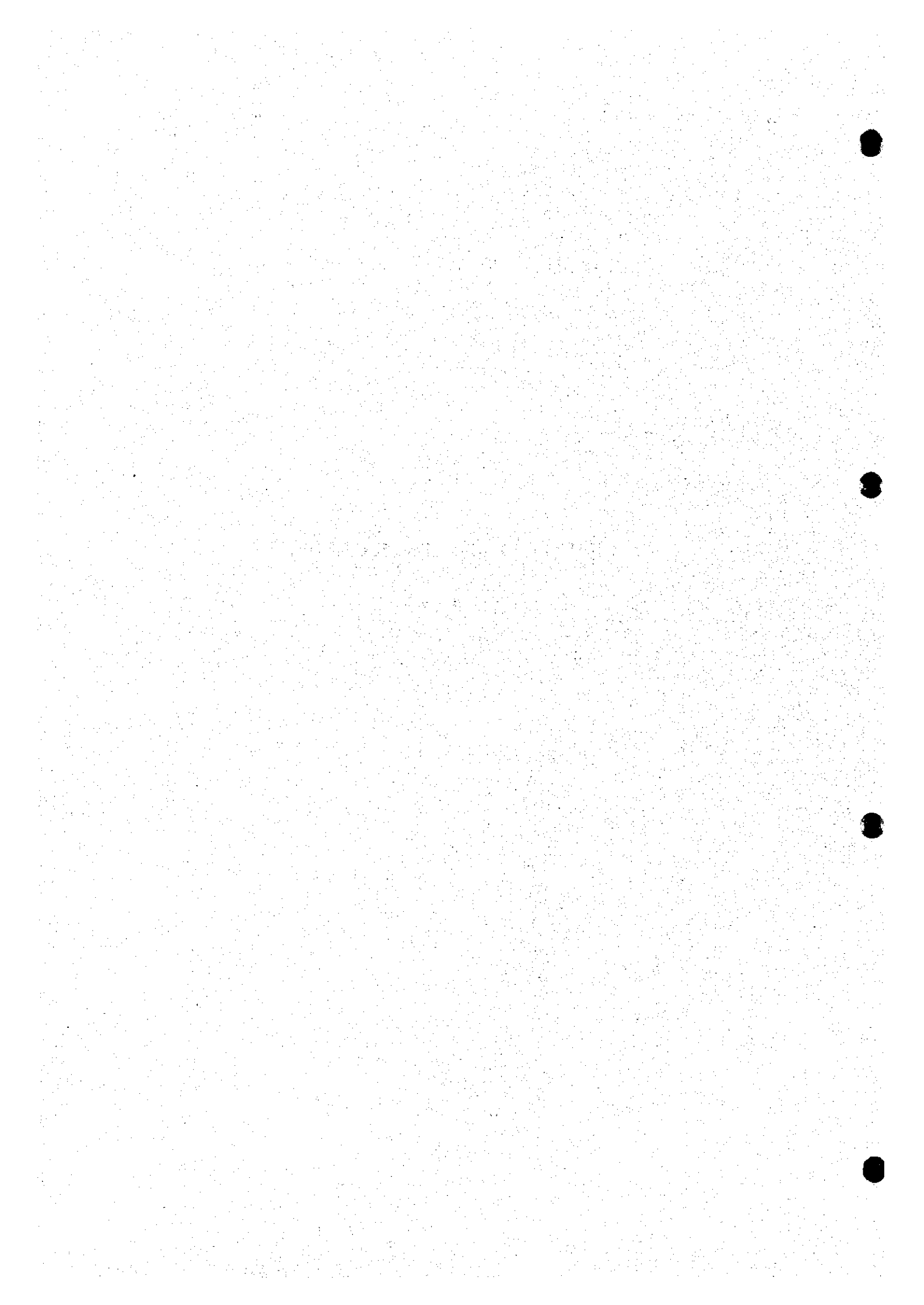


CHAPTER EIGHT: PROJECT COST



CHAPTER EIGHT: PROJECT COST

8.1 Introduction

The project cost is to be estimated by the following seven items;

- (1) the facility construction cost,
- (2) the procurement cost of equipment necessary for the implementation of the project,
- (3) the cost for the education and training of users, relevant local governmental staff and local mechanics,
- (4) the project monitoring cost,
- (5) the fee for engineering services,
- (6) the fee for administration; and
- (7) the physical contingencies.

The breakdown of estimated cost by items are given in Appendix-6, Table 8.3(1)-(4) of Volume Three of the present report; and summarised in the following sections:

8.2 Facility Construction Cost

The construction works will be implemented on a contract basis under the supervision of Singida Regional Water Engineer's Office (RWED) for the Groundwater Development Project for Hanang, Singida Rural, Manyoni and Igunga Districts.

The construction costs are estimated based on the work quantity, current unit rates employed in Singida RWED projects or similar projects.

The construction costs are divided into two components of foreign currency and local currency. The foreign currency component is the amount of the costs required for procurement of machinery, equipment, spare parts and materials to be imported, and parts of costs.

Detailed of the facility construction costs are shown in Appendix-6, Table 8.2.1~8.2.11, and the summary of facility construction costs in each target year is given below:

Table 8.2 Construction Cost for Target Years

YEAR 2001

Cost Item	place	L. C. (Tsh)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	264	1,257,480,800	5,255,700	
L-1-2	0	-	-	
L-1-3	0	-	-	
L-1-4	7	118,403,100	870,900	
L-2	9	200,674,500	1,012,700	
Rehabilitation	36	2,382,600	85,200	

B) Charco	64	1,533,591,200	1,399,000	
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YEAR 2006

Cost Item	place	L. C. (Tsh)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	693	3,300,887,200	13,796,200	
L-1-2	78	138,685,600	75,700	
L-1-3	0	-	-	
L-1-4	11	186,062,000	1,368,500	
L-2	2	44,656,600	228,600	
Rehabilitation	315	220,500	746,600	
	60	54,427,200	1,066,300	

B) Charco	127	3,043,220,100	2,776,200	
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YEAR 2016

Cost Item	place	L. C. (Tsh)	F. C. (US\$)	Remarks
A) Domestic Water Facilities				
L-1-1	2,557	12,179,464,000	50,904,800	
L-1-2	39	69,342,800	37,800	
L-1-3	29	208,545,500	1,513,900	
L-1-4	24	405,953,400	2,985,900	
L-2	1	23,941,100	129,000	
Rehabilitation	957	669,900	2,268,100	
	13	42,665,800	967,200	

B) Charco	272	6,517,762,700	5,945,900	
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8.3 Equipment Procurement Cost

Procurement cost for O/M equipment is as follows;

• Pick up Trucks	7 nos.	US\$224,000
• Workshop Equipment	5 sets	115,000
• Water Quality Analysis Kits	5 sets	35,000
• Office Equipment	4 sets	48,000
• Equipment for Local Mechanics	10 sets	12,000
Total		US\$434,000

8.4 Education and Training Cost

The training costs include all necessary expenditures for training of the technicians from the district water engineer's offices, proposed local mechanics to be assigned by the district water engineers and village technicians (care-takers). Training of local mechanics including 10 local mechanics and 40 assistant local mechanics will be done for 10 days; five days for theory and experimental training; and another five days for practical experience at sites. Training of the district technicians and local technicians will be conducted by contractors and/or equipment suppliers during the construction stage. Participants are the district technicians, village technicians and local mechanics. The project cost shall include such costs required for this purpose.

The education programme consists of PRA and education/sensitisation of the villagers. PRA will be carried out by a group of facilitators for three days for each village before the construction stage; and education/sensitisation will be conducted for three days for each village during the construction stage.

Cost Item	Cost (US\$)	Remarks
Training		
- Local mechanics	14,000	10 days for 50 persons
Education		
- PRA	392,000	3 days for 280 villages
- Sensitisation	308,000	3 days for 220 villages
Total	714,000	

8.5 Monitoring Cost

The monitoring will be conducted in a three-day period for the villages covered by the project by groups of qualified surveyors; one day for interview with the village government and

representatives of VWC and WUGs; one day for interview with selected users; and one day for evaluation. The monitoring programme is scheduled to be implemented at an interval of once a year for a period of five years after completion of the construction works.

Thus, the total cost amounts to US\$ 1,100,000 (220 villages × 5 years × \$ 1,000/village/time).

8.6 Other Costs

8.6.1 Engineering Services Fee

Engineering services fee should be estimated introducing a certain percentage to the total costs above two items i.e. facility construction cost and equipment procurement cost.

Fee is estimated as 10 percent of total costs (L.C.+F.C.) of those from the past experiences of the construction works. However, engineering services fee for charco dam should be estimated from the facility construction cost only.

8.6.2 Administration Cost

Administration cost should be calculated by the same manners as the engineering services fee. Five percent to the total costs of facility construction cost, equipment procurement cost, education & training cost and monitoring cost is recommendable.

Administration cost for charco dam should be estimated from facility construction cost only.

8.6.3 Physical Contingencies

To the unknown factors of each cost estimation, physical contingencies should be considered to the project cost. Physical contingencies are estimated applying 10 percent to the total costs of facility construction cost, equipment procurement cost, education & training cost, monitoring cost, engineering services fee and administration cost. Physical contingencies for charco dam should be estimated from the total costs of facility construction cost, engineering services fee and administration cost.

8.7 Total Project Cost

The total costs of project by target year are summarised as below:

Year-2001 Project	: US\$ 18.3 million
Year-2006 Project	: US\$ 39.5 million
Year-2016 Project	: US\$ 123.1 million
Total	: US\$ 181.2 million

The breakdowns of cost items of projects by target year are given in Table 8.7.

Table 8.7 Summary of Project Costs by Target Year

(Unit: US\$ '000)

Project Stage	Year 2001		Year 2006		Year 2016	
	LC	FC	LC	FC	LC	FC
A. Domestic Water Facility						
1. Facility Construction	2,526	7,225	5,961	17,283	20,689	58,807
2. Equip't Procure't	125	309	125	309	-	-
3. Educat'n & Training	143	-	186	-	386	-
4. Monitoring	220	-	286	-	594	-
5. Engineer'g Service	301	753	643	1,728	2,167	5,881
6. Administration	166	414	354	951	1,192	3,234
7. Contingencies	348	870	743	1,996	2,503	6,792
Sub-total	3,829	9,571	8,298	22,267	27,531	74,714
Total	13,400		30,565		102,245	
B. Charco Dam						
1. Facility Construction	2,454	1,399	4,869	2,776	10,428	5,946
2. Engineer'g Service	245	140	487	278	1,043	595
3. Administration	135	77	268	153	574	327
4. Contingencies	283	162	562	321	1,205	687
Sub- total	3,117	1,778	6,186	3,528	13,250	7,555
Total	4,895		9,714		20,805	
Grand-total	18,295		40,279		123,050	
Total Project Cost	181,624					

CHAPTER NINE: ECONOMY AND FINANCE

CHAPTER NINE: ECONOMY AND FINANCE

9.1 Project Benefits

9.1.1 Financial Benefits

Financial benefits mean revenues from water charge. As already described in the preceding chapters, three model cases are put forward for financial and economic evaluation: L-1-1 system with the population of 430, L-1-4 system with the population of 900 and L-2 system with the population of 4,500.

