

I-2. Breakdown of Civil Works

Table I-2.1 Breakdown of Civil Works (1)

ITEM: 2.1.1, Land Reclamation of North Wahby Area

Item No.	Description	Q'tys	Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
						Equip-ment	Materi	Total	Local Materi	Labour	Total
(Unit: '000 LE)											
(1) Pre-engineering											
	Cadastral Survey	250	Fed	200	50	-	4	4	-	46	46
	Vertical Control	140	Km	50	7	-	-	-	-	7	7
	Pre-Construction Survey	4	Mos	7,500	30	-	3	3	-	27	27
	Construction Survey	48	Mos	4,000	192	-	19	19	-	173	173
	Hydrology	48	Mos	1,500	72	-	7	7	-	65	65
	Laboratory Control	48	Mos	1,500	72	-	7	7	-	65	65
	Negotiation for ROW	7	Mos	1,000	7	-	-	-	-	7	7
	Total				430		40	40		390	390
(2) Pump Station											
2-1 No.1 Pump Station											
a. Equipment											
	Pump 6200mm	7	Set	8,000	56.00	-	56.00	56.00	-	-	-
	Motor 90 Kw	7	Set	3,900	27.30	-	27.30	27.30	-	-	-
	Auxiliary Equipment		L.S		9.80	-	9.80	9.80	-	-	-
	Pipes and Valves		L.S		30.20	-	30.20	30.20	-	-	-
	Control Panel & Cable	1	Set		40.10	-	40.10	40.10	-	-	-
	Power Sub-station 450KVA	1	Set		38.40	-	38.40	38.40	-	-	-
	Generator 125KVA	1	Set		50.00	-	50.00	50.00	-	-	-
	Pressure Tank	1	Set		31.90	-	31.90	31.90	-	-	-
	Strainer	7	Nos	1,000	7.00	-	7.00	7.00	-	-	-
	Miscellaneous		L.S		9.30	-	9.30	9.30	-	-	-
	Transport and Installation		L.S		60.00	-	24.00	24.00	6.00	30.00	36.00
	Sub-total				360.00		324.00	324.00	6.00	30.00	36.00
b. Intake Facilities											
	Excavation	480	cu.m	1.25	0.60	0.24	0.13	0.37	0.01	0.22	0.23
	Backfill	350	cu.m	1.14	0.40	0.01	0.01	0.02	0.01	0.37	0.38
	Concrete (Plain)	5	cu.m	65.36	0.33	0.01	0.09	0.10	0.13	0.10	0.23
	Concrete w/S.B	30	cu.m	179.90	5.40	0.04	2.53	2.57	1.11	1.72	2.83
	Riprap (Masonry)	100	sq.m	21.86	2.19	0.14	0.34	0.48	0.65	1.06	1.71
	R.C Pipe 6 600mm	6	m	115.60	0.69	-	0.28	0.28	0.21	0.20	0.41
	Miscellaneous Steel		L.S		0.29	-	0.23	0.23	0.03	0.03	0.06
	Sub-total				9.90	0.44	3.61	4.05	2.15	3.70	5.85
c. Feeder Canal											
	Excavation	67,000	cu.m	1.25	83.75	34.17	17.42	51.59	2.01	30.15	32.16
	Embankment w/comp.	67,000	cu.m	0.76	50.92	20.10	13.40	33.50	2.01	15.41	17.42
	Gravel Surfacing (10cm)	11,000	sq.m	1.33	14.63	0.88	6.49	7.37	6.05	1.21	7.26
	Sub-total				149.30	55.15	37.31	92.46	10.07	46.77	56.84
d. Suction Pit											
	Excavation	850	cu.m	1.25	1.06	0.43	0.22	0.65	0.03	0.38	0.41
	Backfill	420	cu.m	1.14	0.48	0.01	0.01	0.02	0.01	0.45	0.46
	Concrete (Plain)	10	cu.m	65.36	0.65	0.01	0.18	0.19	0.26	0.20	0.46
	Concrete w/S.B	60	cu.m	179.90	10.79	0.07	5.06	5.13	2.23	3.43	5.66
	Riprap (Masonry)	80	sq.m	21.86	1.75	0.11	0.27	0.38	0.52	0.85	1.37
	Screen	1	Set	4,100	4.10	-	3.28	3.28	0.41	0.41	0.82
	Sub-total				18.83	0.63	9.02	9.65	3.46	5.72	9.18
e. Housing											
	Pump House	220	sq.m	150.00	33.00	-	6.60	6.60	9.90	16.50	26.40
	Guard House	24	sq.m	140.00	3.36	-	0.67	0.67	1.01	1.68	2.69
	Sub-total				36.36		7.27	7.27	10.91	18.18	29.09
f. Miscellaneous Works											
			L.S		15.61	3.78	8.79	12.57	2.41	0.63	3.04
	Total				590.00	60.00	390.00	450.00	35.00	105.00	140.00

