

A cost analysis of the employer-based bednet programme in Coastal and Western Kenya

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Malaria remains a major health problem in Africa. One preventative strategy currently advocated is the use of bednets, preferably treated with insecticide. Many approaches to bednet delivery have been adopted in Kenya, including an employer-based malaria control strategy (EBMC). The cost and sustainability of this approach have not previously been assessed. This paper presents the financial cost (cash expenditure) of the EBMC programme implemented in the Coastal and Western regions of Kenya by the African Medical and Research Foundation (AMREF) between April 1998 and February 2002. Getting a bednet and insecticide to an employee was estimated to cost the provider US\$15.8. This could be reduced by US\$0.5 if the remaining stocks were liquidated and by an additional US\$1.3 if the salvage of capital items is considered. The venture of distributing bednets to employees through the programme proved lucrative to organized community groups (OCGs), for they made between 24 and 29% gross profit from the nets they sold. Consequently, OCGs in nine of the 13 companies involved had retained enough funds from which they could buy and sell bednets without further donor financial support, and this portrays some elements of a sustainable supply system.

Key words: cost analysis, malaria control, bednets, insecticides, Kenya, employers, organized community groups

Introduction

The burden of malaria impacts mainly on the lives of young children and pregnant women in Africa (WHO 2001). It is estimated that between 525 000 and 2 025 000 African children under the age of five die every year from malaria (Bremner 2001) and that malaria-associated low birth-weight could further impact infant survival by as much as 6% (Guyatt and Snow 2001). However, malaria can also cause non-fatal but debilitating disease in other segments of the population, though little is known of the burden of malaria on the workforce and non-pregnant adults (Snow et al. 1999). Despite the paucity of information, it is evident that the disease does affect productivity and economic growth. Malarious countries have been estimated to incur a 1.3% loss in economic growth per person per year (Gallup and Sachs 2001). Reduced productivity can result from workers' absenteeism, either because the employee is sick or another family member needs care. The impact of malaria on the workplace can be enormous. One example in a sugar production company in 1932 in South Africa recorded a reduction in workforce of over 96% and a loss in production of over 99% due to malaria (WHO 1999). Similarly, a recent analysis of historical data from a Zambian copper mining industry documented a 36% reduction in the workforce (Utzing et al. 2001) due to fear of the disease.

The use of insecticide-treated bednets (ITNs) is well established as an effective means of reducing the morbidity and mortality associated with malaria (Alonso et al. 1991; D'Alessandro et al. 1995; Nevill et al. 1996). Many health-concerned institutions in Kenya, including the government and non-government organizations, are advocating the wide-scale use of ITNs. As a consequence, several programmes

have been initiated. These include the UNICEF-supported provision of free bednets to pregnant women through antenatal clinics (Guyatt et al. 2002a), the USAID-supported Bungoma District Malaria Initiative regional programme (Ngugi 2000), the employer-based malaria control strategy (EBMC) supported by the UK Department for International Development (DFID) and the recently launched Population Services International (PSI) social marketing of bednets supported by DFID. The target population and delivery strategy varies widely, and it is important that the costs and effectiveness of these approaches are closely monitored. This paper focuses on the cost of the EBMC programme that was initiated to control malaria through the provision of ITNs to the workforce in the Coastal and Western regions of Kenya. It was implemented by AMREF and used both employers and organized community groups (OCGs) as conduits for bednets.

Methods

Background of the project

The EBMC programme was a DFID-supported strategy envisaged to be an effective and sustainable approach to malaria control. The programme aimed to promote the use of bednets among workers in labour-intensive industries within malaria endemic areas. The inception of the strategy goes back to 1996 when one employer in Taita Taveta District provided workers with ITNs to control malaria and hence reduce worker absenteeism. The effects were remarkable, with a 40% reduction in attendance at the estate's dispensary (AMREF 2000). Because of this observed benefit, AMREF approached other employers (located within the malaria endemic regions of Western and Coastal Kenya) with the

idea of facilitating the acquisition of bednets. AMREF's role was to kick-start this new delivery channel, with the OGCs later self-sourcing and financing this process.