In all cases revenues are basically calculated by multiplying the average annual payment for water per household by the number of households. In the L-1-1 system payment for water is assumed to be 4% of household income on average except in the Igunga District, where it is assumed as 2.5%. In the L-1-4 system payment for water is assumed to be 4.5% of household income on average except in the Igunga District, where it is assumed as 2.75%. In the L-2 system payment for water is assumed to be 5% of household income on average except in the Igunga District, where it is assumed as 3%. Households whose income belongs to the lower 20% echelon are not considered water charge bearers. The charge collection rate is assumed as 90%.

Under the above assumptions, as already described in Section 4.5.2, the system type-wise annual revenues work out by district as shown below:

- Annual Revenues in the L-1-1 Facilities (Service Population=430)

Unit: US\$

Hanang	Singida Rural	Manyoni	Igunga
1,342	1,276	1,309	1,356

- Annual Revenues in the L-1-4 Facilities (Service Population=900)

Unit: US\$

Hanang	Singida Rural	Manyoni	Igunga
3,160	3,003	3,083	3,123

- Annual Revenues in the L-2 Facilities (Service Population=4,500)

Unit: US\$

Hanang	Singida Rural	Manyoni	Igunga
17,559	16,685	17,127	17,033

The values in the above tables are those for 1997. Actually, household income will go up in future in parallel with economic growth. Policy-makers set the future annual economic and population growth rates at 6% and 2.8% respectively. It means that the per capita economic growth rate will be 3.1%. Based on it, but making a more conservative estimate, it is assumed that household income in the project area will increase at the average annual rate of 2% in future.

The resultant revenue estimates during the project period of 20 years from 1999 to 2018 are shown by system type and by district in Tables 9.3.1-9.3.12.

9.1.2 Economic Benefits

The two major benefits are expected to accrue from project implementation. One is the time saving benefit and another is the benefit of medical cost reduction.

(1) Time Saving Benefit

If the project is not implemented, the village people will continue to go to far away water sources to fetch water. The problem is that not only does it require much physical exertions to women and girls spoiling their health, but also it accompanies the daily spending of considerable portions of their precious daytime hours.

(a) 10.24 man-hours are spent on average for water fetching per household per day.

$$2.39 \text{ persons} \times 1.80 \text{ hours} \times 2.38 \text{ times} = 10.24 \text{ man-hours}$$

(b) It means that 1.51 hours are allocated for water fetching per capita per day

$$10.24 \text{ man-hours} / 6.8 \text{ persons} = 1.51 \text{ hours}$$

(c) Economic value of one hour in the agricultural sector of Tanzania is calculated at Tsh 16,908.

Per capita agricultural GDP in Tanzania in 1996: Tsh 74,057

Tsh 74,057 / 365 days / 12 hours = Tsh 16.908

(d) That is to say, Tsh 25.531 is lost due to water fetching per capita per day.

Tsh 16.908 x 1.51 hours = Tsh 25.531

(e) In annual terms, Tsh 9,319 is lost per capita.

Tsh 25.531 x 365 days = Tsh 9,319

(f) Supposing 70% of time cost is saved in the with project case, system type-wise, the following benefit will annually be realized.

L-1-1 : Tsh 9,319 x 430 x 0.7 = Tsh 2,805,019 or US\$ 4,488

L-1-4 : Tsh 9,319 x 900 x 0.7 = Tsh 5,870,970 or US\$ 9,394

L-2 : Tsh 9,319 x 4,500 x 0.7 = Tsh 29,354,850 or US\$ 46,972

(2) Benefit of Medical Cost Reduction

(a) According to the results of the socio-economic questionnaire survey conducted toward the households in the pilot villages, Tsh 4,596 is spent for the treatment of diseases per person per year.

(b) The medical cost for water-related diseases accounts for 87.5% of the total medical cost or Tsh 4,022 per capita per year.

Tsh 4,596 x 0.875 = Tsh 4,022

(c) According to the World Bank, water supply and sanitary improvement will combinedly reduce the incidence of water-related diseases by 50%. This project focuses on water supply only. Therefore, it is reasonable to estimate 25% reduction of the incidence in the with project case.

Thus, supposing 25% of medical cost is saved in the with project case, system type-wise, the following benefit will annually be realised.

L-1-1 : Tsh 4,022 x 430 x 0.25 = Tsh 432,365 or US\$ 692

L-1-4 : Tsh 4,022 x 900 x 0.25 = Tsh 904,950 or US\$ 1,448

L-2 : Tsh 4,022 x 4,500 x 0.25 = Tsh 4,524,750 or US\$ 7,240

(3) Total Benefits

From the foregoing the total annual benefits are as follows:

L-1-1 : Tsh 3,237,384 or US\$ 5,180

L-1-4 : Tsh 6,775,920 or US\$ 10,842

L-2 : Tsh 33,879,600 or US\$ 54,212

The above values are those for 1997. Actually, the time saving benefit will go up in future in parallel with economic growth. Policy-makers set the future annual economic and population growth rates at 6% and 2.8% respectively. It means that the per capita economic growth rate will be 3.1%. Based on it, but making a more conservative estimate, it is assumed that the time saving benefit in the project area will increase at the average annual rate of 2% in future.

The resultant benefit estimates during the project period of 20 years from 1999 to 2018 are shown for the L-1-1, L-1-4 and L-2 systems in Tables 9.3.25, 9.3.26 and 9.3.27 respectively.

Also, the benefit estimates for the whole project are worked out in accordance with the implementation schedule for the duration of 37 years. In Table 10.3.28 they are shown for the first 20 years. They are presented hereunder:

Unit: US\$ thousand

No.	Year	Benefits	No.	Year	Benefits
1	1999	0	11	2009	9,147
2	2000	655	12	2010	11,181
3	2001	1,333	13	2011	13,285
4	2002	2,034	14	2012	15,461
5	2003	2,069	15	2013	17,712
6	2004	3,253	16	2014	20,038
7	2005	4,478	17	2015	22,442
8	2006	5,745	18	2016	24,928
9	2007	7,056	19	2017	27,496
10	2008	7,181	20	2018	27,496

9.2 Economic and Financial Evaluation

9.2.1 Project Cost

(1) Financial Cost

The project cost consists of two types of cost, namely the capital cost and the operation and maintenance (O & M) cost.

The capital cost consists of the initial cost and the replacement cost. The initial cost is the cost related to the new construction of water supply facilities, while the replacement cost is the cost related to the replacement of such facilities when their depreciation periods are completed.

The O & M cost is the annual recurrent cost related to personnel, oil, repairing and others.

The initial cost will be entirely granted by the external agency or subsidised by the government, while the O & M cost and the replacement cost will be basically shouldered by the villagers.

(a) Initial Cost

- L-1-1 Water Supply Facilities (Service Population=430)

Unit: US\$

Item	LC	FC	Total
1) Construction Cost	7,622	19,908	27,530
2) Procurement of Equipment for O & M	175	433	608
3) Education & Training Cost	1,120	0	1,120
4) Engineering Fee ((1)+2)+3)x10%	0	2,926	2,926
5) Administration Cost((1)+2)+3)x5%	1,463	0	1,463
6) Contingencies ((1)+2)+3)+4)+5)x10%	1,038	2,327	3,365
Total	11,418	25,594	37,012

- L-1-4 Water Supply Facilities (Service Population=900)

Unit: US\$

Item	LC	FC	Total
1) Construction Cost	27,064	124,414	151,478
2) Procurement of Equipment for O & M	366	906	1,272
3) Education & Training Cost	2,344	0	2,344
4) Engineering Fee ((1)+2)+3)x10%	0	15,509	15,509
5) Administration Cost((1)+2)+3)x5%	7,755	0	7,755
6) Contingencies ((1)+2)+3)+4)+5)x10%	3,753	14,083	17,836
Total	41,282	154,912	196,194

- L-2 Water Supply Facilities (Service Population=4,500)

Unit: US\$

Item	LC	FC	Total
1) Construction Cost	35,234	114,405	149,639
2) Procurement of Equipment for O & M	1,829	4,529	6,358
3) Education & Training Cost	11,720	0	11,720
4) Engineering Fee $((1)+2)+3)) \times 10\%$	0	16,772	16,772
5) Administration Cost $((1)+2)+3)) \times 5\%$	8,386	0	8,386
6) Contingencies $((1)+2)+3)+4)+5)) \times 10\%$	5,717	13,571	19,288
Total	62,886	149,277	212,163

The procurement cost of equipment for O & M and the education & training cost are worked out from the total project cost for such purposes and the ratio of the service population for the L-1-1, L-1-4 or L-2 system to the total target village population.

(b) Replacement Cost

Durable life is assumed to be 7 years for the L-1-1 hand pump, 10 years for the L-1-4 submersible motor pump and inverter, and 10 years for the L-2 engine and pump, and 20-30 years for facilities like the borehole and pipes.

During the project life of 20 years from 1999 to 2018, the following replacement cost will be required:

L-1-1 : US\$ 2,441 (in 7th year after installation, that is, in 2006 and 2013)

L-1-4 : US\$ 15,600 (in 10th year after installation, that is, in 2009)

L-2 : US\$ 20,829 (in 10th year after installation, that is, in 2009)

(c) O & M Cost

Unit: US\$

Item	Personnel Cost	Total before Depreciation	Depreciation	Total
L-1-1	626	823	349	1,172
L-1-4	626	1,252	1,560	2,812
L-2	5,426	13,581	2,083	15,664

The above figures are those for 1997. Personnel cost is assumed to go up in future in parallel with the per capita economic growth at the average annual rate of 2%.

