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APPENDICES

APPENDIX A

General Information

Table A1 Annualization Factor

Expected useful life in years	Discount Rate										
	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	1.850	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626
3	2.723	2.673	2.624	2.577	2.531	2.987	2.444	2.402	2.361	2.322	2.282
4	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855
5	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352
6	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784
7	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160
8	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487
9	7.108	6.802	6.515	6.247	5.995	5.759	5.535	5.328	5.132	4.946	4.772
10	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019
11	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	5.687	5.453	5.234
12	8.863	8.364	7.943	7.536	7.161	6.814	6.492	6.194	5.918	5.660	5.421
13	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	6.122	5.842	5.583
14	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	6.302	6.002	5.724
15	10.380	9.712	9.108	8.559	8.061	7.606	7.191	6.811	6.462	6.142	5.847
16	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	6.604	6.265	5.954
17	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	6.729	6.373	6.047
18	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	6.840	6.467	6.128
19	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	6.938	6.550	6.198
20	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	7.025	6.623	6.259
21	12.821	11.764	10.836	10.017	9.292	8.649	8.075	7.562	7.102	6.687	6.312
22	13.163	12.042	11.061	10.201	9.442	8.772	8.176	7.645	7.170	6.743	6.539
23	13.489	12.303	11.272	10.371	9.580	8.883	8.266	7.718	7.230	6.792	6.399
24	13.799	12.550	11.469	10.529	9.707	8.985	8.348	7.784	7.283	6.835	6.434
25	14.094	12.783	11.654	10.675	9.823	9.077	8.422	7.843	7.330	6.873	6.464
26	14.375	13.003	11.826	10.810	9.929	9.161	8.488	7.896	7.372	6.906	6.491
27	14.643	13.211	11.987	10.935	10.027	9.237	8.548	7.943	7.409	6.935	6.514
28	14.898	13.406	12.137	11.051	10.116	9.307	8.602	7.984	7.441	6.961	6.534
29	15.141	13.591	12.278	11.158	10.198	9.370	8.650	8.022	7.470	6.983	6.551
30	15.377	13.765	12.409	11.258	10.274	9.427	8.694	8.055	7.496	7.003	6.566

Source: Creese & Parker, 1994

Table A2 Socio-Demographic Indicators

Population	11,700,487
Male	48.19 %
Female	51.81 %
Sex Ratio – male for 100 females	93.00
Distribution of population by age group	
0 – 4 years	12.80 %
5 – 14 years	30.00 %
15 – 64 years	53.70 %
> 64 years	3.50 %
Number of households	2,188,663
Average household size	5.2
Percentage of female ages 15 – 49 years (total population)	30.00 %
Population growth rate	2.49 %
Crude Death Rate (per 1,000)	12 ‰
Crude Birth Rate (per 1,000)	38 ‰
Total Fertility Rate	5.3
Density (person per square Km)	64
Urban population	17.70 %
Rural population	84.30 %
Health	
Under 5 Mortality Rate in 1999 (per 1,000 live births)	115
Infant Mortality Rate in 1999 (per 1,000 live births)	80
Maternal Mortality Rate in 1997 (per 100,000 live births)	473
Percentage of modern contraception practice (% of married women)	19.9 %
Life expectancy at birth Male	54.4
Life expectancy at birth Female	58.3
Education	
Percentage of adult literates	79.50 %
Percentage of female adult literates	57.00 %
Percentage of male adult literates	67.30 %
Economy	
Government budget planning for health (US\$ per capita, running cost)	2.7
GDP per capita in 2001 (US\$)	283
GNP per capita (US\$)	344
Household expenditure on health per capita (US\$ per capita in 2001)	36
Percentage of population under poverty line	36 %

Source: National Health Statistic Report, 2000

Appendix B

Basic Data

Table B1 Number of Staff with Different Qualification of Sotnikum Hospital

		MD	MA	Phar	Denti st	Nurse	MW	Non- tech	Cleaner	Total
No	Admin-Accounting	0	0	1	0	4	0	2	8	15
1	ICU (inc. OPD)	0	2	0	0	6	0	0	2	10
2	Surgery-dressing	3	0	0	0	4	0	0	2	9
3	GO	0	1	0	0	0	3	0	1	5
4	Gen. Med.	3	0	0	0	4	1	0	2	10
5	Pediatrics	0	1	0	0	0	1	0	1	3
6	TB	1	0	0	0	2	0	0	0	3
7	Pharmacy	0	0	0	0	1	1	0	0	2
8	Laboratory	0	0	0	0	3	0	1	0	4
9	Dentistry	0	0	0	1	0	0	0	0	1
10	X-Ray, US	0	0	0	0	0	0	0	0	0
	Total	7	4	1	1	24	6	3	16	62

Table B2 Number of Staff with Different Qualification of Kralanh Hospital

		MD	MA	Phar	Dentist	Nurse	MW	Non- tech	Cleaner	Total
No	Admin-Accounting	0	0	0	0	1	0	1	9	11
1	ICU (inc. OPD)	0	1	0	0	1	0	0	0	2
2	Surgery-dressing	1	0	0	0	2	0	1	0	4
3	GO	1	0	0	0	0	2	1	0	4
4	Gen. Med.	2	0	0	0	1	0	0	0	3
5	Pediatrics	1	0	0	0	1	0	0	0	2
6	TB	0	0	0	0	3	0	0	0	3
7	Pharmacy	0	0	0	0	1	1	0	0	2
8	Laboratory	0	0	0	0	2	0	0	0	2
9	Dentistry	0	0	0	1	0	0	0	0	1
10	X-Ray, US	0	0	0	0	1	0	0	0	1
	Total	5	1	0	1	13	3	3	9	35

Table B3 Basic Building Costs of Sotnikum Hospital

No	Building	Space (m ²)	Life time (n year) ¹	Cost (Ct) (US\$)	Year of construction or renovation(t)
1	CFDS office (wooden) ²	26.04	10	781.20	1996
2	ICU (concrete) ³	128.29	25	14,111.90	2001
3	OPD (concrete)	39.15	25	4,306.50	2001
4	Pharmacy	94.86	25	10,434.60	1998
5	Surgery	442.47	25	48,671.70	2000
6	GO include dressing	169.40	25	18,634.00	1998
7	Administration	261	25	28,710.00	2002
8	Gen. Med. + Pediatrics	384	25	42,240.00	2000
9	Store for kitchen (wooden)	10.72	10	321.60	1996
10	Kitchen	10.72	25	1,179.20	2002
11	Toilet for GO and dressing ⁴	42.75	15	2,992.50	1999
12	Housekeeper (wooden)	195.09	10	5,852.70	2002
13	TB-A (wooden)	149.73	10	4,491.90	1996
14	TB-B (wooden)	149.73	10	4,491.90	1996
15	Toilet for Gen. Med.	36.88	15	2,581.60	2002
16	Kitchen for TB	17.64	25	1,234.80	2000
17	Water-keeper	13.82	25	967.40	2000
18	Toilet for TB	43.66	10	3,056.20	1999
19	Workshop	72.25	25	7,947.50	2001
20	House for death body (wooden)	14	10	420.00	1999
21	Incinerator	29.44	10	2,060.80	2000

Notes: ¹ This lifetime is the hypothetical assumption among hospital management committee members based on their experiences.

² Wooden building: the whole building cost is about US\$ 25 – 30 per m² according to types of building.

³ Concrete building with foundation: the whole building cost is about US\$ 110 per m²

⁴ Concrete building without foundation: the whole building cost is about US\$ 70 per m²

Table B4 Basic Building Cost of Kralanh Hospital

No	Building	Space (m ²)	Life time (n year)	Cost (Ct) (US\$)	Year of construction or renovation(t)
1	Admin, OPD and Dentistry (Concrete)	144.00	25	15,840.00	2002
2	Pharmacy, Echo and Pediatrics (Concrete)	288.00	25	31,680.00	1990
3	Gen. Medicine (Concrete)	80.00	25	8,800.00	2002
4	Gynecology and Obstetrics (Concrete)	231.24	25	25,436.40	2000
5	X-Ray and Surgery (Concrete)	264.04	25	29,044.40	2000
6	Post-operation and surgery (Concrete)	304.70	25	33,517.00	2001
7	ICU and Laboratory (Concrete)	218.40	25	24,024.00	2000
8	Hematology (Concrete)	92.04	25	10,124.40	2000
9	Workshop (Concrete)	84.70	25	9,317.00	2001
10	TB (Concrete)	352.00	25	38,720.00	1999
11	Food store for TB-Hensen (Wooden)	87.50	15	2,187,50	1981

Source: Hospital inventory list

Appendix C
Analysis Results

Table C1 Key Indicators of Sotnikum and Kralanh Hospitals

	Indicator	Sotnikum	Kralanh
1	Population covered	233,363	101,208
2	Target population ¹	210,027 (90%)	101,208
3	Distance from the provincial town	30Km	50Km
4	Total IPD admissions	3,698	1,136
5	Total IPD discharged	3,628	969
6	Cured rate	98.1%	85.3%
7	# of patient days	35,192	10,175
8	Total OPD (exclude TB and lab. services)	1,733	1,219
9	Total OPD visits include laboratory activities	3,532	2,619
10	Total OPD new cases	2,826	2,095
11	Total patients (IPD discharged + OPD visited)	5,361	2,355
12	Number of hospital beds	120	79
13	Bed Occupancy Rate (BOR) ²	95.9 %	83.2%
14	Average Length of Stay (ALOS)	9.7	10.5
15	Number of staff	62	35
16	Number of population per hospital bed	1,945	1,281
17	Number of inpatients/staff	58.52	32.46
18	Number of total patients/staff	87.60	74.83
19	‰ of population with access to IPD service	17.6 ‰	11.22 ‰
20	Total expenditure on bonus	56,396	2,886
21	Average bonus expenditure per staff	909.61	82.46
22	Average staff expenditure	1,387	354
23	Typical bonus range: lowest – highest	420 – 1,872	N/A

Notes: ¹ Target population = (total population in the catchment area) – (population covered by Kg. Kdei HC that can accept admission cases about 10%). 10% of population was covered by Kg. Kdei health center because it accepted 416 admissions in 2002.

