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GLOBAL BLOOD SAFETY INITIATIVE



REPORT OF THE GBSI INFORMAL CONSULTATION ON "COSTING OF BLOOD TRANSFUSION SERVICES"

Geneva, 28-31 October 1991



HEALTH LABORATORY TECHNOLOGY AND BLOOD SAFETY

WORLD HEALTH ORGANIZATION





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1. EXECUTIVE SUMMARY

Blood Transfusion Services (BTSs) in developing countries are facing a critical stage. As AIDS prevention resources for blood banks are less readily available and the demand for services increase, BTSs are finding greater need for improved financial monitoring and planning. Few BTSs collect or review cost information but there is increasing recognition of this need.

An informal consultation was held in Geneva, from 28 to 31 October 1991, which reached a consensus on several critical issues. Among these, it recognized BTS managers as prime users of costing information and middle managers at blood laboratory levels as secondary users of this information. Costing information will be particularly useful to governments and health authorities which are responsible for funding. The importance of appropriately setting out costing data in the presentation of budgets to funding agencies was stressed.

The importance of developing cost collection and cost analysis in BTSs has been recognized. The key purposes for providing costing information would include improved budgeting, monitoring of BTS costs, realistic planning for future expansion or improvement of the system.

To meet the needs of all managers, costing tools should be comprehensive yet simple. Optional objectives for carrying out costing studies and more detailed levels of analysis must be clearly provided with practical guides for use.

Since the objectives for costing analysis will vary from one country to another, two different levels of analysis are envisaged. Level one would include costing analysis for purposes of budget planning and financial accountability. Level two would include analysis for purposes of evaluation including cost-effectiveness analysis.

The consultation described indicators for each level of analysis. It also proposed a framework for the development of a costing workbook. Finally, the consultation endorsed a workplan to be followed by GBSI in providing countries with the required methodologies, guidance and support in the planning of BTS costing analysis. A follow-up consultation was suggested to review a final workbook and plan for BTS strategies for recovering some of the costs of blood transfusion through a fee for services, or other charges.

2. INTRODUCTION

The objectives of the consultation were as follows:

- i. To define the financial management requirements of a blood transfusion service;
- ii. To define budget planning/accountability which will include cost evaluation/cost effectiveness;
- iii. To discuss and make recommendations on the development of a practical workbook to provide a guide for managers of blood transfusion services.
This workbook will be evaluated prior to finalization.

For this consultation, working papers and technical background papers were prepared and presented. The titles of these papers, which provided a major resource to the meeting, are itemized in Annex 1.

The consultation took into consideration the experiences of other WHO programmes and documents. Especially useful was "Cost Analysis in Primary Health Care: A Training Manual for Programme Managers". It also took into consideration the several experiences of BTS managers who have conducted costing and cost-effectiveness analysis.

The participants agreed on a Consensus Statement (see Section 3), which defines the general concepts of costing analysis. The participants also agreed on a number of conclusions and recommendations.

It is intended as an outcome of this meeting to produce a workbook which will provide a guide for managers of blood transfusion services for practical day to day cost management, to assist with service planning, to anticipate budgetary requirements and to provide adequate documentation for negotiation with governments and other funding authorities. It is intended that this document will be field-tested before final acceptance.

3. BTS COSTING - A CONSENSUS STATEMENT

3.1 General concepts

3.1.1 National Blood Transfusion Services (NBTSS)

The parameters of blood transfusion services which should be included in costing analysis were defined. BTSs may be provided within a confined hospital system or within self-standing blood banks. The BTS should consider the health care infrastructure in the costing analysis. All activities in BTS should be included as follows:

RECRUITMENT - COLLECTION - PROCESSING - STORAGE - DISTRIBUTION - CLINICAL USE

The importance of considering blood transfusion services as a component of health service delivery systems was reaffirmed. NBTSS should be viewed as an integrated part of the national health system. A primary goal for NBTSS should be to develop independent budgets and administrative structures within an integrated health system. Currently, many BTSs are considered a component of a hospital budget with many competing demands. BTSs require independent budgeting and planning information to successfully mobilize resources. Independent BTS budgets will improve efficiency and accountability of that system.

3.1.2 Costing analysis

The importance of cost analysis in BTSs has been recognized:

- To aid in budget planning and formulation;
- To ensure that the costs of service expansion can be identified;
- To provide useful information for monitoring and evaluation purposes;
- To provide information for planning for sustainability;
- To compare the cost effectiveness of different services.

Although comparison of data are useful they must be made with caution because of significant differences in cultures, local work practices, and structural constraints on productivity.

3.1.3 Costing analysis objectives

Carrying out a cost analysis for a BTS requires accurate collection, calculation and reporting of cost and performance data. The level and type of data collected is dependent on the objectives established for the analysis. A BTS that wishes to perform cost-effectiveness analysis to determine the future infrastructure of the BTS will need to set clear objectives as these will determine the amount and type of data which will need to be collected. Objectives should be clearly defined prior to designing a study or routine system for collecting and analyzing BTS cost data.

Defining the objectives for a cost analysis is difficult. Managers should be clear about the practical use of cost information and should be realistic about the amount of data which can be collected. They should strive to define simple, clear and comprehensive objectives to provide meaningful information for managing BTSs as well as to provide for future planning and sustainability of the programme.

3.1.4 **There are two levels** of costing analysis which may be performed within BTSs: each reflects different objectives and level of complexity.

LEVEL 1 - Budget planning/accountability

- (1) In costing analysis, BTS managers should estimate the total value of all resources used or total operating costs including "hidden costs" such as donated buildings, volunteer labour and management costs. These costs may be major factors in determining true resources required by governments and donors. It is important to remember that whatever activity takes place there is a cost attached.

- (2) Costing analysis for budget planning and accountability should include the definition and collection of productivity or output measures. Output measures may be useful to show improvement over time, changes in types and amount of service delivery, contribution to national health care services and comparisons of efficiency.
Caution should be exercised when comparing BTS costs and output measures to ensure that like is being compared with like, and that quality factors are included to ensure valid comparisons, e.g., relative levels of screening and safety.
- (3) Blood transfusion services should be able to supply unit cost data as an essential component of a useful data base, so that costed output information is available for use as a productivity measure.
- (4) Cost information should be classified by capital and recurrent costs (see glossary for definitions). It is important to include all capital costs in the analysis, including recognition of capital depreciation however rudimentary. This will encourage planning for sustaining large capital investments that require annual spending (i.e., depreciation costs).
- (5) Caution should be taken when presenting costing findings for budgeting purposes. Total costs (i.e., including cash free resources used) may indicate an overly high unit cost for providing BTS to governments. Care must be used in designing presentation reports of costing findings and budgets. It is important to document the types of costs included in budgets and other financial reports.