(2) Economic Cost

The economic cost derives from the above-mentioned financial cost. To convert the financial cost to the economic cost the standard conversion factor (SCF) in the country was applied to the local components (LC) of the former. SCF worked out to 0.9287 by using the formula and values shown below:

$$SCF = (M + X) / ((M + Tm) + (X - Tx))$$

where M: Imports, X: Exports, Tm: Import Taxes, Tx: Export Taxes

Unit: US\$ million

Item	1995	1996	1997	Average
M	822.14	651.61	645.57	-
X	194.78	188.31	343.76	-
Tm	69.25	72.33	75.48	-
Tx	-	-	-	-
SCF	0.9362	0.9207	0.9291	0.9287

Sources: Economic Bulletin for the Quarter Ended 30th June, 1997, Bank of Tanzania; The Rolling Plan and Forward Budget for Tanzania for the Period 1994/95-1996/97 Volume I, Planning Commission

(a) Economic Cost by System Type

Applying SCF to LC, the economic cost is estimated by system type as follows:

Unit: US\$

System Type	Initial Cost	Replacement Cost	O & M Cost (excl. Depreciation)
L-1-1	36,198	2,431	764
L-1-4	193,251	15,469	1,163
L-2	207,679	20,645	12,613

(b) Economic Cost for the Whole Project

In accordance with the implementation schedule, the project cost was distributed over years as shown in the left half of the table below. Applying SCF to LC, the right half of the table below was worked out.

Unit: US\$ thousand

No.	Year	Financial Cost		Economic Cost	
		Capital Cost	O & M Cost	Capital Cost	O & M Cost
1	1999	5,471	0	5,361	0
2	2000	4,227	116	4,143	108
3	2001	4,228	232	4,144	216
4	2002	55	348	51	323
5	2003	7,438	348	7,299	323
6	2004	7,532	517	7,386	480
7	2005	7,532	685	7,386	636
8	2006	7,531	854	7,385	793
9	2007	73	1,022	68	949
10	2008	11,289	1,022	11,076	949
11	2009	11,218	1,267	11,010	1,176
12	2010	11,218	1,512	11,010	1,404
13	2011	11,218	1,757	11,010	1,631
14	2012	11,220	2,002	11,012	1,858
15	2013	11,340	2,247	11,123	2,086
16	2014	11,494	2,491	11,266	2,313
17	2015	11,490	2,736	11,262	2,540
18	2016	11,489	2,981	11,261	2,768
19	2017	150	3,226	139	2,995
20	2018	150	3,226	139	2,995

9.2.2 Economic and Financial Evaluation

(1) Projection of Financial Statements

It is quite important to prepare projected financial statements to assure that the village authorities can manage the water supply facilities in financially stable and successful manner. In preparing those statements it was assumed that no governmental tax would be imposed on the surpluses to be generated in the water supply operations.

Based on all the above described assumptions regarding revenues and cost, financial statements were projected by district and by system type for the project life of 20 years as shown in Tables 9.3.1 - 9.3.12.

The tables below highlight what those statements convey:

(a) **L-1-1 Water Supply Facilities (Service Population=430)**

Unit: %

District	Revenues/ Expenditures	Net Profits/ Revenues	Working Capital/ Revenues	Net Profits/ Total Assets
Hanang	120.2	19.8	25.1	6.5
Singida Rural	114.2	15.9	21.5	5.6
Manyoni	117.3	17.9	23.4	6.1
Igunga	121.5	20.6	25.9	6.6

(b) **L-1-4 Water Supply Facilities (Service Population=900)**

Unit: %

District	Revenues/ Expenditures	Net Profits/ Revenues	Working Capital/ Revenues	Net Profits/ Total Assets
Hanang	127.8	23.9	41.7	4.0
Singida Rural	121.4	20.2	38.9	3.5
Manyoni	124.7	22.2	40.3	3.7
Igunga	126.3	23.1	41.0	3.9

(c) **L-2 Water Supply Facilities (Service Population=4,500)**

Unit: %

District	Revenues/ Expenditures	Net Profits/ Revenues	Working Capital/ Revenues	Net Profits/ Total Assets
Hanang	123.3	21.5	25.8	8.3
Singida Rural	117.2	17.7	22.2	7.5
Manyoni	120.3	19.7	24.0	7.9
Igunga	119.6	19.3	23.7	7.8

As an alternative, supposing the governmental corporate tax is imposed on the surpluses with the maximum tax rate of 30%, then the representative financial indicators will take the following values. It shows that with tax or without tax the water supply operations are expected to be financially smoothly performed.

(d) L-1-1 Water Supply Facilities (Service Population=430) - with tax

Unit: %

District	Revenues/ Expenditures	Net Profits/ Revenues	Working Capital/ Revenues	Net Profits/ Total Assets
Hanang	120.2	13.9	19.2	5.3
Singida Rural	114.2	11.1	16.7	4.5
Manyoni	117.3	12.5	18.0	4.9
Igunga	121.5	14.4	19.7	5.5

(e) L-1-4 Water Supply Facilities (Service Population=900) - with tax

Unit: %

District	Revenues/ Expenditures	Net Profits/ Revenues	Working Capital/ Revenues	Net Profits/ Total Assets
Hanang	127.8	16.8	34.5	3.1
Singida Rural	121.4	14.2	32.8	2.7
Manyoni	124.7	15.5	33.7	2.9
Igunga	126.3	16.2	34.1	3.0

(f) L-2 Water Supply Facilities (Service Population=4,500) - with tax

Unit: %

District	Revenues/ Expenditures	Net Profits/ Revenues	Working Capital/ Revenues	Net Profits/ Total Assets
Hanang	123.3	15.1	19.3	7.0
Singida Rural	117.2	12.4	16.9	6.2
Manyoni	120.3	13.8	18.1	6.6
Igunga	119.6	13.5	17.9	6.6

All the above tables show that the village authorities can financially successfully manage the L-1-1, L-1-4 and L-2 systems.

(2) Financial Analysis

Based on the foregoing assumptions concerning revenues and cost, cost benefit (revenue) streams were prepared by district and by system type for the project life of 20 years as presented in Tables 9.3.13 - 9.3.24.

Using those tables, financial analysis was performed on conditions that the discount rate is 10%. The resultant financial criteria are shown below:

(a) L-1-1 Water Supply Facilities (Service Population=430)

District	NPV (US\$)	B/C	FIRR (%)
Hanang	1,221	1.10	17.5
Singida Rural	547	1.04	13.5
Manyoni	888	1.07	15.5
Igunga	1,364	1.11	18.3

(b) L-1-4 Water Supply Facilities (Service Population=900)

District	NPV (US\$)	B/C	FIRR (%)
Hanang	-1,275	0.96	8.8
Singida Rural	-2,863	0.91	7.1
Manyoni	-2,059	0.94	8.0
Igunga	-1,658	0.95	8.4

(c) L-2 Water Supply Facilities (Service Population=4,500)

District	NPV (US\$)	B/C	FIRR (%)
Hanang	25,249	1.17	24.4
Singida Rural	16,425	1.11	19.6
Manyoni	20,892	1.14	22.1
Igunga	19,937	1.13	21.5

From the above results the project in terms of the construction of L-1-1, L-1-4 and L-2 systems is judged to be financially on the whole highly feasible in all the four districts. Although FIRR values for the L-1-4 system are below 10%, financial feasibility for the system is amply attested to by the high values of projected representative financial indicators for the system.

(3) Economic Analysis

Based on the foregoing assumptions concerning benefits and economic cost, cost benefit streams were prepared for the L-1-1, L-1-4 and L-2 systems for the project life of 20 years as presented in Tables 9.3.25, 9.3.26 and 9.3.27 respectively.

Also, cost benefit streams were prepared for the whole project for the project life of 37 years. In Table 10.3.28 the cost benefit streams are presented for the first 20 years.

Using those streams, economic analysis was performed on the conditions that the opportunity cost of capital is 10%. The resultant economic criteria are shown below:

(a) L-1-1 Water Supply Facilities (Service Population=430)

NPV (US\$)	B/C	EIRR (%)
5,622	1.12	12.2

(b) L-1-4 Water Supply Facilities (Service Population=900)

NPV (US\$)	B/C	EIRR (%)
-102,944	0.51	1.1

(c) L-2 Water Supply Facilities (Service Population=4,500)

NPV (US\$)	B/C	EIRR (%)
205,047	1.62	22.4

(d) Whole Project

NPV (US\$ thousand)	B/C	EIRR (%)
27,595	1.38	15.0

(e) Sensitivity Analysis

EIRR (%)

Item	Case 1 (Benefits: -20%)	Case 2 (Cost: +20%)	Base Case
L-1-1	8.2	8.9	12.2
L-1-4	-	-	1.1
L-2	16.2	17.3	22.4
Whole Project	11.5	12.1	15.0

From the above results the project, when evaluated as one entity, is judged to be economically highly feasible.

When individual systems are evaluated separately, the L-1-1 system is economically sufficiently feasible although it can drop a little below the feasibility line depending on circumstances, the L-1-4 system is economically not feasible and the L-2 system is economically very robust.

9.3 Synthetic Evaluation

Water is one of basic human needs such as the minimum wages, security from physical danger, protection from diseases and primary education. Without it, one can hardly survive as a human being. In this meaning water supply has an aspect of a social undertaking.

However, the current world-wide consensus revolves around the financial self-help at the grass-root level. This is the irreversible great tide of today, which provides the surest and permanent solution to such project as rural water supply.

It was made amply clear as a result of financial analysis that the villagers in the project area can by themselves manage water supply facilities to be constructed under this project in a financially stable and successful manner.

At the same time, it was revealed that this project is economically highly feasible, greatly saving the time for water-fetching as well as reducing medical cost.

Together with the above described quantitative evaluation, mention must be made of the qualitative benefits of this project. In short, it will work as a savior for those who suffer and for women.

Village people in the project area now mostly use water from surface water sources like rivers, springs, ponds and water holes or shallow wells for domestic purposes. Virtually all the water from such sources has been found to be organically contaminated. This state of affairs gives rise to a high incidence of water-borne diseases. The project is expected to contribute to reducing sufferings from such illnesses. Usually patients are tended by the female sex. Accompanying the reduction of the diseases concerned, therefore, the project will also lessen women's and girls' burden in patient caring.

It was found as a result of the socio-economic questionnaire survey that a household on average spends 10 hours in total per day for water-fetching. Such a practice is not only a great economic loss to the household itself as well as to the nation, but also forces heavy physical exertions and mental stresses to women and girls. This is a typical case of female discrimination. The project is expected to contribute to the alleviation of such gendered sufferings.

