98. HIGHER CLINIC

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I. SUMMARY

This profile envisages the establishment of a higher clinic that parades health service for 29,200 out patients per year.

The plant will create employment opportunities for 17 persons.

The total investment requirement is estimated at Birr 5.5 million, out of which Birr 3.7 million is required for plant and machinery.

The project is financially viable with an internal rate of return (IRR) of 14% and a net present value (NPV) of Birr 1.87 million, discounted at 8.5 %.

II. PROJECT DESCRIPTION

A higher clinic is an institution that provides a broad range of medical services to sick, injured, or pregnant patients. Higher clinic employ medical, nursing and support staff to provide inpatient care to people who require close medical monitoring and out patient care to people who need treatment but not constant medical attention.

III. MARKET STUDY AND SERVICE CAPACITY

A. MARKET STUDY

3.1 Present And Projected Demand

Health services are essential elements in ensuring a full and meaningful life for the people. Good health contributes to increased production of goods and services while poor health puts labour force out of income. This implies the necessity of providing adequate health services through establishment of health facilities that are adequately staffed and well-supplied with qualified medical personnel and medical equipment and drugs.

However, at present, in BGRS communicable diseases such as malaria, intestinal parasites, respiratory tract infections, diarrhea, skin and eye infections are widespread.

A number of factors have contributed to the current situation, of which the major ones are;

- Health services are limited;
- Health medical equipment and supply are in short supply; and
- Educational status of the population is low resulting in poor hygiene.

Currently, there are 119 health facilities in the region. These consist of 2 hospitals, 58 health stations and 47 health posts (viz. Table 3.1). These include 8 health posts and 4 health centers that are under construction.

Table 3.1
HEALTH FACILTIES BY ZONE AND WOREDA, 2003

Zone	Wored	Hospital	Health center	Health station	Health post	Total Facility	Share in total - %
Assosa	Assosa	1	3	31	22	57	47.9
	Assosa	1	1	15	4	21	
	Bambisi		1	6	3	10	
	Odda Godere			2	3	5	
	Komosha			1	1	2	
	Menge		1	1	6	8	
	Sherkole			3	2	5	
	Kulmuk			3	3	6	
Metekel			5	13	13	31	26.1
	Guba			3	2	5	
	Dangul		1	4	2	7	
	Mandure		1	2	3	6	
	Dibate		1	2	3	6	
	Bullen		1	1	2	4	
	Wombera		1	1	1	3	
Kamashi			2	6	8	31	26.1
	Sirb Abay			1	1	2	
	Agalometi			1	1	2	
	Kamashi		1	2		3	
	Belo Jiganfoy		1	1	5	7	
	Yaso			1	1	2	
	Mao-Komo		1 (1)	5 (5)	3 (3)	9 (9)	
	Pawe	1 (1)	1 (1)	3 (3)	1 (1)	6 (6)	
Regional Total		**2**	**13**	**58**	**47**	**119**	**100**

Hence, there is one hospital for 290,000 people, one health center for 48,333 people, one health station for 10,000 people and one health post for 12,340 people.

The population of the BGRS will increase to 609,509 by the year 2005 and 689,242 by the year 2010, and to 773,813 by the year 2015. Therefore, considering the critical shortage of medical service in the region, it is assumed that the envisaged higher clinic will have adequate present and future market.

3.2 Pricing

For the purpose of financial analysis a price of Birr 20, and Birr 70 for out-patients per check up and for in-patients per night, respectively is adopted. Moreover, for x-ray check up and for laboratory analyses of blood and stool, the envisaged clinic will charge Birr 30 and Birr 15, respectively.

B. SERVICE CAPACITY

The clinic will have a capacity to treat 80 out patients per day. Moreover, the clinic will have 30 beds for in-patients. Therefore, the clinic will treat 29,200 out-patients per year, and assuming that one patient will stay 5 days on average, the total annual number of in-patients will be 2,190. Out of the total 31,390 patients that will be treated in the envisaged clinic in a year, 75 % are assumed to make x-ray and laboratory check ups.

IV. MEDICAL SUPPLIES AND UTILITIES

A. MEDICAL SUPPLIES

The medical supplies required by the clinic and corresponding costs are indicated in Table 4.1.