LEVEL 2 - Cost evaluation/cost effectiveness

The BTS may wish to analyze the efficiency or effectiveness of its services. This requires that the cost data include information on BTS activity performance. For example, if a cost-effectiveness study of the donor selection procedure was desired, an effectiveness measure (number of blood donors accepted over the number evaluated) would be needed as well as a measure of the costs associated with donor selection and screening. To do this level of analysis requires that data is available for both effectiveness and cost indicators. It would be essential to define those specific areas which will be analyzed in a cost-effectiveness study so that the relevant information is collected.

The consultation recommended two broad categories for costing analysis: blood donors and blood units. These groups can be broken into several activities for purposes of costing analysis:

(1) BLOOD DONORS

- Donor recruitment (including motivation and retention)
- Donor selection

(2) BLOOD UNITS

- Blood collection
- Blood processing
- Blood storage
- Blood distribution
- Blood usage

A conceptual model for costing out activities is included in Annex 2.

3.1.5 Points of discussion

The consultation noted that a number of important aspects relating to BTS which were beyond the scope and purpose of this consultation, but that they should, nevertheless, be identified as requiring future consideration. These issues follow:

(1) APPROPRIATE USAGE

There was concern with the level of inappropriate use of blood where transfusion is not clinically indicated leading to waste of blood units. It was agreed that it was the duty of the person responsible for a blood transfusion service to attempt to ensure appropriate use of the product, so far as this was feasible.

(2) IMPACT/OUTCOME

Measuring the impact/outcome of BTS is beyond the scope of this consultation. Although some outcomes can be measured (i.e., surgery or other procedures cancelled due to lack of blood, blood being out of date/expired or mortality and morbidity due to inadequate blood supplies) these data would be unavailable to most developing countries. Health outcome requires epidemiological data to be combined with output data, so that the resources can be compared with the achieved results. BTSs should be able to supply unit cost data so that this information can be compared with components of health outcomes. Some outcomes are more easily measured such as:

- survey or other treatment cancelled due to lack of blood;
- blood being outdated before use;
- morbidity or mortality due to unavailability of blood.

(3) TRAINING

The cost of training and education of BTS personnel is recognized as a particular problem in developing countries where there is not usually access to an already trained work force. These costs usually have to be absorbed within the BTS costs. There may be very high training costs associated with the setting phase of a service, as well as recurring retraining costs. There will be a loss of trained staff over time so it is important that training programmes be linked to career development and employee retention strategies. Training costs may be a major factor in comparing the relative cost-effectiveness of services.

(4) **QUALITY ASSURANCE**

Continuing awareness of quality assurance objectives is important. A quality assurance process within BTSs is recommended, and the collection and presentation of BTS data for clinical utilization review within hospitals is considered a BTS responsibility. When designing data collection, storage and retrieval systems, the utility of information for immediate management purposes, and for future use should form a component of the utilization review. Quality assurance responsibility of the BTS begins with donor motivation and ends with appropriate use (see unpublished document: WHO/LAB/89.10 "Guidelines for the appropriate use of blood", Annex 4).

4. **COSTING MODEL**

4.1 A Cost Allocation model

A Cost Allocation model was presented and endorsed (see Annex 5). It provides a simple Lotus spreadsheet for collecting and calculating the costs of BTSs including all capital and recurrent costs. It will be expanded to include specific activity cost categories (or productivity).

The model is intended as a guide for BTS managers, and should be applicable for a range of levels of complexity. If data needs to be manipulated to analyze resource decisions by activity, or for other purposes, the model should accommodate this.

4.2 Macro versus micro level analysis

A macro level analysis relies on national or regional data which is gathered and analyzed. A more detailed micro level analysis is more difficult as it is likely to involve data collection at regional or even local levels which raises the cost and time of analysis. Whether a costing analysis is a macro or micro level study largely depends on the objectives of the study (see Section 3.1.4) and the resources available to carry it out.

4.3 Classification of resource input versus activity/function

There are two general ways in which cost data can be classified. The first is by resource input (i.e., staff, vehicles, equipment). This type of classification groups inputs into categories which are simple to recognize. A costing spreadsheet has been developed using BTS resource inputs (see Annex 4).

Another cost classification is by activity or function (e.g., cost of prescreening, blood collection, screening and processing, blood donor recruitment). This approach has the added complexity of having to allocate resources that are shared among different BTS activities so that each is charged only for its proper share. The consultation recommended expanding the costing spreadsheet for specific BTS activities (see Annex 2).

4.4 Capital and recurrent costs

All capital costs should be included in BTS costing analysis. Many of these costs carry recurrent cost implications. This is especially critical for BTSs where establishing cash reserves for depreciation or replacement of capital equipment is difficult. Providing data about annualized capital costs may encourage governments and BTS managers to provide resources to assure sustainability of services.

All ongoing recurrent expenses should likewise be included in the costing analysis to assure that long term planning for meeting these costs is possible.

4.5 Staff costs

It is important to include all staff expenses. In some cases, this may include staff benefits such as school fees, vehicles/transport, health care costs, sick leave, houses, overtime payment or uniforms. These may be hidden expenses carrying a large recurrent cost for the BTS.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The consultation recognized the need for flexibility in performing costing analysis and suggested two levels of optional methodologies which could be applied to specific BTS needs.

In addition to drawing up a Consensus Statement, the consultation provides a framework for designing costing analysis guidelines. It also endorses a workplan to be followed by providing countries with the desired methods and guidelines.

In addition, the following recommendations were formulated:

5.2 Recommendations

- (1) A BTS costing workbook including worksheets and spreadsheet should be developed and field tested.
- (2) The field testing process should ensure that the concepts and terminology used in the workbook are understandable and comprehensive.
- (3) Field testing of the workbook should include the use of a questionnaire analysing usefulness, comprehensiveness, understandability, and practicality of the workbook.
- (4) The presentation of the workbook should be developed along the lines of the "EPICOST for costing National Expanded Programmes on Immunization".
- (5) The costing spreadsheet (Annex 4) should be expanded to include costing by activities as well as output data.