Table 9.3.1(1) Financial Statements for
L-1-1 Water Supply System
In Hanang District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	1424	1453	1482	1512	1542	1573	1604	1636	1669
Operation and Maintenance	0	852	876	890	904	919	934	949	964	980
Depreciation	0	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	1211	1225	1239	1253	1268	1282	1297	1313	1329
Profit before Tax	0	213	228	243	259	274	290	307	323	340
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	213	228	243	259	274	290	307	323	340
Funds Statement										
Profit after Tax	0	213	228	243	259	274	290	307	323	340
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	2441	0	0	0	0	0	0	0	0	0
Depreciation	0	349	349	349	349	349	349	349	349	349
Sources	2441	562	577	592	607	623	639	655	672	689
Capital Works	2441	0	0	0	0	0	0	2441	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	562	577	592	607	623	639	-1786	672	689
Applications	2441	562	577	592	607	623	639	655	672	689
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	2441	2654	2882	3125	3384	3658	3949	4255	4579	4919
Liabilities and Capital	2441	2654	2882	3125	3384	3658	3949	4255	4579	4919
Current Assets	0	562	1139	1731	2338	2961	3600	1814	2486	3175
Fixed Assets	2441	2092	1744	1395	1046	697	349	2441	2092	1744
Assets	2441	2654	2882	3125	3384	3658	3949	4255	4579	4919

Source: JICA

Table 9.3.1(2) Financial Statements for
L-1-1 Water Supply System
in Hanang District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	1702	1736	1771	1806	1843	1879	1917	1955	1995	2034
Operation and Maintenance	996	1012	1029	1046	1063	1081	1099	1118	1136	1155
Depreciation	349	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	1345	1361	1378	1395	1412	1430	1448	1466	1485	1504
Profit before Tax	358	375	393	412	431	450	469	489	510	530
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	358	375	393	412	431	450	469	489	510	530
Funds Statement										
Profit after Tax	358	375	393	412	431	450	469	489	510	530
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	349	349	349	349	349	349	349	349	349	349
Sources	706	724	742	761	779	798	818	838	858	879
Capital Works	0	0	0	0	2441	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	706	724	742	761	-1682	798	818	838	858	879
Applications	706	724	742	761	779	798	818	838	858	879
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	5277	5652	6045	6457	6888	7337	7807	8296	8805	9336
Liabilities and Capital	5277	5652	6045	6457	6888	7337	7807	8296	8805	9336
Current Assets	3862	4606	5348	6108	4447	5245	6063	6901	7759	8638
Fixed Assets	1395	1046	697	349	2441	2092	1744	1395	1046	697
Assets	5277	5652	6045	6457	6888	7337	7807	8296	8805	9336

Source: JICA

Table 9.3.2(1) Financial Statements for
I-1-1 Water Supply System
in Singida Rural District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	1354	1381	1408	1436	1465	1494	1524	1555	1586
Operation and Maintenance	0	862	876	890	904	919	934	949	964	980
Depreciation	0	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	1211	1225	1239	1253	1268	1282	1297	1313	1329
Profit before Tax	0	142	156	169	183	198	212	227	242	257
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	142	156	169	183	198	212	227	242	257
Funds Statement										
Profit after Tax	0	142	156	169	183	198	212	227	242	257
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	2441	0	0	0	0	0	0	0	0	0
Depreciation	0	349	349	349	349	349	349	349	349	349
Sources	2441	491	505	518	532	546	561	576	591	606
Capital Works	2441	0	0	0	0	0	0	2441	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	491	505	518	532	546	561	-1865	591	606
Applications	2441	491	505	518	532	546	561	576	591	606
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	2441	2583	2739	2909	3092	3290	3502	3729	3971	4228
Liabilities and Capital	2441	2583	2739	2909	3092	3290	3502	3729	3971	4228
Current Assets	0	491	996	1514	2046	2592	3153	1288	1878	2484
Fixed Assets	2441	2092	1744	1395	1046	697	349	2441	2092	1744
Assets	2441	2583	2739	2909	3092	3290	3502	3729	3971	4228

Source: JICA

Table 9.3.2(2) Financial Statements for
L-1-1 Water Supply System
In Singida Rural District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	1618	1650	1683	1717	1751	1786	1822	1858	1895	1933
Operation and Maintenance	996	1012	1029	1046	1063	1081	1099	1118	1136	1155
Depreciation	349	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	1345	1361	1378	1395	1412	1430	1448	1466	1485	1504
Profit before Tax	273	289	305	322	339	356	374	392	410	429
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	273	289	305	322	339	356	374	392	410	429
Funds Statement										
Profit after Tax	273	289	305	322	339	356	374	392	410	429
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	349	349	349	349	349	349	349	349	349	349
Sources	622	638	654	671	688	705	723	741	759	778
Capital Works	0	0	0	0	2441	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	622	638	654	671	-1753	705	723	741	759	778
Applications	622	638	654	671	688	705	723	741	759	778
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	4501	4790	5095	5417	5756	6112	6486	6878	7289	7718
Liabilities and Capital	4501	4790	5095	5417	5756	6112	6486	6878	7289	7718
Current Assets	3106	3744	4398	5068	3315	4020	4743	5483	6242	7020
Fixed Assets	1395	1046	697	349	2441	2092	1744	1395	1046	697
Assets	4501	4790	5095	5417	5756	6112	6486	6878	7289	7718

Source: JICA

Table 9.3.3(1) Financial Statements for
L-1-1 Water Supply System
in Manyoni District

(Unit: US\$)										
No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	1389	1417	1446	1474	1504	1534	1565	1596	1628
Operation and Maintenance	0	862	876	890	904	919	934	949	964	980
Depreciation	0	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	1211	1225	1239	1253	1268	1282	1297	1313	1329
Profit before Tax	0	178	192	207	221	236	252	267	283	299
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	178	192	207	221	236	252	267	283	299
Funds Statement										
Profit after Tax	0	178	192	207	221	236	252	267	283	299
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	2441	0	0	0	0	0	0	0	0	0
Depreciation	0	349	349	349	349	349	349	349	349	349
Sources	2441	527	541	555	570	585	600	616	632	648
Capital Works	2441	0	0	0	0	0	0	2441	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	527	541	555	570	585	600	-1825	632	648
Applications	2441	527	541	555	570	585	600	616	632	648
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	2441	2619	2812	3018	3240	3476	3728	3995	4278	4578
Liabilities and Capital	2441	2619	2812	3018	3240	3476	3728	3995	4278	4578
Current Assets	0	527	1068	1624	2194	2779	3379	1554	2186	2834
Fixed Assets	2441	2092	1744	1395	1046	697	349	2441	2092	1744
Assets	2441	2619	2812	3018	3240	3476	3728	3995	4278	4578

Source: JICA

Table 9.3.3(2) Financial Statements for
L-1-1 Water Supply System
in Manyoni District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	1661	1694	1728	1762	1797	1833	1870	1907	1946	1984
Operation and Maintenance	996	1012	1029	1046	1063	1081	1099	1118	1136	1155
Depreciation	349	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	1345	1361	1378	1395	1412	1430	1448	1466	1485	1504
Profit before Tax	316	333	350	367	385	404	422	441	461	480
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	316	333	350	367	385	404	422	441	461	480
Funds Statement										
Profit after Tax	316	333	350	367	385	404	422	441	461	480
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	349	349	349	349	349	349	349	349	349	349
Sources	665	681	699	716	734	752	771	790	809	829
Capital Works	0	0	0	0	2441	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	665	681	699	716	-1707	752	771	790	809	829
Applications	665	681	699	716	734	752	771	790	809	829
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	4894	5226	5576	5944	6329	6733	7155	7596	8057	8537
Liabilities and Capital	4894	5226	5576	5944	6329	6733	7155	7596	8057	8537
Current Assets	3499	4180	4879	5595	3888	4640	5411	6201	7010	7839
Fixed Assets	1395	1046	697	349	2441	2092	1744	1395	1046	697
Assets	4894	5226	5576	5944	6329	6733	7155	7596	8057	8537

Source: JICA

Table 9.3.4(1) Financial Statements for
L-1-1 Water Supply System
in Igunga District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	1439	1468	1497	1527	1558	1589	1621	1653	1686
Operation and Maintenance	0	862	876	890	904	919	934	949	964	980
Depreciation	0	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	1211	1225	1239	1253	1268	1282	1297	1313	1329
Profit before Tax	0	228	243	259	274	290	307	323	340	358
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	228	243	259	274	290	307	323	340	358
Funds Statement										
Profit after Tax	0	228	243	259	274	290	307	323	340	358
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	2441	0	0	0	0	0	0	0	0	0
Depreciation	0	349	349	349	349	349	349	349	349	349
Sources	2441	577	592	607	623	639	655	672	689	707
Capital Works	2441	0	0	0	0	0	0	2441	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	577	592	607	623	639	655	-1769	689	707
Applications	2441	577	592	607	623	639	655	672	689	707
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	2441	2669	2912	3171	3446	3736	4043	4366	4707	5065
Liabilities and Capital	2441	2669	2912	3171	3446	3736	4043	4366	4707	5065
Current Assets	0	577	1169	1776	2399	3039	3694	1925	2614	3321
Fixed Assets	2441	2092	1744	1395	1046	697	349	2441	2092	1744
Assets	2441	2669	2912	3171	3446	3736	4043	4366	4707	5065

Source: JICA

Table 9.3.4(2) Financial Statements for
L-1-1 Water Supply System
in Igunga District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	1720	1755	1790	1825	1862	1899	1937	1976	2015	2056
Operation and Maintenance	996	1012	1029	1046	1063	1081	1099	1118	1136	1155
Depreciation	349	349	349	349	349	349	349	349	349	349
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	1345	1361	1378	1395	1412	1430	1448	1466	1485	1504
Profit before Tax	376	394	412	431	450	469	489	510	530	552
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	376	394	412	431	450	469	489	510	530	552
Funds Statement										
Profit after Tax	376	394	412	431	450	469	489	510	530	552
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	349	349	349	349	349	349	349	349	349	349
Sources	724	742	761	779	799	818	838	858	879	900
Capital Works	0	0	0	0	2441	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	724	742	761	779	-1642	818	838	858	879	900
Applications	724	742	761	779	799	818	838	858	879	900
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	5440	5834	6246	6676	7126	7596	8085	8595	9125	9677
Liabilities and Capital	5440	5834	6246	6676	7126	7596	8085	8595	9125	9677
Current Assets	4045	4787	5548	6328	4685	5503	6341	7200	8079	8979
Fixed Assets	1395	1046	697	349	2441	2092	1744	1395	1046	697
Assets	5440	5834	6246	6676	7126	7596	8085	8595	9125	9677

