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Appendix

Appendix A

Information about District Hospital provided by the Superintendent of the Hospital from records and as well as by observation:

Area of the Manikgonj District Hospital = 23814 square feet (sq.ft)

Built in 1982 with 30 years life and building cost with furniture and fixtures was 15,000,000 Tk.

Specification of the hospital building:

Superintendent's office room	=558 sq.ft
Store	=930 sq.ft
Head assistant/Accountant's room	=450 sq.ft
Water pump machine room	=165 sq.ft
Library	=602 sq.ft
Garage	=168 sq.ft
Space for Administration Department	**=2873 sq.ft**

Waiting space for the patients = 1556 sq.ft of which OPD area 1368.52 sq.ft and IPD area was 187.48 sq.ft (on the basis of total number of (IPD + OPD) patients, OPD use 87.95 % and IPD 12.05% area);

Doctors (# 6) room (360*6) =2160 sq.ft of which OPD area 1899.75 sq.ft and IPD area was 260.25 sq.ft (on the basis of total number of IPD and OPD patients, OPD use 87.95% and IPD 12.05% area);

Pharmacist's room =378 sq.ft of which OPD area 265.58 sq.ft and IPD area was 112.42 sq.ft (on the basis of total number of patient days- taking 1 OPD visit equal to 1 IPD day and OPD use 70.26% and IPD use 29.74% area) ;

Laboratory =360 sq.ft of which OPD area 72 sq.ft and IPD area was 288 sq.ft (on the basis of utilization rate-20% use by OPD and 80% IPD) ;

Pathologist's room =360 sq.ft of which OPD area 72 sq.ft and IPD area was 288 sq.ft (on the basis of utilization rate-20% use by OPD and 80% IPD) ;

Radiology department =720 sq.ft of which OPD area 144 sq.ft and IPD area was 576 sq.ft (on the basis of utilization rate-20% use by OPD and 80% IPD) ;

Operation Theater =958 sq.ft of which OPD area 287.4 sq.ft and IPD area was 670.6 sq.ft (on the basis of utilization rate-30% use by OPD and 70% IPD) ;

R M O/emergency room = 720 sq.ft of which OPD area 144 sq.ft and IPD area was 576 sq.ft (on the basis of utilization rate-20% use by OPD and 80% IPD) ;

Nursing Super + nurses room = 360 sq.ft of which OPD area 36 sq.ft and IPD area was 324 sq.ft (on the basis of utilization rate-10% use by OPD and 90% IPD) ;

Ward	=7585 sq.ft (full space for IPD use);
Diarrhoea ward	=1988 sq.ft (full space for IPD use) ;
Kitchen	=2189 sq.ft (full space for IPD use) ;
Cabin	= 287 sq.ft (full space for IPD use) ;
Dissection Room	=240 sq.ft (full space for IPD use) ;
Doctors (# 3) room (360*3)	=1080 sq.ft (full space for IPD use) ;

Space for Administration	=2,873 sq.ft	=12.06 %of total hospital area
Space for OPD	=4,289.25 sq.ft	=18.01% of total hospital area
IPD space with diarrhoea ward	=16,551.75 sq.ft	=69.93% of total hospital area
Total space	=23,814 sq.ft	

Space for diarrhoeal in-patient ward =1,988 sq.ft = (1,988 / 23,814) * 100 = 8.35 % of total hospital area.

Diarrhoeal OPD covers (5,647/58,478)% of total OPD area.

So, space for diarrhoeal outpatients = 4,289.25*(5,647/58,478)= 414.2 sq.ft.

Diarrhoeal OPD area covers (414.2 / 23,814) * 100 = 1.74% of total hospital area.

Total number of outpatient (OPD) in 1997	*=58,478*
Total number of in-patient (IPD) in 1997	*= 8,011*
Total number of (OPD+IPD) patient in 1997	*=66,489*

In case of IPD average stays in hospital per patient in 1997 was = 3.09 days ;

One patient day in IPD equivalent to one OPD visit in the use of pharmacy i.e., Pharmacist provide medicine usually once per patient per day both for OPD and IPD;

So the number of IPD patient day = 8011*3.09 =24,754

And the number of OPD patient day = 58,478

So, the total number (IPD+OPD) patient day =83,232

Total number of diarrhoea outpatient = 5,647

Total number of diarrhoeal in-patient = 803

Average number of days stay in hospital = 3

Total number of diarrhoeal in-patient days 803*3 = 2,409

Total material costs including drugs and tests for diarrhoeal OPD = 114,916.50 Tk;

Total material costs including drugs and tests for diarrhoeal IPD = 61,694.49 Tk;

Hospital diet or food @ 30 Tk per patient per day for IPD.

Total food cost for IPD in 1997= 30 * 2,409 = 72,270.00 Tk;

Average material cost including drugs and lab. tests per patient at diarrhoeal OPD = 114,916.50/5,647= 20.35 Tk;

Average material cost including drugs and lab. tests per patient per day at diarrhoeal IPD= 61,694.49/2,409= 25.61 Tk;

Ambulance life 10 year, bought in1997 and value at 1997 is 780,000 Tk,;

Fuel and maintenance cost in 1997= 200,000 Tk;

Microscope (# 5), 10 year life, bought in 1992 and value at 1992 price =20,000 * 5=100,000 Tk;

Water pump machine 20 year life, bought in 1997 and value at 1997 = 1,100,000 Tk ;

Electricity bill in 1997 = 700,000 Tk;

Telephone bill in 1997 = 150,000 Tk;

Water bill can not be separated because underground water is lifted by pump for supply through electricity and here is no cost of water, only cost of electricity in the electricity bill and there is not any separate meter.

Laboratory (pathology):

Total number of tests (routine test of blood, stool and urine) in 1997 =3917;

Number of tests for OPD in 1997=783;

Number of tests for IPD in 1997=3134;

Tests for diarrhoeal in-patient = 313 and it was = (313 / 3,917) * 100 = 7.99% of total tests in hospital;

Tests for diarrhoeal outpatient = 92 and it was = (92 / 3,917) * 100 = 2.35% of total tests in hospital;

Diarrhoeal OPD and IPD tests together 10.34% of total tests in hospital;

Average number of days stay in hospital by IPD patient is 3.09; therefore,

8,011 in-patient is equivalent to 8,011 * 3.09 = 24,754 patient days in case of IPD;

803 diarrhoeal in-patient is equivalent to 803 * 3 = 2,409 patient days in IPD;

So, diarrhoeal IPD covers (2409 / 24,754) * 100 = 9.73% of total IPD, and diarrhoeal OPD covers (5,647 / 58,478) * 100 = 9.66% of total OPD;

And it assumed that one (01) in-patient day equivalent to three (03) outpatient days in consumption of some services like water, electricity, telephone, ambulance, in allocation of salary of administration and reallocation of capital cost of administration:

So 8,011 in-patient equivalent to (8,011 * 3.09 * 3) = 74,262 outpatient days;

And in case of diarrhoeal in-patients average stays in hospital 3 days;

803 diarrhoeal in-patient is equivalent to 803*3*3= 7,227 outpatient days;

Number of OPD patient = 58,478 and of which diarrhoeal patient were 5,647;

58,478 OPD patient =58,478 outpatient days;

8,011 IPD patient =74,262 outpatient days;

Total number of outpatient days = 58,478+74,262 = 132,740 outpatient days;

OPD patient covers (58,478/132,740)*100 = 44.05 % of total outpatient days;

IPD patient covers (74,262/132,740)*100 = 55.95 % of total outpatient days;

Diarrhoeal OPD covers(5,647/132,740)*100 = 4.25% of total outpatient days;

Diarrhoeal IPD covers (7,227/132,740)*100 = 5.45% of total outpatient days;

So, ambulance driver salary's 4.25% for diarrhoeal OPD and 5.45% for IPD because his service and total salary for total IPD and OPD.