Table 4.1
MEDICAL SUPPLIES REQUIREMENT AND ESTIMATED COST

Sr. No.	Description	Unit of Meas.	Quantity	Cost 'Birr		
				FC	LC	Total
1	Adrenaline injection	pack	20	13,000	7,000	20,000
2	Minophyllioc injection	"	10	8,125	4,375	12,500
3	Savlon (Chlorhexidine + Cotrimide)	"	25	17,875	9,625	27,500
4	Alcohol Solution 79%	"	15	7,313	3,938	11,250
5	Dextrese 40% injection	"	5	1,625	875	2,500
6	Ergometrine maleate injection, tabs	"	10	8,775	4,725	13,500
7	Hydrocortisone sodium succinate	"	5	6,500	3,500	10,000
8	Lidocaine hydrochloride injection	"	5	5,688	3,063	8,750
9	Procaine hydrochloride injection	"	5	4,388	2,363	6,750
10	Vitamin k injection	"	5	6,500	3,500	10,000
11	Hyoscine hydropromide injection	"	10	7,475	4,025	11,500
12	Bandage different sizes	"	20	14,560	7,840	22,400
13	Cotton	"	20	-	13,000	13,000
14	Disposabel syringe different types	"	10	8,775	4,725	13,500
15	Disposable needle different types	"	10	6,175	3,325	9,500
	Grand Total			**116,773**	**75,878**	**192,650**

B. UTILITIES

The major utilities required by the higher clinic are electricity and water. The required quantity of these utilities and corresponding cost are indicated Table 4.2.

Table 4. 2
ANNUAL UTILITIES REQUIREMENT AND COST

	Utility	Unit of Meas.	Qty.	Cost
1	Electricity	kWh	120,000	56.4
2	Water	m^3	10,000	10
	Total			**66.4**

V. MEDICAL EQUIPMENT, BUILDINGS AND CIVIL WORKS

A. MEDICAL EQUIPMENT

The list of medical equipment required by the envisaged higher clinic is shown in Table 5.1. The total cost of medical equipment is estimated at Birr 3.7 million, out of which Birr 3.35 million is required in foreign currency.

Table 5.1
LIST OF REQUIRED MEDICAL EQUIPMENT

Sr. No.	Description	Unit of Meas.	Quantity
1	Sphygmomanometer	pcs	2
2	Clinical Thermometers (assorted)	set	1
3	Diagnostic set	set	4
4	Scale infant	pcs	4
5	Scale adult	pcs	4
6	Examination bed	pcs	6
7	Hospital bed	pcs	50
8	Infusion stand	pcs	5
9	Instruments sterilizer	pcs	2
10	Refrigerator	pcs	2
11	Stethoscope	pcs	2
12	Centrifuge	pcs	4
13	Lab. Bench	pcs	2
14	Glass Ware (assorted)	set	4
15	Timer	pcs	2
16	Photometer	pcs	2

Table 5.1 cont'd

Sr. No.	Description	Unit of Meas.	Qty.
17	Hemoglobin pipette	set	2
18	WBC pipette	set	2
19	Hemocytometer with its cover slide	pcs	1
20	Test Tubes (assorted)	set	2
21	Measuring pipettes (assorted)	set	2
22	Electrical boiler	pcs	1
23	Delivery table	pcs	4
24	Foetal monitor	pcs	1
25	Vacuum extractor / retoscope	pcs	1
26	Aspirator / Manual/	pcs	2
27	Breast pump	pcs	2
28	Suction unit	pcs	1
29	Light portable /mobile	pcs	2
30	Auxiliary Operating light	pcs	2
31	Minor operating set	set	3
32	Autoclave	pcs	2
33	Delivery kit	set	2
34	Stethoscope (baby)	pcs	2
35	Oto- Opthalmoscope	pcs	2
36	Hand reflexor	pcs	2
37	Respiration bag adult	pcs	4
38	Respiration bag babies	pcs	4
39	Oxygen cylinder 20 lts.	pcs	2
40	Tourniquet	pcs	2
41	Forceps asserted	set	2
42	Enema set	set	2
43	Photometer	pcs	1
44	Pediatric Surgical kit	set	2
45	Sphygmomanometer (pediatric, various)	pcs	1
46	X- Ray machine	pcs	1
47	Fluoroscopy	pcs	2
48	Viewers	Set	1
49	Cassettes intensifying screens, film	Set	1
50	Hunger (different types)	Set	1

1. Source of Medical Equipment

The medical equipment required by the envisaged higher clinic can be aquiered from the following supplier.

Raja medical equipment supplier
West Bombay 123456
Raj Bavan street
Fax 213- 346789

B. LAND, BUILDINGS AND CIVIL WORKS

The total area requirement of the project is estimated at 1,500 m^2, out of which the built – up area is estimated to be 500 m^2. The total cost of land lease, for 70 years of land holding at a cost of Birr 2 per m^2 per year is estimated to be Birr 210,000. On the other hand, the total cost of building and civil works, at an average cost of Birr 2,000 per m^2, is estimated to be Birr 1,000,000. Thus, the total investment cost of land, building and civil works assuming that the total land lease cost will be paid in advance will be Birr 1.2 million.

C. LOCATION

The Clinic can be located in major towns of the region.

