2	56.0	0.2	56.0	0.2	56.0	0.0	0.0	0.0	0.0
ıtration Material	500.0	0.0	0.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0	0.0	0.0	0.0	0.0
Equipment 5)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0	0.0	0.0
le Running Cost 6)															
›bicycles	84.4	0.0	0.0	0.5	42.2	1.0	84.4	1.0	84.4	1.0	84.4	0.0	0.0	0.0	0.0
ıl			0.0		886.7		928.9		928.9		928.9		0.0		0.0
Total			0.0		7,711.7		1,048.9		1,218.9		2,658.9		0.0		0.0

:es
ıal replacement rate is 15 %;
laced three times a year;
targets quantities per year are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 M-Propyl Phenol,
16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
quantity used per year and target is 8 ml.;
ıisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
ıulated for 3,000.0 km. per year,
with a 50 % allowance for oil, lubricants and repairs.

Table 72 : Meru District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
(m/m)															
it/Entomologist	378.8	0.0	0.0	2.0	757.5	2.0	757.5	2.0	757.5	2.0	757.5	0.0	0.0	0.0	0.0
	208.3	0.0	0.0	6.0	1,250.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	0.0	0.0	0.0	0.0
iate Staff	100.0	0.0	0.0	3.0	300.0	6.0	600.0	6.0	600.0	6.0	600.0	0.0	0.0	0.0	0.0
	117.8	0.0	0.0	2.0	235.5	2.0	235.5	2.0	235.5	2.0	235.5	0.0	0.0	0.0	0.0
			0.0		2,543.0		4,093.0		4,093.0		4,093.0		0.0		0.0
es (m/m)															
it/Entomologist	300.0	0.0	0.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	0.0	0.0	0.0	0.0
	60.0	0.0	0.0	4.5	270.0	9.0	540.0	9.0	540.0	9.0	540.0	0.0	0.0	0.0	0.0
iate Staff	45.0	0.0	0.0	2.3	101.3	4.5	202.5	4.5	202.5	4.5	202.5	0.0	0.0	0.0	0.0
	45.0	0.0	0.0	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	0.0	0.0	0.0	0.0
			0.0		888.8		1,260.0		1,260.0		1,260.0		0.0		0.0
tal			0.0		3,431.8		5,353.0		5,353.0		5,353.0		0.0		0.0

CENTRAL KENYA FLY BELT

Embu District

Extent of Tsetse Fly Infestation

Fly infestation is along the Tana river and its main tributaries, Thiba Ena and Thuthi. The total area affected is estimated to be about 200 sq. km. The disease risk is low.

The area is relatively densely populated and farming systems are sedentary mixed crop/livestock enterprises. The predominant cattle breeds are zebus.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 73 to 75. There is no allocation for monitoring and laboratory activities, as the volume of this work is small and can be covered through the central units that will be established under the Project. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Group formation and assistance programmes in those areas where community managed control operations are foreseen. The programme will start during Project year 3 and continue throughout the duration of the Project.

(c) Fly control through community management (200 sq. km.) beginning in Project year 4.

(d) Provision of prophylactic and curative drugs through private sector outlets.

Table 73 : Embu District; Fly Eradication-Community Management

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
stment															
gets 1)	10.0	0.0	0.0	0.0	0.0	600.0	6,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
psack Sprayer	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
otal			0.0		0.0		7,100.0		0.0		0.0		0.0		0.0
rrent Expenditure															
urs: 2)															
eton, ltr.	2.3	0.0	0.0	0.0	0.0	1,200.0	2,700.0	800.0	1,800.0	800.0	1,800.0	0.0	0.0	0.0	0.0
tenol, ltr.	300.0	0.0	0.0	0.0	0.0	4.8	1,440.0	3.2	960.0	3.2	960.0	0.0	0.0	0.0	0.0
ecticide, ltr. 3)	350.0	0.0	0.0	0.0	0.0	4.8	1,680.0	3.2	1,120.0	3.2	1,120.0	0.0	0.0	0.0	0.0
. Treatment,gr. 4)	1.5	0.0	0.0	0.0	0.0	1,750.0	2,625.0	875.0	1,312.5	350.0	525.0	0.0	0.0	0.0	0.0
c. Equipment	40.0	0.0	0.0	0.0	0.0	1.0	40.0	1.0	40.0	1.0	40.0	0.0	0.0	0.0	0.0
otal			0.0		0.0		8,485.0		5,232.5		4,445.0		0.0		0.0
d Total			0.0		0.0		15,585.0		5,232.5		4,445.0		0.0		0.0

notes
he area to be treated is 200.0 sq.km. with a target density of 3 per sq.km. in the first year and 2 in year 2 and 3;
he annual replacement rate is 15 % , and this is met from the reductions in target numbers;
uantities per year and target are 2 ltr. Aceton, and 8 ml.Octenol;
uantity per year and target is 8 ml. Insecticide;
urative treatment is calculated for 10 % of the herd in the first year, 5 % in the second and 2 % in the third year;
reatment is once per year and the dosage is 7 mg. per kg. body weight; herdsize is estimated at 10,000 head of cattle and the average body weight is 250.0 kg..

Table 88 : Isiolo District; Fly Eradication

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	3,000.0	30,000.0	0.0	0.0	0.0	0.0	0.0	0.0
	34,000.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sprayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4,400.0	0.0	0.0	0.0	0.0	0.0	0.0
	160.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	640.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0		0.0		34,000.0		35,040.0		0.0		0.0		0.0
Expenditure															
2)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	9,000.0	3,375.0	6,000.0	2,250.0	6,000.0	2,250.0	0.0	0.0
3)															
1tr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	6,000.0	13,500.0	4,000.0	9,000.0	4,000.0	9,000.0	0.0	0.0
,1tr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	7,200.0	16.0	4,800.0	16.0	4,800.0	0.0	0.0
pyl Phenol,1tr	2,537.5	0.0	0.0	0.0	0.0	0.0	0.0	6.0	15,225.0	4.0	10,150.0	4.0	10,150.0	0.0	0.0
l Phenol,1tr.	37.5	0.0	0.0	0.0	0.0	0.0	0.0	48.0	1,800.0	32.0	1,200.0	32.0	1,200.0	0.0	0.0
de,1tr. 4)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	8,400.0	16.0	5,600.0	16.0	5,600.0	0.0	0.0
tment,gr. 5)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	7,000.0	10,500.0	3,500.0	5,250.0	1,400.0	2,100.0	0.0	0.0
ipment 6)	57.5	0.0	0.0	0.0	0.0	0.0	0.0	4.0	230.0	4.0	230.0	4.0	230.0	0.0	0.0
unning Cost 7)															
	3,515.6	0.0	0.0	0.0	0.0	0.5	1,757.8	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	0.0	0.0
			0.0		0.0		1,757.8		63,745.6		41,995.6		38,845.6		0.0
l			0.0		0.0		35,757.8		98,785.6		41,995.6		38,845.6		0.0