Source: JICA

Table 9.3.5(1) Financial Statements for
L-1-4 Water Supply System
in Hanang District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	3354	3421	3489	3559	3630	3703	3777	3853	3930
Operation and Maintenance	0	1292	1306	1320	1334	1348	1363	1378	1394	1409
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	2852	2866	2880	2894	2908	2923	2938	2954	2969
Profit before Tax	0	502	555	610	665	722	780	839	899	960
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	502	555	610	665	722	780	839	899	960
Funds Statement										
Profit after Tax	0	502	555	610	665	722	780	839	899	960
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	15600	0	0	0	0	0	0	0	0	0
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	15600	2062	2115	2170	2225	2282	2340	2399	2459	2520
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	2062	2115	2170	2225	2282	2340	2399	2459	2520
Applications	15600	2062	2115	2170	2225	2282	2340	2399	2459	2520
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	15600	16102	16657	17267	17933	18655	19435	20274	21173	22133
Liabilities and Capital	15600	16102	16657	17267	17933	18655	19435	20274	21173	22133
Current Assets	0	2062	4177	6347	8573	10855	13195	15594	18053	20573
Fixed Assets	15600	14040	12480	10920	9350	7800	6240	4680	3120	1560
Assets	15600	16102	16657	17267	17933	18655	19435	20274	21173	22133

Source: JICA

Table 9.3.5(2) Financial Statements for
L-1-4 Water Supply System
in Nanang District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	4008	4088	4170	4254	4339	4426	4514	4604	4696	4790
Operation and Maintenance	1425	1442	1458	1475	1493	1511	1529	1547	1566	1585
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	2985	3002	3018	3035	3053	3071	3089	3107	3126	3145
Profit before Tax	1023	1087	1152	1218	1286	1355	1425	1497	1571	1645
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	1023	1087	1152	1218	1286	1355	1425	1497	1571	1645
Funds Statement										
Profit after Tax	1023	1087	1152	1218	1286	1355	1425	1497	1571	1645
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	2583	2647	2712	2778	2846	2915	2985	3057	3131	3205
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-13017	2647	2712	2778	2846	2915	2985	3057	3131	3205
Applications	2593	2647	2712	2778	2846	2915	2985	3057	3131	3205
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	23156	24243	25394	26613	27899	29254	30679	32176	33747	35392
Liabilities and Capital	23156	24243	25394	26613	27899	29254	30679	32176	33747	35392
Current Assets	7556	10203	12914	15693	18539	21454	24439	27496	30627	33832
Fixed Assets	15600	14040	12480	10920	9360	7800	6240	4680	3120	1560
Assets	23156	24243	25394	26613	27899	29254	30679	32176	33747	35392

Source: JICA

Table 9.3.6(1) Financial Statements for
I-1-4 Water Supply System
in Singida Rural District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	3187	3251	3316	3382	3450	3519	3589	3661	3734
Operation and Maintenance	0	1292	1306	1320	1334	1348	1363	1378	1394	1409
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	2852	2866	2880	2894	2908	2923	2938	2954	2969
Profit before Tax	0	335	385	436	488	542	596	651	707	765
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	335	385	436	488	542	596	651	707	765
Funds Statement										
Profit after Tax	0	335	385	436	488	542	596	651	707	765
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	15600	0	0	0	0	0	0	0	0	0
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	15600	1895	1945	1996	2048	2102	2156	2211	2267	2325
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	1895	1945	1996	2048	2102	2156	2211	2267	2325
Applications	15600	1895	1945	1996	2048	2102	2156	2211	2267	2325
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	15600	15935	16321	16757	17245	17787	18383	19034	19741	20506
Liabilities and Capital	15600	15935	16321	16757	17245	17787	18383	19034	19741	20506
Current Assets	0	1895	3841	5837	7885	9967	12143	14354	16621	18946
Fixed Assets	15600	14040	12480	10920	9360	7800	6240	4680	3120	1560
Assets	15600	15935	16321	16757	17245	17787	18383	19034	19741	20506

Source: JICA

Table 9.3.6(2) Financial Statements for
L-1-4 Water Supply System
in Singida Rural District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	3809	3885	3963	4042	4123	4205	4290	4375	4463	4552
Operation and Maintenance	1425	1442	1458	1475	1493	1511	1529	1547	1566	1585
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	2985	3002	3018	3035	3053	3071	3089	3107	3126	3145
Profit before Tax	824	883	944	1007	1070	1135	1201	1268	1337	1407
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	824	883	944	1007	1070	1135	1201	1268	1337	1407
Funds Statement										
Profit after Tax	824	883	944	1007	1070	1135	1201	1268	1337	1407
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	2384	2443	2504	2567	2630	2695	2761	2828	2897	2967
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-13216	2443	2504	2567	2630	2695	2761	2828	2897	2967
Applications	2384	2443	2504	2567	2630	2695	2761	2828	2897	2967
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	21330	22213	23157	24164	25234	26369	27570	28838	30175	31582
Liabilities and Capital	21330	22213	23157	24164	25234	26369	27570	28838	30175	31582
Current Assets	5730	8173	10677	13244	15874	18569	21330	24158	27055	30022
Fixed Assets	15600	14040	12480	10920	9360	7800	6240	4680	3120	1560
Assets	21330	22213	23157	24164	25234	26369	27570	28838	30175	31582

Source: JICA

Table 9.3.7(1) Financial Statements for
L-1-4 Water Supply System
in Manyoni District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	3272	3337	3404	3472	3541	3612	3684	3758	3833
Operation and Maintenance	0	1292	1306	1320	1334	1348	1363	1378	1394	1409
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	2852	2866	2880	2894	2908	2923	2938	2954	2969
Profit before Tax	0	420	471	524	578	633	689	746	804	864
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	420	471	524	578	633	689	746	804	864
Funds Statement										
Profit after Tax	0	420	471	524	578	633	689	746	804	864
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	15600	0	0	0	0	0	0	0	0	0
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	15600	1980	2031	2084	2138	2193	2249	2306	2364	2424
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	1980	2031	2084	2138	2193	2249	2306	2364	2424
Applications	15600	1980	2031	2084	2138	2193	2249	2306	2364	2424
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	15600	16020	16491	17015	17593	18226	18915	19662	20466	21330
Liabilities and Capital	15600	16020	16491	17015	17593	18226	18915	19662	20466	21330
Current Assets	0	1980	4011	6095	8233	10426	12675	14982	17346	19770
Fixed Assets	15600	14040	12480	10920	9360	7800	6240	4680	3120	1560
Assets	15600	16020	16491	17015	17593	18226	18915	19662	20466	21330

Source: JICA

Table 9.3.7(2) Financial Statements for
L-1-4 Water Supply System
in Manyoni District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	3910	3988	4068	4149	4232	4317	4403	4491	4581	4673
Operation and Maintenance	1425	1442	1458	1475	1493	1511	1529	1547	1566	1585
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	2985	3002	3018	3035	3053	3071	3089	3107	3126	3145
Profit before Tax	924	986	1049	1114	1179	1246	1315	1384	1455	1528
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	924	986	1049	1114	1179	1246	1315	1384	1455	1528
Funds Statement										
Profit after Tax	924	986	1049	1114	1179	1246	1315	1384	1455	1528
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	2484	2546	2609	2674	2739	2806	2875	2944	3015	3088
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-13116	2546	2609	2674	2739	2806	2875	2944	3015	3088
Applications	2484	2546	2609	2674	2739	2806	2875	2944	3015	3088
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	22254	23241	24290	25404	26583	27829	29144	30528	31984	33511
Liabilities and Capital	22254	23241	24290	25404	26583	27829	29144	30528	31984	33511
Current Assets	6654	9201	11810	14484	17223	20029	22904	25848	28864	31951
Fixed Assets	15600	14040	12480	10920	9360	7800	6240	4680	3120	1560
Assets	22254	23241	24290	25404	26583	27829	29144	30528	31984	33511

Source: JICA

Table 9.3.8(1) Financial Statements for
L-1-4 Water Supply System
In Igunga District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	3314	3380	3448	3517	3587	3659	3732	3807	3883
Operation and Maintenance	0	1292	1306	1320	1334	1348	1363	1378	1394	1409
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	2852	2866	2880	2894	2908	2923	2938	2954	2969
Profit before Tax	0	462	514	568	623	679	736	794	853	913
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	462	514	568	623	679	736	794	853	913
Funds Statement										
Profit after Tax	0	462	514	568	623	679	736	794	853	913
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	15600	0	0	0	0	0	0	0	0	0
Depreciation	0	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	15600	2022	2074	2128	2183	2239	2296	2354	2413	2473
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	2022	2074	2128	2183	2239	2296	2354	2413	2473
Applications	15600	2022	2074	2128	2183	2239	2296	2354	2413	2473
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	15600	16062	16576	17144	17767	18446	19182	19975	20828	21741
Liabilities and Capital	15600	16062	16576	17144	17767	18446	19182	19975	20828	21741
Current Assets	0	2022	4096	6224	8407	10646	12942	15295	17708	20181
Fixed Assets	15600	14040	12480	10920	9360	7800	6240	4680	3120	1560
Assets	15600	16062	16576	17144	17767	18446	19182	19975	20828	21741

Source: JICA

Table 9.3.8(2) Financial Statements for
L-1-4 Water Supply System
in Igunga District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	3960	4040	4120	4203	4287	4373	4460	4549	4640	4733
Operation and Maintenance	1425	1442	1458	1475	1493	1511	1529	1547	1566	1585
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	2985	3002	3018	3035	3053	3071	3089	3107	3126	3145
Profit before Tax	975	1038	1102	1167	1234	1302	1371	1442	1514	1588
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	975	1038	1102	1167	1234	1302	1371	1442	1514	1588
Funds Statement										
Profit after Tax	975	1038	1102	1167	1234	1302	1371	1442	1514	1588
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	1560	1560	1560	1560	1560	1560	1560	1560	1560	1560
Sources	2535	2598	2662	2727	2794	2862	2931	3002	3074	3148
Capital Works	15600	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-13065	2598	2662	2727	2794	2862	2931	3002	3074	3148
Applications	2535	2598	2662	2727	2794	2862	2931	3002	3074	3148
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	22716	23754	24856	26023	27257	28559	29930	31373	32887	34475
Liabilities and Capital	22716	23754	24856	26023	27257	28559	29930	31373	32887	34475
Current Assets	7116	9714	12376	15103	17897	20759	23690	26693	29767	32915
Fixed Assets	15600	14040	12480	10920	9360	7800	6240	4680	3120	1560
Assets	22716	23754	24856	26023	27257	28559	29930	31373	32887	34475