² There is no standard for this indicator because it varies from place to place, but allows for comparison between facilities. It was calculated from: $[(\text{Total \# discharges} \times \text{ALOS}) \div (\text{\# of beds} \times 365)] \times 100$. Factors such as long-stay inpatients affect indicator because the ALOS is used in the calculation.

Table C2 Building Cost of Sotnikum Hospital, 2002By using the interest rate $r = 10\%$

No	Building	Space (m2)	Life Time (years)	Price (US\$)	Year of Constr or Renovation	Value in 2002	Annualization Factor	Annual Economic Cost (US\$)	%
Space related cost									
1	CFDS office (wooden)	26.04	20	651.0	1,996	1,153.3	8.514	135.5	
2	Kitchen (concrete)	28.36	30	1,985.2	2,002	1,985.2	9.427	210.6	
3	Toilets (concrete)	123.29	20	8,630.3	1,999	11,486.9	8.514	1,349.2	
4	Warehouse (wooden)	195.09	20	5,462.5	2,002	5,462.5	8.514	641.6	
5	Water keeper (concrete)	13.82	20	691.0	2,000	836.1	8.514	98.2	
6	Workshop (concrete)	72.25	30	5,057.5	2,001	5,563.3	9.427	590.1	
7	House for death body (wooden)	14.00	20	350.0	1,999	465.9	8.514	54.7	
8	Incinerator (concrete)	29.44	20	2,060.8	2,000	2,493.6	8.514	292.9	
	Total 1	502.29		24,888.3		29,446.7		3,372.8	12.7
Administration									
9	Administration (concrete)	261.00	30	28,710.0	2,002	28,710.0	9.427	3,045.5	
	Total 2	261.00		28,710.0		28,710.0		3,045.5	11.4
IPD Service									
10	ICU (concrete)	128.29	30	14,111.9	2,001	15,523.1	9.427	1,646.7	
11	Bloc, Lab, US, X-Ray and BB (concrete)	442.47	30	48,671.7	2,000	58,892.8	9.427	6,247.2	
12	GO + Surgery (concrete)	169.40	30	18,634.0	1,998	27,282.0	9.427	2,894.0	
13	Gen Med + Pediatrics (concrete)	384.00	30	42,240.0	2,000	51,110.4	9.427	5,421.7	
14	TB-A (wooden)	149.73	20	4,491.9	1,996	7,957.7	8.514	934.7	
15	TB-B (wooden)	149.73	20	4,491.9	1,996	7,957.7	8.514	934.7	
16	Other	78.86	30	8,674.6	1,998	12,700.5	9.427	1,347.2	
	Total 3	1,502.48		141,316.0		181,424.1		19,426.2	73.0
OPD Service									
17	OPD and Reception (concrete)	39.15	30	4,306.5	2,001	4,737.2	9.427	502.5	
18	OPD Pharmacy (concrete)	16.00	30	1,760.0	1,998	2,576.8	9.427	273.3	
	Total 4	55.15		6,066.5		7,314.0		775.9	2.9
	GRANT TOTAL	2,320.92		200,980.8		246,894.8		26,620.3	100.0

Table C3 Building Cost of Kralanh Hospital, 2002By using the interest rate $r = 10\%$

No	Building	Space (m2)	Life Time (years)	Price (US\$)	Year of Constr or Renovation	Value in 2002	Annualization Factor	Annual Economic Cost (US\$)	%
Space related cost									
1	Workshop (concrete)	84.70	30	9,317.0	2,001	10,248.7	9.427	1,087.2	
2	Food store (wooden)	87.50	20	2,187.5	1,982	14,721.9	8.514	1,729.1	
	Total 1	172.20		11,504.5		24,970.6		2,816.3	7.9
Administration									
3	Administration (concrete)	112.00	30	12,320.0	2,002	12,320.0	9.427	1,306.9	
	Total 2	112.00		12,320.0		12,320.0		1,306.9	3.7
IPD Service									
4	General Medicine (concrete)	80.00	30	8,800.0	2,002	8,800.0	9.427	933.5	
5	GO (concrete)	231.24	30	25,436.4	2,000	30,778.0	9.427	3,264.9	
6	X-Ray and Operation theater (concrete)	264.04	30	29,044.4	2,000	35,143.7	9.427	3,728.0	
7	Echography and Pediatrics (concrete)	260.00	30	28,600.0	1,990	89,804.0	9.427	9,526.3	
8	Poseperation and surgery (concrete)	304.70	30	33,517.0	2,001	36,868.7	9.427	3,911.0	
9	ICU and Laboratory (concrete)	218.40	30	24,024.0	2,000	29,069.0	9.427	3,083.6	
10	TB (concrete)	352.00	30	39,667.0	1,999	52,796.8	9.427	5,600.6	
	Total 3	1,710.38		189,088.8		283,260.3		30,047.8	84.5
OPD Service									
11	OPD and Reception (concrete)	32.00	30	3,520.0	2,002	3,520.0	9.427	373.4	
12	OPD Pharmacy (concrete)	28.00	30	3,080.0	1,990	9,671.2	9.427	1,025.9	
	Total 4	60.00		6,600.0		13,191.2		1,399.3	3.9
	GRANT TOTAL	2,054.58		219,513.3		333,742.1		35,570.3	100.0

Notes: 1 Life time of the equipment was obtained by discussing with the hospital management committee members according to their experiences.

2 The current value of these equipment were calculated using following formula: $C_{2002} = C_t (1 + r)^{2002-t}$

3 Annual economic cost of these capital items were calculated by dividing the current value (value in year 2002) of these items by annualization factor obtained from the standard table.

Table C4 Equipment Cost of Kralanh Hospital, 2002

Equipment	Quantity	Life Time (n year)	Purchase/ Price (Ct): in US\$	Purchased/ Received Year (t)	Value in 2002	Annualization Factor	Annual Economic Cost (US\$)
X-Ray machine	1	15	30,535.00	2001	33,588.50	7.606	4,416.05
Instrument for delivery, laboratory and surgery	Mix	3	4,500.00	2001	4,950.00	2.487	1,990.35
Medical equipment	Mix	3	4,860.32	2001	5,346.35	2.487	2,149.72
Small surgery equipment	Mix	3	6,306.91	2002	6,306.91	2.487	2,535.95
Medical equipment-beds	Mix	3	4,007.77	2002	4,007.77	2.487	1,611.49
Equipment for surgery-lab.	Mix	3	1,032.89	2002	1,032.89	2.487	415.31
Doppler FD300	1	10	799.29	2002	799.29	6.145	130.07
Ultrasound machine	1	10	12,618.00	2002	12,618.00	6.145	2,053.38
Portable aspirator	1	5	186.00	2002	186.00	3.791	49.06
Examining light, stand type, mobile	1	5	162.00	2002	162.00	3.791	42.73
Mistral Hot Air Sterilizer	1	5	432.00	2002	432.00	3.791	113.95
Apparatus anesthesia + accessories	1	10	5,760.00	2002	5,760.00	6.145	937.35
Aspirator electric 220V	1	5	1,554.00	2002	1,554.00	3.791	409.92
Portable aspirator, foot operated	1	5	186.00	2002	186.00	3.791	49.06
Electro-surgical unit 220V	1	5	1,188.00	2002	1,188.00	3.791	313.37
Light operating ceiling mount 220V	1	10	3,480.00	2002	3,480.00	6.145	566.31
Light operating emergency free stand type	1	10	3,576.00	2002	3,576.00	6.145	581.94
Light operating stand type mobile	2	5	324.00	2002	324.00	3.791	85.47
Multi-parameter portable patient monitor	1	10	4,788.00	2002	4,788.00	6.145	779.17
Sterilizer, Dressing, 39L	1	10	150.00	2002	150.00	6.145	24.41
Operating table	1	10	1,230.00	2002	1,230.00	6.145	200.16
Other equipment	Mix	3	3,073.06	2002	3,073.06	2.487	1,235.65
Refrigerator	1	10	1,596.00	2002	1,596.00	6.145	259.72
Microscope, binocular, double system	1	5	250.00	2002	250.00	3.791	65.95
Pipette, Paster (1000 units)	1	5	106.25	2002	106.25	3.791	28.03
Water filter	1	5	331.25	2002	331.25	3.791	87.38
Centrifuge, electric, bench model	1	5	319.00	2002	319.00	3.791	84.15
Centrifuge, micro-haematocrite	1	5	219.00	2002	219.00	3.791	57.77
Other equipment	Mix	3	456.85	2002	456.85	2.487	183.70
Generator 5KWA YAMAHA	1	15	795.50	1990	2,496.62	6.145	406.28
Furniture	Mix	7	1,949.50	2001	2,144.45	4.868	440.52
Furniture and other equipment with bad condition	Mix	N/A	2,644.00	N/A	N/A	N/A	793.16
Other furniture and equipment	Mix	3	3,472.00	2001	3,819.20	2.487	1,535.67
TOTAL =			102,888.58		106,477.39		24,633.19