a to be treated is 1,000.0 sq.km. with a target density of 3 per sq.km. in the first campaign year and 2 in year 2 and 3.
ual replacement rate is 15 % and this is met from the reductions in target numbers;
d three times a year;
ies per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
y used per year is 8 ml.;
e treatment is calculated for 10 % of the herd in the first year, 5 % in the second
in the third; the dosage is once a year 7 mg. per kg. body weight; average weight is 200.0 kg. and herd size is 50,000.0;
ing of uniform, gumboots, pangas, strings and minor equipment for each AHA;
ted for 25,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 74 : Embu District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
stment															
jets 1)	10.0	0.0	0.0	20.0	200.0	3.0	30.0	20.0	200.0	3.0	30.0	0.0	0.0	0.0	0.0
ps 1)	30.0	0.0	0.0	20.0	600.0	3.0	90.0	3.0	90.0	20.0	600.0	0.0	0.0	0.0	0.0
psack Sprayer	1,100.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0
orbicycles	4,925.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ycles	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
otal			0.0		6,825.0		120.0		290.0		1,730.0		0.0		0.0
rrent Expenditure															
chets 2)	0.4	0.0	0.0	60.0	22.5	60.0	22.5	60.0	22.5	60.0	22.5	0.0	0.0	0.0	0.0
ours: 3)															
ceton,ltr.	2.3	0.0	0.0	44.0	99.0	44.0	99.0	44.0	99.0	44.0	99.0	0.0	0.0	0.0	0.0
ctenol,ltr.	300.0	0.0	0.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0	0.0	0.0	0.0	0.0
N-Propyl Phenol,ltr	2,537.5	0.0	0.0	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5	0.0	0.0	0.0	0.0
-Methyl Phenol,ltr.	37.5	0.0	0.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0	0.0	0.0	0.0	0.0
ecticide,ltr. 4)	350.0	0.0	0.0	0.2	56.0	0.2	56.0	0.2	56.0	0.2	56.0	0.0	0.0	0.0	0.0
onstration Material	500.0	0.0	0.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0	0.0	0.0	0.0	0.0
. Equipment 5)	57.5	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0	0.0	0.0
icle Running Cost 6)															
corbicycles	84.4	0.0	0.0	0.5	42.2	1.0	84.4	1.0	84.4	1.0	84.4	0.0	0.0	0.0	0.0
otal			0.0		886.7		928.9		928.9		928.9		0.0		0.0
l Total			0.0		7,711.7		1,048.9		1,218.9		2,658.9		0.0		0.0

lotes
nual replacement rate is 15 %:
eplaced three times a year;
r targets quantities per year are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 M-Propyl Phenol,
d 16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
e quantity used per year and target is 8 ml.;
onsisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
lculated for 3,000.0 km. per year,
d with a 50 % allowance for oil, lubricants and repairs.

Table 75 : Kabu District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
)															
:omologist	378.8	0.0	0.0	2.0	757.5	2.0	757.5	2.0	757.5	2.0	757.5	0.0	0.0	0.0	0.0
	208.3	0.0	0.0	6.0	1,250.0	12.0	2,500.0	12.0	2,500.0	12.0	2,500.0	0.0	0.0	0.0	0.0
Staff	100.0	0.0	0.0	3.0	300.0	6.0	600.0	6.0	600.0	6.0	600.0	0.0	0.0	0.0	0.0
	117.8	0.0	0.0	2.0	235.5	2.0	235.5	2.0	235.5	2.0	235.5	0.0	0.0	0.0	0.0
			0.0		2,543.0		4,093.0		4,093.0		4,093.0		0.0		0.0
/m)															
:omologist	300.0	0.0	0.0	1.5	450.0	1.5	450.0	1.5	450.0	1.5	450.0	0.0	0.0	0.0	0.0
	60.0	0.0	0.0	4.5	270.0	9.0	540.0	9.0	540.0	9.0	540.0	0.0	0.0	0.0	0.0
Staff	45.0	0.0	0.0	2.3	101.3	4.5	202.5	4.5	202.5	4.5	202.5	0.0	0.0	0.0	0.0
	45.0	0.0	0.0	1.5	67.5	1.5	67.5	1.5	67.5	1.5	67.5	0.0	0.0	0.0	0.0
			0.0		888.8		1,260.0		1,260.0		1,260.0		0.0		0.0
			0.0		3,431.8		5,353.0		5,353.0		5,353.0		0.0		0.0

LAKE BARINGO, KERIO, TURKWELL FLY BELT

Baringo District

Extent of Tsetse Fly Infestation

Fly infestation is over an area of about 750 sq. km. Of this 50 sq. km. are along the Perkera and Molo rivers, south of Marigat. 700 sq. km. are between Loboi, the Lake Baringo and the Laikipia Escarpment and up to Amaya. These areas are isolated from other fly habitats. The disease risk varies with the seasons and is classified as high in the dry season and medium in the wet season.

Land use in tsetse fly infested areas is extensive semi-nomadic and sedentary livestock keeping and animals are predominantly the zebu breeds. Range degradation is widespread particularly in the dry season grazing areas, and it is claimed that this has already led to a reduction in cattle numbers.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 76 to 79. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 3.

(c) Equipment for the district laboratory in Project year 3, to allow for monitoring of trypanosomiasis infection rates.

(d) Fly eradication implemented through DOVS (750 sq. km.) beginning in Project year 4.

(e) Provision of prophylactic and curative drugs through private sector outlets.

Table 76 : Baringo District; Fly Eradication

m	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cos
vestment															
rgets 1)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	2,250.0	22,500.0	0.0	0.0	0.0	0.0	0.0	
ck Up	34,000.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
apsack Sprayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3,300.0	0.0	0.0	0.0	0.0	0.0	
cycles	160.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	480.0	0.0	0.0	0.0	0.0	0.0	
total			0.0		0.0		34,000.0		26,280.0		0.0		0.0		
urrent Expenditure															
achets 2)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	6,750.0	2,531.3	4,500.0	1,687.5	4,500.0	1,687.5	0.0	
ldours: 3)															
Aceton,1tr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	4,500.0	10,125.0	3,000.0	6,750.0	3,000.0	6,750.0	0.0	
Octenol,1tr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	5,400.0	12.0	3,600.0	12.0	3,600.0	0.0	
3 N-Propyl Phenol,1tr.	2,537.5	0.0	0.0	0.0	0.0	0.0	0.0	4.5	11,418.8	3.0	7,612.5	3.0	7,612.5	0.0	
4-Methyl Phenol,1tr.	37.5	0.0	0.0	0.0	0.0	0.0	0.0	36.0	1,350.0	24.0	900.0	24.0	900.0	0.0	
secticide,1tr. 4)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	18.0	6,300.0	12.0	4,200.0	12.0	4,200.0	0.0	
ophyl. Treatment, gr. 5)	7.5	0.0	0.0	0.0	0.0	0.0	0.0	10,000.0	75,000.0	0.0	0.0	0.0	0.0	0.0	
r. Treatment,gr. 6)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	7,000.0	10,500.0	3,500.0	5,250.0	1,400.0	2,100.0	0.0	
sc. Equipment 7)	57.5	0.0	0.0	0.0	0.0	0.0	0.0	3.0	172.5	3.0	172.5	3.0	172.5	0.0	
hicle Running Cost 8)															
ick-Up	3,515.6	0.0	0.0	0.0	0.0	0.5	1,757.8	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	0.0	
total			0.0		0.0		1,757.8		126,313.1		33,688.1		30,538.1		
nd Total			0.0		0.0		35,757.8		152,593.1		33,688.1		30,538.1		

tnotes

The area to be treated is 750.0 sq.km. with a target density of 3 per sq.km. in the first campaign year and 2 in year 2 and 3;
The annual replacement rate is 15 % and this is met from the reductions in target numbers;
Replaced three times a year;
Quantities per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
Quantity used per year is 8 ml.;
All 50,000 head of cattle once a year with 1 mg. per kg. body weight and 200.0 kg. average body weight;
Curative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
and 2 % in the third; one treatment per year and with a dosage of 7 mg. per kg. body weight;
Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
Calculated for 25,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ent															
s 1)	10.0	0.0	0.0	0.0	0.0	50.0	500.0	8.0	80.0	50.0	500.0	8.0	80.0	0.0	0.0
1)	30.0	0.0	0.0	0.0	0.0	50.0	1,500.0	8.0	240.0	8.0	240.0	50.0	1,500.0	0.0	0.0
ck Sprayer	1,100.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0
icycles	4,925.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
es	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0
l			0.0		0.0		9,285.0		320.0		740.0		3,940.0		0.0
nt Expenditure															
ts 2)	0.4	0.0	0.0	0.0	0.0	150.0	56.3	150.0	56.3	150.0	56.3	150.0	56.3	0.0	0.0
s: 3)															
on,ltr.	2.3	0.0	0.0	0.0	0.0	110.0	247.5	110.0	247.5	110.0	247.5	110.0	247.5	0.0	0.0
nol,ltr.	300.0	0.0	0.0	0.0	0.0	1.2	360.0	1.2	360.0	1.2	360.0	1.2	360.0	0.0	0.0
Propyl Phenol,ltr	2,537.5	0.0	0.0	0.0	0.0	0.3	761.3	0.3	761.3	0.3	761.3	0.3	761.3	0.0	0.0
thyl Phenol,ltr.	37.5	0.0	0.0	0.0	0.0	2.4	90.0	2.4	90.0	2.4	90.0	2.4	90.0	0.0	0.0
icide,ltr. 4)	350.0	0.0	0.0	0.0	0.0	0.4	140.0	0.4	140.0	0.4	140.0	0.4	140.0	0.0	0.0
tration Material	500.0	0.0	0.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.0	0.0
Equipment 5)	57.5	0.0	0.0	0.0	0.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	0.0	0.0
e Running Cost 6)															
icycles	168.8	0.0	0.0	0.0	0.0	0.5	84.4	1.0	168.8	1.0	168.8	1.0	168.8	0.0	0.0
l			0.0		0.0		2,354.4		2,438.8		2,438.8		2,438.8		0.0
tal			0.0		0.0		11,639.4		2,758.8		3,178.8		6,378.8		0.0