LIST OF PARTICIPANTS

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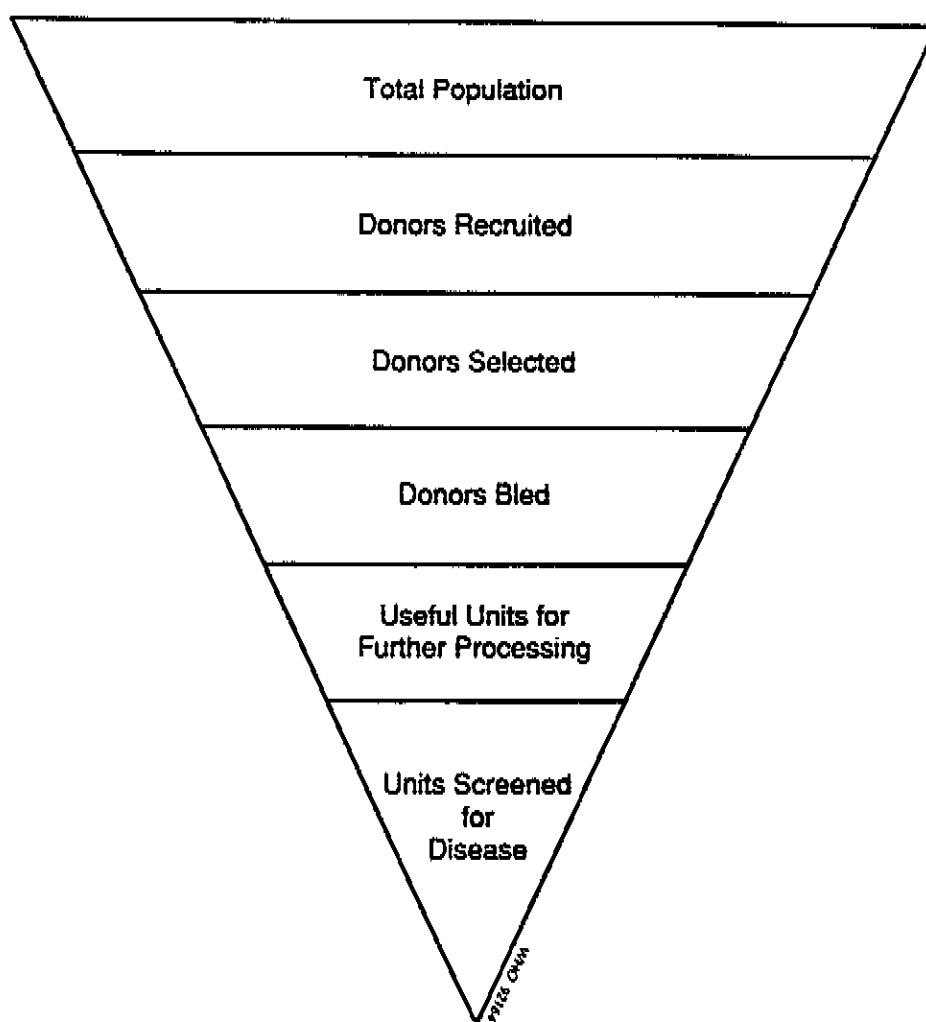
Dr W. Newbrander, National Health System & Policies, Division of Strengthening of Health Services, WHO, Geneva

1. UTILIZATION OF COST DATA IN BTS
Dr L. Devillé - Working Paper 6.
2. COST ANALYSIS OF BLOOD TRANSFUSION SERVICES: Framework for planning
Dr Anne Martin - Working Paper 4.
3. GENERAL CONCEPTUAL FRAMEWORK OF COSTING OF BLOOD TRANSFUSION SERVICES: An introduction
Dr L. Devillé - Working Paper 1.
4. NATIONAL BLOOD TRANSFUSION SERVICE: Zimbabwe
Mr D. Connolly - Working Paper 2.
5. REQUIREMENTS FOR A BLOOD TRANSFUSION SERVICE IN A DEVELOPING COUNTRY
Dr J. Watson-Williams - Working Paper 3.
6. WHY COSTING ANALYSIS IN BLOOD TRANSFUSION?
Dr J. Emmanuel - Background Document 1.
7. COSTING OF BLOOD TRANSFUSION SERVICE
Dr J. Leikola - Background Document 2.
8. COST-EFFECTIVENESS ANALYSIS IN DEVELOPING COUNTRIES: ISSUES AND SOLUTIONS
Mr Ch. Cameron - Background Document 3A.
9. COSTING IN DEVELOPING COUNTRIES: ISSUES AND SOLUTIONS
Ms K. Hanson - Background Document 4.
10. MANUAL FOR INVESTIGATORS AND PROJECT DIRECTORS: Organization of BTSs
Background Document 6.
11. NATIONAL PROGRAMMES OF BLOOD TRANSFUSION SERVICES
Dr R. Beal - Background Document 7.
12. PROBLEMS OF BLOOD BANKS PECULIAR TO DEVELOPING COUNTRIES
Dr J. Watson-Williams - Background Document 8.
13. MANAGEMENT OF BLOOD TRANSFUSION SERVICES
Edited by S.R. Hollan, W. Wagstaff, J. Leikola, F. Lothe.