The project began in 1998 in two regions of Kenya (Western and Coastal) with a combined population of over 10 million (Central Bureau of Statistics 2001). Sugarcane farming represents a major economic activity in Western Kenya, and this is reflected in the choice of employers (with four of the six involved in sugarcane farming and processing). In the Coastal region, tourism was the main economic activity; among the region's employers, 57% were in the hotel industry.

In the employers' neighbourhoods, women's groups, registered by the Ministry of Culture and Social Services and with bank accounts and a willingness to undertake the bednet venture as one of their income-generating activities (IGA), were recruited to act as OGCs. These groups were to work with the employers in promoting and selling bednets to the employees. There were a total of 13 employers and 57 OGCs involved in the EBMC project (Table 1). The number of OGCs affiliated to each employer ranged from one to eight, with five employers having only one OGC and eight having between six and eight. In both regions, bednets and insecticides had already been introduced in some areas. For instance, those from PSI were being provided at a lower price than AMREF's, though it was reported that consumers regarded them as low quality and most preferred the AMREF bednets and insecticides.

The EBMC was well supported by employers since it was expected to be associated with reduced work absenteeism and savings in health care expenditure. Furthermore, using a check-off system, the cost of bednets was transferred from the employer to employees. The system entailed a deduction for netting materials against employees' salaries. Employers at times extended credit facilities to workers, thus making bednets affordable.

Main activities

The project's main activities included training of OGCs, sensitization and awareness of the programme, and the supply of bednets, netting materials and insecticides. The project had three offices (Nairobi, Coast and Western) associated with expenses such as rent, telephone, electronic mail services, water, electricity and stationery, and two vehicles were purchased to facilitate travelling within the two regions. The project was implemented by several AMREF personnel including: a project manager, two project officers, IGA specialist, an accountant, a secretary, two support staff, two drivers and a store-man. There was a change in management during the course of the programme, when the Nairobi-based project manager retired (after serving for 33 months in the project). His position was taken over by the Coastal project officer, who also continued to supervise the activities in the Coastal region. In December 1999, the Western region's project officer also left for further studies (after serving in the project for 21 months) and his position was taken over by the IGA specialist. The IGA specialist was originally a part-time position in charge of training OGCs on income-generating activities.

The project manager maintained overall responsibility for the programme and made frequent visits to the two regions to monitor progress. The project officers ensured successful implementation in their respective regions, and the Coastal project officer also served as the information, education and communications (IEC) specialist.

A total of eight workshops were held during the project. Most of these were for sensitization and awareness creation. Four stakeholder workshops were conducted (two in the Coastal region in November 1998 and May 2000, and two in the Western region in October 1998 and April 2000) with members of the OGCs and the project implementation team, to define participation of each stakeholder in project implementation. A re-design workshop, attended by the

Table 1. Number of workers, organized community groups (OCGs) and sales per employer

Region	Employer	No. of workers	No. of OCGs	Quantity of bednets sold
Western	Muhoroni Sugar Company	1 200	6	2 650
	Sony Sugar Company	1 856	7	4 897
	Nzoia Sugar Company	2 700	1	3 850
	Panpaper Mills	1 740	1	2 759
	Mumias Sugar Company	5 000	8	4 746
	Kenya Breweries Ltd (Kisumu)	600	1	4 695
Total		13 096	24	23 597
Coastal	Bamburi Cement	600	7	6 581
	Kilifi Plantation	470	1	529
	Diani Grand Reef Hotel	290	6	1 356
	Alliance Hotels	500	6	1 658
	Nyali Beach Hotel	283	1	2 440
	Indian Ocean Beach Club	110	6	1 357
	Kenya Petroleum Refineries Ltd (KPRL)	240	6	1 613
Total		2 493	33	15 534
Grand Total		15 589	57	39 131

AMREF country director, employer medical officers, the DFID adviser, women's group members, the project implementation team, a Ministry of Health official and a photographer, was held at the Coast office 2 years after commencement of the project. This formed a forum for sharing experiences and lessons learnt regarding the project's implementation, and to design a blueprint for the way forward. A partner meeting of the project implementation team, a Ministry of Health official and employers' representatives was held in each region, in December 2001 for the Coastal and November 2001 for the Western region, to deliberate on the roles of each party once AMREF stopped supporting the project. Finally a 3-week workshop at the Coastal region, for women tailors, IGA and IEC specialists, and members of OCGs from both regions, was held in October 1998 to sensitize the groups and initiate some training in bednet stitching.