Notes: Furnitures and other equipment with bad condition didn't have any information on the inventory list for this calculation, they have just only the latest evaluation condition. But even the evaluation results showed that they were bad condition, some of them still have value. So the latest value was about 30% of the original prices.

Table C5 Equipment Cost of Sotrnikum Hospital, 2002

Equipment	Quantity	Life Time (n year)	Purchase/ Price (Ct): in US\$	Purchased/ Received Year (t)	Value in 2002	Annualization Factor	Annual Economic Cost (US\$)
X-Ray machine Model DFX-50 Unit	1	15	12,127.73	1999	16,142.00	7.606	2,122.27
Electro-Surgical Unit	1	10	5,848.62	1999	7,784.51	6.145	1,266.80
Anesthesia Apparatus Unit	1	10	9,599.66	1999	12,777.15	6.145	2,079.28
Bed Labor & Delivery W/RPCS Mattress Set	1	10	443.44	1999	590.22	6.145	96.05
Operating Light (9000 HC) Unit	1	10	2,932.35	1999	3,902.96	6.145	635.14
Pulvarisator for Desinfektion Unit	1	10	2,025.53	1999	2,695.97	6.145	438.73
Operating Table Model KIP-B100 Unit	1	10	1,724.94	1999	2,295.90	6.145	373.62
Vacuum Extractor Menox Piece	1	10	390.00	1999	519.09	6.145	84.47
Table Anesthesia on Caster & Tray Set	1	5	154.01	1999	204.99	3.791	54.07
Table Instrument Set	1	5	80.43	1999	107.05	3.791	28.24
Otoscope Set None	3	5	102.15	1999	135.96	3.791	35.86
Equipment Set Mix	Mix	5	11,315.69	1999	15,061.18	3.791	3,972.88
Equipment Set Mix	Mix	3	1,067.15	1999	1,420.38	2.487	571.12
Desktop Computer + its accessory	Set	5	800.00	2000	968.00	3.791	255.34
Printer Deskjet 520	1	2	50.00	2000	60.50	1.736	34.85
Laptop TOSHIBA Satellite T2130C5; 100S	1	2	300.00	2000	363.00	1.736	209.10
X-Ray accessories	Mix	5	3,296.55	2000	3,988.82	3.791	1,052.18
Patient transfered table	1	5	300.00	2000	363.00	3.791	95.75
Equipment set for OT	Mix	5	1,372.60	2000	1,660.85	3.791	438.10
Surgical equipment set	Mix	5	10,319.23	2000	12,486.27	3.791	3,293.66
O2 Concentrator	1	10	2,475.00	2000	2,994.75	6.145	487.35
SaO2 Monitor	1	10	2,188.00	2000	2,647.48	6.145	430.83
Operating light	1	10	1,000.00	2000	1,210.00	6.145	196.91
Autoclave	1	10	8,600.00	2000	10,406.00	6.145	1,693.41
Medical and paramedical equipment	Mix	3	265.10	2000	320.77	2.487	128.98
Electronic Centrifuge + Haemoklukotest	Mix	5	572.78	2000	693.06	3.791	182.82
MW KITs	Mix	3	98.27	2000	118.91	2.487	47.81
Equipment Set Mix	Mix	10	1,808.20	2001	2,406.71	6.145	391.65
Equipment Set Mix	Mix	5	2,505.85	2001	3,335.28	3.791	879.79
Equipment Set Mix	Mix	3	546.27	2001	727.09	2.487	292.35
Bone-Pin set (Equipment for OT)	Mix	5	307.33	2001	338.06	3.791	89.18
Microscope Olympus	1	10	800.00	2001	880.00	6.145	143.21
Invertor	1	3	120.00	2001	132.00	2.487	53.08
Office table and chairs	Mix	3	60.00	2001	66.00	2.487	26.54
Surgical equipment box	Mix	3	236.61	2001	260.27	2.487	104.65
Furniture set	Mix	7	4,620.00	2001	5,082.00	4.868	1,043.96
Baby Resuscitation Tables	2	3	158.00	2001	173.80	2.487	69.88

Table C5 (Cont.)

Equipment	Quantity	Life Time (n year)	Purchase/ Price (Ct): in US\$	Purchased/ Received Year (t)	Value in 2002	Annualization Factor	Annual Economic Cost (US\$)
Medical-Surgical equipment/supplies	Mix	2	111.10	2001	122.21	1.736	70.40
Uterine curettes	Mix	3	40.80	2001	44.88	2.487	18.05
Doppler fetus Detector Model KD-250 and accessories	Set	5	1,829.00	2001	2,011.90	3.791	530.70
Medical & laboratory equipment set	Mix	3	4,170.70	2002	4,170.70	2.487	1,677.00
Laboratory equipment	Mix	3	78.00	2002	78.00	2.487	31.36
Metal cabinet with 2 glasses's doors	1	5	70.00	2002	70.00	3.791	18.46
Surgical equipment box	Mix	3	255.00	2002	255.00	2.487	102.53
Refrigerator	1	5	1,596.00	2002	1,596.00	3.791	421.00
Emergency & Recovery Trolley (ICCU - Bed)	4	5	756.60	2002	756.60	3.791	199.58
Cabinet for drugs/instruments	1	5	769.55	2002	769.55	3.791	202.99
Stand double-bowl type without bowl	1	5	250.45	2002	250.45	3.791	66.06
Stand single-bowl type without bowl	1	5	159.38	2002	159.38	3.791	42.04
Stretcher, combination wheel and carry	1	5	865.17	2002	865.17	3.791	228.22
Table anesthesia without tray	1	10	500.89	2002	500.89	6.145	81.51
Table instrument MAYO with tray	1	10	250.45	2002	250.45	6.145	40.76
Trolley dressing/dispensing	1	10	314.20	2002	314.20	6.145	51.13
Apparatus abesthesia + accessories	1	10	5,760.00	2002	5,760.00	6.145	937.35
Aspirator electric 220V	1	5	1,554.00	2002	1,554.00	3.791	409.92
Aspirator portable + 2 bottles	1	5	186.00	2002	186.00	3.791	49.06
Electrosurgical unit 220V	1	5	1,188.00	2002	1,188.00	3.791	313.37
Bassin wash shallow 6 litres	2	3	13.20	2002	13.20	2.487	5.31
Cart for oxygen tank	1	3	54.00	2002	54.00	2.487	21.71
Drum, sterilizing, cylindrical, large	1	3	29.76	2002	29.76	2.487	11.97
Forceps intubation MAGILL adult	1	3	11.76	2002	11.76	2.487	4.73
Laryngoscope set of 3 blades	1	5	67.20	2002	67.20	3.791	17.73
Light operating, emergency, free stand type	1	10	3,576.00	2002	3,576.00	6.145	581.94
Light operating, stand type, mobile	1	10	324.00	2002	324.00	6.145	52.73
Negatoscope	1	5	78.00	2002	78.00	3.791	20.58
Multi-parameter portable patient monitor	1	10	4,788.00	2002	4,788.00	6.145	779.17
Sterizer, Dressing, 39L	1	5	150.00	2002	150.00	3.791	39.57
Table operating	1	10	1,230.00	2002	1,230.00	6.145	200.16
MOP bucket (Mop Cart) for cleaning	4	3	284.00	2002	284.00	2.487	114.19
Bins	10	3	161.30	2002	161.30	2.487	64.86
Medical-Surgical equipment	Mix	3	455.20	2002	455.20	2.487	183.03
TOTAL =			122,539.19		149,447.79		30,989.09