(Cont'd) Table I-2.1

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
					Equip-ment	Materi	Total	Local Materi	Labour	Total
2-4 No.4 Pump Station										
a. Equipment										
	Pump ø250mm	10 Set	16,200	162.00	-	162.00	162.00	-	-	-
	Motor 120 Kw	10 Set	5,200	52.00	-	52.00	52.00	-	-	-
	Auxiliary Equipment	L.S		17.80	-	17.80	17.80	-	-	-
	Pipes and Valves	L.S		57.50	-	57.50	57.50	-	-	-
	Control Panel & Cable	1 Set		58.10	-	58.10	58.10	-	-	-
	Power Sub-station 900KVA	1 Set		41.20	-	41.20	41.20	-	-	-
	Generator 200KVA	1 Set		60.00	-	60.00	60.00	-	-	-
	Pressure Tank	1 Set		54.15	-	54.15	54.15	-	-	-
	Strainer	10 Nos	1,000	10.00	-	10.00	10.00	-	-	-
	Miscellaneous	L.S		7.25	-	7.25	7.25	-	-	-
	Transport and Installation	L.S		100.00	-	40.00	40.00	10.00	50.00	60.00
	Sub-total			620.00	-	560.00	560.00	10.00	50.00	60.00
b. Intake Facilities										
	Excavation	940 cu.m	1.25	1.18	0.48	0.25	0.73	0.03	0.42	0.45
	Backfill	745 cu.m	1.14	0.85	0.02	0.02	0.04	0.01	0.80	0.81
	Concrete (Plain)	5 cu.m	65.36	0.33	0.01	0.09	0.10	0.13	0.10	0.23
	Concrete w/S.B	35 cu.m	179.90	6.30	0.04	2.95	2.99	1.30	2.01	3.31
	Riprap (Masonry)	120 sq.m	21.86	2.62	0.16	0.41	0.57	0.77	1.28	2.05
	R.C Pipe ø 900mm	10 m	159.30	1.59	-	0.64	0.64	0.47	0.48	0.95
	Miscellaneous Steel	L.S		0.25	-	0.20	0.20	0.03	0.02	0.05
	Sub-total			13.12	0.71	4.56	5.27	2.74	5.11	7.85
c. Feeder Canal										
	Excavation	22,000 cu.m	1.25	27.50	11.22	5.72	16.94	0.66	9.90	10.56
	Embankment w/comp.	22,000 cu.m	0.76	16.72	6.60	4.40	11.00	0.66	5.06	5.72
	Gravel Surfacing (10cm)	6,600 sq.m	1.33	8.78	0.53	3.89	4.42	3.63	0.73	4.36
	Sub-total			53.00	18.35	14.01	32.36	4.95	15.69	20.64
d. Suction Pit										
	Excavation	1,450 cu.m	1.25	1.81	0.74	0.38	1.12	0.04	0.65	0.69
	Backfill	490 cu.m	1.14	0.56	0.01	0.01	0.02	0.01	0.53	0.54
	Concrete (Plain)	15 cu.m	65.36	0.98	0.01	0.28	0.29	0.39	0.30	0.69
	Concrete w/S.B	95 cu.m	179.90	17.09	0.11	8.01	8.12	3.53	5.44	8.97
	Riprap (Masonry)	130 sq.m	21.86	2.84	0.18	0.44	0.62	0.84	1.38	2.22
	Screen	1 Set	5,800	5.80	-	4.64	4.64	0.58	0.58	1.16
	Sub-total			29.08	1.05	13.76	14.81	5.39	8.88	14.27
e. Housing										
	Pump House	270 sq.m	150.00	40.50	-	8.10	8.10	12.15	20.25	32.40
	Guard House	24 sq.m	140.00	3.36	-	0.67	0.67	1.01	1.68	2.69
	Sub-total			43.86	-	8.77	8.77	13.16	21.93	35.09
f. Miscellaneous Works										
		L.S		20.94	4.89	3.90	8.79	3.76	8.39	12.15
Total				780.00	25.00	605.00	630.00	40.00	110.00	150.00