ANNEX 2

A Conceptual Framework for Costing BTS Activities

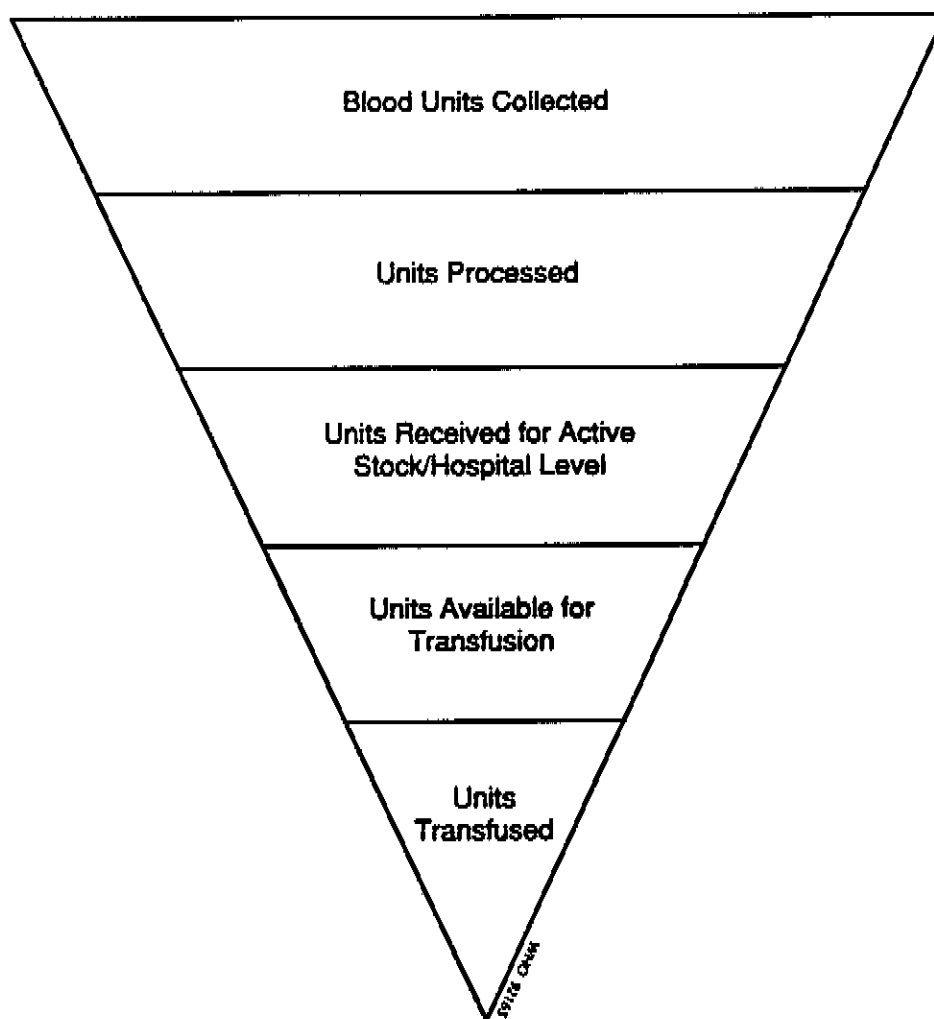
1. Donors



ANNEX 2

A Conceptual Framework for Costing BTS Activities

2. Blood



GLOSSARY

The definitions given here relate to the use of these terms in the context of performing costing analysis in BTSs.

Economic terms

Capital costs: Costs usually associated with the development, start-up or expansion of a BTS. Capital costs are costs that are incurred less than once a year over a certain period of years.

Recurrent costs: Ongoing operating expenses of a BTS. These costs may occur more than once in any given year.

Total costs: Annualized capital costs plus annual recurrent costs.

Depreciation: The decrease in value of a capital good because of passage of time, wear and tear, etc. An allowance for depreciation should be included as an operating cost in accounts.

Unit cost: The total cost of an activity divided by the number of units of output produced.

BTS terms

Recruitment of blood donors: This activity includes everything related to motivating and educating the community at large and recruiting specific groups of the community for possible blood donation.

Blood donor selection: This means evaluation of recruited potential donors to assess whether they can be accepted as blood donors, with a number of donors being discarded on basis of set criteria for collective blood screening.

Blood collection: Of those donors accepted during the selection procedure, blood is being collected, but some blood collections might be unsuccessful due to failure of the technique of bleeding or failure of the collection process (e.g., long waiting time).

Blood processing: All blood successfully collected is processed, this means testing, blood grouping, preparation of blood products, and all activities that ensure production of a safe blood unit before leaving the processing unit and being stored for future distribution. Of the blood that has been collected and processed, some losses will occur.

BTS COST ALLOCATION MODEL

The following spreadsheet illustrates two cost centre models designed to estimate the capital and recurrent costs associated with establishing and maintaining a blood transfusion centre. Capital costs¹ are costs that are incurred less than once a year over a certain period of years. Recurrent costs are expenses that occur once or more than once in any given year. By adding the annualized capital costs and the annual recurrent costs, we can estimate the total annual cost for a blood transfusion centre.

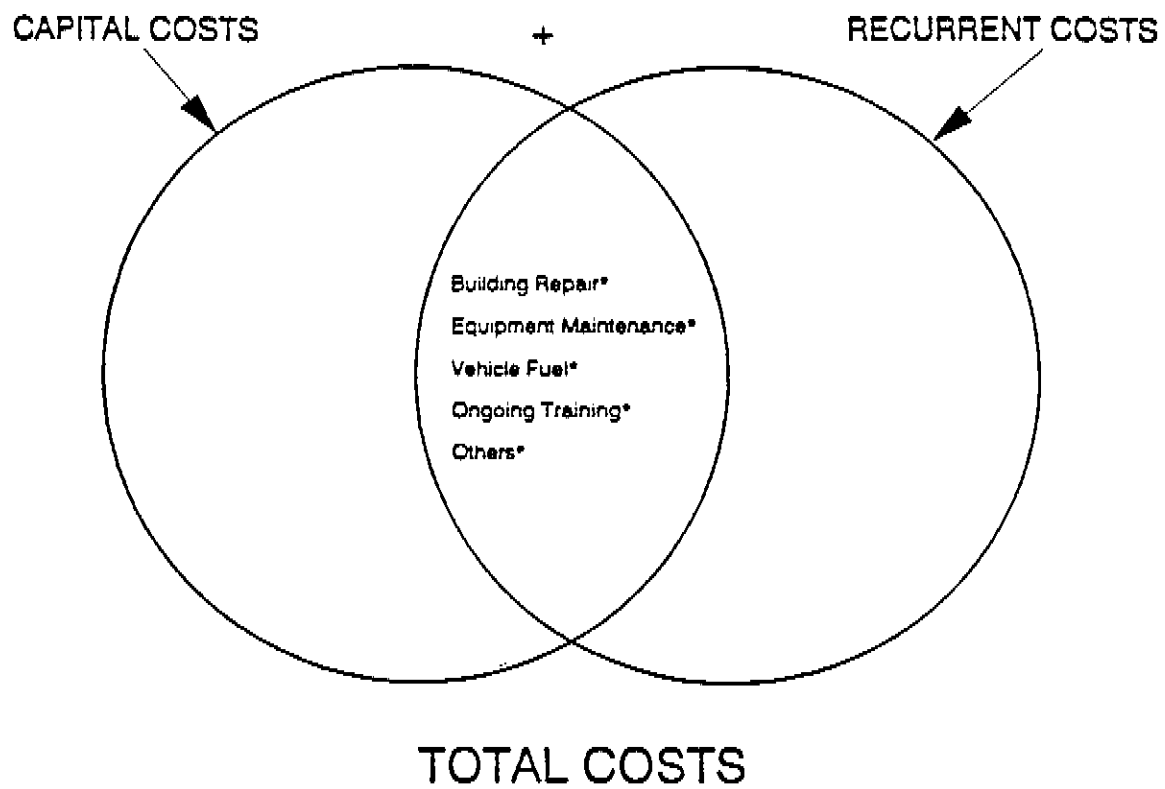
The model shows two levels of analysis which differ in the scope of their input sources; however, their outputs are shown to produce the same total cost estimates. The model utilizing national scope input aggregates financial information to establish a total cost estimate. The model utilizing local scope input employs the number of units and current unit price information to build an estimate of total costs. The national scale implies aggregated data collection using secondary sources of information while the local scale implies intensive data collection at blood banking levels. Thus the national level of analysis would be less costly but would most likely provide less reliable and specific information.