Doctor spent on average 3 minutes time/ patient at OPD for consultation.

And similarly an Orderly/MLSS spent 3 minutes time/patient at OPD with the consulting doctor for direct support service.

Doctor spent on average /patient/day 7 minutes time at IPD for consultation.

Pharmacist spent on average 2.5 minutes time/patient at OPD for distribution of medicine.

Pharmacist spent 2 minutes time/patient on average at IPD for distribution of medicine.

Laboratory technician on average spent 25 minutes for a routine test of stool/urine/blood.

Pathologists' spent on average 5 minutes time/test.

Two senior staff nurse spent per day full working time for nursing the patients at diarrhoeal IPD.

Appendix B

Information about Thana Health Complex provided by the Civil Surgeon (Superintendent of District Hospital) In-charge of the District and the Medical Officer In-charge of THC from records and as well as by observation:

Area of the Singair Thana Health Complex = *12,711 square feet (sq.ft)*

Thana Health Complex built in 1992 with 30 years life.

Building cost with furniture and fixtures = 25,000,000 Tk

Specification of the Thana Complex Building:

Thana Health Administrator's (THA) office room =390 sq.ft

Head Assistant/Accountant +Cashier's room = 220 sq.ft

Store = 440 sq.ft

Water pump machine room =156 sq.ft

Room for field staffs = 220 sq.ft

Library =332 sq.ft

Garage =220 sq.ft

Space for Administration Department (Deptt) = **1978 sq.ft**

Operation Theater =658 sq.ft of which OPD area 131.6 sq.ft and IPD area was 526.4 sq.ft (20% OPD and 80% used by IPD patient);

X-ray room = 220 sq.ft of which OPD area 22 sq.ft and IPD area was198 sq.ft (10% OPD and 90% used by IPD patient);

Emergency Room = 350 sq.ft of which OPD area 70 sq.ft and IPD area was280 sq.ft (20% OPD and 80% used by IPD patient);

Room for nurses = 220 sq.ft of which OPD area 22 sq.ft and IPD area was 198 sq.ft (10%OPD and 90% used by IPD patient);

Laboratory = 360 sq.ft of which OPD area 54 sq.ft and IPD area was 306 sq.ft (15% OPD and 85 % used by IPD patient);

Pharmacist's room = 220 sq.ft of which OPD area 188.44 sq.ft and IPD area was 31.56 sq.ft (on the basis of total patient days-(34,284 /40,026) * 100 = 85.65 % for OPD and (5,742 / 40,026) * 100 = 14.35% for IPD);

Waiting space for patient =1280 sq.ft of which OPD area 1189.45 sq.ft and IPD area was 90.55 sq.ft (on the basis of total number of patients-(34,284/36,894)*100= 92.93% OPD and (2,610/36,894)*100= 7.07 % used by IPD);

Doctors (# 6) room 300 * 6= 1800 sq.ft of which OPD area 1672.66 sq.ft and IPD area was127.34 sq.ft (on the basis of total number of patients);

Doctors (# 2) room 300*2= 600 sq.ft (full space for IPD);

Area of the ward =4,185 sq.ft (full space for IPD);

Kitchen =705 sq.ft (full space for IPD);

Dissection room =135 sq.ft (full space for IPD);

Total Thana Health Complex area = 12,711 sq.ft

Space for administration =1,978 sq.ft =15.56% of total hospital area;

Space for OPD =3,350.15 sq.ft =26.36% of total hospital area;

Space for IPD =7,382.85 sq.ft =58.08% of total hospital area;

Total number of outpatient in 1997 = 34,284

Total number of in-patient in 1997 = 2,610

Total number of patient = 36,894

Average number of days stay in hospital at 1997 = 2.2 days.

Total number of patient days in in-patient =2.2*2610=5,742.

One patient day in case of IPD equivalent to one OPD visit in the use of pharmacy.

So the number of IPD visit = 2610*2.2 = 5,742

And the number of OPD visit = 34,284

So, the total number visit (IPD+OPD) =40,026 .

Total number of diarrhoea outpatient in 1997 = 4,114.

Total number of diarrhoea in-patient in 1997 = 396.

Average number of days stay at hospital =2.0 days.

Total number of diarrhoeal in-patient days =2*396=792 days.

Diarrhoeal in-patient percentage of total in-patient =(792/5,742)*100=13.79%.

Diarrhoeal outpatient percentage of total outpatient=(4,114/34,284)*100=12%.

Total material costs including drugs and tests for diarrhoeal OPD = 63,808.14 Tk.

Total material costs including drugs and tests for diarrhoeal IPD = 23,007.60 Tk.

Total food cost for IPD (30*792) = 23,760.0 Tk.

Average material cost per patient at diarrhoeal OPD = 63,808.14/4,114 = 15.51 Tk.

Average material cost / patient/ day =23007.60/792 = 29.05 Tk.

Hospital diet/food 30 Tk per patient per day for IPD.

Ambulance 10 year life, buying year1994, value at 1994 = 1,265,000 Tk .

Motor cycle (number 5) 10 year life, buying year 1993 and value of 5 motor cycle at1993 price was =110,000*5=550,000 Tk.

Water pump machine 20 year life, buying year1992, value at 1992 price was = 800,000 Tk.

Microscope (number 3) 10 year life, buying year 1992 and value at 1992 price = 20,000*3= 60,000 Tk.

Fuel and Maintenance of vehicle in 1997 = 129,000 Tk .

Electricity bill in 1997 = 132,615 Tk .

Telephone bill in 1997 = 12,000 Tk .

Water bill in 1997 = 54,000 Tk .

Laboratory(pathology):

Total number of routine tests (blood, stool and urine) in 1997 = 1,667.

Tests for OPD = 250 and is 15% of total tests in hospital.

Tests for IPD =1,417 and is 85% of total tests in hospital.

Tests for diarrhoeal in-patient = 139 and is 8.34% of total tests in hospital.

Tests for diarrhoeal outpatient = 00

Average number of days stay in hospital by IPD patient is 2.2; therefore,

2610 in-patient is equivalent to 2,610*2.2 = 5742 patient days in case of IPD.

And it assumed that one (01) in-patient day equivalent to three (03) outpatient days in consumption of services like water, electricity, telephone, ambulance, in the allocation of salary of administration and reallocation of capital costs of administration:

So, 2,610 in-patient equivalent to 2,610*2.2*3 =17,226 outpatient days;

And in case of diarrhoeal in-patients average stay in hospital 2 days, therefore,

396 diarrhoeal in-patient is equivalent to 396*2*3=2,376 outpatient days;

Number of OPD patient= 34,284 and of which diarrhoeal patient was 4,114;

34,284 OPD patient =34,284 outpatient days= 66.56%of total outpatient days.

2,610 IPD patient =17,226 outpatient days= 33.44%of total outpatient days.

Total =51,510 outpatient days=100 %.

Total number of outpatient days =34,284 + 17,226 = 51,510 outpatient days.

Diarrhoeal OPD covers (4,114 / 51,510)*100 =7.99% of total outpatient days.

Diarrhoeal IPD covers(2,376 / 51,510)*100=4.61% of total outpatient days.

Ambulance driver salary's 7.99% for diarrhoeal OPD and 4.61 % for IPD.

Doctor spent on average 3 minutes time/ patient at OPD for consultation.