(Cont'd) Table I-2.1

Item No.	Description	Q'tys	Unit	Rate (L.E)	Total Cost	Foreign Currency			Local Currency			
						Equip-ment	Materi	Total	Local Materi	Labour	Total	
2-5	No.5 Pump Station											
	a. Equipment											
	Pump ϕ 200mm	7	Set	8,000	56.00	-	56.00	56.00	-	-	-	-
	Motor 110 Kw	7	Set	4,750	33.25	-	33.25	33.25	-	-	-	-
	Auxiliary Equipment		L.S		9.80	-	9.80	9.80	-	-	-	-
	Pipes and Valves				30.20	-	30.20	30.20	-	-	-	-
	Control Panel & Cable	1	Set		40.50	-	40.50	40.50	-	-	-	-
	Power Sub-station 550KVA	1	Set		38.40	-	38.40	38.40	-	-	-	-
	Generator 200KVA	1	Set		60.00	-	60.00	60.00	-	-	-	-
	Pressure Tank	1	Set		40.70	-	40.70	40.70	-	-	-	-
	Strainer	7	Nos	1,000	7.00	-	7.00	7.00	-	-	-	-
	Miscellaneous		L.S		4.15	-	4.15	4.15	-	-	-	-
	Transport and Installation		L.S		70.00	-	28.00	28.00	7.00	35.00	42.00	-
	Sub-total				390.00	-	348.00	348.00	7.00	35.00	42.00	-
	b. Intake Facilities											
	Excavation	1,330	cu.m	1.25	1.66	0.68	0.34	1.02	0.04	0.60	0.64	-
	Backfill	1,100	cu.m	1.14	1.25	0.03	0.02	0.05	0.02	1.18	1.20	-
	Concrete (Plain)	15	cu.m	65.36	0.98	0.01	0.28	0.29	0.38	0.31	0.69	-
	Concrete w/S.B	75	cu.m	179.90	13.49	0.09	6.32	6.41	2.79	4.29	7.08	-
	Riprap (Masonry)	170	sq.m	21.86	3.72	0.23	0.58	0.81	1.10	1.81	2.91	-
	R.C Pipe ϕ 700mm	50	m	150.30	7.52	-	3.00	3.00	2.26	2.26	4.52	-
	Miscellaneous Steel		L.S		0.58	-	0.46	0.46	0.06	0.06	0.12	-
	Sub-total				29.20	1.04	11.00	12.04	6.65	10.51	17.16	-
	c. Feeder Canal											
	Excavation	17,000	cu.m	1.25	21.25	8.67	4.42	13.09	0.51	7.65	8.16	-
	Transportation of soil	9,000	cu.m	0.81	7.29	2.07	2.34	4.41	0.27	2.61	2.88	-
	Embankment w/comp.	17,000	cu.m	0.76	12.92	5.10	3.40	8.50	0.51	3.91	4.42	-
	Gravel Surfacing (10cm)	10,000	sq.m	1.33	13.30	0.80	5.90	6.70	5.50	1.10	6.60	-
	Sub-total				54.76	16.64	16.06	32.70	6.79	15.27	22.06	-
	d. Suction Pit											
	Excavation	1,550	cu.m	1.25	1.94	0.79	0.40	1.19	0.05	0.70	0.75	-
	Backfill	420	cu.m	1.14	0.48	0.01	0.01	0.02	0.01	0.45	0.46	-
	Concrete (Plain)	10	cu.m	65.36	0.65	0.01	0.18	0.19	0.26	0.20	0.46	-
	Concrete w/S.B	60	cu.m	179.90	10.79	0.07	5.06	5.13	2.23	3.43	5.66	-
	Riprap (Masonry)	80	sq.m	21.86	1.75	0.11	0.27	0.38	0.52	0.85	1.37	-
	Screen	1	Set	4,100	4.10	-	3.28	3.28	0.41	0.41	0.82	-
	Sub-total				19.71	0.99	9.20	10.19	3.48	6.04	9.52	-
	e. Housing											
	Pump House	220	sq.m	150.00	33.00	-	6.60	6.60	9.90	16.50	26.40	-
	Guard House	24	sq.m	140.00	3.36	-	0.67	0.67	1.01	1.68	2.69	-
	Sub-total				36.36	-	7.27	7.27	10.91	18.18	29.09	-
	f. Miscellaneous Works		L.S		29.97	1.33	8.47	9.80	5.17	15.00	20.17	-
	Total				560.00	20.00	400.00	420.00	40.00	100.00	140.00	-
	Total of (2) Pump Station				2,980.00	175.00	2,300.00	2,300.00	175.00	505.00	680.00	-
							2,125.00					-