Source: JICA

Table 9.3.9(1) Financial Statements for
L-2 Water Supply System
in Nanang District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	18633	19008	19386	19774	20169	20573	20984	21404	21832
Operation and Maintenance	0	13923	14041	14162	14286	14412	14540	14671	14804	14941
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	16006	16124	16245	16369	16494	16623	16754	16887	17024
Profit before Tax	0	2628	2882	3141	3405	3675	3950	4230	4516	4808
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	2628	2882	3141	3405	3675	3950	4230	4516	4808
Funds Statement										
Profit after Tax	0	2628	2882	3141	3405	3675	3950	4230	4516	4808
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	20829	0	0	0	0	0	0	0	0	0
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	20829	4711	4965	5224	5488	5758	6033	6313	6599	6891
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	4711	4965	5224	5488	5758	6033	6313	6599	6891
Applications	20829	4711	4965	5224	5488	5758	6033	6313	6599	6891
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	20829	23457	26339	29480	32885	36560	40509	44740	49256	54064
Liabilities and Capital	20829	23457	26339	29480	32885	36560	40509	44740	49256	54064
Current Assets	0	4711	9675	14899	20387	26145	32178	38491	45090	51982
Fixed Assets	20829	18746	16663	14580	12497	10415	8332	6249	4166	2083
Assets	20829	23457	26339	29480	32885	36560	40509	44740	49256	54064

Source: JICA

Table 9.3.9(2) Financial Statements for
L-2 Water Supply System
in Hanang District

(Unit: US\$)										
No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	22268	22714	23168	23631	24104	24586	25078	25579	26091	26613
Operation and Maintenance	15080	15221	15366	15514	15664	15817	15974	16134	16296	16462
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	17163	17304	17449	17596	17747	17900	18057	18216	18379	18545
Profit before Tax	5106	5410	5719	6035	6357	6686	7021	7363	7712	8068
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	5106	5410	5719	6035	6357	6686	7021	7363	7712	8068
Funds Statement										
Profit after Tax	5106	5410	5719	6035	6357	6686	7021	7363	7712	8068
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	7189	7492	7802	8118	8440	8769	9104	9446	9795	10150
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-13640	7492	7802	8118	8440	8769	9104	9446	9795	10150
Applications	7189	7492	7802	8118	8440	8769	9104	9446	9795	10150
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	59170	64580	70299	76334	82691	89377	96398	103761	111473	119541
Liabilities and Capital	59170	64580	70299	76334	82691	89377	96398	103761	111473	119541
Current Assets	38341	45834	53636	61754	70194	78963	88067	97513	107307	117458
Fixed Assets	20829	18746	16663	14580	12497	10414	8332	6249	4166	2083
Assets	59170	64580	70299	76334	82691	89377	96398	103761	111473	119541

Source: JICA

Table 9.3.10(1) Financial Statements for
L-2 Water Supply System
In Singida Rural District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	17707	18061	18422	18790	19166	19550	19941	20339	20746
Operation and Maintenance	0	13923	14041	14162	14286	14412	14540	14671	14804	14941
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	16006	16124	16245	16369	16494	16623	16754	16887	17024
Profit before Tax	0	1701	1937	2177	2422	2672	2927	3187	3452	3723
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	1701	1937	2177	2422	2672	2927	3187	3452	3723
Funds Statement										
Profit after Tax	0	1701	1937	2177	2422	2672	2927	3187	3452	3723
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	20829	0	0	0	0	0	0	0	0	0
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	20829	3784	4020	4260	4505	4755	5010	5270	5535	5805
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	3784	4020	4260	4505	4755	5010	5270	5535	5805
Applications	20829	3784	4020	4260	4505	4755	5010	5270	5535	5805
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	20829	22530	24467	26644	29065	31737	34664	37851	41303	45025
Liabilities and Capital	20829	22530	24467	26644	29065	31737	34664	37851	41303	45025
Current Assets	0	3784	7804	12063	16568	21323	26332	31602	37137	42942
Fixed Assets	20829	18746	16663	14580	12497	10415	8332	6249	4166	2083
Assets	20829	22530	24467	26644	29065	31737	34664	37851	41303	45025

Source: JICA

Table 9.3.10(2) Financial Statements for
L-2 Water Supply System
In Singida Rural District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	21161	21584	22016	22456	22905	23364	23831	24307	24794	25289
Operatfon and Maintenance	15080	15221	15366	15514	15664	15817	15974	16134	16296	16462
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	17163	17304	17449	17596	17747	17900	18057	18216	18379	18545
Profit before Tax	3998	4280	4567	4860	5159	5463	5774	6091	6414	6744
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	3998	4280	4567	4860	5159	5463	5774	6091	6414	6744
Funds Statement										
Profit after Tax	3998	4280	4567	4860	5159	5463	5774	6091	6414	6744
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	6081	6363	6650	6943	7241	7546	7857	8174	8497	8827
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-14748	6363	6650	6943	7241	7546	7857	8174	8497	8827
Applications	6081	6363	6650	6943	7241	7546	7857	8174	8497	8827
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	49024	53304	57871	62730	67889	73352	79126	85217	91631	98375
Liabilities and Capital	49024	53304	57871	62730	67889	73352	79126	85217	91631	98375
Current Assets	28195	34557	41207	48150	55392	62938	70795	78968	87465	96292
Fixed Assets	20829	18746	16663	14580	12497	10414	8332	6249	4166	2083
Assets	49024	53304	57871	62730	67889	73352	79126	85217	91631	98375

Source: JICA

Table 9.3.11(1) Financial Statements for
L-2 Water Supply System
in Manyoni District

(Unit: US\$)

No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	18176	18539	18910	19288	19674	20068	20469	20878	21296
Operation and Maintenance	0	13923	14041	14162	14286	14412	14540	14671	14804	14941
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	16006	16124	16245	16369	16494	16623	16754	16887	17024
Profit before Tax	0	2170	2415	2665	2920	3180	3445	3715	3991	4272
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	2170	2415	2665	2920	3180	3445	3715	3991	4272
Funds Statement										
Profit after Tax	0	2170	2415	2665	2920	3180	3445	3715	3991	4272
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	20829	0	0	0	0	0	0	0	0	0
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	20829	4253	4498	4748	5003	5263	5528	5798	6074	6355
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	4253	4498	4748	5003	5263	5528	5798	6074	6355
Applications	20829	4253	4498	4748	5003	5263	5528	5798	6074	6355
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	20829	22999	25414	28079	30999	34179	37624	41339	45330	49602
Liabilities and Capital	20829	22999	25414	28079	30999	34179	37624	41339	45330	49602
Current Assets	0	4253	8751	13499	18502	23764	29292	35090	41164	47519
Fixed Assets	20829	18746	16663	14580	12497	10415	8332	6249	4166	2083
Assets	20829	22999	25414	28079	30999	34179	37624	41339	45330	49602

Source: JICA

Table 9.3.11(2) Financial Statements for
L-2 Water Supply System
In Manyot District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	21722	22156	22599	23051	23512	23983	24462	24951	25450	25959
Operation and Maintenance	15080	15221	15306	15514	15664	15817	15974	16134	16296	16462
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	17163	17304	17449	17596	17747	17900	18057	18216	18379	18545
Profit before Tax	4559	4852	5150	5455	5765	6082	6405	6735	7071	7414
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	4559	4852	5150	5455	5765	6082	6405	6735	7071	7414
Funds Statement										
Profit after Tax	4559	4852	5150	5455	5765	6082	6405	6735	7071	7414
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	6642	6935	7233	7538	7848	8165	8488	8818	9154	9497
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-14187	6935	7233	7538	7848	8165	8488	8818	9154	9497
Applications	6642	6935	7233	7538	7848	8165	8488	8818	9154	9497
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	54161	59013	64163	69618	75383	81466	87871	94606	101677	109091
Liabilities and Capital	54161	59013	64163	69618	75383	81466	87871	94606	101677	109091
Current Assets	33332	40267	47500	55038	62886	71051	79539	88357	97511	107008
Fixed Assets	20829	18746	16663	14580	12497	10414	8332	6249	4166	2083
Assets	54161	59013	64163	69618	75383	81466	87871	94606	101677	109091

Source: JICA

Table 9.3.12(1) Financial Statements for
L-2 Water Supply System
in Igunga District

(Unit: US\$)										
No.	1	2	3	4	5	6	7	8	9	10
Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Income Statement										
Revenue	0	18075	18437	18806	19182	19565	19957	20356	20763	21178
Operation and Maintenance	0	13923	14041	14162	14286	14412	14540	14671	14804	14941
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	0	16006	16124	16245	16369	16494	16623	16754	16887	17024
Profit before Tax	0	2070	2313	2561	2813	3071	3334	3602	3876	4155
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	0	2070	2313	2561	2813	3071	3334	3602	3876	4155
Funds Statement										
Profit after Tax	0	2070	2313	2561	2813	3071	3334	3602	3876	4155
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	20829	0	0	0	0	0	0	0	0	0
Depreciation	0	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	20829	4153	4396	4643	4896	5154	5417	5685	5959	6238
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	0	4153	4396	4643	4896	5154	5417	5685	5959	6238
Applications	20829	4153	4396	4643	4896	5154	5417	5685	5959	6238
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	20829	22899	25212	27772	30586	33657	36991	40593	44468	48623
Liabilities and Capital	20829	22899	25212	27772	30586	33657	36991	40593	44468	48623
Current Assets	0	4153	8549	13192	18088	23242	28659	34344	40303	46540
Fixed Assets	20829	18746	16663	14580	12497	10415	8332	6249	4166	2083
Assets	20829	22899	25212	27772	30586	33657	36991	40593	44468	48623

Source: JICA

Table 9.3.12(2) Financial Statements for
L-2 Water Supply System
in Igunga District

(Unit: US\$)