All of the numbers used in the models are hypothetical. The numbers were assembled to reflect the percent breakdowns of recurrent and capital costs of three African blood transfusion centres in a study done by Devillé and a Filipino study done by Martin et al.

Each model presents the figures and percentages calculated as well as the equations used for the calculations. The first page of each model illustrates the figures and percentages estimated from the above sources. The second page illustrates the equations used to calculate figures and percentages. For example, for the national scale model, the second page shows that annualized building costs are calculated by dividing the initial costs of the building (B39) by the average lifetime (D39).

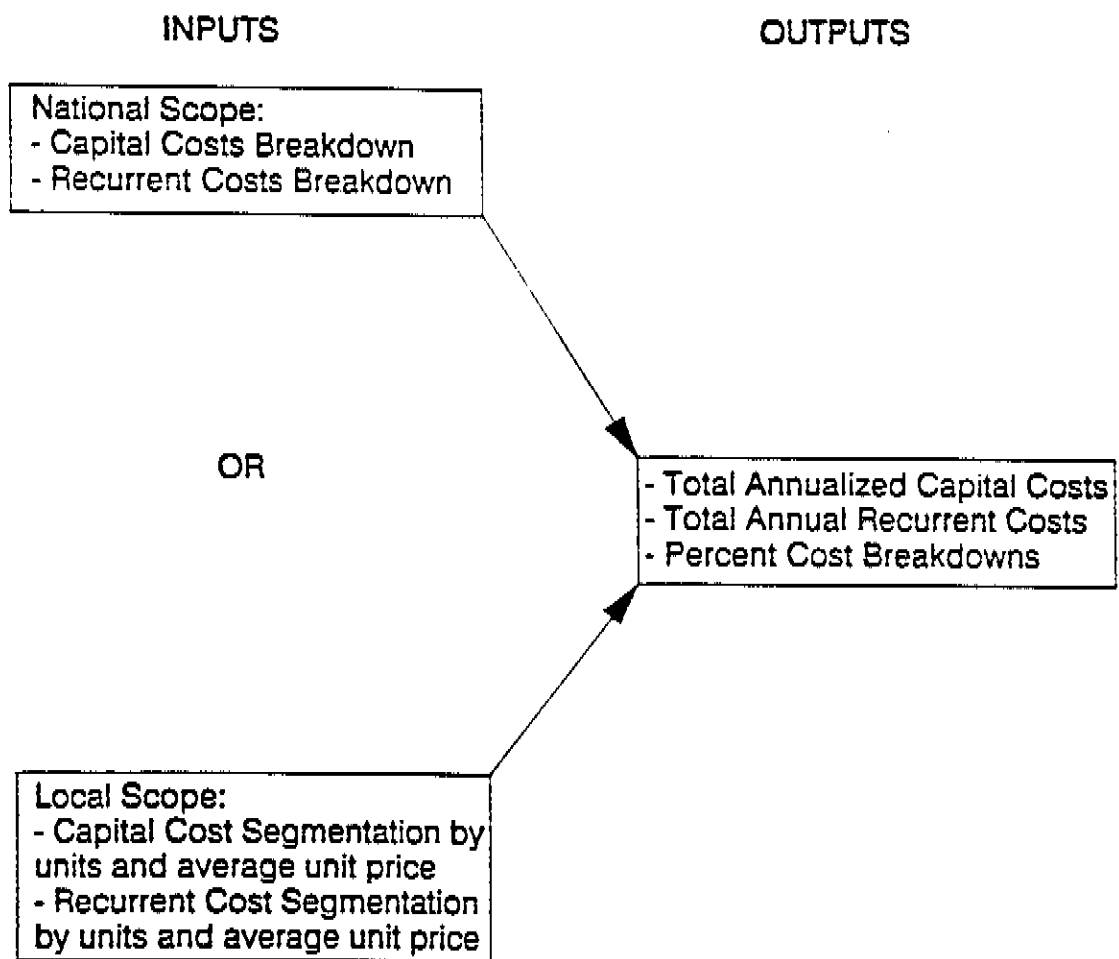
¹ Capital costs incurred in financial setting are paid off over a number of years at a specified interest rate. However, the models used in this consultations used a zero-percent interest rate because the equipment is often donated or be acquired by a no-interest loan may have been offered to the blood transfusion centre. The initial cost (denoted as INITIAL COST) of the capital equipment (or training) may then be divided by the average lifetime of services (denoted as AVG LIFETIME) for that piece of equipment to determine its "annualized cost" (denoted as ANNUAL COST in the model).

TOTAL COST CALCULATION



* Several capital costs have associated recurrent costs.