es

l replacement rate is 15 %;
ced three times a year;
targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
6 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
quantity used per year and target is 8 ml.;
isting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
lated for 6,000.0 km. per year,
with a 50 % allowance for oil, lubricants and repairs.

Table 78 : Baringo District; Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ment															
(Biconnical) 1)	30.0	0.0	0.0	0.0	0.0	150.0	4,500.0	23.0	690.0	23.0	690.0	150.0	4,500.0	0.0	0.0
und Microscope 2)	5,655.0	0.0	0.0	0.0	0.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al Objective	910.0	0.0	0.0	0.0	0.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
togrit Centrifuge	1,357.2	0.0	0.0	0.0	0.0	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
former (12-220 vol	565.5	0.0	0.0	0.0	0.0	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	63.7	0.0	0.0	0.0	0.0	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
graphic Mat.	1,500.0	0.0	0.0	0.0	0.0	1.0	1,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
al					0.0		14,551.4		690.0		690.0		4,500.0		0.0
ent Expenditure															
s: 3)															
on, ltr.	2.3	0.0	0.0	0.0	0.0	30.0	67.5	30.0	67.5	30.0	67.5	30.0	67.5	0.0	0.0
nol,ltr.	300.0	0.0	0.0	0.0	0.0	2.4	720.0	2.4	720.0	2.4	720.0	2.4	720.0	0.0	0.0
Propyl Phenol, ltr	2,537.5	0.0	0.0	0.0	0.0	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.6	1,522.5	0.0	0.0
thyl Phenol, ltr.	37.5	0.0	0.0	0.0	0.0	4.8	180.0	4.8	180.0	4.8	180.0	4.8	180.0	0.0	0.0
Consumables	750.0	0.0	0.0	0.0	0.0	1.0	750.0	1.0	750.0	1.0	750.0	1.0	750.0	0.0	0.0
al					0.0		3,240.0		3,240.0		3,240.0		3,240.0		0.0
Total					0.0		17,791.4		3,930.0		3,930.0		7,740.0		0.0

tes
lacement is 15 % annually;
ipped for dark background, phase contrast microscopy;
ual quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
-Propyl Phenol and 4 Methyl Phenol respectively.

Table 79 : Baringo District; Personnel-Salaries and Allowances

n	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quaot.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
aries (m/m)															
ologist	378.8	0.0	0.0	0.0	0.0	8.0	3,030.0	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	0.0	0.0
i	208.3	0.0	0.0	0.0	0.0	36.0	7,500.0	72.0	15,000.0	72.0	15,000.0	72.0	15,000.0	0.0	0.0
). Technician	208.3	0.0	0.0	0.0	0.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	0.0	0.0
erical Officer	143.3	0.0	0.0	0.0	0.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5	0.0	0.0
retary	125.0	0.0	0.0	0.0	0.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0	0.0	0.0
ordinate Staff	100.0	0.0	0.0	0.0	0.0	18.0	1,800.0	36.0	3,600.0	36.0	3,600.0	36.0	3,600.0	0.0	0.0
ver	117.8	0.0	0.0	0.0	0.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	0.0	0.0
total			0.0		0.0		16,602.5		27,417.5		27,417.5		27,417.5		0.0
wances (m/m)															
nologist	300.0	0.0	0.0	0.0	0.0	6.0	1,800.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	0.0	0.0
i	60.0	0.0	0.0	0.0	0.0	27.0	1,620.0	54.0	3,240.0	54.0	3,240.0	54.0	3,240.0	0.0	0.0
). Technician	60.0	0.0	0.0	0.0	0.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0	0.0	0.0
ordinate Staff	45.0	0.0	0.0	0.0	0.0	13.5	607.5	27.0	1,215.0	27.0	1,215.0	27.0	1,215.0	0.0	0.0
ver	45.0	0.0	0.0	0.0	0.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	0.0	0.0
otal		0.0	0.0		0.0		4,612.5		7,740.0		7,740.0		7,740.0		0.0
d Total			0.0		0.0		21,215.0		35,157.5		35,157.5		35,157.5		0.0

LAKE BARINGO, KERIO, TURKWELL FLY BELT

Keiyo Marakwet District

Extent of Tsetse Fly Infestation

Fly infestation in the dry season is over an area of about 150 sq. km. situated in the bottom of the Kerio Valley. Fly infestation, disease risk and land use are comparable to those in Baringo district.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 80 to 83. Because of the limited amount of laboratory work required, the district will not receive laboratory equipment, but will use the facilities to be established in Baringo district. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 3.

(c) Equipment to allow for the monitoring of tsetse fly incidence and allocation for the recurrent items needed in laboratory analyses for trypanosomiasis monitoring.

(d) Fly eradication implemented through DOVS (150 sq. km.) beginning with Project year 4.

(e) Provision of prophylactic and curative drugs through private sector outlets.

Table 80: Keiyo Marakwet District; Fly Eradication

:em	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
:vestment															
Targets 1]	10.0	0.0	0.0	0.0	0.0	0.0	0.0	450.0	4,500.0	0.0	0.0	0.0	0.0	0.0	0.0
Knapsack Sprayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0
Bicycles	160.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0
ubtotal			0.0		0.0		0.0		5,760.0		0.0		0.0		0.0
:current Expenditure															
Sachets 2]	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1,350.0	506.3	900.0	337.5	900.0	337.5	0.0	0.0
Odours: 3]															
Aceton,1tr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	900.0	2,025.0	600.0	1,350.0	600.0	1,350.0	0.0	0.0
Octenol,1tr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	1,080.0	2.4	720.0	2.4	720.0	0.0	0.0
3 N-Propyl Phenol,1tr.	2,537.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2,283.8	0.6	1,522.5	0.6	1,522.5	0.0	0.0
4-Methyl Phenol,1tr.	37.5	0.0	0.0	0.0	0.0	0.0	0.0	7.2	270.0	4.8	180.0	4.8	180.0	0.0	0.0
Insecticide,1tr. 4]	350.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	1,260.0	2.4	840.0	2.4	840.0	0.0	0.0
Prophyl. Treatment, gr. 5]	7.5	0.0	0.0	0.0	0.0	0.0	0.0	3,000.0	22,500.0	0.0	0.0	0.0	0.0	0.0	0.0
Cur. Treatment,gr. 6]	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2,100.0	3,150.0	1,050.0	1,575.0	420.0	630.0	0.0	0.0
Misc. Equipment 7]	57.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0
Vehicle Running Cost 8]															
Pick-Up	703.1	0.0	0.0	0.0	0.0	0.5	351.6	1.0	703.1	1.0	703.1	1.0	703.1	0.0	0.0
ubtotal			0.0		0.0		351.6		33,835.6		7,285.6		6,340.6		0.0
:and Total			0.0		0.0		351.6		39,595.6		7,285.6		6,340.6		0.0