(Cont'd) Table 1-2.1

Item No.	Description	Q'tys	Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
						Equipment	Material	Total	Local Material	Labour	Total
(3) Irrigation Networks											
3-1	No.1 Irrigation System (L=6,095m)										
	Pipeline ϕ 450mm	345	m	78.96	27.24	1.04	24.19	25.23	0.12	1.89	2.01
	Pipeline ϕ 400mm	815	m	65.64	53.50	2.10	47.20	49.30	0.25	3.95	4.20
	Pipeline ϕ 300mm	1,630	m	46.90	76.45	2.71	67.19	69.90	0.41	6.14	6.55
	Pipeline ϕ 250mm	180	m	30.15	5.42	0.14	4.78	4.92	0.02	0.48	0.50
	Pipeline ϕ 200mm	3,125	m	19.78	61.81	1.69	53.50	55.19	0.15	6.47	6.62
	Appurtenant Structure		L.S		22.58	0.72	19.74	20.46	0.15	1.97	2.12
	Sub-total				247.00	8.40	216.60	225.00	1.10	20.90	22.00
3-2	No.2 Irrigation System (L=4,710m)										
	Pipeline ϕ 450mm	550	m	78.96	43.43	1.65	38.56	40.21	0.20	3.02	3.22
	Pipeline ϕ 300mm	3,005	m	46.90	140.93	4.99	123.86	128.85	0.75	11.33	12.08
	Pipeline ϕ 250mm	825	m	30.15	24.87	0.69	21.90	22.59	0.07	2.21	2.28
	Pipeline ϕ 200mm	330	m	19.78	6.53	0.18	5.65	5.83	0.02	0.68	0.70
	Appurtenant Structure		L.S		21.24	0.69	18.83	19.52	0.06	1.66	1.72
	Sub-total				237.00	8.20	208.80	217.00	1.10	18.90	20.00
3-3	No.3 Irrigation System (L=3,870m)										
	Pipeline ϕ 450mm	880	m	78.96	69.49	2.64	61.70	64.34	0.32	4.83	5.15
	Pipeline ϕ 400mm	180	m	65.64	11.82	0.46	10.43	10.89	0.06	0.87	0.93
	Pipeline ϕ 350mm	330	m	55.97	18.47	0.62	16.34	16.96	0.09	1.42	1.51
	Pipeline ϕ 300mm	1,325	m	46.90	62.14	2.20	54.62	56.82	0.33	4.99	5.32
	Pipeline ϕ 250mm	660	m	30.15	19.90	0.55	17.52	18.07	0.06	1.77	1.83
	Pipeline ϕ 200mm	495	m	19.78	9.79	0.27	8.47	8.74	0.02	1.03	1.05
	Appurtenant Structure		L.S		18.39	0.66	16.52	17.18	0.02	1.19	1.21
	Sub-total				210.00	7.40	185.60	193.00	0.90	16.10	17.00
3-4	No.4 Irrigation System (L=10,405m)										
	Pipeline ϕ 700mm	345	m	164.22	56.66	1.48	52.20	53.68	0.18	2.80	2.98
	Pipeline ϕ 600mm	815	m	126.07	102.75	3.04	93.61	96.65	0.39	5.71	6.10
	Pipeline ϕ 450mm	180	m	78.96	14.21	0.54	12.62	13.16	0.06	0.99	1.05
	Pipeline ϕ 400mm	330	m	65.64	21.66	0.85	19.11	19.96	0.10	1.60	1.70
	Pipeline ϕ 350mm	2,295	m	55.97	128.45	4.29	113.67	117.96	0.62	9.87	10.49
	Pipeline ϕ 300mm	1,500	m	46.90	70.35	2.49	61.83	64.32	0.37	5.66	6.03
	Pipeline ϕ 250mm	2,935	m	30.15	88.49	2.44	77.92	80.36	0.26	7.87	8.13
	Pipeline ϕ 200mm	2,005	m	19.78	39.66	1.08	34.33	35.41	0.10	4.15	4.25
	Appurtenant Structure		L.S		51.77	1.59	45.91	47.50	0.32	3.95	4.27
	Sub-total				574.00	17.80	511.20	529.00	2.40	42.60	45.00
3-5	No.5 Irrigation System (L=6,290m)										
	Pipeline ϕ 500mm	350	m	92.75	32.46	1.13	29.09	30.22	0.13	2.11	2.24
	Pipeline ϕ 350mm	815	m	55.97	45.61	1.52	40.37	41.89	0.22	3.50	3.72
	Pipeline ϕ 300mm	1,080	m	46.90	50.65	1.79	44.52	46.31	0.27	4.07	4.34
	Pipeline ϕ 250mm	2,305	m	30.15	69.50	1.91	61.20	63.11	0.21	6.18	6.39
	Pipeline ϕ 200mm	1,740	m	19.78	34.42	0.94	29.79	30.73	0.09	3.60	3.69
	Appurtenant Structure		L.S		23.36	0.71	21.03	21.74	0.08	1.54	1.62
	Sub-total				256.00	8.00	226.00	234.00	1.00	21.00	22.00
3-6	Farm Road (L=106.3Km)										
	Excavation of Ditch	60,600	cu.m	3.39	205.43	-	-	-	-	205.43	205.43
	Grading & Embankment	425,200	sq.m	0.14	59.53	21.26	12.76	34.02	0.00	25.51	25.51
	Sub-total				264.96	21.26	12.76	34.02	0.00	230.94	230.94
3-7	Wind Break										
	Plantation of Trees along Farm Road (4m)	106.3	Km	912	96.95	5.00	2.95	7.95	11.01	77.99	89.00
	Plantation of Trees inside On-Farm (2m)	69.7	Km	456	31.78	1.64	0.97	2.61	3.61	25.56	29.17
	Water Supply System	134.4	Fed	1,990	267.46	20.83	179.43	200.26	1.88	65.32	67.20
	Sub-total				396.19	27.47	183.35	210.82	16.50	168.87	185.37
3-8	Miscellaneous		L.S		114.85	11.47	55.69	67.16	7.00	40.69	47.69
	Total				2,300.00	110.00	1,600.00	1,710.00	30.00	560.00	590.00