Table C6 Vehicle and Machinery Costs of Sotnikum Hospital, 2002

No	Vehicle	Quantity	Working Life (Years)	Received Price (US\$)	Received Date Year	Value in 2002	Annualization Factor	Annual Economic Cost (US\$)
1	Machine YANMA	1	7	1,750.00	1992	-	-	-
2	YANMA Generator	1	7	715.00	1996	-	-	-
3	HONDA Generator	1	7	N/A	1996	-	-	-
4	TOYOTA LANDCRUISER (Second Hand)	1	7	15,000.00	1999	19,965.00	4.868	4,101.27
5	TOYOTA NISSAN (Brand New)	1	15	25,000.00	2000	30,250.00	7.606	3,977.12
6	Motorcycle HONDA Dream C100 (Brand New)	1	7	1,193.50	2000	1,444.14	4.868	296.66
7	Motorcycle SUZUKI (Brand New)	1	7	1,100.00	2000	1,331.00	4.868	273.42
8	HONDA Engine PUMP 3.5 + Water Tank 1000L	1	7	2,000.00	2001	2,200.00	4.868	451.93
9	SDMO Generator 60KWA (Brand New)	1	7	11,818.00	2002	11,818.00	4.868	2,427.69
10	TOYOTA LANDCRUISER (Second Hand)	1	7	17,000.00	2003	-	-	-
TOTAL =				73,111.50		67,008.14		11,528.10

Table C7 Vehicle and Machinery Costs of Kralanh Hospital, 2002

No	Vehicle	Quantity	Working Life (Years)	Received Price (US\$)	Received Date Year	Value in 2002	Annualization Factor	Annual Economic Cost (US\$)
1	Ambulance Model FORT (poor condition)	1	3	3,000.00	2002	3,000.00	2.487	1,206.27
2	Generator 5KWA	1	7	795.50	1999	1,058.81	4.868	217.50
TOTAL =				3,795.50		4,058.81		1,423.78

Table C8 Total Cost Allocation of Sotnikum Hospital, 2002

DATA	Total Cost	Information for Allocation			Adminis. % Salary	Total
		Sq. Meter	Salaries	Space Costs % Sq. Ft.		
Bases of Allocation:						
Support Centers						
Space-related costs	43,135					
Administration	38,946	763.29	42,995	14,186		
Reenue-Producing Centers						
Inpatient Services	248,456	1,502.48	38,834	27,924	47,990	324,370
Outpatient Services	9,908	55.15	4,161	1,025	5,142	16,075
	340,445	2,320.92	85,989	43,135	53,132	340,445

Table C9 Total Cost Allocation of Kralanh Hospital, 2002

DATA	Total Cost	Information for Allocation			Adminis. % Salary	Total
		Sq. Meter	Salaries	Space Costs % Sq. Ft.		
Bases of Allocation:						
Support Centers						
Space-related costs	12,358					
Administration	5,728	284.20	1,436	1,709		
Reenue-Producing Centers						
Inpatient Services	131,813	1,710.38	10,468	10,288	7,106	149,207
Outpatient Services	6,133	60.00	488	361	331	6,826
	156,033	2,054.58	12,392	38,185	7,657	156,033

Table C10 Results of Questions Using the Likert Scale (IPD)

ID	Q9		Q10		Q11		Q12		Q13		Q14		Q15		Q16		Q17		Q18		Q19		Q20	
	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
1	3	4	2	5	3	5	3	4	2	5	3	5	2	4	3	5	2	5	3	5	2	4	2	4
2	1	4	2	5	3	5	3	4	2	5	3	4	2	4	3	4	3	4	4	4	4	5	2	4
3	1	3	1	4	1	3	2	4	2	4	1	4	1	4	2	4	3	4	3	4	3	4	3	4
4	3	4	2	4	2	4	4	4	1	5	1	4	3	4	3	4	2	5	4	5	3	4	2	4
5	3	4	4	5	4	5	4	5	4	4	3	5	3	5	4	5	3	5	4	4	4	5	4	5
6	4	5	5	5	5	5	4	5	2	5	2	5	3	5	4	4	3	4	4	4	4	5	4	5
7	2	4	4	4	4	4	3	4	2	4	2	4	2	4	3	3	3	3	2	3	4	4	2	3
8	2	5	4	5	2	5	2	5	5	5	2	5	3	5	4	4	4	4	4	4	4	5	4	4
9	2	4	4	5	3	4	2	4	4	4	4	4	2	4	3	5	4	5	2	4	4	5	4	5
10	3	5	5	5	4	5	4	5	3	4	4	4	4	4	3	5	4	4	4	4	4	4	2	4
11	3	4	4	4	4	4	2	4	2	4	2	3	2	4	3	5	3	4	4	4	4	4	4	5
12	4	4	5	5	4	4	4	4	2	4	2	3	2	5	4	4	3	4	3	4	2	4	2	4
13	3	4	4	4	4	5	4	4	2	4	4	5	2	5	4	4	3	4	4	4	4	4	3	5
14	2	5	5	5	3	5	2	5	2	4	4	5	4	5	4	5	4	4	4	5	5	5	4	4
15	4	4	3	4	3	5	3	4	3	4	3	4	3	5	3	4	3	4	4	4	3	3	3	4
16	3	4	3	4	3	4	3	4	2	4	3	5	3	5	3	5	3	5	3	4	3	4	3	5
17	4	4	4	4	3	5	4	4	2	4	3	4	3	4	3	4	3	4	4	4	3	4	3	4
18	4	4	3	4	4	4	4	4	2	4	3	4	3	4	4	4	3	4	3	4	4	4	3	4
19	4	4	3	4	4	4	3	5	2	4	3	4	3	4	3	4	2	4	3	4	4	4	3	4
20	3	4	4	4	4	4	4	4	3	5	3	4	3	4	4	4	3	4	3	4	4	4	3	4
21	2	4	4	4	3	4	3	4	2	4	2	4	2	4	4	4	4	4	3	4	4	4	2	4
22	4	4	4	4	3	4	3	4	2	4	2	4	2	4	4	4	4	4	2	4	4	4	3	4
23	4	4	4	4	4	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4	4	4	3	4
24	1	5	2	5	3	5	2	5	2	5	2	5	2	5	2	5	4	5	4	5	2	5	2	5
25	3	5	4	4	4	4	4	4	3	4	3	4	3	4	3	4	3	4	3	4	4	4	3	4
26	4	4	4	4	4	4	2	4	2	4	3	4	3	4	3	4	3	4	3	4	3	4	3	4
27	2	4	4	4	2	4	4	2	2	4	2	4	2	4	3	4	3	4	3	3	3	4	3	2
28	4	5	1	5	3	5	1	5	3	3	2	5	3	5	1	5	3	5	4	5	4	4	1	5
29	2	4	1	5	4	5	3	3	2	5	2	5	1	5	4	4	5	5	5	5	5	5	5	5
30	2	5	4	5	3	5	4	4	3	4	4	5	1	5	3	5	4	4	4	4	4	4	4	5
31	4	5	4	5	2	5	1	5	2	5	1	5	2	5	2	5	4	5	4	5	3	5	4	5
32	1	5	3	5	2	4	3	5	1	5	4	5	1	5	3	5	1	5	3	5	3	5	2	5
SUM	91	137	110	143	104	142	97	135	76	137	85	139	78	142	103	139	101	137	111	133	115	137	95	137
Mean	2.8	4.3	3.4	4.5	3.3	4.4	3.0	4.2	2.4	4.3	2.7	4.3	2.4	4.4	3.2	4.3	3.2	4.3	3.5	4.2	3.6	4.3	3.0	4.3
SD	1.1	0.5	1.2	0.5	0.9	0.6	0.9	0.7	0.8	0.5	0.9	0.6	0.8	0.5	0.8	0.5	0.7	0.5	0.7	0.6	0.8	0.5	0.9	0.7
Scale	%																							
1	12.5	-	9.4	-	3.1	-	6.3	-	6.3	-	9.4	-	12.5	-	3.1	-	3.1	-	-	-	-	-	3.1	-
2	25.0	-	12.5	-	15.6	-	21.9	3.1	62.5	-	34.4	-	37.5	-	9.4	-	9.4	-	9.4	-	9.4	-	28.1	3.1
3	28.1	3.1	15.6	-	37.5	3.1	34.4	3.1	21.9	3.1	37.5	6.3	43.8	-	53.1	3.1	56.3	3.1	37.5	9.4	28.1	3.1	40.6	3.1
4	34.4	65.6	50.0	53.1	40.6	50.0	37.5	62.5	6.3	65.6	18.8	53.1	6.3	56.3	31.3	59.4	31.3	65.6	50.0	65.6	56.3	65.6	25.0	56.3
5	-	31.3	12.5	46.9	3.1	46.9	-	31.3	3.1	31.3	-	40.6	-	43.8	3.1	37.5	-	31.3	3.1	25.0	6.3	31.3	3.1	37.5
SUM	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: If all respondents (32 respondents) score 1, 2, 3, 4 or 5 to each part (a or b) of the question, the total score will be 32, 64, 96, 128 or 160 respectively.