Project success was dependent upon involvement of OCGs' members. This was achieved through training in three critical areas: malaria prevention, IGA and bednet stitching. In the Coastal region, malaria prevention and IGA training were combined in five employer sites with two sessions per site, while stitching was done separately in one session for each of the five sites. Conversely, in Western Kenya malaria prevention and IGA were conducted separately, each item taking two sessions to complete for each employer (six sites); only four employers were trained in stitching. Twelve sewing machines were used during the bednet-stitching training sessions and were then left for use by the OCGs (six in each region). It was the role of AMREF to procure and distribute bednets, netting materials and insecticides. The channel of bednet distribution is discussed below.

Channels of bednet distribution and the check-off system

The distribution channel involved AMREF procuring supplies (bednets, netting materials and insecticides) from manufacturers and delivering them to employers who then dispatched them to OCGs. The OCGs then sold the supplies mainly to employees, though some also went to non-employees. The aim was to use the workforce as a channel to get nets into the community, and it was common for employees to buy them for their families and friends. There was no limit on the number of bednets an employee could buy, provided he signed for them through the check-off system. The purchase prices charged to AMREF included the cost of delivery to the Nairobi premises. Four companies – Siamdutch Mosquito Netting (Nairobi), Vestergaard Frandsen (Nairobi), Sunflag (Arusha) and Vempro (Nairobi) – supplied bednets that varied in size, colour and price. The purchase price ranged between KSh280–410 for the single-bed size and KSh350–480 for the double-bed size. In addition to bednets sourced from the above companies, 300 were bought from the Bungoma District Initiative (BDI) project at KSh370 for Western Kenya. Netting materials were supplied by Sunflag Textile Limited (Nairobi) and Knitwear Mills Limited (Nairobi), at an average price of KSh3142 per 100 metre roll of netting material and KSh2266 per 100 metre roll of skirting material. The average cost to the provider of the materials for a tailor-made net was KSh337.

AgrEvo East Africa, currently Aventis (Nairobi), supplied the insecticides. These were KO-Tabs (deltamethrin 25% w/w) and Peripel (permethrin 55.0% w/v). Each KO-Tab was packed in an easy-to-tear foil sachet and was used to treat one bednet. Peripel was supplied in 1-litre bottles sufficient to treat 66 bednets.

AMREF delivered the nets, netting materials and insecticide to regional premises at Kisumu (Western) and Mombasa (Coastal) using Roy Parcel Services at a cost of KSh200 per bale of 50 bednets (includes the insecticides). One supplier, Vestaagard Frandsen company, delivered a consignment of 7000 bednets to the Coastal region at no charge to the project. The supplies were then delivered to the employers by the project vehicle. The delivery cost within a region per bednet based only on fuel was KSh1.5 for the Coastal region and KSh3.7 for Western region. The higher cost in the Western region was due to the longer distances travelled to reach all employers.

The dispatching of materials from the regional premises to the employers was done on a regular basis by request through the OCGs. The supplies were normally sold within a week, so OCGs did not hold stocks for long. They were supplied to OCGs on credit to be repaid at the purchase price paid by AMREF. AMREF dealt with only one OCG per employer. Where there were many groups affiliated to one employer, an umbrella body was formed.

It was the OCGs' role to sell bednets to consumers, mainly employees. The prices charged ranged between KSh500–800 depending on the OCG and the bednet size. To ensure that payments were made, an employee was required to sign a form certifying that he had authorized the employer to deduct from his wage an amount charged against supplies either at once or in instalments. The completed forms were forwarded by the OCG to the accounts department for execution of the employee's authorization. It was also the accounts department's role to facilitate writing of cheques as payment to the OCG. Non-employees normally bought bednets for cash.

Once the employer had paid the OCG, the latter then remitted AMREF. The OCGs retained the difference between total sales and AMREF dues. Apart from the sale of ready-made bednets, some OCGs were engaged in the stitching of bednets. In such cases, tailors were paid a commission for each bednet they made; this differed from one group to another, but ranged between KSh30–80. The commission tended to reduce the OCG's income, since the selling price of a tailor-made bednet was the same as that for a ready-made one. However, tailoring had the advantage in that when ready-made nets were not available, new ones could be made from netting materials. It also widened the market for nets by targeting a segment in need of unique bednets not available ready-made, for instance extra-large nets and multicoloured ones that combined, say, white and green materials.