Footnotes

The area to be treated is 150.0 sq.km. with a target density of 3 per sq.km. in the first campaign year, and 2 in year 2 and 3.
The annual replacement rate is 15 %, and this is met from the reductions in target numbers;
Replaced three times a year;
Quantities per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
Quantity used per year and target is 8 ml.;
All 15,000 head of cattle once a year with 1 mg. per kg. body weight and a 200.0 kg. average body weight;
Clinical treatment is calculated for 10 % of the herd in the first year, 5 % in the second
and 2 % in the third; one treatment per year and with a dosage of 7 mg. per kg. body weight;
Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
Calculated for 5,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 81 : Keiyo Marakwet District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
:ment															
:ts 1)	10.0	0.0	0.0	0.0	0.0	20.0	200.0	3.0	30.0	20.0	200.0	3.0	30.0	0.0	0.0
; 1)	30.0	0.0	0.0	0.0	0.0	20.0	600.0	3.0	90.0	3.0	90.0	20.0	600.0	0.0	0.0
:ack Sprayer	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0
:bicycles	4,925.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
:al			0.0		0.0		6,825.0		120.0		290.0		1,730.0		0.0
:ent Expenditure															
:ets 2)	0.4	0.0	0.0	0.0	0.0	60.0	22.5	60.0	22.5	60.0	22.5	60.0	22.5	0.0	0.0
:rs: 3)															
:tnn,1tr.	2.3	0.0	0.0	0.0	0.0	44.0	99.0	44.0	99.0	44.0	99.0	44.0	99.0	0.0	0.0
:enol,1tr..	300.0	0.0	0.0	0.0	0.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0	0.0	0.0
'-Propyl Phenol,1tr	2,537.5	0.0	0.0	0.0	0.0	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5	0.0	0.0
Methyl Phenol,1tr.	37.5	0.0	0.0	0.0	0.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0	0.0	0.0
:ticide,1tr. 4)	350.0	0.0	0.0	0.0	0.0	0.2	56.0	0.2	56.0	0.2	56.0	0.2	56.0	0.0	0.0
:stration Material	500.0	0.0	0.0	0.0	0.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0	0.0	0.0
Equipment 5)	57.5	0.0	0.0	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0
:le Running Cost 6)															
:rbicycles	112.5	0.0	0.0	0.0	0.0	0.5	56.3	1.0	112.5	1.0	112.5	1.0	112.5	0.0	0.0
:al			0.0		0.0		900.8		957.0		957.0		957.0		0.0
Total			0.0		0.0		7,725.8		1,077.0		1,247.0		2,687.0		0.0

:tes
ual replacement rate is 15 %;
laced three times a year;
targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
quantity used per year and target is 8 ml.;
sisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
culated for 4,000.0 km. per year,
with a 50 % allowance for oil, lubricants and repairs.

Table 82 : Keiyo Marakwet District; Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
t															
(connical) 1)	30.0	0.0	0.0	0.0	0.0	50.0	1,500.0	8.0	240.0	8.0	240.0	50.0	1,500.0	0.0	0.0
phic Mat.	1,500.0	0.0	0.0	0.0	0.0	1.0	1,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					0.0		3,000.0		240.0		240.0		1,500.0		0.0
Expenditure															
2)															
ltr.	2.3	0.0	0.0	0.0	0.0	10.0	22.5	10.0	22.5	10.0	22.5	10.0	22.5	0.0	0.0
,ltr.	300.0	0.0	0.0	0.0	0.0	0.8	240.0	0.8	240.0	0.8	240.0	0.8	240.0	0.0	0.0
pyl Phenol, ltr	2,537.5	0.0	0.0	0.0	0.0	0.2	507.5	0.2	507.5	0.2	507.5	0.2	507.5	0.0	0.0
l Phenol, ltr.	37.5	0.0	0.0	0.0	0.0	1.6	60.0	1.6	60.0	1.6	60.0	1.6	60.0	0.0	0.0
sumables	250.0	0.0	0.0	0.0	0.0	1.0	250.0	1.0	250.0	1.0	250.0	1.0	250.0	0.0	0.0
					0.0		1,080.0		1,080.0		1,080.0		1,080.0		0.0
il					0.0		4,080.0		1,320.0		1,320.0		2,580.0		0.0

ment is 15 % annually;
quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
opyl Phenol and 4 Methyl Phenol respectively.

Table 83 : Keiyo Marakwet District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ies (m/m)															
ogist	378.8	0.0	0.0	0.0	0.0	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	0.0	0.0
	208.3	0.0	0.0	0.0	0.0	12.0	2,500.0	36.0	7,500.0	36.0	7,500.0	36.0	7,500.0	0.0	0.0
Technician	208.3	0.0	0.0	0.0	0.0	3.0	625.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	0.0	0.0
ical Officer	143.3	0.0	0.0	0.0	0.0	3.0	429.8	6.0	859.5	6.0	859.5	6.0	859.5	0.0	0.0
etary	125.0	0.0	0.0	0.0	0.0	3.0	375.0	6.0	750.0	6.0	750.0	6.0	750.0	0.0	0.0
rdinate Staff	100.0	0.0	0.0	0.0	0.0	6.0	600.0	18.0	1,800.0	18.0	1,800.0	18.0	1,800.0	0.0	0.0
er	117.8	0.0	0.0	0.0	0.0	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5	0.0	0.0
tal			0.0		0.0		7,508.8		15,138.5		15,138.5		15,138.5		0.0
ances (m/m)															
nologist	300.0	0.0	0.0	0.0	0.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	0.0	0.0
	60.0	0.0	0.0	0.0	0.0	9.0	540.0	27.0	1,620.0	27.0	1,620.0	27.0	1,620.0	0.0	0.0
Technician	60.0	0.0	0.0	0.0	0.0	1.5	90.0	3.0	180.0	3.0	180.0	3.0	180.0	0.0	0.0
rdinate Staff	45.0	0.0	0.0	0.0	0.0	4.5	202.5	13.5	607.5	13.5	607.5	13.5	607.5	0.0	0.0
er	45.0	0.0	0.0	0.0	0.0	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	0.0	0.0
tal		0.0	0.0		0.0		2,385.0		3,960.0		3,960.0		3,960.0		0.0
Total			0.0		0.0		9,893.8		19,098.5		19,098.5		19,098.5		0.0

LAKE BARINGO, KERIO, TURKWELL FLY BELT

West Pokot District

Extent of Tsetse Fly Infestation

Fly infestation is over an area of about 600 sq. km. in the wet season and about 150 sq. km. in the dry season. The infested area stretches along the Suam, Morun-Weiwei-Malmalta system and along the Kerio River. Fly infestation, disease risk and land use are comparable to those in Baringo and Keiyo Marakwet districts.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 84 to 87. Because of the limited amount of laboratory work required, the district will not receive laboratory equipment, but will use the facilities to be established in Baringo district. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 3.

(c) Equipment to allow for the monitoring of tsetse fly incidence and allocation for the recurrent items needed in laboratory analyses for trypanosomiasis monitoring.

(d) Fly eradication implemented through DOVS (150 sq. km.) beginning in Project year 4.

(e) Provision of prophylactic and curative drugs through private sector outlets.