No.	11	12	13	14	15	16	17	18	19	20
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Income Statement										
Revenue	21602	22034	22475	22924	23383	23850	24327	24814	25310	25816
Operation and Maintenance	15080	15221	15366	15514	15664	15817	15974	16134	16296	16462
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Payment of Interest	0	0	0	0	0	0	0	0	0	0
Expenditure	17163	17304	17449	17596	17747	17900	18057	18216	18379	18545
Profit before Tax	4439	4730	5026	5328	5636	5950	6270	6597	6931	7271
Tax	0	0	0	0	0	0	0	0	0	0
Profit after Tax	4439	4730	5026	5328	5636	5950	6270	6597	6931	7271
Funds Statement										
Profit after Tax	4439	4730	5026	5328	5636	5950	6270	6597	6931	7271
Loans	0	0	0	0	0	0	0	0	0	0
Government Budget	0	0	0	0	0	0	0	0	0	0
Depreciation	2083	2083	2083	2083	2083	2083	2083	2083	2083	2083
Sources	6522	6812	7109	7411	7719	8033	8353	8680	9014	9354
Capital Works	20829	0	0	0	0	0	0	0	0	0
Payment of Principal	0	0	0	0	0	0	0	0	0	0
Working Capital	-14307	6812	7109	7411	7719	8033	8353	8680	9014	9354
Applications	6522	6812	7109	7411	7719	8033	8353	8680	9014	9354
Balance Sheet										
Liabilities	0	0	0	0	0	0	0	0	0	0
Capital	53062	57792	62817	68145	73781	79731	86001	92598	99529	106800
Liabilities and Capital	53062	57792	62817	68145	73781	79731	86001	92598	99529	106800
Current Assets	32233	39046	46154	53565	61283	69316	77669	86350	95363	104717
Fixed Assets	20829	18746	16663	14580	12497	10414	8332	6249	4166	2083
Assets	53062	57792	62817	68145	73781	79731	86001	92598	99529	106800

Source: JICA

Table 9.3.13 Cost Benefit Streams, L-1-1
Hanang (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	2441	0	2441	0	-2441
2	2000	0	862	862	1424	562
3	2001	0	876	876	1453	577
4	2002	0	890	890	1482	592
5	2003	0	904	904	1512	607
6	2004	0	919	919	1542	623
7	2005	0	934	934	1573	639
8	2006	2441	949	3390	1604	-1786
9	2007	0	964	964	1636	672
10	2008	0	980	980	1669	689
11	2009	0	996	996	1702	706
12	2010	0	1012	1012	1736	724
13	2011	0	1029	1029	1771	742
14	2012	0	1046	1046	1806	761
15	2013	2441	1063	3504	1843	-1662
16	2014	0	1081	1081	1879	798
17	2015	0	1099	1099	1917	818
18	2016	0	1118	1118	1955	838
19	2017	0	1136	1136	1995	858
20	2018	0	1155	1155	2034	879

Table 9.3.14 Cost Benefit Streams, L-1-1
Singida Rural (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	2441	0	2441	0	-2441
2	2000	0	862	862	1354	491
3	2001	0	876	876	1381	505
4	2002	0	890	890	1408	518
5	2003	0	904	904	1436	532
6	2004	0	919	919	1465	546
7	2005	0	934	934	1494	561
8	2006	2441	949	3390	1524	-1865
9	2007	0	964	964	1555	591
10	2008	0	980	980	1586	606
11	2009	0	996	996	1618	622
12	2010	0	1012	1012	1650	638
13	2011	0	1029	1029	1683	654
14	2012	0	1046	1046	1717	671
15	2013	2441	1063	3504	1751	-1753
16	2014	0	1081	1081	1786	705
17	2015	0	1099	1099	1822	723
18	2016	0	1118	1118	1858	741
19	2017	0	1136	1136	1895	759
20	2018	0	1155	1155	1933	778

Table 9 .3.15 Cost Benefit Streams, L-1-1
Manyoni (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	2441	0	2441	0	-2441
2	2000	0	862	862	1389	527
3	2001	0	876	876	1417	541
4	2002	0	890	890	1446	555
5	2003	0	904	904	1474	570
6	2004	0	919	919	1504	585
7	2005	0	934	934	1534	600
8	2006	2441	949	3390	1565	-1825
9	2007	0	964	964	1596	632
10	2008	0	980	980	1628	648
11	2009	0	996	996	1661	665
12	2010	0	1012	1012	1694	681
13	2011	0	1029	1029	1728	699
14	2012	0	1046	1046	1762	716
15	2013	2441	1063	3504	1797	-1707
16	2014	0	1081	1081	1833	752
17	2015	0	1099	1099	1870	771
18	2016	0	1118	1118	1907	790
19	2017	0	1136	1136	1946	809
20	2018	0	1155	1155	1984	829

Table 9 .3.16 Cost Benefit Streams, L-1-1
Igunga (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	2441	0	2441	0	-2441
2	2000	0	862	862	1439	577
3	2001	0	876	876	1468	592
4	2002	0	890	890	1497	607
5	2003	0	904	904	1527	623
6	2004	0	919	919	1558	639
7	2005	0	934	934	1589	655
8	2006	2441	949	3390	1621	-1769
9	2007	0	964	964	1653	689
10	2008	0	980	980	1686	707
11	2009	0	996	996	1720	724
12	2010	0	1012	1012	1755	742
13	2011	0	1029	1029	1790	761
14	2012	0	1046	1046	1825	779
15	2013	2441	1063	3504	1862	-1642
16	2014	0	1081	1081	1899	818
17	2015	0	1099	1099	1937	838
18	2016	0	1118	1118	1976	858
19	2017	0	1136	1136	2015	879
20	2018	0	1155	1155	2056	900

Table 9.3.17 Cost Benefit Streams, L-1-4
Hanang (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	15600	0	15600	0	-15600
2	2000	0	1292	1292	3354	2062
3	2001	0	1306	1306	3421	2115
4	2002	0	1320	1320	3489	2170
5	2003	0	1334	1334	3559	2225
6	2004	0	1348	1348	3630	2282
7	2005	0	1363	1363	3703	2340
8	2006	0	1378	1378	3777	2399
9	2007	0	1394	1394	3853	2459
10	2008	0	1409	1409	3930	2520
11	2009	15600	1425	17025	4008	-13017
12	2010	0	1442	1442	4088	2647
13	2011	0	1458	1458	4170	2712
14	2012	0	1475	1475	4254	2778
15	2013	0	1493	1493	4339	2846
16	2014	0	1511	1511	4426	2915
17	2015	0	1529	1529	4514	2985
18	2016	0	1547	1547	4604	3057
19	2017	0	1566	1566	4696	3131
20	2018	0	1585	1585	4790	3205

Table 9.3.18 Cost Benefit Streams, L-1-4
Singida Rural (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	15600	0	15600	0	-15600
2	2000	0	1292	1292	3354	2062
3	2001	0	1306	1306	3421	2115
4	2002	0	1320	1320	3489	2170
5	2003	0	1334	1334	3559	2225
6	2004	0	1348	1348	3630	2282
7	2005	0	1363	1363	3703	2340
8	2006	0	1378	1378	3777	2399
9	2007	0	1394	1394	3853	2459
10	2008	0	1409	1409	3930	2520
11	2009	15600	1425	17025	4008	-13017
12	2010	0	1442	1442	4088	2647
13	2011	0	1458	1458	4170	2712
14	2012	0	1475	1475	4254	2778
15	2013	0	1493	1493	4339	2846
16	2014	0	1511	1511	4426	2915
17	2015	0	1529	1529	4514	2985
18	2016	0	1547	1547	4604	3057
19	2017	0	1566	1566	4696	3131
20	2018	0	1585	1585	4790	3205

Table 9.3.19 Cost Benefit Streams, L-1-4
Manyoni (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	15600	0	15600	0	-15600
2	2000	0	1292	1292	3354	2062
3	2001	0	1306	1306	3421	2115
4	2002	0	1320	1320	3489	2170
5	2003	0	1334	1334	3559	2225
6	2004	0	1348	1348	3630	2282
7	2005	0	1363	1363	3703	2340
8	2006	0	1378	1378	3777	2399
9	2007	0	1394	1394	3853	2459
10	2008	0	1409	1409	3930	2520
11	2009	15600	1425	17025	4008	-13017
12	2010	0	1442	1442	4088	2647
13	2011	0	1458	1458	4170	2712
14	2012	0	1475	1475	4254	2778
15	2013	0	1493	1493	4339	2846
16	2014	0	1511	1511	4426	2915
17	2015	0	1529	1529	4514	2985
18	2016	0	1547	1547	4604	3057
19	2017	0	1566	1566	4696	3131
20	2018	0	1585	1585	4790	3205

Table 9.3.20 Cost Benefit Streams, L-1-4
Igunga (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	15600	0	15600	0	-15600
2	2000	0	1292	1292	2050	758
3	2001	0	1306	1306	2091	785
4	2002	0	1320	1320	2132	813
5	2003	0	1334	1334	2175	841
6	2004	0	1348	1348	2219	870
7	2005	0	1363	1363	2263	900
8	2006	0	1378	1378	2308	930
9	2007	0	1394	1394	2354	961
10	2008	0	1409	1409	2402	992
11	2009	15600	1425	17025	2450	-14576
12	2010	0	1442	1442	2499	1057
13	2011	0	1458	1458	2548	1090
14	2012	0	1475	1475	2599	1124
15	2013	0	1493	1493	2651	1159
16	2014	0	1511	1511	2704	1194
17	2015	0	1529	1529	2759	1230
18	2016	0	1547	1547	2814	1267
19	2017	0	1566	1566	2870	1304
20	2018	0	1585	1585	2927	1342

Table 9.3.21 Cost Benefit Streams, L-2
Hanang (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	20829	0	20829	0	-20829
2	2000	0	13923	13923	18633	4711
3	2001	0	14041	14041	19006	4965
4	2002	0	14162	14162	19386	5224
5	2003	0	14286	14286	19774	5488
6	2004	0	14412	14412	20169	5758
7	2005	0	14540	14540	20573	6033
8	2006	0	14671	14671	20984	6313
9	2007	0	14804	14804	21404	6599
10	2008	0	14941	14941	21832	6891
11	2009	20829	15080	35909	22268	-13640
12	2010	0	15221	15221	22714	7492
13	2011	0	15366	15366	23168	7802
14	2012	0	15514	15514	23631	8118
15	2013	0	15664	15664	24104	8440
16	2014	0	15817	15817	24586	8769
17	2015	0	15974	15974	25078	9104
18	2016	0	16134	16134	25579	9446
19	2017	0	16296	16296	26091	9795
20	2018	0	16462	16462	26613	10150

Table 9.3.22 Cost Benefit Streams, L-2
Singida Rural (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	20829	0	20829	0	-20829
2	2000	0	13923	13923	17707	3784
3	2001	0	14041	14041	18061	4020
4	2002	0	14162	14162	18422	4260
5	2003	0	14286	14286	18790	4505
6	2004	0	14412	14412	19166	4755
7	2005	0	14540	14540	19550	5010
8	2006	0	14671	14671	19941	5270
9	2007	0	14804	14804	20339	5535
10	2008	0	14941	14941	20746	5805
11	2009	20829	15080	35909	21161	-14748
12	2010	0	15221	15221	21584	6363
13	2011	0	15366	15366	22016	6650
14	2012	0	15514	15514	22456	6943
15	2013	0	15664	15664	22905	7241
16	2014	0	15817	15817	23364	7546
17	2015	0	15974	15974	23831	7857
18	2016	0	16134	16134	24307	8174
19	2017	0	16296	16296	24794	8497
20	2018	0	16462	16462	25289	8827