All the bednets were sold either treated with insecticide or accompanied by a KO-Tab sachet. In addition, OCGs also

sold KO-Tabs separately for re-treatment of nets. The OCGs bought KO-Tabs for KSh100 from AMREF and sold them for KSh150.

Data collection and analysis

Primary cost data were collected by interviews with the project manager, OCG members and employers' medical officers using unstructured questionnaires. Data on both quantities and unit costs of resources consumed by EBMC intervention were collected. Secondary data were collected from sources such as project progress reports, research reports and papers presented in malaria-related workshops. The evaluation covered activities undertaken between April 1998 and February 2002, and actual prices paid were used as this represented the actual amount spent, which is appropriate for a financial analysis. Only the financial cost to the provider (AMREF) was assessed. Possibilities of over- or under-financing were not explored and therefore the results do not necessarily reflect values for optimal level. An exchange rate of KSh99.74 per pound sterling was used to convert the foreign currency for the vehicle purchase (the only input bought in foreign currency) in April 1998 into Kenya shillings (Central Bank of Kenya). For ease of comparison, the costs of the intervention were expressed both in KSh and US\$ assuming KSh78 per US\$, the Central Bank of Kenya's exchange rate at the end of February 2002.

Results

The success of the bednet delivery

By end of February 2002, OCGs had sold a total of 39 131 bednets (15 534 in the Coastal region and 23 597 in the Western region) (see Table 1). Thirty-five thousand were

ready-made and 4131 were tailor-made. Bednet sales were lower at the start of the programme, due mainly to inconsistencies in supply. By February 2002, a further 300 nets were still held in stock in the Coastal region, along with enough netting material to make 87 bednets in the Coastal region and 75 in the Western region. The total number of nets supplied by AMREF in both regions was therefore 39 593. In addition, 60 litres of Peripel (sufficient for 3960 nets) and 44 700 KO-Tabs had been dispatched to employers. For net re-treatment, 9529 KO-Tabs were sold independently. KO-Tabs still in stock at AMREF offices by February 2002 numbered 300 at the Coast and 2000 in the Western region. The total stock still remaining at Nairobi included 8000 KO-Tabs, 30 litres of Peripel and netting material sufficient for 800 bednets.

Costs of the intervention

For the period of April 1998 to February 2002, the total financial cost of the intervention was KSh59 447 258 (US\$762 146) (see Table 2). This is based on itemized data on both unit costs and quantities presented in the Appendix. Only 37% of the total cost was consumed by the procurement of the bednets, netting materials and insecticides. More than half of the total cost was spent on running the project (37% of the total cost being spent on staff salaries alone), and less than 10% on the combined cost centres of monitoring, sensitization and awareness campaign and training.

By February 2002, the total advancement to OCGs was KSh15 687 940 (US\$201 127) and AMREF had already recovered KSh10 448 130 (US\$133 950) for payment of the nets and insecticide. This represented 67% of the total amount that AMREF was due. The collection of funds stopped on 31 July with the closure of the programme. Between February and July, AMREF made no further

Table 2. Cost by major activities and inputs

Category	Item	Amount (KSh)	Amount (US\$)	% of total cost
Project running cost	Office expenses	2 231 400	28 608	3.8
	Computing and overhead projector	800 000	10 256	1.3
	Staff	22 131 000	283 731	37.1
	Vehicle repair	540 000	6 923	0.9
	Vehicle purchase cost	5 984 400	76 723	10.1
Monitoring	Travels and per diem	950 800	12 190	1.6
Sensitization and awareness campaign	Sensitization workshops	2 179 050	27 937	3.7
Training	Stitching, IGA and malaria prevention sessions	2 468 320	31 645	4.2
Supplies and delivery	Bednets	14 367 100	184 194	24.2
	Netting materials	1 717 008	22 013	2.9
	Insecticides	5 837 500	74 840	9.8
	Bednets delivery (fuel & parcel services only)	240 680	3 086	0.4
Total financial cost¹		59 447 258	762 146	100.0
Gross cost per net sold (assuming no cost recovery)		1 519	19.5	
Total amount recovered		11 138 437.4	142 800.5	
Net cost per net sold		1 234.5	15.8	