And similarly the Orderly/MLSS spent 3 minutes time/patient at OPD.

Doctor spent on average /patient/day 8 minutes time at IPD for consultation.

Pharmacist spent on average 3 minutes time/patient at OPD for distribution of drugs.

Pharmacist spent 2 minutes time/patient on average at IPD for distribution of drugs.

Laboratory technician on average spent 30 minutes for a routine test of stool/urine/blood.

Nurse spent on average 20 minutes/patient/day at IPD for nursing.

Appendix C

Table C.1 : Spaces Under Different Departments of District Hospital in 1997.

Space for Administration :	Area(Sq ft)					
Superintendent's office	558.00					
Head Asstt/Accountant's office	450.00					
Store	930.00					
Water Pump machine	165.00					
Library	602.00					
Garage	168.00					
Total for administration	2,873.00					

Space for OPD and IPD	1	2	3	4
	Area(Sq ft)	OPD area (sq. ft)	IPD area (sq. ft)	
Waiting space for patient	1,556.00	1,368.52	187.48	on the basis of total number of patients
Doctors room(# 6)	2,160.00	1,899.75	260.25	do
Pharmacist's room	378.00	265.58	112.42	on the basis of total patient days
Laboratory	360.00	72.00	288.00	on the basis of utilization rate
Pathologist's room	360.00	72.00	288.00	do
Radiology department	720.00	144.00	576.00	do
operation theater	958.00	287.40	670.60	do
Ward	7,585.00	-	7,585.00	do
Diarrhoea ward	1,988.00	-	1,988.00	do
Kitchen	2,189.00	-	2,189.00	do
Cabin	287.00	-	287.00	do
Nursing super and nurses room	360.00	36.00	324.00	do
Dissection room	240.00	-	240.00	do
RMO/Emergency room	720.00	144.00	576.00	do
Doctors room(# 3)	1,080.00	-	1,080.00	do
Sub total	20,941.00	4,289.25	16,651.75	

Notes : Information in Column 1, Column 2 and Column 3 from Appendix A .

Total hospital area is 23,814 square feet (Sq.ft).

Space for administration is 2,873 Sq.ft =(2,873/23,814)*100= 12.06 % of total hospital space.

Space for OPD is 4,289.25 Sq.ft =(4,289.25/23,814)*100= 18.01 % of hospital area.

Space for IPD including diarrhoea is16,651.75 Sq.ft =(16,651.75 /23,814)*100= 69.93% of total hospital area.

Space for diarrhoeal IPD is 1,988 Sq.ft=(1,988/23,814)*100= 8.35% of total hospital area.

Space for diarrhoeal OPD is 414.2 Sq.ft=(414.2 / 23,814)*100=1.74% of total hospital area.

Table C.2 : Average Annual Cost of Capital Cost Items of District Hospital Related to Diarrhoeal Patient Service in 1997.

Capital Cost items	1	2	3	4	5	6	7	8
	Life time (Year)*	Buying/ making Year	Cost (Tk)	Loan rate*** (%)	Value at 1997 (Tk)	Scrap value rate %	Scrap value (Tk)	Average annual cost at 1997 price (Tk)
Building	30	1982	15,000,000.00	0.14	107,069,069.68		-	3,568,968.99
Jeep (# 1)	10	1992	1,200,000.00	0.14	2,310,497.50	0.05	35,524.82	227,497.27
Ambulance (# 1)	10	1997	780,000.00	0.14	780,000.00	0.05	11,992.81	76,800.72
Microscope (# 5)	10	1992	100,000.00	0.14	192,541.46	0.00	-	19,254.15
Water pump machine	20	1997	1,100,000.00	0.14	1,100,000.00	0.05	4,562.16	54,771.89
Total								**3,947,293.01**

Notes :

Information in column 1, column 2 and column 3 from Appendix A.
Column 5 = Column 3 * (1+ Column 4) ^ Life time of the capital item used.
Column 7 = (Column 3 * Column 6) / (1+ Column 4) ^ Life time of the capital item not yet used.
Column 8 = (Column 5 - Column 7) / Column 1.

* Superintendent of the District Hospital Provided the information about life time, buying or making year and cost of item.
** According to the Central Transport Pool,Ministry of Establishment, Government of Bangladesh
the scrap value of an item on an average 5% of its original value.
***Economic Trends, Monthly December 1997,Bangladesh Bank, Government of Bangladesh.

Table C.3 : Annual Recurrent Cost of Salary of Administration at District Hospital in 1997.

Salary (Administration)	1	2	3	4	5	6
	Number	Basic salary/ month at 1997 (Tk)	Salary/ month at 1997 (Tk)	Salary/yr. (Tk)	Bonus/yr. (Tk)	Total salary/yr. (Tk)
Superintendent of DH	1	10,260.00	15,585.50	187,026.00	20,520.00	207,546.00
Office Assistant	1	3,307.00	4,879.80	58,557.60	6,614.00	65,171.60
Accountant	1	3,429.00	5,050.60	60,607.20	6,858.00	67,465.20
Store keeper	1	3,006.00	4,458.00	53,496.00	6,012.00	59,508.00
Orderly/MLSS	1	1,894.00	2,901.50	34,818.00	3,788.00	38,606.00
Jeep Driver	1	3,930.00	5,752.00	69,024.00	7,860.00	76,884.00
Sweeper	1	1,482.00	2,324.80	27,897.60	2,964.00	30,861.60
Sweeper	1	1,482.00	2,324.80	27,897.60	2,964.00	30,861.60
Sweeper	1	1,482.00	2,324.80	27,897.60	2,964.00	30,861.60
Sweeper	1	1,482.00	2,324.80	27,897.60	2,964.00	30,861.60
Sweeper	1	1,482.00	2,324.80	27,897.60	2,964.00	30,861.60
Sweeper	1	1,482.00	2,324.80	27,897.60	2,964.00	30,861.60
Sweeper	1	1,482.00	2,324.80	27,897.60	2,964.00	30,861.60
Total						**731,212.00**

Notes :

Information in Column 1, Column 2 and Column 3 from District Hospital records.
Column 4 = Column 3 * 12
Column 5 = Column 2 * 2
Column 6 = Column 4 + Column 5

Table C.4 : Annual Recurrent Cost of Electricity, Telephone and Water ,
Fuel and Maintenance of Vehicles at District Hospital in 1997.

Cost Items	1	2
	Time (yr)	Cost/yr. (Tk)
Electricity bill	1	700,000.00
Telephone bill	1	150,000.00
Fuel and Maintenance of vehicle	1	200,000.00
Total		**1,050,000.00**

Notes :

Information in Column 1 and Column 2 from (District Hospital records) Appendix A.

Water has no cost but for lifting the underground water by pump machine needs electricity
and included in the electricity bill which cannot be separated because there was not any separate meter.

Table C.5 : Annual Recurrent Cost of Salary of Personnel Related to Patient Service for Diarrhoea at District Hospital in 1997.