Table C10 (Cont.)

Q21		Q22		Q23		Q24		Q25		Q26		Q27		Q28		Q29		Q30		Q31		Total				
a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	Score	Scale			
3	4	3	5	4	5	4	5	2	4	2	5	1	5	1	5	2	5	3	4	3	5	58	107	3	5	
3	4	3	3	3	3	3	4	2	3	4	5	1	5	4	5	1	5	4	4	3	5	63	98	3	5	
3	4	3	4	3	4	3	4	3	3	3	5	3	4	3	4	3	4	3	4	3	4	56	90	3	4	
2	4	2	4	3	4	2	4	3	4	2	5	2	5	4	4	2	5	4	5	2	5	58	100	3	5	
4	5	4	5	4	5	4	5	4	5	4	5	2	5	5	4	5	5	4	5	4	5	88	111	4	5	
5	5	5	5	5	5	5	5	4	5	4	5	2	5	5	4	4	5	5	4	5	5	92	111	4	5	
3	3	2	3	2	4	2	2	4	4	3	4	4	4	4	4	4	4	4	4	3	4	68	84	3	4	
4	4	3	4	3	5	4	4	4	4	4	4	3	4	4	2	4	4	4	4	3	4	80	99	4	5	
4	4	3	4	4	4	4	5	4	5	4	5	3	4	4	4	4	5	4	4	4	5	80	102	4	5	
4	4	3	4	4	5	4	4	4	4	2	5	3	5	4	2	4	4	4	5	2	4	82	99	4	5	
4	4	4	4	4	4	2	3	4	5	2	4	3	5	5	4	2	5	4	4	4	5	75	96	4	5	
4	4	4	4	4	5	4	4	4	4	4	5	2	5	4	4	3	5	5	5	4	5	79	99	4	5	
2	4	4	4	4	5	4	5	4	5	4	5	3	5	4	5	4	5	4	5	4	5	82	105	4	5	
4	5	4	4	3	4	4	5	4	4	2	5	2	5	4	2	4	5	4	4	3	5	82	105	4	5	
3	4	3	4	4	4	3	4	3	3	3	4	3	4	4	4	4	4	4	4	3	5	74	93	4	5	
3	4	3	4	3	4	3	4	3	4	3	4	3	4	4	4	3	4	3	4	3	4	69	97	3	5	
3	4	4	4	3	4	4	4	4	4	2	4	3	4	4	2	4	4	4	5	3	4	77	92	4	4	
4	4	4	4	4	4	4	4	4	4	2	4	2	4	3	5	2	4	3	5	4	5	76	95	4	5	
3	4	3	4	3	4	3	4	3	4	2	4	2	4	4	4	4	4	4	4	4	5	72	94	4	5	
4	4	3	3	3	4	4	4	4	4	4	4	3	4	4	3	2	4	4	4	3	4	79	91	4	4	
2	4	2	4	2	4	2	4	2	4	4	4	3	4	3	4	4	4	2	4	4	5	66	92	3	4	
2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4	4	4	4	3	3	78	87	4	4	
2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4	4	4	3	4	3	73	85	4	4	
2	2	2	4	4	4	2	2	4	4	4	4	3	3	2	2	4	4	3	4	3	4	73	85	4	4	
3	5	3	5	2	5	4	5	2	5	1	2	3	5	2	5	3	5	3	4	2	5	56	111	3	5	
2	4	3	4	3	4	3	4	4	4	4	4	3	5	4	4	4	4	2	4	4	5	76	95	4	5	
3	4	3	4	3	4	3	4	4	4	4	4	2	2	4	4	4	4	4	4	4	5	75	91	4	4	
3	2	3	4	4	4	3	4	3	4	4	4	3	3	4	2	4	4	4	4	2	4	70	82	4	4	
1	5	1	5	4	5	3	5	3	4	1	5	3	5	4	2	1	5	4	4	3	5	58	107	3	5	
3	4	1	2	2	2	4	5	5	3	5	5	3	5	4	4	3	5	2	5	4	5	74	101	4	5	
4	5	4	4	4	4	4	5	4	4	4	5	2	5	4	5	4	5	2	5	4	5	80	107	4	5	
2	4	3	5	4	5	4	5	3	5	3	5	3	5	4	4	4	5	2	5	2	5	65	113	3	5	
3	5	2	5	4	5	2	5	3	5	4	5	4	5	4	5	3	5	3	5	3	5	62	114	3	5	
99	130	98	130	110	136	108	135	112	132	101	142	84	141	121	118	107	144	113	138	104	149	2,323	3,153			
3.1	4.1	3.1	4.1	3.4	4.3	3.4	4.2	3.5	4.1	3.2	4.4	2.6	4.4	3.8	3.7	3.3	4.5	3.5	4.3	3.3	4.7	72.6	98.5			
0.9	0.7	0.9	0.7	0.8	0.7	0.8	0.8	0.8	0.6	1.1	0.7	0.8	0.8	0.8	1.1	1.0	0.5	0.8	0.6	0.7	0.5	9.4	8.8			
%																										
3.1	-	6.3	-	-	-	-	-	-	-	6.3	-	9.4	-	3.1	-	6.3	-	-	-	-	-	4.5	-			
21.9	6.3	15.6	3.1	12.5	3.1	18.8	6.3	12.5	-	28.1	3.1	28.1	3.1	6.3	25.0	15.6	-	15.6	3.1	15.6	-	20.2	2.6			
40.6	3.1	46.9	9.4	34.4	3.1	28.1	3.1	28.1	12.5	12.5	-	53.1	6.3	9.4	3.1	18.8	-	21.9	-	43.8	3.1	33.6	3.7			
31.3	68.8	28.1	65.6	50.0	59.4	50.0	53.1	56.3	62.5	50.0	46.9	9.4	37.5	71.9	50.0	56.3	50.0	56.3	59.4	40.6	28.1	38.6	56.5			
3.1	21.9	3.1	21.9	3.1	34.4	3.1	37.5	3.1	25.0	3.1	50.0	-	53.1	9.4	21.9	3.1	50.0	6.3	37.5	-	68.8	3.1	37.2			
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		

Note: a: represents before New Deal, b: represents after New Deal.

Table C10 (Cont.)

No	Service	Before New Deal					After New Deal				
		(Satisfaction rate in %)					(Satisfaction rate in %)				
		1	2	3	4	5	1	2	3	4	5
Q9	Variety of services in the hospital	13	25	28	34	0	0	0	3	66	31
Q10	Opening time of the hospital	9	13	16	50	13	0	0	0	53	47
Q11	Staff presence during opening time	3	16	38	41	3	0	0	3	50	47
Q12	Waiting time	6	22	34	38	0	0	3	3	63	31
Q13	Environment and hygiene in the hospit	6	63	22	6	3	0	0	3	66	31
Q14	Hygiene and cleanliness in the room	9	34	38	19	0	0	0	6	53	41
Q15	Function of equipment and machineries	13	38	44	6	0	0	0	0	56	44
Q16	Capability of doctor	3	10	53	31	3	0	0	3	59	38
Q17	Clear explanation regarding health problem from doctors	3	10	56	31	0	0	0	3	66	31
Q18	Clear explanation from doctor how to use medicine	0	9	38	50	3	0	0	9	66	25
Q19	Courtesy or friendliness of doctors	0	10	28	56	6	0	0	3	66	31
Q20	Nursing care	3	28	41	25	3	0	3	3	56	38
Q21	Nursing response to calling for help	3	22	41	31	3	0	6	3	69	22
Q22	Clear explanation from nurse about your HP and its evolution	6	16	47	28	3	0	3	9	66	22
Q23	Capability of nurses	0	13	34	50	3	0	3	3	60	34
Q24	Clear explanation from nurse how to use medicine	0	19	28	50	3	0	6	3	53	38
Q25	Courtesy or friendliness from other staff	0	13	28	56	3	0	0	13	63	25
Q26	Drugs and medical supplies	6	28	13	50	3	0	3	0	47	50
Q27	Display of service price list to publics	10	28	53	9	0	0	3	6	38	53
Q28	Service charge	3	6	10	72	9	0	25	3	50	22
Q29	Transparent payment mechanism	6	16	19	56	3	0	0	0	50	50
Q30	Efficacy of treatment	0	16	22	56	6	0	3	0	59	38
Q31	General satisfaction	0	16	44	40	0	0	0	3	28	69

Notes: 1 Strongly dissatisfied
2 Dissatisfied
3 Not sure or undecided
4 Satisfied
5 Strongly satisfied

Table C11 Results of Questions Using the Likert Scale (OPD)