COST CENTRE CALCULATION



ANNEX 5 (contd)

NATIONAL SCALE

INPUTS	
BUILDING COST (i.e. ownership, rent, or renovation)	\$85,400
MAJOR EQUIPMENT COST (i.e. ownership or rent)	\$40,000
VEHICLE COST (i.e. ownership or rent)	\$6,000
INITIAL PERSONNEL COST (i.e. recruitment, training)	\$1,000
WAGES/SALARIES/CONSULTANTS	\$50,000
SUPPLIES	\$80,000
TRANSPORTATION MAINTENANCE (e.g. fuel, etc.)	\$2,000
PUBLICITY/DONOR RECRUITMENT	\$2,000
UTILITIES	\$4,000
BUILDING/EQUIPMENT MAINTENANCE	\$2,000
DONOR REMUNERATION	\$250

SUMMARY					
CAPITAL COSTS	INITIAL COST /	AVG LIFETIME =	ANNUAL COST	% CAPITAL COSTS	% TOTAL COSTS
BUILDING (i.e. ownership, rent, or renovation)	\$85,400 /	20 =	\$3,270	31.1%	2.5%
MAJOR EQUIPMENT (i.e. ownership or rent)	\$40,000 /	7 =	\$5,714	54.3%	4.4%
VEHICLE (i.e. ownership or rent)	\$6,000 /	5 =	\$1,200	11.4%	0.9%
INITIAL PERSONNEL (i.e. recruitment, training)	\$1,000 /	3 =	\$333	3.2%	0.3%
TOTAL	\$132,400	NA	\$10,518	100.0%	8.0%
RECURRENT COSTS			ANNUAL COST	% RECURRENT COSTS	% TOTAL COSTS
WAGES/SALARIES/CONSULTANTS			\$50,000	41.6%	38.2%
SUPPLIES			\$80,000	49.9%	45.9%
TRANSPORTATION MAINTENANCE (includes fuel, etc.)			\$2,000	1.7%	1.5%
PUBLICITY/DONOR RECRUITMENT			\$2,000	1.7%	1.5%
UTILITIES			\$4,000	3.3%	3.1%
BUILDING/EQUIPMENT MAINTENANCE			\$2,000	1.7%	1.5%
DONOR REMUNERATION			\$250	0.2%	0.2%
TOTAL			\$120,250	100.0%	92.0%
TOTAL COSTS			\$130,768	NA	100.0%

ANNEX 5 (contd)

A	B	C	D	E	F	G	H
6	LOCAL SCALE						
7							
8	SUMMARY						
9	CAPITAL COSTS						
10	BUILDING (i.e. ownership, rent, or renovation)	INITIAL COST /	AVG LIFETIME =		ANNUAL COST	% CAPITAL COSTS	% TOTAL COSTS
11	MAJOR EQUIPMENT (i.e. ownership or rent)	\$85,400 /	20 =		\$3,270	31.1%	2.5%
12	VEHICLES (i.e. ownership or rent)	\$40,000 /	7 =		\$5,714	54.3%	4.4%
13	INITIAL PERSONNEL (i.e. recruitment, training)	\$1,000 /	3 =		\$333	11.4%	0.9%
14	TOTAL	\$112,400	NA		\$10,518	100.0%	8.0%
15	RECURRENT COSTS						
16	WAGES/SALARIES/CONSULTANTS				ANNUAL COSTS	% RECURRENT COSTS	% TOTAL COSTS
17	SUPPLIES				\$50,000	41.6%	38.2%
18	TRANSPORTATION MAINTENANCE (i.e. fuel, etc.)				\$60,000	49.9%	45.9%
19	PUBLICITY/DONOR RECRUITMENT				\$2,000	1.7%	1.5%
20	UTILITIES				\$2,000	1.7%	1.5%
21	BUILDING/EQUIPMENT MAINTENANCE				\$4,000	3.3%	3.1%
22	DONOR REMUNERATION				\$2,000	1.7%	1.5%
23	TOTAL				\$250	0.2%	0.2%
24	TOTAL COSTS				\$130,768	NA	100.0%
25	INPUTS						
26	CAPITAL COSTS (occurring less than once a year)						
27							
28	BUILDING (i.e. ownership, rent, or renovation)				UNITS ACQUIRED	AVG PRICE PER UNIT	TOTAL COST
29	EQUIVALENT SQUARE FOOT PRICE						\$800
30	SQUARE FEET NEEDED						\$109
31	INITIAL BUILDING COST						\$85,400
32	MAJOR EQUIPMENT (i.e. ownership or rent)						\$805
33	DONOR BEDS						\$3,184
34	BLOOD SCALES						\$456
35	BENCH CENTRIFUGE						\$242
36	MICROSCOPE						\$301
37	INCUBATOR						\$389
38	REFRIGERATOR						\$2,120
39	FREEZERS						\$571
40	GENERATOR						\$268
41	VOLTAGE STABILIZER						\$255
42	CONTAINERS						\$151
43	LAB SCALES						\$537
44	AUTOCLAVES						\$268
45	DEIONIZER						\$12,478
46	LAB FURNITURE						\$4,133
47	OFFICE FURNITURE						\$1,342
48	TYPEWRITER						\$1,342
49	PHOTOMETER						\$2,684
50	STERILIZERS						\$8,454
51	OTHER						\$40,000
52	TOTAL						\$40,000
53	VEHICLES (i.e. ownership or rent)						\$4,000
54	VAN						\$0
55	CAR						\$2,000
56	MOTORBIKES						\$6,000
57	TOTAL						\$1,000
58	INITIAL PERSONNEL						
59	RECRUITMENT						
60	TRAINING						
61	TECHNICAL CONSULTANTS						
62	TOTAL						
63							
64							
65							
66							
67							
68							
69							

NATIONAL SCALE

INPUTS
 BUILDING COST (i.e. ownership, rent, or renovation)
 MAJOR EQUIPMENT COST (i.e. ownership or rent)
 VEHICLE COST (i.e. ownership or rent)
 INITIAL PERSONNEL COST (i.e. recruitment, training)
 WAGES/SALARIES/CONSULTANTS
 SUPPLIES
 TRANSPORTATION MAINTENANCE (e.g. fuel, etc.)
 PUBLICITY/DONOR RECRUITMENT
 UTILITIES
 BUILDING/EQUIPMENT MAINTENANCE
 DONOR REMUNERATION

SUMMARY					
CAPITAL COSTS	INITIAL COST /	AVG LIFETIME =	ANNUAL COST	% CAPITAL COSTS	% TOTAL COSTS
BUILDING (i.e. ownership, rent, or renovation)	/	=			
MAJOR EQUIPMENT (i.e. ownership or rent)	/	=			
VEHICLE (i.e. ownership or rent)	/	=			
INITIAL PERSONNEL (i.e. recruitment, training)	/	=			
TOTAL					
RECURRENT COSTS			ANNUAL COST	% RECURRENT COSTS	% TOTAL COSTS
WAGES/SALARIES/CONSULTANTS					
SUPPLIES					
TRANSPORTATION MAINTENANCE (includes fuel, etc.)					
PUBLICITY/DONOR RECRUITMENT					
UTILITIES					
BUILDING/EQUIPMENT MAINTENANCE					
DONOR REMUNERATION					
TOTAL					
TOTAL COSTS					