Salary (Patient service)	1	2	3	4	5	6
	Number	Basic salary/ month at 1997(Tk)	Salary/ month at 1997(Tk)	Salary/yr. (Tk)	Bonus/yr. (Tk)	Total salary/yr. (Tk)
Doctor-A (paediatric, OPD)	1	5,000.00	7,150.00	85,800.00	10,000.00	95,800.00
Doctor-B (male, OPD)	1	5,150.00	7,360.00	88,320.00	10,300.00	98,620.00
Doctor-C(female, OPD)	1	4,396.00	6,304.40	75,652.80	8,792.00	84,444.80
Orderly/MLSS	1	1,404.00	2,209.00	26,508.00	2,808.00	29,316.00
Orderly/MLSS	1	1,410.00	2,224.00	26,688.00	2,820.00	29,508.00
Orderly/MLSS	1	1,404.00	2,209.00	26,508.00	2,808.00	29,316.00
Medical Officer(MO)	1	5,150.00	7,360.00	88,320.00	10,300.00	98,620.00
Medical Officer(MO)	1	5,300.00	7,570.00	90,840.00	10,600.00	101,440.00
Medical Officer(MO)	1	6,200.00	8,520.00	102,240.00	12,400.00	114,640.00
Pathologist	1	5,300.00	7,570.00	90,840.00	10,600.00	101,440.00
Laboratory Technician	1	4,602.00	6,692.80	80,313.60	9,204.00	89,517.60
Pharmacist-1	1	5,154.00	7,300.00	87,600.00	10,308.00	97,908.00
Pharmacist-2	1	3,105.00	4,497.00	53,964.00	6,210.00	60,174.00
Pharmacist-3	1	3,117.00	4,513.80	54,165.60	6,234.00	60,399.60
Senior staff nurse-1	1	2,616.00	4,312.50	51,750.00	5,232.00	56,982.00
Senior staff nurse-2	1	4,581.00	6,825.00	81,900.00	9,162.00	91,062.00
Cook-1	1	1,878.00	2,879.20	34,550.40	3,756.00	38,306.40
Cook-2	1	1,878.00	2,879.20	34,550.40	3,756.00	38,306.40
Cook-3	1	1,878.00	2,879.20	34,550.40	3,756.00	38,306.40
Ambulance Driver	1	3,930.00	5,752.00	69,024.00	7,860.00	76,884.00
Total						1,430,991.20

Notes :

Information in Column 1, Column 2 and Column 3 from hospital records.

Column 4 = Column 3 * 12.

Column 5 = Column 2 * 2.

Column 6 = Column 4 + Column 5.

Table C.6 : Allocation of Annual Capital Cost of Capital Cost Items to Departments at District Hospital In 1997

Department	1	2	3	4	5	6	7	8	9	10
	Allocation basis(%of tot total Sq.ft)	Building cost/deptt (Tk)	Water pump machine cost/deptt (Tk)	Jeep cost /deptt (Tk)	Allocation basis(%of total outpatient days)	Ambulance cost/deptt (Tk)	Reallocation of adminstration cost/deptt (Tk)	Allocation basis (number of tests)	Microscope cost/deptt (Tk)	Total annual capital cost/deptt (Tk)
Administration	12.06%	430,417.66	6,605.49	27,436.17	0.0	-	-	0	-	464,459.33
Outpatient deptt	18.01%	642,771.32	9,864.42	40,972.26	44.05%	33,830.71	204,594.32	783	3,848.86	935,881.89
In-patient deptt	69.93%	2,495,780.02	38,301.99	159,088.86	55.95%	42,969.99	259,864.98	3134	15,405.29	3,011,411.13
OPD of diarrhoea	1.74%	62,100.06	953.03	3,958.45	4.25%	3,264.03	19,739.52	92	452.23	90,467.32
IPD of diarrhoea	8.35%	298,008.91	4,573.45	18,996 02	5.45%	4,185.64	25,313.03	313	1,538.56	352,615.62

Notes :

Information in Column 1, Column 5 and Column 8 from Appendix A .

Total annual capital cost for administration =430,417.70+6,605.50+27,436.17 =464,459.30 Tk and reallocted to the OPD and IPD of diarroea @ 4.25% and 5.45% respectively (Calculation in Appendix A).

column 2 = column 1 * 3,568,969.00

column 3 = column 1 * 54,771.9.

column 4 = column 1 * 227,497.3.

column 6 = column 5 * 76,800,7.

column 7 = column 5 * 464,459.3.

column 9 = (column 8 / 3,917) * 19,254.15.

column 10 = column 2 + column 3 + column 4 + column 6 + column 7 + column 9.

Table C.7 : Allocation of Annual Recurent Cost of Salary of Administration, Electrcity-Telephone-Water and Fuel and Maintenance of Vehicles to Departments at District Hospital in 1997.

Department	1	2	3	4	5	6
	Allocation basis(% of total outpa-tient days)	Total cost of salary / yr (Tk)	Cost of salary /deptt (Tk)	Total cost of ETW & FM/ yr (Tk)	Cost of ETW & FM /deptt (Tk)	Total cost per deptt (Tk)
Outpatient deptt	44.05%	731,212.00	322,098.89	1,050,000.00	462,525.00	784,623.89
In-patient deptt	55.95%	731,212.00	409,113.11	1,050,000.00	587,475.00	996,588.11
OPD of diarrhoea	4.25%	731,212.00	**31,076.51**	1,050,000.00	**44,625.00**	**75,701.51**
IPD of diarrhoea	5.45%	731,212.00	***39,851.05***	1,050,000.00	***57,225.00***	***97,076.05***

Notes :

Information in column 1 and column 4 from Appendix A.

Column 3=Column 1 * Column 2.
Column 5=Column 1 * Column 4.
Column 6=Column 3 + Column 5.

Table C.8 : Allocation of Annual Recurrent Cost of Salary to OPD for Diarrhoea at District Hospital in 1997

Salary (Patient service)	1	2	3	4	5	6	7	8	9	10
	Number	Total salary/yr. (Tk)	Average salary/yr. (Tk)	Total working hour/yr	Average salary/hr (Tk)	Average time for OPD patient/yr (hr)	Cost/year for OPD patient (Tk)	Percent of salary for OPD of diarrhoea	Cost/year for OPD patient (Tk)	Total cost for OPD/yr (Tk)
Doctor (OPD)	3	278,864.80	92,954.93	2920	31.83	282.35	8,988.30	0	0	8,988.30
Orderly/MLSS	3	88,140.00	29,380.00	2920	10.06	282.35	2,840.91	0	0	2,840.91
Pathologist	1	101,440.00	101,440.00	2920	34.74	7.67	266.45	0	0	266.45
Laboratory Technician	1	89,517.60	89,517.60	2920	30.66	38.33	1,175.07	0	0	1,175.07
Pharmacist	3	218,481.60	72,827.20	2920	24.94	235.30	5,868.58	0	0	5,868.58
Ambulance Driver	1	76,884.00	76,884.00	2920	26.33		-	4.25%	3267.6	3,267.57
Total cost for diarrhoeal OPD										**22,406.87**

Notes :

Column 3 = Column 2 / Column 1.
Column 4 = 365 * 8 ; 365 days in a year and 8 hours work/day.
Column 5 = Column 3 / Column 4.
Column 7 = Column 5 * Column 6.
Column 9 = Column 3 * Column 8.
Column 10 = Column 7+Column 9.
Total number of outpatient was 5,647.
Doctor spent time/patient at OPD on average 3 minutes and same way an Orderly/MLSS spent 3 minutes/patient.
Doctor time for OPD patient = 5,647 * 3 minutes(m) =16,941 m=282.35 hour(hr); same way MLSS time=282.35 hr.
Ambulance Driver salary's 5.45% for diarrhoeal IPD and 4.25% for diarrhoeal OPD (Appendix A).
Diarrhoeal IPD patient days were 2,409 and total IPD patient days were 24,754 ; so diarrhoeal IPD covers(2,409/24,754)*100= 9,73% of total IPD patient days.
Pharmacist spent 2.5 minutes time/patient on average; so total time spent for diarrhoeal OPD=5,647*2.5 minutes =14,117.5 minutes = 235.3 hr
Laboratory technician spent on average 25 minutes / test; so time for lab. tests for diarrhoeal OPD=92 tests * 25 minutes = 2,300 minutes =38.33 hr
Pathologist's time/test was 5 minutes; so total time spent by Pathologist for 92 tests fordiarrhoeal OPD=92 * 5 minutes=460 minutes=7.67 hr

Table C.9 : Allocation of Annual Recurrent Cost of Salary to IPD for Diarrhoea at District Hospital in 1997.