VI. MANPOWER AND TRAINING REQUIREMENT

A. MANPOWER REQUIREMENT

The envisaged higher clinic project requires 17 work force. The proposed manpower requirement for the envisaged higher clinic and the estimated annual labour cost including fringe benefits are given in Table 6.1.

Table 6.1
MANPOWER REQUIREMENT AND ANNUAL LABOUR COST

Sr. No.	Description	Req. No.	Monthly Salary (Birr)	Annual Salary (Birr)
1	Medical director	1	3,500	242,000
2	Administrator	1	1,500	18,000
3	Doctor (medical)	3	3,200	115,200
4	Matron (Head nurse)	1	1,200	14,400
5	Nurse	5	1,100	66,000
6	Health Assistant	4	620	29,760
7	Health Officer	1	1,300	15,600
8	Mid Wife	2	2,250	30,000
9	Radiographer (x-ray technician)	2	850	10,200
10	Assistant x-ray technician	1	320	3,840
11	Lab Technician	2	1,100	26,400
12	Card room staff	2	250	6,000
13	Assistant Lab. Technician	2	420	10,080
14	Secretary (receptionist)	1	550	6,600
15	Cleaners	2	200	4,800
16	Driver	1	350	4,200
17	Guards	2	200	4,800
	Sub – total	17		**407,880**
	Employees Benefits 15% of basis salary			61,182
	Grand Total	**17**		**469,062**

B. TRAINING REQUIREMENT

No special training is anticipated.

VII. FINANCIAL ANALYSIS

The financial analysis of the Higher Clinic project is based on the data presented in the previous chapters and the following assumptions:-

Construction period	1 year
Source of finance	30 % equity
	70 % loan
Tax holidays	6 years
Bank interest	7.5 %
Discounted cashflow	8.5 %
Repair and maintenance	3 % of the total plant and machinery

Accounts receivable	30 days
Raw material, local	30 days
Cash in hand	5 days
Accounts payable	30 days

A. TOTAL INITIAL INVESTMENT COST

The total initial investment cost of the project including working capital is estimated at 5.5 million, of which 6 per cent will be required in foreign currency.

The major breakdown of the total initial investment cost is shown in Table 7.1

Table 7.1
INITIAL INVESTMENT COST

Sr. No.	Cost Items	Total ('000 BIRR)
1	Land lease value	210
2.	Building and Civil Work	1000
3.	Medical supplies and Equipment	3700
4.	Office Furniture and Equipment	200
5.	Vehicle	60
6.	Pre-production Expenditure*	288.4
7	Working Capital	48.15
	Total Investment cost	**5,506.5**
	Foreign share	**6.4**

B. SERVICE COST

The annual service rendering cost at full operation capacity of the project is estimated at Birr 1.6 million (see Table 7.2). The medical supplies and utility cost accounts for 15.9 per cent while repair and maintenance take 9.5 per cent of the service cost.

* *N.B Pre-production expenditure includes interest during construction (Birr283.4 thousand)and (Birr 5 thousand) costs of registration, licensing and formation of the company including legal fees, commissioning expenses, etc.*

Table 7.2
ANNUAL PRODUCTION COST AT FULL CAPACITY ('000 BIRR)

Items	Cost	%
Medical supplies and Inputs	192.6	11.8
Utilities	66.4	4.1
Maintenance and repair	155.1	9.5
Labour direct	407.9	25.0
Clinic Overheads	61.2	3.75
Administration Cost	10.0	0.61
Total Operating Costs	**893.2**	**54.8**
Depreciation	431.5	26.5
Cost of Finance	305.3	18.7
Total Production Cost	**1,629.9**	**100**

C. FINANCIAL EVALUATION

1. Profitability

According to the projected income statement, the project will start generating profit in the 1st year of operation. Important ratios such as profit to total sales, net profit to equity (Return on equity) and net profit plus interest on total investment (return on total investment) show an increasing trend during the lifetime of the project.

The income statement and the other indicators of profitability show that the project is viable.

2. Break-even Analysis

The break-even point of the project including cost of finance when it starts to operate at full capacity (year 1) is estimated by using income statement projection.

$$BE = \frac{\text{Fixed Cost}}{\text{Sales} - \text{Variable cost}} = 48\%$$

3. Pay-Back Period

The investment cost and income statement projection are used to project the pay-back period. The project's initial investment will be fully recovered within 6 years.

4. Internal Rate of Return and Net Present Value

Based on the cash flow statement, the calculated IRR of the project is 14 % and the net present value at 8.5% discount rate is Birr 1.87 million.

D. ECONOMIC BENEFITS

The project can create employment for 17 persons. In addition to rendering health services of the local people, the project will generate Birr 0.25 million per annum in terms of tax revenue when it starts to operate at full capacity. Moreover, the Regional Government can collect employment, income tax and sales tax revenue.