ANNEX 5 (contd)

NATIONAL SCALE

INPUTS	
BUILDING COST (i.e. ownership, rent, or renovation)	\$25,400
MAJOR EQUIPMENT COST (i.e. ownership or rent)	\$40,000
VEHICLE COST (i.e. ownership or rent)	\$8,000
INITIAL PERSONNEL COST (i.e. recruitment, training)	\$1,000
WAGES/SALARIES/CONSULTANTS	\$50,000
SUPPLIES	\$80,000
TRANSPORTATION MAINTENANCE (e.g. fuel, etc.)	\$2,000
PUBLICITY/DONOR RECRUITMENT	\$2,000
UTILITIES	\$4,000
BUILDING/EQUIPMENT MAINTENANCE	\$2,000
DONOR REMUNERATION	\$250

SUMMARY		INITIAL COST /	AVG LIFETIME =	ANNUAL COST	% CAPITAL COSTS	% TOTAL COSTS
CAPITAL COSTS						
BUILDING (i.e. ownership, rent, or renovation)	+B24	/	20	=+B39/D39	+F39/F\$43	+F39/F\$55
MAJOR EQUIPMENT (i.e. ownership or rent)	+B25	/	7	=+B40/D40	+F40/F\$43	+F40/F\$55
VEHICLE (i.e. ownership or rent)	+B26	/	5	=+B41/D41	+F41/F\$43	+F41/F\$55
INITIAL PERSONNEL (i.e. recruitment, training)	+B27	/	3	=+B42/D42	+F42/F\$43	+F42/F\$55
TOTAL	@SUM(B42..B39)		NA	@SUM(F42..F39)	+F43/F\$43	+F43/F\$55
RECURRENT COSTS				ANNUAL COST	% RECURRENT COSTS	% TOTAL COSTS
WAGES/SALARIES/CONSULTANTS				+B28	+F45/F\$53	+F45/F\$55
SUPPLIES				+B29	+F47/F\$53	+F47/F\$55
TRANSPORTATION MAINTENANCE (includes fuel, etc.)				+B30	+F48/F\$53	+F48/F\$55
PUBLICITY/DONOR RECRUITMENT				+B31	+F49/F\$53	+F49/F\$55
UTILITIES				+B32	+F50/F\$53	+F50/F\$55
BUILDING/EQUIPMENT MAINTENANCE				+B33	+F51/F\$53	+F51/F\$55
DONOR REMUNERATION				+B34	+F52/F\$53	+F52/F\$55
TOTAL				@SUM(F52..F46)	+F53/F\$53	+F53/F\$55
TOTAL COSTS				+F53 + F43		NA +F55/F\$55

ANNEX 5 (contd)

LOCAL SCALE

SUMMARY					
CAPITAL COSTS					
	INITIAL COST /	AVG LIFETIME =	ANNUAL COST	% CAPITAL COSTS	% TOTAL COSTS
BUILDING (i.e. ownership, rent, or renovation)	/	=			
MAJOR EQUIPMENT (i.e. ownership or rent)	/	=			
VEHICLES (i.e. ownership or rent)	/	=			
INITIAL PERSONNEL (i.e. recruitment, training)	/	=			
TOTAL					
RECURRENT COSTS					
			ANNUAL COSTS	% RECURRENT COSTS	% TOTAL COSTS
WAGES/SALARIES/CONSULTANTS					
SUPPLIES					
TRANSPORTATION MAINTENANCE (i.e. fuel, etc.)					
PUBLICITY/DONOR RECRUITMENT					
UTILITIES					
BUILDING/EQUIPMENT MAINTENANCE					
DONOR REMUNERATION					
TOTAL					
TOTAL COSTS					

INPUTS			
CAPITAL COSTS (occurring less than once a year)			
	UNITS ACQUIRED	AVG PRICE PER UNIT	TOTAL COST
BUILDING (i.e. ownership, rent, or renovation)			
EQUIVALENT SQUARE FOOT PRICE			
SQUARE FEET NEEDED			
INITIAL BUILDING COST			
MAJOR EQUIPMENT (i.e. ownership or rent)			
DONOR BEDS			
BLOOD SCALES			
BENCH CENTRIFUGE			
MICROSCOPE			
INCUBATOR			
REFRIGERATOR			
FREEZERS			
GENERATOR			
VOLTAGE STABILIZER			
CONTAINERS			
LAB SCALES			
AUTOCLAVES			
DEIONIZER			
LAB FURNITURE			
OFFICE FURNITURE			
TYPEWRITER			
PHOTOMETER			
STERILIZERS			
OTHER			
TOTAL			
VEHICLES (i.e. ownership or rent)			
VAN			
CAR			
MOTORBIKES			
TOTAL			
INITIAL PERSONNEL			
RECRUITMENT			
TRAINING			
TECHNICAL CONSULTANTS			
TOTAL			

LOCAL SCALE (continued)

INPUTS	UNITS ACQUIRED (OR # PERSONNEL)	AVG PRICE PER UNIT (OR PER WORKER)	TOTAL COST
RECURRENT COSTS (OCCURRING MORE THAN ONCE A YEAR)			
WAGES/SALARIES/CONSULTANTS			
PHYSICIAN			
LAB TECHS			
NURSES			
DONOR ATTENDEES			
OFFICE WORKERS			
STATISTICIAN			
UNSKILLED WORKERS			
DRIVERS			
TECHNICAL ADVISORS			
TOTAL			
SUPPLIES (includes freight and delivery expense)			
IV EQUIPMENT			
PLASTIC COLLECTION PACKS			
TOURNIQUETS			
PROTECTIVE CLOTHING			
GLASSWARE			
ABO REAGENTS			
Rh REAGENTS			
HIV REAGENTS			
HEPATITIS B REAGENTS			
MALARIA REAGENTS			
SYPHILIS REAGENTS			
OTHER			
TOTAL			
TRANSPORTATION			
FUEL			
SPARE PARTS			
VEHICLE REPAIR			
VEHICLE MAINTENANCE			
TOTAL			
PUBLICITY/DONOR RECRUITMENT			
ORAL COMMUNICATION			
WRITTEN COMMUNICATION			
MASS MEDIA			
YOUTH EDUCATION			
DONOR EDUCATION			
TOTAL			
UTILITIES			
ELECTRICITY			
WATER			
TELEPHONE			
SEWER			
TOTAL			
BUILDING/EQUIPMENT MAINTENANCE			
REPAIR			
CLEANING			
STERILIZATION			
TOTAL			
DONOR REMUNERATION			
CASH			
SNACKS/MEMORABILIA			
TOTAL			