(Cont'd) Table I-2.1

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			(Unit: '000 LE) Local Currency		
					Equip-ment	Materi	Total	Local Materi	Labour	Total
(4) Drainage Networks										
4-1 Construction of Drainage Canal (L=18.1Km)										
a. Canalization										
	Excavation	90,500 cu.m	1.25	113.13	46.16	23.53	69.69	2.71	40.73	43.44
	Embankment	90,500 cu.m	1.14	103.17	2.72	1.81	4.53	1.81	96.83	98.64
	Riprap (Dry)	3,620 sq.m	10.77	38.99	4.24	3.40	7.64	4.67	26.68	31.35
	Sub-total			<u>255.29</u>	<u>53.12</u>	<u>28.74</u>	<u>81.86</u>	<u>9.19</u>	<u>164.24</u>	<u>173.43</u>
b. Structures (11places)										
	Concrete w/S.B	22 cu.m	179.90	3.96	0.03	1.85	1.88	0.82	1.26	2.08
	Concrete (plain)	33 cu.m	65.36	2.15	0.03	0.61	0.64	0.84	0.67	1.51
	Riprap (Wet)	55 sq.m	20.04	1.10	0.07	0.19	0.26	0.28	0.56	0.84
	Riprap (Dry)	110 sq.m	10.77	1.18	0.13	0.10	0.23	0.14	0.81	0.95
	Earth Works	110 cu.m	3.39	0.37	-	-	-	-	0.37	0.37
	Sub-total			<u>8.76</u>	<u>0.26</u>	<u>2.75</u>	<u>3.01</u>	<u>2.08</u>	<u>3.67</u>	<u>5.75</u>
c. Piezometric System										
	Observation Well	15 Plcs	700.00	10.50	-	-	-	7.35	3.15	10.50
	Water Level Indicator	2 set	300.00	0.60	-	0.60	0.60	-	-	-
	Sub-total			<u>11.10</u>	-	<u>0.60</u>	<u>0.60</u>	<u>7.35</u>	<u>3.15</u>	<u>10.50</u>
d. Miscellaneous										
				<u>24.85</u>	<u>6.62</u>	<u>7.91</u>	<u>14.53</u>	<u>1.38</u>	<u>8.94</u>	<u>10.32</u>
	Total			<u>300.00</u>	<u>60.00</u>	<u>40.00</u>	<u>100.00</u>	<u>20.00</u>	<u>180.00</u>	<u>200.00</u>
(5) On-farm Facilities										
5-1 Pipeline in on-farm										
	Pipeline ø 75mm	14,800 m	5.09	75.33	4.00	55.35	59.35	0.44	15.54	15.98
	Pipeline ø100mm	74,000 m	7.35	543.90	28.12	415.14	443.26	2.22	98.42	100.64
	Pipeline ø125mm	3,700 m	9.51	35.19	1.56	28.08	29.64	0.11	5.44	5.55
	Pipeline ø150mm	13,000 m	13.28	172.64	5.59	145.08	150.67	0.39	21.58	21.97
	Pipeline ø200mm	16,700 m	19.78	330.33	9.02	285.90	294.92	0.84	34.57	35.41
	Appurtenant Structure	L.S		122.61	1.71	90.45	92.16	1.00	29.45	30.45
	Sub-total			<u>1,280.00</u>	<u>50.00</u>	<u>1020.00</u>	<u>1070.00</u>	<u>5.00</u>	<u>205.00</u>	<u>210.00</u>
	5-2 Sprinkler (Hand move)	2,100 Fed	600	1,260.00	-	1197.00	1197.00	-	63.00	63.00
	5-3 Drip (for Vegetable)	1,050 Fed	1,200	1,260.00	-	1197.00	1197.00	-	63.00	63.00
	5-4 Drip (for Fruits)	1,050 Fed	800	840.00	-	798.00	798.00	-	42.00	42.00
	5-5 Miscellaneous	L.S		60.00	-	38.00	38.00	-	22.00	22.00
	Total			<u>4,700.00</u>	<u>50.00</u>	<u>4250.00</u>	<u>4300.00</u>	<u>5.00</u>	<u>395.00</u>	<u>400.00</u>
(6) Land Reclamation										
	6-1 Deep Plowing (1st)	4,200 Fed	128.46	539.53	187.95	163.38	351.33	18.77	169.43	188.20
	6-2 Deep Plowing (2nd)	4,200 Fed	64.23	269.77	93.98	81.69	175.67	9.39	84.71	94.10
	6-3 Initial Soil Dressing-1 Dredged Materials	126,000 ton	4.10	516.60	117.18	129.78	246.96	13.86	255.78	269.64
	6-4 Initial Soil Dressing-2 Gypsum	2,100 ton	31.44	66.02	2.08	2.10	4.18	55.77	6.07	61.84
	6-5 Initial Leaching	4,200 Fed	52.18	219.15	-	113.73	113.73	56.32	49.10	105.42
	6-6 Miscellaneous	L.S		88.93	13.81	24.32	38.13	15.89	34.91	50.80
	Total			<u>1,700.00</u>	<u>415.00</u>	<u>515.00</u>	<u>930.00</u>	<u>170.00</u>	<u>600.00</u>	<u>770.00</u>

Table I-2.2 Breakdown of Civil Works (2)

ITEM: 2.1.2, Housing and Infrastructure of North Wahby Area

(Unit: '000 LE)