Table 84 : West Pokot District; Fly Eradication

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
stment															
gets 1)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	450.0	4,500.0	0.0	0.0	0.0	0.0	0.0	0.0
psack Sprayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0
ycles	160.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0
otal			0.0		0.0		0.0		5,760.0		0.0		0.0		0.0
rrent Expenditure															
chets 2)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1,350.0	506.3	900.0	337.5	900.0	337.5	0.0	0.0
ours: 3)															
ceton,ltr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	900.0	2,025.0	600.0	1,350.0	600.0	1,350.0	0.0	0.0
ctenol,ltr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	1,080.0	2.4	720.0	2.4	720.0	0.0	0.0
N-Propyl Phenol,ltr.	2,537.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2,283.8	0.6	1,522.5	0.6	1,522.5	0.0	0.0
-Methyl Phenol,ltr.	37.5	0.0	0.0	0.0	0.0	0.0	0.0	7.2	270.0	4.8	180.0	4.8	180.0	0.0	0.0
ecticide,ltr. 4)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	1,260.0	2.4	840.0	2.4	840.0	0.0	0.0
phyl. Treatment, gr. 5)	7.5	0.0	0.0	0.0	0.0	0.0	0.0	3,000.0	22,500.0	0.0	0.0	0.0	0.0	0.0	0.0
. Treatment,gr. 6)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	2,100.0	3,150.0	1,050.0	1,575.0	420.0	630.0	0.0	0.0
c. Equipment 7)	57.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0
icle Running Cost 8)															
ck Up	703.1	0.0	0.0	0.0	0.0	0.5	351.6	1.0	703.1	1.0	703.1	1.0	703.1	0.0	0.0
otal			0.0		0.0		351.6		33,835.6		7,285.6		6,340.6		0.0
d Total			0.0		0.0		351.6		39,595.6		7,285.6		6,340.6		0.0

notes
he area to be treated is 150.0 sq.km. with a target density of 3 per sq.km. in the first campaign year and 2 in year 2 and 3.
he annual replacement rate is 15 % and this is net from the reductions in target numbers;
eplaced three times a year;
uantities per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
uantity used per year and target is 8 ml.;
ll 15,000 head of cattle once a year with 1 mg. per kg. body weight and 200.0 kg. average body weight;
urative treatment is calculated for 10 % of the herd in the first year, 5 % in the second
nd 2 % in the third; the dosage is once a year with 7 mg. per kg. body weight;
onsisting of uniform, gumboots, pangas, strings and minor equipment for each AHA;
alculated for 5,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 85 : West Pokot District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
estment															
gets 1)	10.0	0.0	0.0	0.0	0.0	20.0	200.0	3.0	30.0	20.0	200.0	3.0	30.0	0.0	0.0
ps 1)	30.0	0.0	0.0	0.0	0.0	20.0	600.0	3.0	90.0	3.0	90.0	20.0	600.0	0.0	0.0
psack Sprayer	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0	0.0	0.0	1.0	1,100.0	0.0	0.0
orbicycles	4,925.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
otal			0.0		0.0		6,825.0		120.0		290.0		1,730.0		0.0
rrent Expenditure															
chets 2)	0.4	0.0	0.0	0.0	0.0	60.0	22.5	60.0	22.5	60.0	22.5	60.0	22.5	0.0	0.0
lours: 3)															
ceton,ltr.	2.3	0.0	0.0	0.0	0.0	44.0	99.0	44.0	99.0	44.0	99.0	44.0	99.0	0.0	0.0
ctenol,ltr.	300.0	0.0	0.0	0.0	0.0	0.5	144.0	0.5	144.0	0.5	144.0	0.5	144.0	0.0	0.0
N-Propyl Phenol,ltr	2,537.5	0.0	0.0	0.0	0.0	0.1	304.5	0.1	304.5	0.1	304.5	0.1	304.5	0.0	0.0
-Methyl Phenol,ltr.	37.5	0.0	0.0	0.0	0.0	1.0	36.0	1.0	36.0	1.0	36.0	1.0	36.0	0.0	0.0
ecticide,ltr. 4)	350.0	0.0	0.0	0.0	0.0	0.2	56.0	0.2	56.0	0.2	56.0	0.2	56.0	0.0	0.0
oostration Material	500.0	0.0	0.0	0.0	0.0	0.3	125.0	0.3	125.0	0.3	125.0	0.3	125.0	0.0	0.0
c. Equipment 5)	57.5	0.0	0.0	0.0	0.0	1.0	57.5	1.0	57.5	1.0	57.5	1.0	57.5	0.0	0.0
icle Running Cost 6)															
otorbicycles	112.5	0.0	0.0	0.0	0.0	0.5	56.3	1.0	112.5	1.0	112.5	1.0	112.5	0.0	0.0
otal			0.0		0.0		900.8		957.0		957.0		957.0		0.0
d Total			0.0		0.0		7,725.8		1,077.0		1,247.0		2,687.0		0.0

Notes
Annual replacement rate is 15 %;
Replaced three times a year;
For targets quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 M-Propyl Phenol,
and 16 ml.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
The quantity used per year and target is 8 ml.;
Consisting of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
Calculated for 4,000.0 km. per year,
And with a 50 % allowance for oil, lubricants and repairs.

Table 90 : Isiolo District; Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
t															
iconnical) 1)	30.0	0.0	0.0	0.0	0.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0	0.0	0.0
Microscope 2)	5,655.0	0.0	0.0	0.0	0.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
)bjective	910.0	0.0	0.0	0.0	0.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
rit Centrifuge	1,357.2	0.0	0.0	0.0	0.0	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ner (12-220 vol	565.5	0.0	0.0	0.0	0.0	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
uipment	63.7	0.0	0.0	0.0	0.0	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
phic Mat.	1,500.0	0.0	0.0	0.0	0.0	1.0	1,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					0.0		16,051.4		900.0		900.0		6,000.0		0.0
Expenditure															
3)															
ltr.	2.3	0.0	0.0	0.0	0.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	0.0	0.0
,ltr.	300.0	0.0	0.0	0.0	0.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	0.0	0.0
pyl Phenol, ltr	2,537.5	0.0	0.0	0.0	0.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.0	0.0
l Phenol, ltr.	37.5	0.0	0.0	0.0	0.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	0.0	0.0
sumables	750.0	0.0	0.0	0.0	0.0	1.0	750.0	1.0	750.0	1.0	750.0	1.0	750.0	0.0	0.0
					0.0		4,070.0		4,070.0		4,070.0		4,070.0		0.0
al					0.0		20,121.4		4,970.0		4,970.0		10,070.0		0.0

ement is 15 % annually;
ed for dark background, phase contrast microscopy;
quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
opyl Phenol and 4 Methyl Phenol respectively.

Table 91 : Isiolo District; Personnel-Salaries and Allowances

Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
378.8	0.0	0.0	0.0	0.0	6.0	2,272.5	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	0.0	0.0
208.3	0.0	0.0	0.0	0.0	48.0	10,000.0	84.0	17,500.0	84.0	17,500.0	84.0	17,500.0	0.0	0.0
208.3	0.0	0.0	0.0	0.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	0.0	0.0
143.3	0.0	0.0	0.0	0.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5	0.0	0.0
125.0	0.0	0.0	0.0	0.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0	0.0	0.0
100.0	0.0	0.0	0.0	0.0	24.0	2,400.0	42.0	4,200.0	42.0	4,200.0	42.0	4,200.0	0.0	0.0
117.8	0.0	0.0	0.0	0.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	0.0	0.0
		0.0		0.0		18,945.0		30,517.5		30,517.5		30,517.5		0.0
300.0	0.0	0.0	0.0	0.0	4.5	1,350.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	0.0	0.0
60.0	0.0	0.0	0.0	0.0	36.0	2,160.0	63.0	3,780.0	63.0	3,780.0	63.0	3,780.0	0.0	0.0
60.0	0.0	0.0	0.0	0.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0	0.0	0.0
45.0	0.0	0.0	0.0	0.0	18.0	810.0	31.5	1,417.5	31.5	1,417.5	31.5	1,417.5	0.0	0.0
45.0	0.0	0.0	0.0	0.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	0.0	0.0
	0.0	0.0		0.0		4,905.0		8,482.5		8,482.5		8,482.5		0.0
		0.0		0.0		23,850.0		39,000.0		39,000.0		39,000.0		0.0

ISIOLO-SAMBURU FLY BELT

Samburu District

Extent of Tsetse Fly Infestation

Fly infestation is low but may extend over an area of 9,000 sq.km. in the wet season and perhaps 6,000 sq. km. in the dry season. The degree of disease incidence is low.

Land use is nomadic and the cattle density is quite low.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 92 to 95. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 3.

(c) Equipment for the district laboratory in Project year 3, to allow for monitoring of trypanosomiasis infection rates.

(d) Fly eradication implemented through DOVS (1,000 sq. km.) beginning in Project year 4.