Salary (Patient service)	1	2	3	4	5	6	7	8	9	10
	Number	Total salary/yr. (Tk)	Average salary/yr. (Tk)	Total working hour/yr	Average salary/hr (Tk)	Average time for IPD patient (hour)	Cost/year for IPD patient (Tk)	Percent of salary for IPD of diarrhoea	Cost/year for IPD patient (Tk)	Total cost for IPD/yr (Tk)
Doctor (OPD)	3	278,864.80	92,954.93	2920	31.83	40.15	1,278.13	0	0	1,278.13
Orderly/MLSS	3	88,140.00	29,380.00	2920	10.06	40.15	403.98	0	0	403.98
Medical Officer(MO)	3	314,700.00	104,900.00	2920	35.92	281.05	10,096.63	0	0	10,096.63
Pathologist	1	101,440.00	101,440.00	2920	34.74	26.08	906.01	0	0	906.01
Laboratory Technician	1	89,517.60	89,517.60	2920	30.66	130.42	3,998.25	0	0	3,998.25
Pharmacist	3	218,481.60	72,827.20	2920	24.94	80.3	2,002.75	0	0	2,002.75
Senior staff nurse-1	1	56,982.00	56,982.00	2920	19.51	2920	56,982.00	0	0	56,982.00
Senior staff nurse-2	1	91,062.00	91,062.00	2920	31.19	2920	91,062.00	0	0	91,062.00
Cook-1	1	38,306.40	38,306.40	2920	13.12		-	9.73%	3727.2	3,727.21
Cook-2	1	38,306.40	38,306.40	2920	13.12		-	9.73%	3727.2	3,727.21
Cook-3	1	38,306.40	38,306.40	2920	13.12		-	9.73%	3727.2	3,727.21
Ambulance Driver	1	76,884.00	76,884.00	2920	26.33		-	5.45%	4190.2	4,190.18
Total cost for diarrhoeal IPD										**182,101.66**

Notes :

Total number of in-patient was 803 and average stay in hospital 3 days ; number of patient days =803*3 =2,409 and total number of outpatient was 5,647.

Doctor spent time/patient at OPD both for IPD and OPD patient on average 3 minutes and similarly an Orderly/MLSS spent 3 minutes/patient.

Doctor time for IPD patient at OPD=803*3 minutes(m) =2,409 minutes=40.15 hour(hr); similarly an MLSS time=40.15 hr

Doctor spent time/patient/day at IPD on average 7 minutes ;so time for IPD patient at IPD=2,409 * 7 m=16,863 m= 281.05 hr

Ambulance Driver salary's 5.45% for diarrhoeal IPD and 4.25% for diarrhoeal OPD (Appendix A).

Diarrhoeal IPD patient days were2,409 and total IPD patient days were 24,754 ; so diarrhoeal IPD covers(2,409/24,754)*100= 9.73% of total IPD patient days.

Pharmacist spent 2 minutes time/patient day on average; so total time spent for diarrhoeal IPD=2,409*2 minutes =4,818 minutes= 80.3 hr

Laboratory technician spent on average 25 minutes /test; so time for laboratory tests for diarrhoeal IPD=313*25 minutes=7,825 minutes=130.42 hr.

Pathologist's time/test was 5 minutes; so total time spent by Pathologist=313*5 minutes=1,565 minutes=26.08 hr

Table C.10 : Material Cost Including Drugs and Tests for Diarrhoeal OPD and IPD at District Hospital in 1997.

Recurrent cost item	Average cost/patient OPD,1997 (Tk)	Number of patient at OPD 1997	Total cost of OPD , 1997 (Tk)	Average cost/patient day at IPD (Tk)	Number of IPD patient days,1997	Total cost of IPD, 1997 (Tk)	Total cost of (OPD+ IPD) 1997 (Tk)
Material costs	***20.35***	***5,647***	***114,916.45***	***25.61***	***2,409***	***61,694.49***	***176,610.94***

Notes :

Total material cost including drugs, tests and others for diarrhoeal OPD **=114,916.5 taka**

Total material cost including drugs, tests and others for diarrhoeal IPD ***=61,694.49 taka***

Food cost for diarrhoeal IPD =2,409 * 30 taka **= 72,270.00 taka**

Information about total material (medicine+test materials+others) costs of OPD and IPD given by the Superintendent of the hospital as well as the In-charge of District.

Food cost @ 30 taka per in-patient per day and total number of in-patient days were=803*3= 2,409. 72,270.00

Table C.11 : Total and Average Cost for Diarrhoeal Patient at OPD and IPD of District Hospital in 1997

Cost items	1	2	3	4	5	6	7	8	9
	OPD cost per year (Tk)	Total OPD cost/ patient (Tk)	%of total cost/pati-ent at OPD	Total IPD cost per year (Tk)	*IPD cost /patient day (Tk)*	%of total cost/pati-ent day at IPD	*Cost/ episode at IPD (Tk)*	Tota(OPD and IPD) cost/year (Tk)	%of total cost(OPD and IPD) /year
Capital	90,467.30	16.02	29.8	352,615.60	146.37	46.0	439.12	443,082.90	**41.4**
Salary(Administration)	31,076.50	5.50	10.2	39,851.10	16.54	5.2	49.63	70,927.60	**6.6**
Salary(Patient service)	22,406.87	3.97	7.4	182,101.60	75.59	23.8	226.78	204,508.47	**19.1**
ETW and FM	44,625.00	7.90	14.7	57,224.00	23.75	7.5	71.26	101,849.00	**9.5**
Material (including drugs+tests)	114,916.50	20.35	37.9	61,694.50	25.61	8.1	76.83	176,611.00	**16.5**
Food	-	0.00	0.0	72,270.00	30.00	9.4	90.00	72,270.00	**6.8**
Total	303,492.17	**53.74**	100.0	765,756.80	***317.87***	100.0	***953.62***	1,069,248.97	100.0

Notes:

Total number of diarrhoeal patient at OPD =5,647 in 1997.
Total number of diarrhoeal patient at IPD =803 and average number of days stay at IPD was 3 in 1997.
Total number of patient days at IPD =803 * 3 =2,409 in 1997.
Information in column 1 and column 4 from Appendix C, Tables C.6 - C.10.
Column 2 = Column 1/ 5,647.
Column 3=(Column 2 / 53.74) * 100.
Column 5=Column 4 / 2,409.
Column 6=(Column 5 / 317.87) * 100.
Column 7=Column 5 * 3.
Column 8=Column 1+Column 4.
Column 9=(Column 8 / 1,069,249) * 100.

Appendix D

Table D.1 : Spaces Under Different Departments of Thana Health Complex in 1997.