¹ This is the actual amount paid (nominal cost). The real cost (using 2002 as the base year and inflation rates of 6.6% in 1998, 3.5% in 1999, 6.2% in 200 and 0.8% in 2001, taken from Central Bureau of Statistics (2002)) is KSh62 540 439.

advances to the groups and recovered an additional US\$8850, giving an overall 71% cost recovery (US\$142 800). Considering the total financial cost of the intervention and the final cost recovery, the cost per treated bednet sold by February 2002 was US\$15.8 – reducing to US\$15.3 if all bednets purchased by AMREF were delivered to the groups and sold (an additional KSh3200 for transporting an additional 1262 bednets assuming negligible within region delivery cost).

These costs assume the complete consumption of capital items. However, assuming a life expectancy of 8 years for the laptop and desktops, 5 years for e-mail modem and kettle, and 10 years for overhead projector, vehicles and sewing machines, and a discount rate of 3%, the salvage value at the end of 4 years would be US\$54 491. Taking into account the scrap value of these capital items would reduce the cost per bednet sold by US\$1.4 (US\$1.3 if all the bednets were delivered).

The average purchase price of a bednet with insecticide by the OCGs was KSh502. The OCGs sold a bednet with insecticide for an average of KSh664 in the Coastal region and KSh705 in the Western region, representing a gross profit of 24 and 29% respectively. These accumulated funds were to enable the purchase of bednets and insecticides once AMREF stopped supporting the project, and hence make the supply system sustainable.

Project success in developing a sustainable supply system

One of the aims of the EBMC project was to develop a system that would continue supplying bednets even after AMREF and donors stopped supporting the activities. By February 2002, 46% of the employers involved in the project (six out of the 13) had been able to buy a total of 6000 bednets on their own, transacting directly with the supplier without AMREF involvement. Only one supplier was involved in this direct contact with the employers, Vestaargard Frandsen, chosen by the OCGs as the provider of the highest quality nets. The cost of a bednet to an OCG using this supplier (including delivery cost and insecticide) was only KSh410 (US\$5.26). In July 2002, a follow-up of all employers found that only four of the 13 companies were not now outsourcing. Three of these were hotels in the Coastal region (two had a change in personnel and one stated that people preferred to buy the cheaper nets provided by PSI). The one Western region company not outsourcing stated that they did not know how to procure the nets now AMREF had withdrawn.

Discussion

Health planners and policy makers require information on both the costs and effectiveness of delivery strategies in order to make decisions on their use. It is important that initiatives such as the EBMC are evaluated in terms of their cost per unit of coverage achieved, and that this is compared with other approaches. The analysis presented here suggests that the cost per bednet delivered is high (US\$15.8). Even in the best-case scenario with full debt recovery, liquidation of

remaining stocks and salvage of capital items, the cost per bednet could only be reduced to US\$12.3. This is high compared with the financial cost of other strategies evaluated in Kenya. For instance, an emergency relief programme of bednet delivery in highland Kenya in 2000 was estimated to cost US\$8.42 (Guyatt et al. 2002b) and the nation-wide delivery of bednets free to pregnant women through antenatal clinics in 2001 was US\$5.26 (Guyatt et al. 2002a).

However, it is important to note that more than half of the costs for the AMREF project were running costs, with 37% of the total cost being spent on staff salaries. As with many projects that want to establish new channels of bednet delivery, for example OCGs, it is not uncommon for more than half of the total costs to be consumed in simply setting up the system (Guyatt et al. 2002b). What is important is whether the system that is built up is able to sustain itself once the donors stop supporting the project. In this regard, the AMREF EBMC is unique amongst most of these donor-supported initiatives. The profits made by the OCGs in selling nets have allowed them to accumulate enough funds to purchase supplies. Seventy percent of the employers have OCGs that are now purchasing nets directly from the supplier with no involvement from AMREF.

Although this study focused on the provider's costs, the continued cooperation by employers is an indication that they supported the OCG's activities. Furthermore, the profits made by OCGs enabled many to purchase bednets without further financial support, suggesting minimal transactional cost. Therefore, the costs to employers and to OCGs do not appear to be significant enough to bring about substantial negative effects on overall sustainability. The success of the EBMC programme in developing a sustainable distribution system of supplies should be considered alongside the initial high costs in establishing this system when comparing with other delivery channels. Furthermore, the use of existing channels of distribution (employers and OCGs) should continue to be explored as an option in reaching an important segment of the population of Kenya: the workforce.