ID	Q8		Q9		Q10		Q11		Q12		Q13		Q14		Q15		Q16		Q17		Q18	
	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
1	2	5	2	5	1	3	1	4	1	5	3	4	2	4	2	5	3	5	4	5	2	5
2	3	5	3	5	4	5	1	5	1	5	3	5	1	5	3	5	4	5	5	5	5	5
3	3	5	1	5	1	4	3	4	2	5	3	4	5	4	4	4	3	4	4	5	5	5
4	1	4	1	4	3	4	2	4	1	4	3	5	3	5	3	5	3	5	3	5	3	5
5	1	5	2	5	3	5	1	5	3	5	4	5	3	5	3	5	3	5	3	5	2	5
6	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	5	5	3	5
7	2	5	1	5	3	5	1	5	1	5	3	5	3	5	4	5	3	5	5	5	3	5
8	3	5	4	5	3	5	1	5	1	5	3	5	4	5	4	5	4	5	4	5	4	5
9	1	5	1	5	2	5	3	5	3	5	4	5	1	5	4	5	3	5	4	5	1	5
10	1	4	3	5	2	5	3	5	2	5	3	4	4	5	3	4	3	4	4	5	4	4
11	3	4	4	4	3	3	3	4	3	4	3	4	4	4	3	3	3	3	4	4	3	3
12	3	4	4	4	3	3	3	4	3	4	4	4	4	4	3	4	4	4	4	3	4	4
13	3	4	4	4	5	5	3	4	1	4	3	4	3	4	3	5	3	4	4	4	4	4
14	3	3	4	4	3	4	3	4	3	4	3	3	4	4	3	5	3	4	4	4	3	3
15	4	4	4	4	4	4	2	4	1	4	3	5	3	4	4	4	3	4	3	4	3	4
16	4	4	4	4	4	3	4	3	3	5	3	4	3	4	4	4	4	4	3	4	4	3
17	3	4	3	4	3	4	3	4	3	5	3	4	3	4	3	4	3	4	3	4	3	4
18	4	4	4	4	4	4	3	4	3	5	3	4	3	4	3	4	4	4	3	4	3	4
19	3	4	4	4	4	4	4	3	3	4	4	4	3	4	4	4	4	4	3	4	3	4
20	4	4	4	4	4	4	3	4	3	5	3	4	3	4	4	4	4	4	2	4	4	4
21	4	4	4	4	4	4	2	4	1	4	4	4	4	4	4	4	4	4	4	4	4	4
22	4	4	4	4	2	4	1	4	2	5	2	4	3	4	4	4	4	4	3	4	4	4
23	4	4	4	4	3	4	2	4	2	4	3	3	2	2	4	4	2	4	4	3	4	4
24	3	4	4	4	3	4	3	4	1	4	3	4	3	4	4	4	4	4	2	4	4	4
25	4	4	4	4	4	5	4	5	3	5	4	5	4	4	4	4	4	4	4	5	4	4
26	4	4	4	4	4	4	4	4	2	4	2	3	2	3	4	4	4	4	2	4	4	4
27	3	4	4	4	3	4	3	4	2	4	3	4	3	4	3	4	3	4	3	4	4	4
SUM	80	115	88	117	85	113	69	114	57	123	85	114	83	112	95	116	92	114	95	118	93	114
Mean	2.96	4.26	3.26	4.33	3.15	4.19	2.56	4.22	2.11	4.56	3.15	4.22	3.07	4.15	3.52	4.30	3.41	4.22	3.52	4.37	3.44	4.22
SD	1.02	0.53	1.13	0.48	0.95	0.68	1.01	0.58	0.89	0.51	0.53	0.64	0.92	0.72	0.58	0.54	0.57	0.58	0.85	0.57	0.89	0.64
Min	1	3	1	4	1	3	1	3	1	4	2	3	1	2	2	3	2	3	2	3	1	3
Max	4	5	4	5	5	5	4	5	3	5	4	5	5	5	4	5	4	5	5	5	5	5
Scale	%																					
1	14.9	-	14.8	-	7.4	-	22.2	-	33.3	-	-	-	7.4	-	-	-	-	-	-	-	3.7	-
2	7.4	-	7.4	-	11.2	-	14.8	-	22.2	-	7.4	-	11.1	3.7	3.7	-	3.7	-	11.1	-	7.4	-
3	44.4	3.7	14.8	-	44.4	14.8	48.2	7.5	44.5	-	70.4	11.1	51.9	7.4	40.7	3.7	51.9	7.4	37.0	3.7	37.0	11.1
4	33.3	66.7	63.0	66.7	33.3	51.9	14.8	63.0	-	44.4	22.2	55.6	25.9	59.3	55.6	63.0	44.4	63.0	40.8	55.6	44.4	55.6
5	-	29.6	-	33.3	3.7	33.3	-	29.5	-	55.6	-	33.3	3.7	29.6	-	33.3	-	29.6	11.1	40.7	7.4	33.3
SUM	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Notes (Likert Scale):

Scale 1: Strongly disatisfy

Scale 2: Disatisfy

Scale 3: Not sure or undecided

Scale 4: Satisfy

Scale 5: Strongly satisfy

Table C11 (Cont.)

Q19		Q20		Q21		Q22		Q23		Q24		Sum Satisfaction		Ser. & Management		Staff Satisfaction		Price Service Sat.	
a	b	a	b	a	b	a	b	a	b	a	b	A	B	A	B	A	B	A	B
1	3	2	5	2	5	4	5	4	5	2	5	38	78	6	17	16	28	8	15
5	5	2	5	5	5	5	5	4	5	3	5	57	85	11	20	21	30	12	15
5	5	1	5	4	4	5	5	4	4	2	5	55	77	8	18	24	26	10	14
2	5	3	5	5	5	1	5	5	5	2	5	44	80	7	16	18	30	9	15
1	5	3	5	3	5	1	5	3	5	2	5	41	85	7	20	18	30	7	15
5	5	3	5	5	5	3	5	4	5	4	5	59	85	12	20	20	30	11	15
2	5	1	5	3	5	1	5	5	5	3	5	44	85	7	20	21	30	5	15
5	5	3	5	4	5	4	5	5	5	1	5	57	85	11	20	23	30	11	15
2	5	4	5	3	5	3	5	3	5	3	5	45	85	7	20	17	30	10	15
2	5	3	5	2	5	2	5	4	4	3	5	48	79	9	19	21	26	7	15
3	3	3	4	3	3	3	4	3	4	3	4	54	62	13	15	20	21	9	11
5	5	4	5	3	3	4	4	4	4	3	4	60	68	13	15	21	24	11	12
3	5	3	5	5	2	5	5	4	4	3	5	60	69	15	17	21	22	13	12
4	5	3	4	5	2	3	3	4	4	4	5	59	65	13	15	20	23	11	9
4	4	2	5	4	1	4	4	3	4	3	5	54	68	14	16	19	25	10	10
4	4	3	5	4	1	4	4	4	4	4	5	63	65	16	14	21	23	11	10
3	4	3	4	5	2	4	5	3	4	3	4	54	68	12	16	18	24	12	11
4	4	3	4	4	1	4	4	4	4	3	4	59	66	15	16	19	24	11	9
4	4	3	4	4	2	4	4	3	3	3	3	60	63	15	15	21	24	11	10
4	4	3	4	5	2	4	4	3	4	3	5	60	68	15	16	20	24	12	10
4	4	3	4	4	2	4	4	4	4	3	4	61	66	14	16	24	24	11	10
4	4	4	4	4	2	4	4	4	4	3	4	56	67	11	16	20	24	12	10
3	5	3	5	4	4	5	5	3	5	3	4	55	68	13	16	19	20	12	14
4	4	3	4	5	3	4	4	3	4	3	4	56	67	13	16	20	24	12	11
4	4	4	4	3	2	4	4	4	5	4	5	66	73	16	18	24	26	11	10
4	4	4	4	4	4	4	4	4	4	3	4	59	66	16	16	18	22	12	12
2	4	4	4	4	4	4	4	4	4	3	4	55	68	13	16	19	24	12	12
93	119	80	123	106	89	97	120	102	117	79	123	1479	1961	322	459	543	688	283	332
3.44	4.41	2.96	4.56	3.93	3.30	3.59	4.44	3.78	4.33	2.93	4.56	54.78	72.63	11.93	17.00	20.11	25.48	10.48	12.30
1.22	0.64	0.81	0.51	0.92	1.49	1.15	0.58	0.64	0.56	0.68	0.58	7.00	8.13	3.17	1.92	2.04	3.14	1.89	2.28
1	3	1	4	2	1	1	3	3	3	1	3	38	62	6	14	16	20	5	9
5	5	4	5	5	5	5	5	5	5	4	5	66	85	18	20	24	30	13	15
%																			
7.4	-	7.4	-	-	11.1	11.1	-	-	-	3.7	-								144.4
18.5	-	11.1	-	7.4	29.6	3.7	-	-	-	14.8	-								196.2
14.8	7.4	59.3	-	22.2	11.1	14.8	3.7	33.3	3.7	66.7	3.7								796.3
40.7	44.4	22.2	44.4	40.7	14.8	55.6	48.1	55.6	59.3	14.8	37.0								1500.1
18.5	48.1	-	55.6	29.6	33.3	14.8	48.1	11.1	37.0	-	59.3								762.4
100	100	100	100	100	100	100	100	100	100	100	100								3399.4

Table C11 (Cont.)