Table 9.3.23 Cost Benefit Streams, L-2
Manyoni (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	20829	0	20829	0	-20829
2	2000	0	13923	13923	18176	4253
3	2001	0	14041	14041	18539	4498
4	2002	0	14162	14162	18910	4748
5	2003	0	14286	14286	19288	5003
6	2004	0	14412	14412	19674	5263
7	2005	0	14540	14540	20068	5528
8	2006	0	14671	14671	20469	5798
9	2007	0	14804	14804	20878	6074
10	2008	0	14941	14941	21296	6355
11	2009	20829	15080	35909	21722	-14187
12	2010	0	15221	15221	22156	6935
13	2011	0	15366	15366	22599	7233
14	2012	0	15514	15514	23051	7538
15	2013	0	15664	15664	23512	7848
16	2014	0	15817	15817	23983	8165
17	2015	0	15974	15974	24462	8488
18	2016	0	16134	16134	24951	8818
19	2017	0	16296	16296	25450	9154
20	2018	0	16462	16462	25959	9497

Table 9.3.24 Cost Benefit Streams, L-2
Igunga (Financial Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	20829	0	20829	0	-20829
2	2000	0	13923	13923	18075	4153
3	2001	0	14041	14041	18437	4396
4	2002	0	14162	14162	18806	4643
5	2003	0	14286	14286	19182	4896
6	2004	0	14412	14412	19565	5154
7	2005	0	14540	14540	19957	5417
8	2006	0	14671	14671	20356	5685
9	2007	0	14804	14804	20763	5959
10	2008	0	14941	14941	21178	6238
11	2009	20829	15080	35909	21602	-14307
12	2010	0	15221	15221	22034	6812
13	2011	0	15366	15366	22475	7109
14	2012	0	15514	15514	22924	7411
15	2013	0	15664	15664	23383	7719
16	2014	0	15817	15817	23850	8033
17	2015	0	15974	15974	24327	8353
18	2016	0	16134	16134	24814	8680
19	2017	0	16296	16296	25310	9014
20	2018	0	16462	16462	25816	9354

Table 9.3.25 Cost Benefit Streams, L-1-1
(Economic Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	36198	0	36198	0	-36198
2	2000	0	801	801	5455	4654
3	2001	0	814	814	5550	4736
4	2002	0	827	827	5647	4821
5	2003	0	840	840	5746	4907
6	2004	0	853	853	5848	4994
7	2005	0	867	867	5951	5084
8	2006	2431	881	3312	6056	2744
9	2007	0	895	895	6163	5268
10	2008	0	910	910	6273	5362
11	2009	0	925	925	6384	5459
12	2010	0	940	940	6498	5558
13	2011	0	956	956	6614	5658
14	2012	0	971	971	6733	5761
15	2013	2431	988	3419	6853	3435
16	2014	0	1004	1004	6977	5973
17	2015	0	1021	1021	7102	6082
18	2016	0	1038	1038	7230	6193
19	2017	0	1055	1055	7361	6306
20	2018	0	1073	1073	7495	6422

Table 9.3.26 Cost Benefit Streams, L-1-4
(Economic Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	193251	0	193251	0	-193251
2	2000	0	1200	1200	11417	10217
3	2001	0	1213	1213	11617	10404
4	2002	0	1226	1226	11820	10594
5	2003	0	1239	1239	12027	10789
6	2004	0	1252	1252	12239	10987
7	2005	0	1266	1266	12455	11189
8	2006	0	1280	1280	12675	11395
9	2007	0	1294	1294	12899	11605
10	2008	0	1309	1309	13128	11820
11	2009	15469	1324	16793	13362	-3431
12	2010	0	1339	1339	13600	12261
13	2011	0	1354	1354	13843	12489
14	2012	0	1370	1370	14091	12721
15	2013	0	1386	1386	14344	12958
16	2014	0	1403	1403	14602	13199
17	2015	0	1420	1420	14865	13446
18	2016	0	1437	1437	15134	13697
19	2017	0	1454	1454	15407	13953
20	2018	0	1472	1472	15686	14215

Table 9.3.27 Cost Benefit Streams, L-2
(Economic Analysis)

CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	207679	0	207679	0	-207679
2	2000	0	12930	12930	57086	44156
3	2001	0	13040	13040	58083	45043
4	2002	0	13152	13152	59100	45947
5	2003	0	13267	13267	60137	46870
6	2004	0	13384	13384	61195	47811
7	2005	0	13503	13503	62274	48771
8	2006	0	13625	13625	63375	49750
9	2007	0	13749	13749	64497	50748
10	2008	0	13875	13875	65642	51767
11	2009	20645	14005	34650	66811	32161
12	2010	0	14136	14136	68002	53866
13	2011	0	14270	14270	69217	54947
14	2012	0	14407	14407	70457	56049
15	2013	0	14547	14547	71721	57174
16	2014	0	14690	14690	73011	58321
17	2015	0	14835	14835	74326	59491
18	2016	0	14983	14983	75668	60685
19	2017	0	15134	15134	77036	61902
20	2018	0	15289	15289	78432	63144

Table 9.3.28 Cost Benefit Streams, Whole Project
(Economic Analysis)

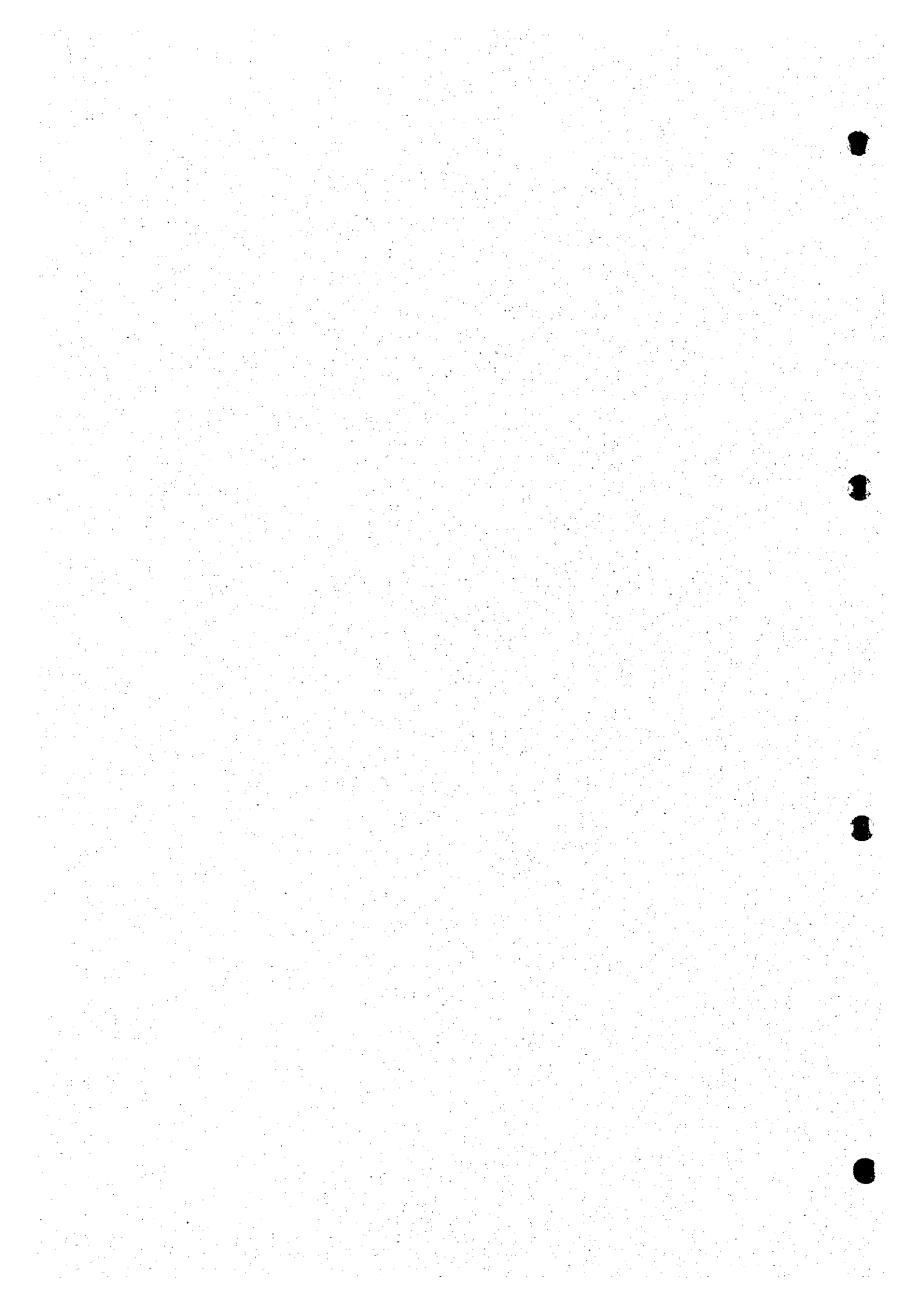
CC=Capital Costs; OM=O/M Costs; CS=Costs; BF=Benefits
CF=Cash Flow (=BF - CS)

(Unit: US\$)

NO.	YEAR	CC	OM	CS	BF	CF
1	1999	5361	0	5361	0	-5361
2	2000	4143	108	4251	655	-3596
3	2001	4144	216	4359	1333	-3027
4	2002	51	323	374	2034	1659
5	2003	7299	323	7622	2069	-5553
6	2004	7386	480	7866	3253	-4613
7	2005	7386	636	8022	4478	-3544
8	2006	7385	793	8178	5745	-2432
9	2007	68	949	1017	7056	6040
10	2008	11076	949	12025	7181	-4844
11	2009	11010	1176	12186	9147	-3039
12	2010	11010	1404	12413	11181	-1232
13	2011	11010	1631	12641	13285	645
14	2012	11012	1858	12870	15461	2592
15	2013	11123	2086	13209	17712	4503
16	2014	11266	2313	13579	20038	6459
17	2015	11262	2540	13803	22442	8640
18	2016	11261	2768	14029	24928	10899
19	2017	139	2995	3134	27496	24362
20	2018	139	2995	3134	27496	24362







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