(e) Provision of prophylactic and curative drugs through private sector outlets.

Table 92 : Samburu District; Fly Eradication

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
t															
1)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	3,000.0	30,000.0	0.0	0.0	0.0	0.0	0.0	0.0
	34,000.0	0.0	0.0	0.0	0.0	1.0	34,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sprayer	1,100.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4,400.0	0.0	0.0	0.0	0.0	0.0	0.0
	160.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	640.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0		0.0		34,000.0		35,040.0		0.0		0.0		0.0
Expenditure															
2)	0.4	0.0	0.0	0.0	0.0	0.0	0.0	9,000.0	3,375.0	6,000.0	2,250.0	6,000.0	2,250.0	0.0	0.0
3)															
,1tr.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	6,000.0	13,500.0	4,000.0	9,000.0	4,000.0	9,000.0	0.0	0.0
1,1tr.	300.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	7,200.0	16.0	4,800.0	16.0	4,800.0	0.0	0.0
opyl Phenol,1tr	2,537.5	0.0	0.0	0.0	0.0	0.0	0.0	6.0	15,225.0	4.0	10,150.0	4.0	10,150.0	0.0	0.0
yl Phenol,1tr.	37.5	0.0	0.0	0.0	0.0	0.0	0.0	48.0	1,800.0	32.0	1,200.0	32.0	1,200.0	0.0	0.0
ide,1tr. 4)	350.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	8,400.0	16.0	5,600.0	16.0	5,600.0	0.0	0.0
atment,gr. 5)	1.5	0.0	0.0	0.0	0.0	0.0	0.0	7,000.0	10,500.0	3,500.0	5,250.0	1,400.0	2,100.0	0.0	0.0
uipment 6)	57.5	0.0	0.0	0.0	0.0	0.0	0.0	4.0	230.0	4.0	230.0	4.0	230.0	0.0	0.0
Running Cost 7)															
	3,515.6	0.0	0.0	0.0	0.0	0.5	1,757.8	1.0	3,515.6	1.0	3,515.6	1.0	3,515.6	0.0	0.0
			0.0		0.0		1,757.8		63,745.6		41,995.6		38,845.6		0.0
al			0.0		0.0		35,757.8		98,785.6		41,995.6		38,845.6		0.0

a to be treated is 1,000.0 sq.km. with a target density of 3 per sq.km. in the first campaign year and 2 in year 2 and 3.
ual replacement rate is 15 % and this is met from the reductions in target numbers;
d three times a year;
ies per year are 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol and 16 ml. 4 Methyl Phenol;
y used per year is 8 ml.;
e treatment is calculated for 10 % of the herd in the first year, 5 % in the second
% in the third; the dosage is once a year 7 mg. per kg. body weight; average weight is 200.0 kg. and herd size is 50,000.0;
ing of uniform, gumboots, pangas, strings and minor equipment for each AHA;
ted for 25,000.0 km. per year and with a 50 % allowance for oil, lubricants and repairs.

Table 93 : Samburu District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
	10.0	0.0	0.0	0.0	0.0	75.0	750.0	12.0	120.0	75.0	750.0	12.0	120.0	0.0	0.0
	30.0	0.0	0.0	0.0	0.0	75.0	2,250.0	12.0	360.0	12.0	360.0	75.0	2,250.0	0.0	0.0
rayer	1,100.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0
es	4,925.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0
			0.0		0.0		10,285.0		480.0		1,110.0		4,730.0		0.0
penditure															
	0.4	0.0	0.0	0.0	0.0	225.0	84.4	225.0	84.4	225.0	84.4	225.0	84.4	0.0	0.0
r.	2.3	0.0	0.0	0.0	0.0	165.0	371.3	165.0	371.3	165.0	371.3	165.0	371.3	0.0	0.0
tr.	300.0	0.0	0.0	0.0	0.0	1.8	540.0	1.8	540.0	1.8	540.0	1.8	540.0	0.0	0.0
l Phenol,1tr	2,537.5	0.0	0.0	0.0	0.0	0.5	1,141.9	0.5	1,141.9	0.5	1,141.9	0.5	1,141.9	0.0	0.0
Phenol,1tr.	37.5	0.0	0.0	0.0	0.0	3.6	135.0	3.6	135.0	3.6	135.0	3.6	135.0	0.0	0.0
;1tr. 4)	350.0	0.0	0.0	0.0	0.0	0.6	210.0	0.6	210.0	0.6	210.0	0.6	210.0	0.0	0.0
on Material	500.0	0.0	0.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.0	0.0
aent 5)	57.5	0.0	0.0	0.0	0.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	0.0	0.0
ning Cost 6)															
les	225.0	0.0	0.0	0.0	0.0	0.5	112.5	1.0	225.0	1.0	225.0	1.0	225.0	0.0	0.0
			0.0		0.0		3,210.0		3,322.5		3,322.5		3,322.5		0.0
			0.0		0.0		13,495.0		3,802.5		4,432.5		8,052.5		0.0

placement rate is 15 %;
three times a year;
ts quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
.4-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
ity used per year and target is 8 ml.;
y of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
l for 8,000.0 km. per year,
a 50 % allowance for oil, lubricants and repairs.

Table 94 : Samburu District; Monitoring and Laboratory Equipment

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
:															
:conical) 1)	30.0	0.0	0.0	0.0	0.0	200.0	6,000.0	30.0	900.0	30.0	900.0	200.0	6,000.0	0.0	0.0
Microscope 2)	5,655.0	0.0	0.0	0.0	0.0	1.0	5,655.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
bjective	910.0	0.0	0.0	0.0	0.0	1.0	910.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
:it Centrifuge	1,357.2	0.0	0.0	0.0	0.0	1.0	1,357.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ier (12-220 vnl	565.5	0.0	0.0	0.0	0.0	1.0	565.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ipment	63.7	0.0	0.0	0.0	0.0	1.0	63.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
hic Mat.	1,500.0	0.0	0.0	0.0	0.0	1.0	1,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
					0.0		16,051.4		900.0		900.0		6,000.0		0.0
Expenditure															
1)															
ltr.	2.3	0.0	0.0	0.0	0.0	40.0	90.0	40.0	90.0	40.0	90.0	40.0	90.0	0.0	0.0
,ltr.	300.0	0.0	0.0	0.0	0.0	3.2	960.0	3.2	960.0	3.2	960.0	3.2	960.0	0.0	0.0
yl Phenol, ltr	2,537.5	0.0	0.0	0.0	0.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.8	2,030.0	0.0	0.0
Phennl, ltr.	37.5	0.0	0.0	0.0	0.0	6.4	240.0	6.4	240.0	6.4	240.0	6.4	240.0	0.0	0.0
:umables	750.0	0.0	0.0	0.0	0.0	1.0	750.0	1.0	750.0	1.0	750.0	1.0	750.0	0.0	0.0
					0.0		4,070.0		4,070.0		4,070.0		4,070.0		0.0
:l					0.0		20,121.4		4,970.0		4,970.0		10,070.0		0.0

:ment is 15 % annually;
:d for dark background, phase contrast microscopy;
quantities per trap are, 200 ml. for Aceton; and 16 ml.,4 ml., and 32 ml. for Octenol,
:pyl Phenol and 4 Methyl Phenol respectively.