No	Service	Before New Deal					After New Deal				
		(Satisfaction rate in %)					(Satisfaction rate in %)				
		1	2	3	4	5	1	2	3	4	5
Q8	Variety of services in the hospital	15	8	44	33	0	0	0	4	67	30
Q9	Opening time of the hospital	15	7	15	63	0	0	0	0	67	33
Q10	Staff presence during opening time	7	11	45	33	4	0	0	15	52	33
Q11	Waiting time	22	15	48	15	0	0	0	7	63	30
Q12	Environment and hygiene in the hospital	33	22	45	0	0	0	0	0	44	56
Q13	Capability of staff regarding examination and diagnosis	0	8	70	22	0	0	0	11	56	33
Q14	Clear explanation regarding your HP	7	11	52	26	4	0	4	7	59	30
Q15	Courtesy or friendliness from nurses	0	4	41	55	0	0	0	4	63	33
Q16	Courtesy or friendliness from pharmacist	0	4	52	44	0	0	0	7	63	30
Q17	Clear explanation from pharmacist how to use medicines	0	11	37	41	11	0	0	4	56	41
Q18	Courtesy or friendliness from other staff (ex. Cashier, etc.)	4	7	37	44	8	0	0	11	56	33
Q19	Quantity of drugs and medical supplies	7	18	15	41	19	0	0	8	44	48
Q20	Display of service price list to publics	8	11	59	22	0	0	0	0	44	56
Q21	Service charge	0	7	22	41	30	11	30	11	15	33
Q22	Transparent payment mechanism	11	4	15	55	15	0	0	4	48	48
Q23	Efficacy of treatment	0	0	33	56	11	0	0	4	59	37
Q24	General satisfaction	4	15	66	15	0	0	0	4	37	59

Notes: 1 Strongly dissatisfied

2 Dissatisfied

3 Not sure or undecided

4 Satisfied

5 Strongly satisfied

Table C12. Cost-effectiveness Using Cost per Number of Hospital's Service Volumes, Sotnikum Hospital

Main Indicator	Total Cost of HCSD (US\$)	Inpatient Services		Outpatient Services	
		# of Inpatients	# of Patient Days	# of OPD New Cases	# of OPD Visits
1 Total Recurrent Cost	271,308	258,557	258,557	12,751	12,751
2 Total Cost	340,445	324,370	324,370	16,075	16,075
3 Effectiveness Measure		3,628	35,192	2,826	3,532
4 RC/E		71.3	7.3	4.5	3.6
5 TC/E		89.4	9.2	5.7	4.6

Table C13. Cost-effectiveness Using Cost per Proportion of Hospital's Service Volumes, Sotnikum Hospital

Main Indicator	Total Cost of HCSD (US\$)	Inpatient Services		Outpatient Services	
		# of Inpatients	# of Patient Days	# of OPD New Cases	# of OPD Visits
1 Total Recurrent Cost	271,308	258,557	258,557	12,751	12,751
2 Total Cost	340,445	324,370	324,370	16,075	16,075
3 Effectiveness Measure		17	168	13	17
4 RC/E		15,209	1,539	981	750
5 TC/E		19,081	1,931	1,237	946

Table C14. Cost-effectiveness Using Cost per Number of Hospital's Service Volumes, Kralanh Hospital

Main Indicator	Total Cost of HCSD (US\$)	Inpatient Services		Outpatient Services	
		# of Inpatients	# of Patient Days	# of OPD New Cases	# of OPD Visits
1 Total Recurrent Cost	94,406	90,252	90,252	4,154	4,154
2 Total Cost	156,033	149,207	149,207	6,826	6,826
3 Effectiveness Measure		969	10,175	2,095	2,619
4 RC/E		93.1	8.9	2.0	1.6
5 TC/E		154.0	14.7	3.3	2.6

Table C15. Cost-effectiveness Using Cost per Proportion of Hospital's Service Volumes, Kralanh Hospital

Main Indicator	Total Cost of HCSD (US\$)	Inpatient Services		Outpatient Services	
		# of Inpatients	# of Patient Days	# of OPD New Cases	# of OPD Visits
1 Total Recurrent Cost	94,406	90,252	90,252	4,154	4,154
2 Total Cost	156,033	149,207	149,207	6,826	6,826
3 Effectiveness Measure		10	101	21	26
4 RC/E		9,025	894	198	160
5 TC/E		14,921	1,477	325	263

Notes: Calculation methods of Table C12, Table C13, Table C14, and Table C15 are the

same: a) $4 = 1 / 3$

b) $5 = 2 / 3$

Appendix D
Questionnaires for Patients' Satisfaction

Appendix D1 – Questions for Assessing Patients' Satisfaction

Satisfaction of Inpatient (IPD) toward Sotnikum Hospital

QUESTIONNAIRE

Dear respondent,

Thank you for your cooperation in this study.

The aim of this study is to improve our hospital services and therefore, your responses will be very helpful. Your name will not in any way be associated with this questionnaire, so please feel free to express your opinions regarding the questions.

Thank you.

Code number :

Date of interview :/...../ 2003 (day/month/year)

Interviewer :

For only inpatient have used hospital services before and after New Deal

I – General information

1. Age : Years
2. Sex : 1 Male 2 Female
3. Marital status : 1 Single 2 Married 3 Widowed 4 Separated
4. Education : 1 Illiteracy 2 Primary education
3 Secondary education 4 Tertiary education
5. Occupation : 1 Farmer 2 Seller/Trader
3 Government officer 4 Other
6. How far is your house from the hospital?Km
7. How did you arrive to hospital?
A – Conventional system: 1 Arrived by yourself 2 Referred by health center
B – New Deal: 1 Arrived by yourself 2 Referred by health center
8. Who paid for you (hospital charge and transportation fees)?
A – Conventional system: 1 Out-of-pocket 2 Equity fund
B – New Deal: 1 Out-of-pocket 2 Equity fund

II – Satisfaction with hospital services

Please tick like this (✓) in any box of each question that you think it is best for you.

1 = Strongly dissatisfy, 2 = Dissatisfy, 3 = Not sure or undecided,

4 = Satisfy, 5 = Strongly satisfy

A - Availability of services and management of the hospital

9. Did you satisfy with variety of services in the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

10. Did you satisfy with the opening times of the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

11. Was hospital staff presence all the times during opening hour?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

12. Did you satisfy with your waiting time before staff examined you?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

B - Hospital physical and environment

13. What do you think about the environment and the hygiene in the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

14. Did you satisfy with the hygiene and the cleanliness in your room?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

15. Did all equipment and machines function well?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

C – Staff performance (Doctors’ services, Nurses’ service, Pharmacists’ services, Other personnel’s services)

16. What did you think about the capability of doctor, including examination, diagnosis and treatment?
- A – Conventional System 1 2 3 4 5
- B – New Deal 1 2 3 4 5
17. Did you receive clear information from the doctor regarding your health problems?
- A – Conventional System 1 2 3 4 5
- B – New Deal 1 2 3 4 5
18. Did doctors explain you clearly how to use medicine and its side effects that can be taken place?
- A – Conventional System 1 2 3 4 5
- B – New Deal 1 2 3 4 5
19. Were doctors friendly and courtesy?
- A – Conventional System 1 2 3 4 5
- B – New Deal 1 2 3 4 5
20. Did nurses provide you good nursing care?
- A – Conventional System 1 2 3 4 5
- B – New Deal 1 2 3 4 5
21. Did nurses help you quickly when you needed or called them?
- A – Conventional System 1 2 3 4 5
- B – New Deal 1 2 3 4 5
22. Did nurses explain you clearly about your ailment and its evolution?
- A – Conventional System 1 2 3 4 5
- B – New Deal 1 2 3 4 5

23. What do you think about the capability (or skill) of nurses in their services?
 A – Conventional System 1 2 3 4 5
 B – New Deal 1 2 3 4 5
24. Did nurses explain you clearly how to use medicine and its side effects that can be taken place?
 A – Conventional System 1 2 3 4 5
 B – New Deal 1 2 3 4 5
25. Did other staff friendly or courtesy?
 A – Conventional System 1 2 3 4 5
 B – New Deal 1 2 3 4 5

D – Drugs and medical supplies availabilities

26. Did you receive enough medicines or other medical supplies without buying at any private pharmacy?
 A – Conventional System 1 2 3 4 5
 B – New Deal 1 2 3 4 5

E – Price services

27. Did price list clearly display to the public and easy to look?
 A – Conventional System 1 2 3 4 5
 B – New Deal 1 2 3 4 5
28. Did you agree or satisfy with the hospital charge?
 A – Conventional System 1 2 3 4 5
 B – New Deal 1 2 3 4 5
29. Did you satisfy with the (transparent) payment mechanism? (No informal payment)
 A – Conventional System 1 2 3 4 5
 B – New Deal 1 2 3 4 5

F – Efficacy of treatment

30. Did you feel better after hospitalization?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

G – Overall satisfaction

31. In general, did you satisfy with the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

We would greatly appreciate your input for the further improvement of this hospital. It would be of great help to us if you have any suggestion as to how to improve our services of the hospital.