Space for administration :	1					
	Area(Sq.ft)					
Thana Health Administrator's Off	390.00					
Head Asstt/Accountant's office	220.00					
Store	440.00					
Room for field staffs	220.00					
Water Pump machine	156.00					
Library	332.00					
Garage	220.00					
Sub total	1,978.00					

Space for IPD and OPD :	1	2	3	4
	Area(Sq.ft)	OPD area (sq.ft)	IPD area (sq.ft)	Remarks
Waiting space for patient	1,280.00	1,189.45	90.55	on the basis of total number of patients
Doctors room(# 6)	1,800.00	1,672.66	127.34	do
Pharmacist's room	220.00	188.44	31.56	on the basis of total patient days
Laboratory	360.00	54.00	306.00	on the basis of utilization rate
Radiology department	220.00	22.00	198.00	do
Operation theater	658.00	131.60	526.40	do
Ward	4,185.00	-	4,185.00	do
Kitchen	705.00	-	705.00	do
Nurses room	220.00	22.00	198.00	do
Dissection room	135.00	-	135.00	do
Emergency room	350.00	70.00	280.00	do
Doctors room(# 2)	600.00	-	600.00	do
Sub total	10,733.00	3,350.15	7,382.85	

Notes : Information in Column 1, Column 2 and Column 3 from Appendix B.

Space for OPD is 3,350.15 Sq.ft =(3,350.15/12,711)*100= 26.36 % of total hospital space.

Space for IPD is 7,382.85 Sq.ft=(7,382.85/12,711)*100= 58.08 % of total hospital space.

Space for administration is 1,978 Sq.ft =(1,978/12,711)*100=15.56 % of total hospital space.

Total Hospital Area is = 3,350.15 + 7,382.85 + 1,978 = 12,711 Sq.ft .

Space for Diarrhoeal OPD =(3,350.15 / 34,284) * 4,114= 402.01 Sq.ft=(402.01/12,711)*100= 3.16% of total hospital area and (402.01/3,350.15)*100=12% of total OPDarea.

Space for Diarrhoeal IPD =(7382,85/2610*2,2)*(396*2,0) =1,018.32 Sq.ft =(1,018.32/12,711)*100= 8.01% of total hospital area and (1,018.32/7382.85)*100=13.79% of total IPD area.

Table D.2: Average Annual Cost of Capital Cost Items of Thana Health Complex Related to Diarrhoeal Patient Service in 1997.

Capital cost items	1	2	3	4	5	6	7	8
	Life time (year)*	Buying/ making year (Tk.)	Cost (Tk)	Loan rate*** (%)	Value at 1997 (Tk)	Scrap value rate %	Scrap value (Tk)	Average annual cost at 1997 price (Tk)
Building	30	1992	25,000,000.00	0.14	48135364.6		-	1,604,512.15
Ambulance (# 1)	10	1994	1,265,000.00	0.14	1874153.2	0.05	28,815.85	184,533.73
Motor cycle (# 5)	10	1993	550,000.00	0.14	928928.1	0.05	14,282.64	91,464.54
Microscope (# 3)	10	1992	60,000.00	0.14	115524.9	0	-	11,552.49
Water pump machine	20	1992	800,000.00	0.14	1540331.7	0.05	6,388.40	76,697.16
Total								**1,968,760.08**

Notes :

Information in column 1, column 2 and column 3 from Appendix B.
Column 5 = Column 3 * (1 + Column 4) ^ Life time of the capital item used.
Column 7 = (Column 3 * Column 6) / (1 + Column 4) ^ Life time of the capital item not yet used.
Column 8 = (Column 5 - Column 7) / Column 1.

* Superintendent of the District Hospital Provided the information about life time, buying or making year and cost of item.
** According to the Central Transport Pool,Ministry of Establishment, Government of Bangladesh
the scrap value of an item on an average 5% of its original value.
***Economic Trends, Monthly December 1997,Bangladesh Bank, Government of Bangladesh.

Table D.3 : Annual Recurrent Cost of Salary of Administration at Thana Health Complex in 1997.

Salary (Administration)	1	2	3	4	5	6
	Number	Basic salary/ month at 1997 (Tk)	Salary/ month at 1997 (Tk)	Salary/yr. (Tk)	Bonus/yr. (Tk)	Total salary/yr. (Tk)
Thana Health Administrator(THA)	1	9,097.60	11,820.10	141,841.20	18,195.20	160,036.40
Head assistant/Accountant	1	3,429.00	4,939.00	59,268.00	6,858.00	66,126.00
Cashier	1	3,147.00	4,543.00	54,516.00	6,294.00	60,810.00
Statistician	1	3,115.32	4,490.32	53,883.84	6,230.64	60,114.48
Typist	1	3,147.00	4,543.00	54,516.00	6,294.00	60,810.00
Orderly/MLSS	1	1,862.00	2,886.25	34,635.00	3,724.00	38,359.00
Store keeper	1	3,689.00	5,145.00	61,740.00	7,378.00	69,118.00
Gardener/Mali	1	2,315.00	3,523.75	42,285.00	4,630.00	46,915.00
Security Guard	1	1,894.00	2,956.50	35,478.00	3,788.00	39,266.00
Sweeper	1	1,418.00	2,240.50	26,886.00	2,836.00	29,722.00
Sweeper	1	1,482.00	2,347.00	28,164.00	2,964.00	31,128.00
Sweeper	1	1,482.00	2,347.00	28,164.00	2,964.00	31,128.00
Sweeper	1	2,315.00	3,523.75	42,285.00	4,630.00	46,915.00
Total						**740,447.88**

Notes :

Information in Column 1,Column 2 and Column 3 from Thana Health Complex record.

Column 4 = Column 3 * 12.

Column 5 = Column 2 * 2.

Column 6 = Column 4 + Column 5.

Table D.4 : Annual Recurrent Cost of Electricity, Telephone and Water, Fuel and Maintenance of Vehicles at Thana Health Complex in 1997.

Cost items	1	2
	Time (yr)	Cost/yr. (Tk)
Electricity bill	1	132,615.00
Water bill	1	54,000.00
Telephone bill	1	12,000.00
Fuel and Maintenance of vehicle	1	129,000.00
Total		**327,615.00**

Notes :

Information in Column 1 and Column 2 from (Thana Health Complex records) Appendix B.

Table D.5 : Annual Recurrent Cost of Salary of Personnel Related to Patient Service for Diarrhoea at Thana Health Complex in1997.

Salary (Patient service)	1	2	3	4	5	6
	Number	Basic salary/ month(Tk)	Salary/ month at 1997(Tk)	Salary/yr. (Tk)	Bonus/yr. (Tk)	Total salary/yr. (Tk)
Doctor-A(paediatric , OPD)	1	4,192.00	5,732.00	68,784.00	8,384.00	77,168.00
Doctor-B (male, OPD)	1	4,192.00	5,732.00	68,784.00	8,384.00	77,168.00
Doctor-C(female, OPD)	1	4,192.00	5,732.00	68,784.00	8,384.00	77,168.00
Orderly/MLSS	1	2,225.00	3,433.75	41,205.00	4,450.00	45,655.00
Orderly/MLSS	1	2,315.00	3,523.75	42,285.00	4,630.00	46,915.00
Orderly/MLSS	1	2,300.00	3,497.00	41,964.00	4,600.00	46,564.00
Resident Medical Officer	1	6,680.00	9,230.00	110,760.00	13,360.00	124,120.00
Medical Officer	1	7,216.00	9,539.54	114,474.48	14,432.00	128,906.48
Pharmacist-1	1	4,844.90	6,783.21	81,398.52	9,689.80	91,088.32
Pharmacist-2	1	5,364.00	7,510.00	90,120.00	10,728.00	100,848.00
Laboratory Technician-1	1	4,421.00	6,299.00	75,588.00	8,842.00	84,430.00
Laboratory Technician-2	1	3,482.00	4,970.00	59,640.00	6,964.00	66,604.00
Nursing Super	1	4,916.00	7,350.00	88,200.00	9,832.00	98,032.00
Senior staff nurse -1	1	3,411.00	5,229.00	62,748.00	6,822.00	69,570.00
Senior staff nurse -2	1	3,578.00	5,562.00	66,744.00	7,156.00	73,900.00
Senior staff nurse -3	1	2,678.00	4,340.50	52,086.00	5,356.00	57,442.00
Senior staff nurse -4	1	2,658.00	4,367.75	52,413.00	5,316.00	57,729.00
Senior staff nurse -5	1	2,552.00	4,072.75	48,873.00	5,104.00	53,977.00
Assistant nurse	1	1,971.00	3,363.50	40,362.00	3,942.00	44,304.00
Ward Boy -1	1	1,582.00	2,502.75	30,033.00	3,164.00	33,197.00
Ward Boy -2	1	2,289.00	3,468.50	41,622.00	4,578.00	46,200.00
Ward Boy -3	1	1,818.00	2,849.00	34,188.00	3,636.00	37,824.00
Ambulance Driver	1	1,957.00	2,886.50	34,638.00	3,914.00	38,552.00
Cook	1	1,624.00	2,548.60	30,583.20	3,248.00	33,831.20
Cook helper	1	1,582.00	2,502.75	30,033.00	3,164.00	33,197.00
Aya(Ward keeping)	1	1,582.00	2,502.75	30,033.00	3,164.00	33,197.00
Aya(Ward keeping)	1	1,878.00	2,886.50	34,638.00	3,756.00	38,394.00
Total						**1,715,981.00**