A	B	C	D	E	F	G	H	
6	LOCAL SCALE							
7								
8	SUMMARY							
9	CAPITAL COSTS							
10	BUILDING (i.e. ownership, rent, or renovation)	+H34	/	20	= B10/D10	+F10/SF24	+F10/SF26	
11	MAJOR EQUIPMENT (i.e. ownership or rent)	+H56	/	7	= B11/D11	+F11/SF24	+F11/SF26	
12	VEHICLES (i.e. ownership or rent)	+H62	/	5	= B12/D12	+F12/SF24	+F12/SF26	
13	INITIAL PERSONNEL (i.e. recruitment, training)	+H68	/	3	= B13/D13	+F13/SF24	+F13/SF26	
14	TOTAL	@SUM(B13..B10)		NA	@SUM(F13..F10)	+F14/SF24	+F14/SF26	
15								
16	RECURRENT COSTS							
17	WAGES/SALARIES/CONSULTANTS					ANNUAL COSTS % RECURRENT COSTS	% TOTAL COSTS	
18	SUPPLIES	+H86				+F17/SF24	+F17/SF26	
19	TRANSPORTATION MAINTENANCE (i.e. fuel, etc.)	+H101				+F18/SF24	+F18/SF26	
20	PUBLICITY/DONOR RECRUITMENT	+H108				+F19/SF24	+F19/SF26	
21	UTILITIES	+H116				+F20/SF24	+F20/SF26	
22	BUILDING/EQUIPMENT MAINTENANCE	+H123				+F21/SF24	+F21/SF26	
23	DONOR REMUNERATION	+H129				+F22/SF24	+F22/SF26	
24	TOTAL	+H134				+F23/SF24	+F23/SF26	
25		@SUM(F23..F17)				+F24/SF24	+F24/SF26	
26	TOTAL COSTS				+F24+F14		NA +F26/SF26	
27								
28	INPUTS							
29	CAPITAL COSTS (occurring less than once a year)							
30								
31	BUILDING (i.e. ownership, rent, or renovation)				UNITS ACQUIRED	AVG PRICE PER UNIT	TOTAL COST	
32	EQUIVALENT SQUARE FOOT PRICE						600	
33	SQUARE FEET NEEDED						109	
34	INITIAL BUILDING COST						+H32*H33	
35								
36	MAJOR EQUIPMENT (i.e. ownership or rent)							
37	DONOR BEDS						805 09896008051	
38	BLOOD SCALES						3193 55920831936	
39	BENCH CENTRIFUGE						456 222744045622	
40	MICROSCOPE						241 529688024153	
41	INCUBATOR						201 274740020127	
42	REFRIGERATOR						369 131164036913	
43	FREEZERS						2120 09392821201	
44	GENERATOR						670 915800067092	
45	VOLTAGE STABILIZER						268 366320026837	
46	CONTAINERS						254 048004025495	
47	LAB SCALES						161 018792016102	
48	AUTOCLAVES						536 732640053673	
49	DEIONIZER						268 366320026837	
50	LAB FURNITURE						12479 0338812479	
51	OFFICE FURNITURE						4132 84132841328	
52	TYPEWRITER						1341 83160013418	
53	PHOTOMETER						1341 83160013418	
54	STERILIZERS						2683 66320026837	
55	OTHER						8453 83908084535	
56	TOTAL						@SUM(H55..H37)	
57								
58	VEHICLES (i.e. ownership or rent)							
59	VAN						4000	
60	CAR						0	
61	MOTORBIKES						2000	
62	TOTAL						@SUM(H61..H59)	
63								
64	INITIAL PERSONNEL							
65	RECRUITMENT							
66	TRAINING							
67	TECHNICAL CONSULTANTS							
68	TOTAL						1000	
69								

A	B	C	D	E	F	G	H	
70	LOCAL SCALE (continued)							
71	INPUTS							
72	RECURRENT COSTS (OCCURRING MORE THAN ONCE A YEAR)							
73								
74								
75								
76	WAGES/SALARIES/CONSULTANTS							
77	PHYSICIAN							
78	LAB TECHS							
79	NURSES							
80	DONOR ATTENDEES							
81	OFFICE WORKERS							
82	STATISTICIAN							
83	UNSKILLED WORKERS							
84	DRIVERS							
85	TECHNICAL ADVISORS							
86	TOTAL						60000	
87								
88	SUPPLIES (includes freight and delivery expenses)							
89	IV EQUIPMENT							
90	PLASTIC COLLECTION PACKS							
91	TOURNIQUETS							
92	PROTECTIVE CLOTHING							
93	GLASSWARE							
94	ABO REAGENTS							
95	RH REAGENTS							
96	HIV REAGENTS							
97	HEPATITIS B REAGENTS							
98	MALARIA REAGENTS							
99	SYPHILIS REAGENTS							
100	OTHER							
101	TOTAL						60000	
102								
103	TRANSPORTATION							
104	FUEL							
105	SPARE PARTS							
106	VEHICLE REPAIR							
107	VEHICLE MAINTENANCE							
108	TOTAL						2000	
109								
110	PUBLICITY/DONOR RECRUITMENT							
111	ORAL COMMUNICATION							
112	WRITTEN COMMUNICATION							
113	MASS MEDIA							
114	YOUTH EDUCATION							
115	DONOR EDUCATION							
116	TOTAL						2000	
117								
118	UTILITIES							
119	ELECTRICITY							
120	WATER							
121	TELEPHONE							
122	SEWER							
123	TOTAL						4000	
124								
125	BUILDING/EQUIPMENT MAINTENANCE							
126	REPAIR							
127	CLEANING							
128	STERILIZATION							
129	TOTAL						2000	
130								
131	DONOR REMUNERATION							
132	CASH						0	
133	SNACKS/MEMORABILIA						250	
134	TOTAL							

@SUM0133..H132)