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Appendix

Category	Input	Total cost (KSh)	Units	Coast		Western		Nairobi	
				Unit cost (KSh)	Quantity/Frequency	Unit cost (KSh)	Quantity/Frequency	Unit cost (KSh)	Quantity/Frequency
Project running cost	Office expenses	2 231 400							
	Office rent	256 500	Per month	6 750	38				
	Telephone and e-mail services	1 010 500	Per month	1 500	47			20 000	47
	Water	9 500	Per month	250	38				
	Electricity	11 400	Per month	300	38				
	Stationery	940 000	Per month	5 000	47	5 000	47	10 000	47
	Office kettle	3 500	Per kettle	3 500	1				
	Computing and overhead projector	800 000							
	Laptop	200 000	Per laptop					200 000	1
	Computers	450 000	Per desk top	150 000	1	150 000	1	150 000	1
	Email modem	30 000	Per modem	15 000	1	15 000	1		
	Overhead projector	120 000	Per projector					120 000	1
	Staff	22 131 000							
First Project manager	3 630 000	Per month							
Second Project manager	1 400 000	Per month							
Project officer	4 320 000	Per month	80 000	33	80 000	21	110 000	33	
IGA specialist	3 290 000	Per month			70 000	47	100 000	14	
Accountant	1 410 000	Per month							
Secretary	2 820 000	Per month	6 500	14			30 000	47	
Support staff	1 031 000	Per month	20 000	47			60 000	47	
Driver	1 880 000	Per month			20 000	47	20 000	47	
Store-man	2 350 000	Per month							
Vehicle repair	540 000								
Vehicles purchase cost	5 984 400								
Monitoring	950 800								
Fuel	310 800	Per km ¹	12	7 020	12	18 880			
Air ticket	304 000	Per return ticket	8 000	26	6 000	16			
Per diem	336 000	Per day ²	2 000	104	2 000	64			
Sensitization workshops	2 179 050								
<i>(a) Stakeholders workshops</i>	<i>1 464 800</i>								
Project manager's per diem	30 400	Per day ³	2 000	8	1 800	8			
Project officer's per diem	30 400	Per day ³	2 000	8	1 800	8			
Participant's accommodation	1 032 000	Per participant ⁴	2 500	240	1 800	240			
Project manager's air ticket	28 000	Per return ticket ⁵	8 000	2	6 000	2			
1st stakeholders' workshop		Per day ⁶	200	160	500	160			
Participant's field allowance	112 000	Per day ⁶							
2nd stakeholders' workshop		Per day ⁶	200	160	300	160			
participant field allowance	80 000	Per workshop	200	160	300	160			
Venue charges	24 000	Per workshop	9 000	2	3 000	2			
Venue organization and cleaning	12 000	Per workshop	3 000	2	3 000	2			
Stationery	60 000	Per workshop	15 000	2	15 000	2			
Bus fare refund	56 000	Per participant ⁷	400	40	1 000	40			
<i>(b) Partners meeting</i>	<i>114 100</i>								
Air tickets	32 000	Per person	8 000	4					