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
					Depre- ciation	Materi	Total	Local Materi	Labour	Total
(1) Pre-Engineering										
	Cadastral Survey	20 Fed	200	4	-	-	-	-	4	4
	Vertical Control	20 Km	50	1	-	-	-	-	1	1
	Pre-construction Survey	2 Nos	2,500	5	-	1	1	-	4	4
	Construction Survey	30 Nos	2,500	75	-	8	8	-	67	67
	Miscellaneous	L.S		5	-	1	1	-	4	4
	Total			90		10	10		80	80
(2) Housing										
	Farmers' House, Small	442 Nos	3,060	1,352.52	-	216.40	216.40	676.26	459.86	1136.12
	Farmers' House, Large	129 Nos	4,140	534.06	-	85.45	85.45	267.03	181.58	448.61
	Directors' House	12 Nos	8,100	97.20	-	15.55	15.55	48.60	33.05	81.65
	Technicians' House	49 Nos	5,760	282.24	-	45.16	45.16	141.12	95.96	237.08
	Labour and Other	19 Nos	5,760	109.44	-	17.51	17.51	54.72	37.21	91.93
	Mosque in Village/Hamlet	3 Nos	13,500	40.50	-	6.48	6.48	20.25	13.77	34.02
	Mosque in Town	1 Nos	16,200	16.20	-	2.59	2.59	8.10	5.51	13.61
	Development Office	1 No.	30,000	30.00	-	4.80	4.80	15.00	10.20	25.20
	Primary School	2 Nos	45,000	90.00	-	14.40	14.40	45.00	30.60	75.60
	Preparatory School	1 No.	45,000	45.00	-	7.20	7.20	22.50	15.30	37.80
	Medical Clinic	1 No.	15,000	15.00	-	2.40	2.40	7.50	5.10	12.60
	Police Station	1 No.	3,500	3.50	-	0.56	0.56	1.75	1.19	2.94
	Post Office	1 No.	15,000	15.00	-	2.40	2.40	7.50	5.10	12.60
	Telephon Office	1 No.	15,000	15.00	-	2.40	2.40	7.50	5.10	12.60
	Fire Station	1 No.	22,500	22.50	-	3.60	3.60	11.25	7.65	18.90
	Co-operative	1 No.	22,500	22.50	-	3.60	3.60	11.25	7.65	18.90
	Bank	1 No.	15,000	15.00	-	2.40	2.40	7.50	5.10	12.60
	Storage House in Village	1 No.	6,020	6.02	-	0.96	0.96	3.01	2.05	5.06
	Storage House in Town	1 No.	21,000	21.00	-	3.36	3.36	10.50	7.14	17.64
	Store	7 Nos	8,400	58.80	-	9.41	9.41	29.40	19.96	49.36
	Miscellaneous Works	L.S		8.52	-	3.37	3.37	4.26	0.92	5.18
	Total			2,800.00		450.00	450.00	1400.00	950.00	2350.00
(3) Road										
3-1 Trunk Road (L=16.0Km)										
	Excavation of Ditch	14,100 cu.m	3.39	47.80	-	-	-	-	47.80	47.80
	Grading & Embankment	128,000 sq.m	0.14	17.92	6.40	3.84	10.24	-	7.68	7.68
	Gravel Paving	128,000 sq.m	2.21	282.88	12.80	130.56	143.36	124.16	15.36	139.52
	Sub-total			348.60	19.20	134.40	153.60	124.16	70.84	195.00
3-2 Branch Road (L=1.7Km)										
	Excavation of Ditch	1,000 cu.m	3.39	3.39	-	-	-	-	3.39	3.39
	Grading & Embankment	10,200 sq.m	0.14	1.43	0.51	0.31	0.82	-	0.61	0.61
	Gravel Paving	10,200 sq.m	2.21	22.54	1.02	10.40	11.42	9.89	1.23	11.12
	Sub-total			27.36	1.53	10.71	12.24	9.89	5.23	15.12
3-3 Wind Break										
	Plantation of Trees along Trunk Road	32.0 Km	912	29.18	1.50	0.89	2.39	3.31	23.48	26.79
	Plantation of Trees along Branch Road	1.7 Km	912	1.55	0.08	0.05	0.13	0.17	1.25	1.42
	Water Supply System	32.1 Fed	1,990	63.88	4.98	42.85	47.83	0.45	15.60	16.05
	Sub-Total			94.61	6.56	43.79	50.35	3.93	40.33	44.26
3-4 Bridge (1 place)										
	Demolition of Existing Bridge	L.S		5.00	-	3.00	3.00	1.00	1.00	2.00
	Excavation	200 cu.m	1.25	0.25	0.10	0.05	0.15	0.01	0.09	0.10
	Backfill	100 cu.m	1.14	0.11	-	-	-	-	0.11	0.11
	Embankment	150 cu.m	1.14	0.17	-	0.01	0.01	-	0.16	0.16
	Concrete w/S,B	180 cu.m	179.90	32.38	0.21	15.18	15.39	6.69	10.30	16.99
	Concrete (Plain)	20 cu.m	65.36	1.31	0.02	0.37	0.39	0.51	0.41	0.92
	Water Care	L.S		8.50	-	4.50	4.50	2.00	2.00	4.00
	Miscellaneous Works	L.S		2.28	-	1.12	1.12	0.49	0.67	1.16
	Sub-total			50.00	0.33	24.23	24.56	10.70	14.74	25.44
3-5 Miscellaneous Works										
		L.S		19.43	2.38	6.87	9.25	1.32	8.86	10.18
	Total			540.00	30.00	220.00	250.00	150.00	140.00	290.00