Notes : Information in Column 1, Column 2 and Column 3 from health complex records.
Column4=Column 3 * 12; Column 5=Column 2 * 2 and Column 6=Column 4+Column 5.

Table D.6 : Allocation of Annual Capital Cost of Capital Cost Items to Departments at Thana Health Complex in 1997.

Department	1	2	3	4	5	6	7	8	9	10
	Allocation basis(% of total sq.ft)	Buildingg cost/ Deptt (Tk)	Water pump machine cost/deptt (Tk)	Motor cycle cost/deptt (Tk)	Allocation basis(% of total outpatient days)	Ambulance cost/dept (Tk)	Reallocation of adminstraton cost/deptt (Tk)	Allocation basis (number of tests)	Microscope cost/ deptt (Tk)	Total annual capital cost/deptt (Tk)
Administration	15.56%	249,662.09	11,934.08	14,231.88	0	-	-	0	-	275,828.05
Outpatient deptt	26.36%	422,949.40	20,217.37	24,110.05	66.56%	122,825.65	183,591.18	250	1,732.53	775,426.19
In-patient deptt	58.08%	931,900.66	44,545.71	53,122.60	33.44%	61,708.08	92,236.92	1417	9,819.96	1,193,333.93
OPD of diarrhoea	3.16%	50,702.58	2,423.63	2,890.28	7.99%	14,744.25	22,038.67	0	-	92,799.40
IPD of diarrhoea	8.01%	128,521.42	6,143.44	7,326.31	4.61%	8,507.00	12,715.68	139	963.28	164,177.14

Notes :

Information in column 1, column 5 and column 8 from Appendix E.

Total annual capital cost of administration =249,662.1+11,934.1+14,231.9 =275,828.1 Tk and reallocated to OPD and IPD of diarrhoea @ 7.99% and 4.61% respectively.

column 2 = column 1 * 1,604,512.15.

column 3 = column 1 * 76,697.16.

column 4 = column 1 * 91,464.54

column 6 = column 5 * 184,533.73.

column 7 = column 5 * 275,828.10

column 9 = (column 8 / 1667) * 11,552.487.

column 10 = column 2 + column 3 + column 4 + column 6 + column 7 + column 9.

Table D.7 : Allocation of Annual Recurent Cost of Salary of Administration, Electrcity-Telephone-Water and Fuel and Maintenance of Vehicles to Departments at Thana Health Complex in 1997.

Department	1	2	3	4	5	6
	Allocation basis(% of total outpa-tient days)	Total cost of salary / yr (Tk)	Salary cost / deptt (Tk)	Total cost of ETW & FM / yr (Tk)	Cost of ETW & FM /deptt (Tk)	Total cost per deptt (Tk)
Outpatient deptt	66.56%	740,447.90	492,842.12	327,615.00	218,060.54	710,902.67
In-patient deptt	33.44%	740,447.90	247,605.78	327,615.00	109,554.46	357,160.23
OPD of diarrhoea	7.99%	740,447.90	**59,161.79**	327,615.00	**26,176.44**	**85,338.23**
IPD of diarrhoea	4.61%	740,447.90	***34,134.65***	327,615.00	***15,103.05***	***49,237.70***

Notes :

Information in column 1 and column 4 from Appendix B.
Column 3=Column 1 * Column 2.
Column 5=Column 1 * Column 4.
Column 6=Column 3 + Column 5.

Table D.8 : Allocation of Annual Recurrent Cost of Salary to OPD for Diarrhoea at Thana Health Complex in 1997.

Salary (Patient service)	1	2	3	4	5	6	7	8	9	10
	Number	Total salary/yr. (Tk)	Average salary/yr. (Tk)	Total working hour/yr	Average salary/hr (Tk)	Average time for OPD patient(hour)	Cost/year for OPD patient (Tk)	Proportion of salary for OPD of diarrhoea	Cost/year for OPD patient (Tk)	Total cost for OPD/yr (Tk)
Doctor (OPD)	*3*	*231,504.00*	*77,168.00*	*2920*	*26.43*	*205.7*	**5,436.12**	0	-	**5,436.12**
Orderly/MLSS (OPD)	*3*	*139,134.00*	*46,378.00*	*2920*	*15.88*	*205.7*	3,267.11	0	-	**3,267.11**
Pharmacist	*2*	*191,936.32*	*95,968.16*	*2920*	*32.87*	*205.7*	6,760.50	0	-	**6,760.50**
Ambulance Driver	1	38,552.00	38,552.00	2920	13.20	0	-	7.99%	3,080.30	**3,080.30**
Total cost for Diarrhoeal OPD							***15,463.72***		***3,080.30***	**18,644.02**

Notes :

Column 3=Column 2 / Column 1.
Column 4= 365 * 8 ; 365 days in a year and 8 hours work/day.
Column 5=Column 3 / Column 4.
Column 7=Column 5 * Column 6.
Column 9=Column 3 * Column 8.
Column 10=Column 7+Column 9.
Total number of outpatient was 4,114.
Doctor spent time/patient at OPD on average 3 minutes and similarly an Orderly/MLSS spent 3 minutes/patient.
Doctor time for patient at OPD = 4,114 * 3 minutes(m) = 12,342 mnutes =205.7 hour(hr); same way MLSS time=205.7 hr.
Ambulance Driver salary's 7.99% for diarrhoeal OPD (Appendix B).
Pharmacist spent on average 3 mnutes /patient day ; so total time spent for diarrhoeal OPD=4,114 * 3 minutes=12,342 minutes = 205.7 hr.

Table D.9 : Allocation of Annual Recurrent Cost of Salary to IPD for Diarrhoea at Thana Health Complex in 1997.