Table 95 : Samburu District: Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
ries (m/m)															
ingist	378.8	0.0	0.0	0.0	0.0	6.0	2,272.5	12.0	4,545.0	12.0	4,545.0	12.0	4,545.0	0.0	0.0
	208.3	0.0	0.0	0.0	0.0	48.0	10,000.0	84.0	17,500.0	84.0	17,500.0	84.0	17,500.0	0.0	0.0
. Technician	208.3	0.0	0.0	0.0	0.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	0.0	0.0
rical Officer	143.3	0.0	0.0	0.0	0.0	6.0	859.5	6.0	859.5	6.0	859.5	6.0	859.5	0.0	0.0
retary	125.0	0.0	0.0	0.0	0.0	6.0	750.0	6.0	750.0	6.0	750.0	6.0	750.0	0.0	0.0
ordinate Staff	100.0	0.0	0.0	0.0	0.0	24.0	2,400.0	42.0	4,200.0	42.0	4,200.0	42.0	4,200.0	0.0	0.0
ver	117.8	0.0	0.0	0.0	0.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	12.0	1,413.0	0.0	0.0
otal			0.0		0.0		18,945.0		30,517.5		30,517.5		30,517.5		0.0
wances (m/m)															
logist	300.0	0.0	0.0	0.0	0.0	4.5	1,350.0	9.0	2,700.0	9.0	2,700.0	9.0	2,700.0	0.0	0.0
	60.0	0.0	0.0	0.0	0.0	36.0	2,160.0	63.0	3,780.0	63.0	3,780.0	63.0	3,780.0	0.0	0.0
. Technician	60.0	0.0	0.0	0.0	0.0	3.0	180.0	3.0	180.0	3.0	180.0	3.0	180.0	0.0	0.0
ordinate Staff	45.0	0.0	0.0	0.0	0.0	18.0	810.0	31.5	1,417.5	31.5	1,417.5	31.5	1,417.5	0.0	0.0
ver	45.0	0.0	0.0	0.0	0.0	9.0	405.0	9.0	405.0	9.0	405.0	9.0	405.0	0.0	0.0
otal		0.0	0.0		0.0		4,905.0		8,482.5		8,482.5		8,482.5		0.0
d Total			0.0		0.0		23,850.0		39,000.0		39,000.0		39,000.0		0.0

LIST OF PEOPLE MET

Dr. Ajowi	Dep. District Livestock Officer, Homa Bay
Dr. J.K. Bati	DVO, Kwale
Mr. Baumann	Co-ordinator, National Dairy Development Project
Mr. R. Brightwell	Olkirimatian and Shompole Development Project
Mr. Chege	Entomologist, Machakos
Mr. P. Ceuppens	Programme Officer, EEC
Mr. Dowlan	Livestock Manager, Vipingo Estate
Mrs. R. Dolan	Stockwatch
Dr. R.D. Dransfield	Olkirimatian and Shompole Development Project
Dr. W. Elfring	Project Manager, Farm Management Project
Mr. A. Erwin	KARI
Mr. Gitau	Entomologist, Busia
Dr. Gichira	Provincial Vector Control Officer, Kakamega
Mr. T.Jungjohann	Transmara Livestock Development Project
Dr. D.S. Kamau	Deputy DVO, Machakos
Dr. Kamore	Zoologist, Kilifi
Dr. Katondo	Tsetse Control Officer, O.A.U.

Dr. Kiie	Veterinary Officer, Department of Veterinary Services
Dr. Kimani	Veterinary Officer, MOLD
Dr. Kimanzi	Asst. Director Extension Services, MOLD
Mr. Kiseento	General Manager, Galana Ranch
Mr. Kitschelt	Development Attache, Embassy of the Federal Republic of Germany
Mr. S. Leek	Entomologist, ILRAD
Mrs. L. Maarse	Co-ordinator, Coast, National Dairy Development Project
Mr. Mey	Director, GTZ Nairobi
Dr. Ph. Mukiria	Entomologist, KETRI
Dr. Mukendi	Officer-in-Charge, Ukunda Veterinary Station
Dr. G. Mullen	Agricultural Economist, ILCA
Dr. Mużungu	DVO, Kilifi
Dr. Kiregu	DVO, Busia
Mr. Masinde	KETRI Station Manager, Galana Ranch
Mr. J.O. Anyango	Zoologist, Kwale
Dr. F. Muthiani	Officer-in-Charge, Kiboko Tsetse Station
Mr. Ndirangu	Assistant General Manager, Galana Ranch

Dr. Nderi	Zoologist, Taita Taveta
Dr. E.A. Opiyo	Entomologist, KETRI
Mr. F. Oloo	Senior Zoologist, Department of Veterinary Services
Dr. E.S. Ole Mpere	Deputy Director, Department of Veterinary Services
Dr. O.F.G. Olouch	Planning Officer, MOLD
Dr. L.H. Otieno	Leader, Tsetse Programme, ICIPE
Dr. U. Otsyula	Acting Director, KETRI
Mr. Obiro	Livestock Production Officer, Busia
Dr. J.H. Onyango	PDVS, Nyanza
Mr. Okhamatu	Entomologist, KETRI Station, Galana Ranch
Dr. P.A. Obillo	DVO, Taita Taveta
Dr. Ongare	Bayer, East Africa
Dr. Otiendo	Veterinary Officer, MOLD
Dr. Pollitzar	Veterinary Officer, Pan African Rinderpest Campaign
Dr. P. Robertson	Project Manager ODA, KETRI
Mr. A.G. Robertson	UNDP, IFAD
Mr. K. Schrage	Assist. Development Attache, Embassy of the Federal Republic of Germany
Mr. D.S. Soo	Deputy DVO, Narok
Mr. Sipakati	Zoologist, Narok
Dr. K.R. Sones	Stockwatch
Dr. P. Sayer	Veterinary Advisor, KETRI
Dr. Subow	PDVS, Coast Province

Mr. Tendwa	Project Officer, Project Management Unit, MOLD
Dr. W. Thorpe	Station Co-ordinator, ILCA
Dr. D.G. Wambuyu	Asst. Director, DVS
Dr. Wamakoya	Director, DVS
Dr. Wanjaiya	Head, Project Management Unit, MOLD
Mr. Winkler	Bayer, East Africa

Terms of Reference

Study on "Promotion of Livestock Farming in Tsetse-Infested Areas in Kenya

A. Reason for the Study

1. Need for Higher Livestock Production

Kenya's population of 8 million at independence in 1963 has risen to approximately 24 million in 1991, whereas cattle production has remained static throughout this period. In the sixties, Kenya was a cattle exporting country. Todate, the demand for meat can only be satisfied because of a large influx of cattle from neighboring countries. A strong need therefore exists for the boosting of cattle produ^R
ction in Kenya.

The scope for increasing cattle production in the high potential areas is limited because crop production strongly competes for the available land. The opportunities for higher cattle production are in the marginal farming areas and in the semi-arid areas. Most of these areas are, however, infested by tsetse flies. Here, high tsetse and trypanosomiasis challenge are defying most efforts to improve beef breeds and to introduce dairy animals even in areas with fairly dense human settlement, where the tsetse fly seems to have adapted to new habitats.

2. Drug Resistance of Trypanosomas

In the past, cattle trypanosomiasis was controlled mainly by the use of trypanocides. In parts of Kenya, particularly in the coastal regions, this is no longer possible. There, the emergence of trypanosome strains with low susceptibility to all trypanocides has forced farmers to close their dairies and many ranchers have to control the disease with 6 weekly, high dosage chemoprophylaxis and with very frequent overdosed chemotherapy. Under such conditions, trypanosomiasis control by the help of the syringe alone is no longer sufficient and the control of the vector has become of overriding importance.

3. Policy on Tsetse Control

In recent years, new tsetse control methods have been developed and are being applied in large scale field operations in many countries of Africa. Research institutes in Kenya have worked on the adaptation of some of these methods to various Kenyan conditions and also, have successfully contributed to the development of new ones. The Veterinary Investigation Laboratory Mariakani-EEC Project-was particularly active and successful in this field.

Also several institutions have recently embarked on surveys to determine the extent of tsetse distribution and trypanosomiasis infestation. This is particularly important since there are indications, that the fly spread beyond the formerly demarcated areas.

There is a need to review the suitability of the various control methods for the different habitats, tsetse challenges and livestock systems in Kenya and to reformulate the tsetse control policy accordingly.