(Cont'd) Table 1-2.2

Item No.	Description	Q'tys	Unit	Rate (LE)	Total Cost	Foreign Currency			(Unit: '000 LE) Local Currency		
						Depre- ciation	Materi	Total	Local Materi	Labour	Total
(4) Infrastructure											
4-1 Potable Water											
	Treatment Plant	60% x 1	Set	100,000	60.00	-	40.00	40.00	5.00	15.00	20.00
	Pipeline ϕ 150mm	7,900	m	13.28	104.91	3.40	88.16	91.56	0.24	13.11	13.35
	Pipeline ϕ 100mm	4,500	m	7.35	33.07	1.71	25.25	26.96	0.13	5.98	6.11
	Pipeline ϕ 75mm	1,100	m	5.09	5.60	0.30	4.11	4.41	0.03	1.16	1.19
	Pipeline ϕ 50mm	2,200	m	3.15	6.93	0.55	4.27	4.82	0.04	2.07	2.11
	Pipeline in Village (ϕ 50mm Pipeline)										
	Hamlet	16	Site	1,270	20.32	1.62	12.51	14.13	0.14	6.05	6.19
	Village	1	Site	2,290	2.29	0.18	1.41	1.59	0.01	0.69	0.70
	Town	1	Site	4,790	4.79	0.38	2.95	3.33	0.03	1.43	1.46
	Miscellaneous Works		L.S		12.09	0.86	5.34	6.20	0.38	5.51	5.89
	Sub-total				250.00	9.00	184.00	193.00	6.00	51.00	57.00
4-2 Sewage System											
	(Treatment Plant & ϕ 200mm Pipe)										
	Hamlet (160 persons)	16	Site	12,880	206.08	27.90	91.90	119.80	28.44	57.84	86.28
	Village (160 persons)	1	Site	15,810	15.81	1.82	8.15	9.97	1.79	4.05	5.84
	Town (560 persons)	1	Site	43,160	43.16	5.07	21.91	26.98	5.00	11.18	16.18
	Miscellaneous		L.S		14.95	1.21	8.04	9.25	1.77	3.93	5.70
	Sub-total				280.00	36.00	130.00	166.00	37.00	77.00	114.00
4-3 Electric Power											
	60KV Trunk Line	60% x 7	Km	43,000	180.60	-	126.40	126.40	16.26	37.94	54.20
	11KV Line	25.4	Km	14,000	355.60	-	248.90	248.90	32.01	74.69	106.70
	Sub-station 66/11 KV	60% x 1	Site	200,000	120.00	-	84.00	84.00	10.80	25.20	36.00
	Distribution 100KVA	18	Site	8,000	144.00	-	100.80	100.80	13.00	30.20	43.20
	Village Distribution										
	Hamlet	16	Site	1,275	20.40	-	16.32	16.32	1.22	2.86	4.08
	Village	1	Site	2,475	2.47	-	1.98	1.98	0.15	0.34	0.49
	Town	1	Site	7,950	7.95	-	6.36	6.36	0.48	1.11	1.59
	Miscellaneous		L.S		28.98	-	17.24	17.24	4.08	7.66	11.74
	Sub-total				860.00	-	602.00	602.00	78.00	180.00	258.00
4-4 Telephon System											
	Trunk Cable Line	70% x 16	Km	4,000	44.80	-	35.84	35.84	2.69	6.27	8.96
	Conection Line	7.7	Km	4,000	30.80	-	24.64	24.64	1.85	4.31	6.16
	Control Exchange	70% x 1	Set	67,000	46.90	-	37.52	37.52	2.81	6.57	9.38
	Miscellaneous Works		L.S		7.50	-	6.00	6.00	0.65	0.85	1.50
	Sub-total				130.00	-	104.00	104.00	8.00	18.00	26.00
4-5 Village Facilities											
	(Land leveling, Road, Wind Break etc.)										
			L.S		50.00	-	15.00	15.00	10.00	25.00	35.00
	Total				1,570.00	45.00	1035.00	1080.00	139.00	351.00	490.00

Table I-2.3 Breakdown of Civil Works (3)

ITEM: 2.2.1, Land Reclamation of Com Osheem Area

(Unit: '000 LE)