Appendix Continued

Category	Input	Total cost (KSh)	Units	Coast		Western		Nairobi	
				Unit cost (KSh)	Quantity/Frequency	Unit cost (KSh)	Quantity/Frequency	Unit cost (KSh)	Quantity/Frequency
Sensitization and awareness campaign	Travels by road	10 000	To each region			10 000	1		
	Partners meeting full board	59 000	Per meeting	23 000	1	36 000	1		
	Bus fare refund	8 000	Per participant	300	10	500	10		
	MoH representative's facilitation fee	2 000	Per person	1 000	1	1 000	1		
	MoH representative's out of pocket	1 000	Per person	500	1	500	1		
	Other participants' out of pocket	2 100	Per person	350	3	350	3		
	(c) <i>Re-design workshop</i>	294 850							
	Return air tickets by Kenya Airways	72 000	Per person	12 000	6				
	Return air tickets by Air Kenya	35 000	Per person	7 000	5				
	Accommodation including venue charges	136 800	Per participant ⁸	2 400	57				
	Stationery	15 000	Per workshop	15 000	1				
	Out of pocket	19 950	Per participant ⁸	350	57				
	Facilitation fee	12 000	Per participant ⁹	500	24				
	Medical officers' bus fare refund	3 000	Per person	1 500	2				
	Employer representatives' bus fare refund	200	Per person	100	2				
Women bus fare refund	900	Per woman ¹⁰	100	9					
(d) <i>Three weeks workshop</i>	305 300								
Project manager's per diem	37 800	Per day	1 800	21					
Project officer's per diem	37 800	Per day	1 800	21					
Women's per diem	75 600	Per day ¹¹	1 800	42					
Women's facilitation fee	21 000	Per day ¹¹	500	42					
Out of pocket	94 500	Per person ¹²	300	315					
Return air ticket	8 000	Per person	8 000	1					
Fare refund for women	2 600	Per woman	1 300	2					
Venue organization and cleaning	3 000	Per workshop	3 000	1					
Stationery	5 000	Per workshop	5 000	1					
IEC materials	20 000	Per workshop	20 000	1					
Training		2 468 320							
Project officer's per diem	292 800	Per day	2 000	60	1 800	96			
Drivers' per diem	202 800	Per day	1 300	60	1 300	96			
Women's per diem	194 400	Per day ¹³	1 800	60	1 800	48			
Women fare refund	5 200	Per woman	1 300	2	1 300	2			
Venue organization and cleaning during stitching	33 000	Per site (employer)	3 000	5	4 500	4			
Venue organization and cleaning during IGA and malaria prevention	87 000	Per IGA and malaria prevention session ¹⁴	1 500	10	3 000	24			
Stationery during stitching	45 000	Per stitching session	5 000	5	5 000	4			

Appendix Continued

Category	Input	Total cost (KSh)	Units	Coast		Western		Nairobi	
				Unit cost (KSh)	Quantity/Frequency	Unit cost (KSh)	Quantity/Frequency	Unit cost (KSh)	Quantity/Frequency
Training	Stationery for IGA and malaria prevention training	510 000	Per IGA and malaria prevention session ¹⁴	15 000	10	15 000	24		
	Sewing machines	1 020 000	Per machine	85 000	6	85 000	6		
	Fuel for stitching sessions	15 000	Per km	12	270	12	980		
	Fuel for IGA and malaria prevention	63 120	Per km ¹⁵	12	540	12	4720		
Supplies and delivery	Bednets	14 367 100	Per bednet					407	35 300
	Netting materials	1 717 008							
	Netting materials	1 281 936	Per roll					3 142	408
	Netting materials (skirting)	435 072	Per roll					2 266	192
	Insecticides	5 837 500							
	Insecticides – KO-Tabs	5 500 000	Per KO-Tab kit					100	55 000
	Insecticides – Peripel	337 500	Per litre					3 750	90
	Bednets delivery	240 680							
	Delivery cost to regions	130 400	Per bale of 50 bednets	200	178	200	474		
	Delivery cost within regions	110 280	Per km	12	1 970	12	7 220		

¹ 26 trips of 270 km for the Coastal region and 16 trips of 1180 km for the Western region. ² Four days for 26 monitoring trips to the Coastal region and 16 trips to the Western region. ³ Four days for each of the first and second stakeholder workshops. ⁴ Forty participants for 3 days for each of the two stakeholder workshops held in each region. ⁵ One manager's air ticket for each of the two stakeholder workshops held in each region. ⁶ Forty participants for 4 days attending the stakeholder workshop in each region. ⁷ KSh200 (Coastal) and KSh500 (Western) fare refund for 40 participants for each of the two stakeholder workshops held in each region. ⁸ Nineteen participants for 3 days. ⁹ Eight participants for 3 days. ¹⁰ Three women for 3 days. ¹¹ Two women for 21 days. ¹² Fifteen participants for 21 days. ¹³ Two women for 30 days in the Coastal region and 24 days in the Western region. ¹⁴ Two sessions for five sites in the Coastal region and four sessions for six sites in the Western. ¹⁵ Two trips of 270 km for the Coastal region and four trips of 1180 km for the Western region.