Salary (Patient service)	1	2	3	4	5	6	7	8	9	10
	Number	Total salary/yr. (Tk)	Average salary/yr. (Tk)	Total working hour/yr	Average salary/hr (Tk)	Average time for IPDpatient (hour)	Cost/year for IPD patient (Tk)	Proportion of salary for IPD of diarrhoea	Cost/year for IPD patient (Tk)	Total cost for IPD/yr (Tk)
Doctor (OPD)	3	231,504.00	77,168.00	2920	26.43	19.8	523.26	0	-	523.26
Orderly/MLSS (OPD)	3	139,134.00	46,378.00	2920	15.88	19.8	314.48	0	-	314.48
Medical Officer (IPD)	3	330,184.50	110,064.83	2920	37.69	105.6	3,980.43	0	-	3,980.43
Pharmacist	2	191,936.32	95,968.16	2920	32.87	26.4	867.66	0	-	867.66
Laboratory Technician	2	151,034.00	75,517.00	2920	25.86	69.5	1,797.41	0	-	1,797.41
Nursing Super(90%time for IPD)	1	88,228.80	88,228.80	2628	33.57	0	-	13.79%	12,166.75	12,166.75
Senior staff nurse/Asstt. Nurse	6	356,922.00	59,487.00	2920	20.37	264	5,378.28	0	-	5,378.28
Ward Boy	1	33,197.00	33,197.00	2920	11.37	0	-	13.79%	4,577.87	4,577.87
Ward Boy	1	46,200.00	46,200.00	2920	15.82	0	-	13.79%	6,370.98	6,370.98
Ward Boy	1	37,824.00	37,824.00	2920	12.95	0	-	13.79%	5,215.93	5,215.93
Ambulance Driver	1	38,552.00	38,552.00	2920	13.20	0	-	4.61%	1,777.25	1,777.25
Cook	1	33,831.20	33,831.20	2920	11.59	0	-	13.79%	4,665.32	4,665.32
Cook helper	1	33,197.00	33,197.00	2920	11.37	0	-	13.79%	4,577.87	4,577.87
Aya(Ward keeping)	1	33,197.00	33,197.00	2920	11.37	0	-	13.79%	4,577.87	4,577.87
Aya(Ward keeping)	1	38,394.00	38,394.00	2920	13.15	0	-	13.79%	5,294.53	5,294.53
Total cost for Diarrhoeal IPD							*12,861.51*		*49,224.36*	**62,086.87**

Notes :

Total number of diarrhoeal in-patient was 396, stay at hospital on average 2 days and total patient days were 396 * 2 =792;
Doctor spent time/patient at OPD both for IPD and OPD patient on average 3 minutes and similarly an Orderly/MLSS spent 3 minutes/patient.
Doctor time for IPD patient at OPD=396*3 minutes(m) =1,188 m=19.8 hour(hr); similarly an Orderly/MLSS time=19.8 hr
Doctor spent time/patient/day at IPD on average 8 minutes ;so time for IPD patient at IPD=396*2*8 min.=6,336 min.=105.6 hr
Total Doctor time for IPD of diarrhoea = 19.8 hr +105.6 hr =125.4 hr.
Pharmacist spent 2 min. time/patient day on average; so total time spent for diarrhoeal IPD=792*2 minutes=1,584 minutes=26.4 hr
Laboratory technician spent on average 30m/test; so time for lab tests for diarrhoeal IPD=139*30 minutes=4,170 minutes=69.5hr
Nursing Super spent 90% of her full time to IPD and 10% for OPD;so 90% of full salary taken into account in column 2 as total salary/year for IPD.
Nurse's average time/IPD diarrhoeal patient/day is 20 minutes; so total time spent= 396*2*20 minutes=15,840 minutes =264 hr
Abulance Driver salary's 4.61% for diarrhoeal IPD (Appendix B).
Diarrhoeal IPD patient days were 792 and total IPD patient days were 5,742 ; so diarrhoeal IPD covers (792/5,742)*100=13.79% of total IPD patient days.
Column 10=Column 7+Column 9.

Table D.10 Material Cost Including Drugs and Tests for Diarrhoeal OPD and IPD at Thana Health Complex in 1997.

Recurrent cost item	Average cost/patient OPD,1997 (Tk)	Nmber of patient at OPD 1997	Total cost of OPD , 1997 (Tk)	Average cost/patient day at IPD (Tk)	Number of IPD patient days,1997	Total cost of IPD, 1997 (Tk)	Total cost of (OPD+ IPD) 1997 (Tk)
Material costs	***15.51***	***4,114***	***63,808.14***	***29.05***	***792***	***23,007.60***	***86,815.74***

Notes:

Total material cost including drugs, tests and others for diarrhoeal OPD =63,808.14 taka

Total material cost including drugs, tests and others for diarrhoeal IPD = 23,007.60 taka

Food cost for IPD of diarrhoea =792 *30 = = 23,760.00 taka

Information about total drug (medicine+test materials+others) costs of OPD and IPD given by the Superintendent of the hospital as well as the In-charge of the District and Medical Officer in-charge of the Thana Health Complex.

Food cost @ 30 taka per in-patient per day and total number of in-patient days for diarrhoea were=396*2= 792.

Table D.11 : Total and Average Cost for Diarrhoeal Patient at OPD and IPD of Thana Health Complex in 1997

Cost items	1	2	3	4	5	6	7	8	9
	OPD cost per year (Tk)	Total OPD cost/ patient (Tk)	%of total cost/pati-ent at OPD	Total IPD cost per year (Tk)	*IPD cost /patient-day (Tk)*	%of total cost/pati-ent day at IPD	*Cost/ episode at at IPD (Tk)*	Total(OPD and IPD) cost/year (Tk)	%of total cost(OPD and IPD) /year
Capital	92,799.40	22.56	35.6	164,177.10	207.29	50.9	414.59	256,976.50	44.1
Salary(Administration)	59,161.80	14.38	22.7	34,134.60	43.10	10.6	86.20	93,296.40	16.0
Salary(Patient service)	18,544.00	4.51	7.1	62,085.90	78.39	19.3	156.78	80,629.90	13.8
ETW and FM	26,176.40	6.36	10.0	15,103.10	19.07	4.7	38.14	41,279.50	7.1
Material (including drugs+tests)	63,808.10	15.51	24.5	23,007.60	29.05	7.1	58.10	86,815.70	14.9
Food	-	0.00	0.0	23,760.00	30.00	7.4	60.00	23,760.00	4.1
Total	260,489.70	**63.32**	100.0	322,268.30	***406.90***	100.0	***813.81***	582,758.00	100.0

Notes:

Total number of diarrhoeal patient at OPD =4,114 in 1997.
Total number of diarrhoeal patient at IPD =396 and average number of days stay at IPD was 2 in 1997.
Total number of patient days at IPD = 396 * 2 =792 in 1997.
Information in column 1 and column 4 from Appendix D, Tables D.6 - D.10.
Column 2=Column 1 / 4,114.
Column 3=(Column 2 / 63.32) * 100.
Column 5=Column 4 / 792.
Column 6=(Column 5 / 406.9) * 100.
Column 7=Column 5 * 2.
Column 8=Column 1+Column 4.
Column 9=(Column 8 / 582,758) * 100.

Appendix E

Table E.1 Average Treatment and Associated Cost for the Management of Diarrhoea Incurred by Rural People at IPD Per Episode in District Hospital in 1995 and Cost at 1997 Price.

Cost category	Cost at 1995 price (Tk)	Cost at 1997 price= 1995 price(1+0,14)^2 (Tk)
Registration fee	8.00	10.40
Bed cost	25.85	33.59
Medical cost	314.23	408.37
Laboratory cost	248.38	322.79
Food cost(patient)	200.75	260.89
Food cost (attendant)	496.36	645.07
Wage lost (attendant)	569.63	740.29
Travel cost(attendant)	126.36	164.22
Total	**1,989.56**	**2,585.63**

Source : M. Sc. Thesis on "Cost Analysis of Childhood Diarrhoeal In-patients: A Case Study of Narayangonj District Hospital, Bangladesh" by Begum, S.A. 1995.

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