B. Outline of the Study (Terms of Reference)

1. Summary

2. Present Situation and Problems of Livestock Farming

2.1 Government Policy on livestock development in particular under the aspect of trypanosomiasis control and land use

2.2 Institutions involved in tsetse and trypanosomiasis control and research

- their mandates
- organization
- principal activities

2.3 Current Government and non-Governmental practices and activities in tsetse and trypanosomiasis control

2.4 Assessment of prevailing land use and livestock production systems in tsetse-infested areas

2.5 Assessment of economic and institutional limitations to livestock production such as

- marketing
- prices
- inputs and credit
- dairies
- slaughter houses and abattoirs

3. Assessment of the Importance of Diseases for the Development of the Livestock Production Sector;

3.1 Review of major tick-and flyborne diseases

5.2 Livestock production systems in respective habitats

5.3 Transmission patterns in these habitats

6. Review of Tsetse Control Methods in View of the Kenyan Situation

6.1 Description of different control methods with reference to tsetse species and their behavior

6.2 Applicability of each method under Kenyan conditions regarding prevailing habitat and livestock production systems with respect to

- Effectiveness and sustainability
- Cost-efficiency
- Environmental aspects
- Self-help potential and role of private practitioners

6.3 Recommendations for various tsetse control measures under Kenyan conditions

7. Proposed Control Measures for each District

7.1 Assessment of quality of information about various Districts for the design of a strategy

7.2 Where information is inadequate to identify appropriate strategy, proposal on

- further information needed
- approach to collection
- resources needed (time, personnel, facilities and equipment)

7.3 Proposals for control measures

- Objectives and strategy
- Medium and longterm activities and expected results
- Timing
- Medium and longterm inputs
- Manpower development and training

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Table 87 : West Pokot District; Personnel-Salaries and Allowances

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
(m/m)															
st	378.8	0.0	0.0	0.0	0.0	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	6.0	2,272.5	0.0	0.0
	208.3	0.0	0.0	0.0	0.0	12.0	2,500.0	36.0	7,500.0	36.0	7,500.0	36.0	7,500.0	0.0	0.0
chnician	208.3	0.0	0.0	0.0	0.0	3.0	625.0	6.0	1,250.0	6.0	1,250.0	6.0	1,250.0	0.0	0.0
l Officer	143.3	0.0	0.0	0.0	0.0	3.0	429.8	6.0	859.5	6.0	859.5	6.0	859.5	0.0	0.0
ry	125.0	0.0	0.0	0.0	0.0	3.0	375.0	6.0	750.0	6.0	750.0	6.0	750.0	0.0	0.0
nate Staff	100.0	0.0	0.0	0.0	0.0	6.0	600.0	18.0	1,800.0	18.0	1,800.0	18.0	1,800.0	0.0	0.0
	117.8	0.0	0.0	0.0	0.0	6.0	706.5	6.0	706.5	6.0	706.5	6.0	706.5	0.0	0.0
			0.0		0.0		7,508.8		15,138.5		15,138.5		15,138.5		0.0
es (m/m)															
ogist	300.0	0.0	0.0	0.0	0.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	4.5	1,350.0	0.0	0.0
	60.0	0.0	0.0	0.0	0.0	9.0	540.0	27.0	1,620.0	27.0	1,620.0	27.0	1,620.0	0.0	0.0
chnician	60.0	0.0	0.0	0.0	0.0	1.5	90.0	3.0	180.0	3.0	180.0	3.0	180.0	0.0	0.0
nate Staff	45.0	0.0	0.0	0.0	0.0	4.5	202.5	13.5	607.5	13.5	607.5	13.5	607.5	0.0	0.0
	45.0	0.0	0.0	0.0	0.0	4.5	202.5	4.5	202.5	4.5	202.5	4.5	202.5	0.0	0.0
			0.0		0.0		2,385.0		3,960.0		3,960.0		3,960.0		0.0
tal			0.0		0.0		9,893.8		19,098.5		19,098.5		19,098.5		0.0

ISIOLO-SAMBURU FLY BELT

Isiolo District

Extent of Tsetse Fly Infestation

Fly infestation during the dry season is in an estimated area of about 1,000 sq. km., and the wet season infestation may extend over 4,500 sq. km. The disease risk is low. The infested areas are along the river banks of the Ewaso Ngiro, Ngana Gof and Brisanadi rivers. It is also possible that parts of the bush land are infested.

Land use is predominantly nomadic and with a semi arid climate cattle densities are low.

Project Activities and Expected Results

The detailed budgetary allocations for Project activities are shown in Table 88 to 91. Project activities are geared towards fly eradication. Operations consist of:

(a) Extension and demonstration programmes to familiarize livestock keepers with target and trap operations in all areas where control operations are scheduled to be implemented. These programmes will begin in Project year 3.

(b) Tsetse fly survey and collection of other data as detailed in Annex 1, starting during Project year 3.

(c) Equipment for the district laboratory in Project year 3, to allow for monitoring of trypanosomiasis infection rates.

(d) Fly eradication implemented through DOVS (1,000 sq. km.) beginning in Project year 4.

(e) Provision of prophylactic and curative drugs through private sector outlets.

Table 89 : Isiolo District; Extension Programme

	Unit Price (K.Pounds)	Year 1 Quant.	Year 1 Cost	Year 2 Quant.	Year 2 Cost	Year 3 Quant.	Year 3 Cost	Year 4 Quant.	Year 4 Cost	Year 5 Quant.	Year 5 Cost	Year 6 Quant.	Year 6 Cost	Year 7 Quant.	Year 7 Cost
	10.0	0.0	0.0	0.0	0.0	75.0	750.0	12.0	120.0	75.0	750.0	12.0	120.0	0.0	0.0
	30.0	0.0	0.0	0.0	0.0	75.0	2,250.0	12.0	360.0	12.0	360.0	75.0	2,250.0	0.0	0.0
yer	1,100.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0	0.0	0.0	2.0	2,200.0	0.0	0.0
	4,925.0	0.0	0.0	0.0	0.0	1.0	4,925.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0	0.0	0.0	1.0	160.0	0.0	0.0
			0.0		0.0		10,285.0		480.0		1,110.0		4,730.0		0.0
nditure															
	0.4	0.0	0.0	0.0	0.0	225.0	84.4	225.0	84.4	225.0	84.4	225.0	84.4	0.0	0.0
	2.3	0.0	0.0	0.0	0.0	165.0	371.3	165.0	371.3	165.0	371.3	165.0	371.3	0.0	0.0
.	300.0	0.0	0.0	0.0	0.0	1.8	540.0	1.8	540.0	1.8	540.0	1.8	540.0	0.0	0.0
Phenol,1tr	2,537.5	0.0	0.0	0.0	0.0	0.5	1,141.9	0.5	1,141.9	0.5	1,141.9	0.5	1,141.9	0.0	0.0
enol,1tr.	37.5	0.0	0.0	0.0	0.0	3.6	135.0	3.6	135.0	3.6	135.0	3.6	135.0	0.0	0.0
tr. 4)	350.0	0.0	0.0	0.0	0.0	0.6	210.0	0.6	210.0	0.6	210.0	0.6	210.0	0.0	0.0
Material	500.0	0.0	0.0	0.0	0.0	1.0	500.0	1.0	500.0	1.0	500.0	1.0	500.0	0.0	0.0
nt 5)	57.5	0.0	0.0	0.0	0.0	2.0	115.0	2.0	115.0	2.0	115.0	2.0	115.0	0.0	0.0
ng Cost 6)															
s	225.0	0.0	0.0	0.0	0.0	0.5	112.5	1.0	225.0	1.0	225.0	1.0	225.0	0.0	0.0
			0.0		0.0		3,210.0		3,322.5		3,322.5		3,322.5		0.0
			0.0		0.0		13,495.0		3,802.5		4,432.5		8,052.5		0.0

acement rate is 15 %;
ree times a year;
quantities are, 2 ltr. Aceton, 8 ml. Octenol, 2 ml. 3 N-Propyl Phenol,
-Methyl Phenol; for traps it is 200 ml. Aceton, and double the quantity for the other three items;
y used per year and target is 8 ml.;
of uniform, gumboots, pangas, strings and minor equipment for each AHA.;
for 8,000.0 km. per year,
50 % allowance for oil, lubricants and repairs.