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Thank you for your cooperation.

Appendix D2 – Questions for Assessing Patients' Satisfaction

Satisfaction of Outpatient (OPD) toward Sotnikum Hospital

QUESTIONNAIRE

Dear respondent,

Thank you for your cooperation in this study.

The aim of this study is to improve our hospital services and therefore, your responses will be very helpful. Your name will not in any way be associated with this questionnaire, so please feel free to express your opinions regarding the questions.

Thank you.

Code number :

Date of interview :/...../ 2003 (day/month/year)

Interviewer :

For only inpatient have used hospital services before and after New Deal

I – General information

1. Age : Years
2. Sex : 1 Male 2 Female
3. Marital status : 1 Single 2 Married 3 Widowed 4 Separated
4. Education : 1 Illiteracy 2 Primary education
3 Secondary education 4 Tertiary education
5. Occupation : 1 Farmer 2 Seller/Trader
3 Government officer 4 Other
6. How far is your house from the hospital?Km
7. How did you arrive to hospital?
 A – Conventional system: 1 Arrived by yourself 2 Referred by health center
 B – New Deal: 1 Arrived by yourself 2 Referred by health center

II – Satisfaction with hospital services

Please tick like this (✓) in any box of each question that you think it is best for you.

1 = Strongly dissatisfy, 2 = Dissatisfy, 3 = Not sure or undecided,

4 = Satisfy, 5 = Strongly satisfy

A - Availability of services and management of the hospital

8. Did you satisfy with variety of services in the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

9. Did you satisfy with the opening times of the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

10. Did hospital staff presence all the times during opening hour?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

11. Did you satisfy with your waiting time before staff examined you?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

B - Hospital physical and environment

12. What do you think about the environment and the hygiene in the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

C – Staff performance (Doctors' services, Nurses' service, Pharmacists' services, Other personnel's services)

13. What did you think about the capability of hospital staff, including examination, diagnosis and treatment?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

14. Did you receive clear information from the staff regarding your health problems?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

15. Were staff friendly and courtesy?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

16. Was pharmacist friendly and courtesy?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

17. Did pharmacist explain you clearly how to use medicine and its side effects?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

18. Were other hospital staff friendly and courtesy?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

D – Drugs and medical supplies availability

19. Did you receive enough medicines or other medical supplies without buying at any private pharmacy?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

E – Price service

20. Did price list clearly display to the public and easy to look?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

21. Did you agree or satisfy with the hospital charge?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

22. Did you satisfy with the (transparent) payment mechanism? (No informal payment)

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

F – Efficacy of treatment

23. Did you feel better after taking medicine?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

G – Overall satisfaction

24. In general, did you satisfy with the hospital?

A – Conventional System 1 2 3 4 5

B – New Deal 1 2 3 4 5

We would greatly appreciate your input for the further improvement of this hospital. It would be of great help to us if you have any suggestion as to how to improve our services of the hospital.

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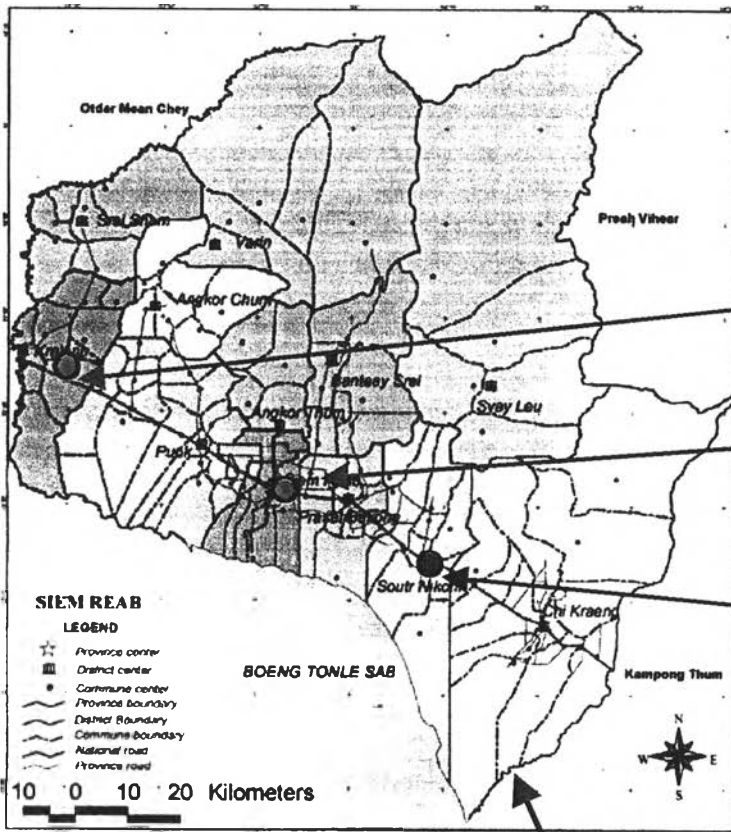
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Thank you for your cooperation.

Appendix E
Maps

Map of Cambodia and Siem Reap Province

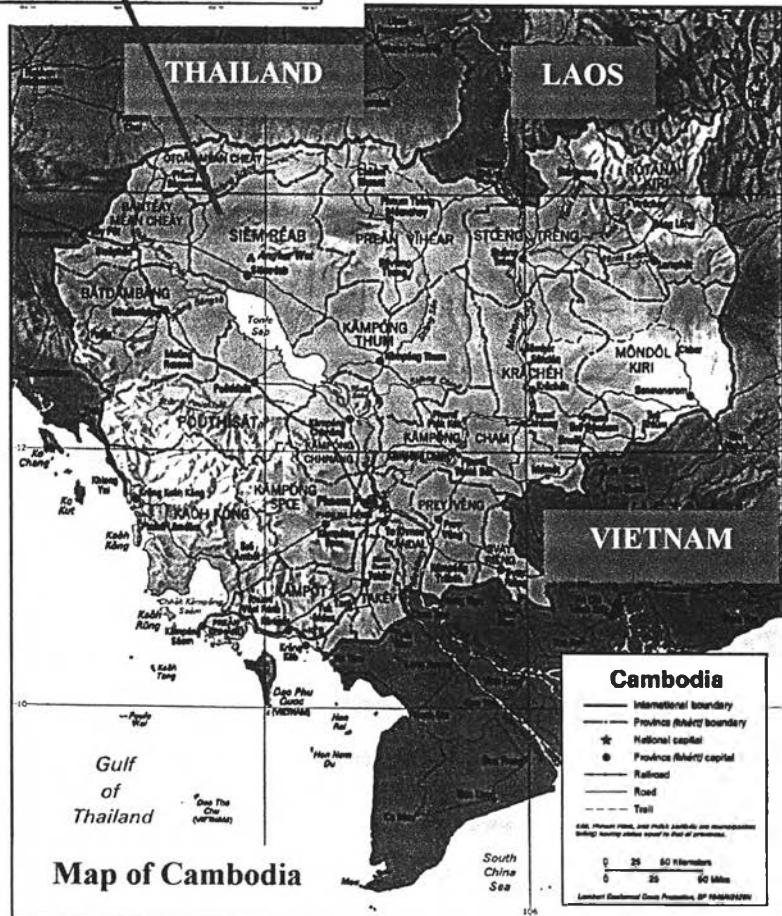


Kralanh Hospital

Siem Reap Provincial Hospital

Sotnikum Hospital

Map of Siem Reap Province



Scale 1:100,000 (1:125,000)

CURRICULUM VITAE

CURRICULUM VITAE

Name : Chhim Sarath
 Date of Birth : 09 August 1964
 Place of Birth : Kandal province, Cambodia
 Sex : Male
 Religion : Buddhist
 Nationality : Cambodian
 Marital Status : Married
 Background : Medical Doctor, Faculty of Medicine, Phnom Penh, Cambodia (1986 - 1992).
 Academic Qualification : Graduate Diploma in Public Health and Protection (1995), Peking Union Medical College, Beijing, China.
 Working Place : Health System Support Division, National Institute of Public Health (NIPH), Ministry of Health, Cambodia.
 Experience : 1- Chief of Provincial MCH Division (1994 – 1997)
 2- Vice-Chief of Provincial Hygienic and Epidemic Station (1996 – 1997)
 3- Trainer of the Health Service Management Training (1998 – 2002)
 4- District Financial Consultant/Accountant (2000)