Item No.	Description	Q'tys	Unit	Rate (L.E)	Total Cost	Foreign Currency			Local Currency		
						equip-ment	Materi	Total	Local Materi	Labour	Total
(1) Pre-engineering											
	Cadastral Survey	170	Fed	200	34	-	3	3	-	31	31
	Vertical Control	90	Km	50	4.5	-	-	-	-	4.5	4.5
	Pre-Construction Survey	3	Nos	7,500	22.5	-	3	3	-	19.5	19.5
	Construction Survey	48	Mos	4,000	192	-	20	20	-	172	172
	Hydrology	48	Mos	1,500	72	-	7	7	-	65	65
	Laboratory Control	48	Mos	1,500	72	-	7	7	-	65	65
	Negotiation for ROW	3	Mos	1,000	3	-	-	-	-	3	3
	Total				400		40	40		360	360
(2) Pump Station											
2-1 No.6 Pump Station											
a. Equipment											
	Pump ϕ 250mm	7	Set	16,200	113.40	-	113.40	113.40	-	-	-
	Motor 130 Kw	7	Set	5,700	39.90	-	39.90	39.90	-	-	-
	Auxiliary Equipment		L.S		17.80	-	17.80	17.80	-	-	-
	Pipes and Valves		L.S		33.35	-	33.35	33.35	-	-	-
	Control Panel & Cable	1	Set		40.65	-	40.65	40.65	-	-	-
	Power Sub-station 650KVA	1	Set		38.40	-	38.40	38.40	-	-	-
	Generator 200KVA	1	Set		60.00	-	60.00	60.00	-	-	-
	Pressure Tank	1	Set		54.15	-	54.15	54.15	-	-	-
	Strainer	7	Nos	1,000	7.00	-	7.00	7.00	-	-	-
	Miscellaneous		L.S		5.35	-	5.35	5.35	-	-	-
	Transport and Installation		L.S		80.00	-	32.00	32.00	8.00	40.00	48.00
	Sub-total				490.00		442.00	442.00	8.00	40.00	48.00
b. Intake Facilities											
	Excavation	1,680	cu.m	1.25	2.10	0.86	0.43	1.29	0.05	0.76	0.81
	Backfill	735	cu.m	1.14	0.84	0.02	0.02	0.04	0.01	0.79	0.80
	Concrete (Plain)	5	cu.m	65.36	0.33	0.01	0.09	0.10	0.13	0.10	0.23
	Concrete w/S.B	40	cu.m	179.90	7.20	0.05	3.37	3.42	1.49	2.29	3.78
	Riprap (Masonry)	130	sq.m	21.86	2.84	0.18	0.44	0.62	0.84	1.38	2.22
	R.C Pipe ϕ 700mm	6	m	150.30	0.90	-	0.36	0.36	0.27	0.27	0.54
	Miscellaneous Steel		L.S		0.29	-	0.23	0.23	0.03	0.03	0.06
	Sub-total				14.50	1.12	4.94	6.06	2.82	5.62	8.44
c. Suction Pit											
	Excavation	840	cu.m	1.25	1.05	0.43	0.22	0.65	0.02	0.38	0.40
	Backfill	420	cu.m	1.14	0.48	0.01	0.01	0.02	0.01	0.45	0.46
	Concrete (Plain)	10	cu.m	65.36	0.65	0.01	0.18	0.19	0.26	0.20	0.46
	Concrete w/S.B	65	cu.m	179.90	11.69	0.08	5.48	5.56	2.41	3.72	6.13
	Screen	1	Set	4,100	4.10	-	3.28	3.28	0.41	0.41	0.82
	Sub-total				17.97	0.53	9.17	9.70	3.11	5.16	8.27
d. Housing											
	Pump House	220	sq.m	150.00	33.00	-	6.60	6.60	9.90	16.50	26.40
	Guard House	24	sq.m	140.00	3.36	-	0.67	0.67	1.01	1.68	2.69
	Sub-total				36.36		7.27	7.27	10.91	18.18	29.09
e. Miscellaneous Works											
				L.S	21.17	3.35	11.62	14.97	5.16	1.04	6.20
	Total				580.00	5.00	475.00	480.00	30.00	70.00	100.00

(Cont'd) Table I-2.3

Item No.	Description	Q'tys Unit	Rate (I.E)	Total Cost	Foreign Currency			(Unit: '000 I.E)		
					Local Materl	Labour	Total	Local Materl	Labour	Total
2-2	No.7 Pump Station									
	a. Equipment									
	Pump ø250mm	7 Set	16,200	113.40	-	113.40	113.40	-	-	-
	Motor 160 Kw	7 Set	20,300	142.10	-	142.10	142.10	-	-	-
	Auxiliary Equipment	L.S		16.30	-	16.30	16.30	-	-	-
	Pipes and Valves	L.S		41.00	-	41.00	41.00	-	-	-
	Control Panel & Cable	1 Set		29.85	-	29.85	29.85	-	-	-
	Power Sub-station 800KVA	1 Set		41.15	-	41.15	41.15	-	-	-
	Generator 250KVA	1 Set		75.00	-	75.00	75.00	-	-	-
	Pressure Tank	1 Set		54.15	-	54.15	54.15	-	-	-
	Strainer	7 Nos	1,000	7.00	-	7.00	7.00	-	-	-
	Miscellaneous	L.S		10.05	-	10.05	10.05	-	-	-
	Transport and Installation	L.S		110.00	-	44.00	44.00	11.00	55.00	66.00
	Sub-total			640.00	-	574.00	574.00	11.00	55.00	66.00
	b. Intake Facilities									
	Excavation	1,010 cu.m	1.25	1.26	0.52	0.26	0.78	0.03	0.45	0.48
	Backfill	720 cu.m	1.14	0.82	0.02	0.02	0.04	0.01	0.77	0.78
	Concrete (Plain)	5 cu.m	65.36	0.33	0.01	0.09	0.10	0.13	0.10	0.23
	Concrete w/S.B	45 cu.m	179.90	8.10	0.05	3.80	3.85	1.67	2.58	4.25
	Riprap (Masonry)	130 sq.m	21.86	2.84	0.18	0.44	0.62	0.84	1.38	2.22
	R.C Pipe ø 800mm	6 m	142.70	0.86	-	0.34	0.34	0.26	0.26	0.52
	Miscellaneous Steel	L.S		0.29	-	0.23	0.23	0.03	0.03	0.06
	Sub-total			14.50	0.78	5.18	5.96	2.97	5.57	8.54
	c. Suction Pit									
	Excavation	640 cu.m	1.25	0.80	0.33	0.16	0.49	0.02	0.29	0.31
	Backfill	420 cu.m	1.14	0.48	0.01	0.01	0.02	0.01	0.45	0.46
	Concrete (Plain)	10 cu.m	65.36	0.65	0.01	0.18	0.19	0.26	0.20	0.46
	Concrete w/S.B	65 cu.m	179.90	11.69	0.08	5.48	5.56	2.41	3.72	6.13
	Screen	1 Set	4,100	4.10	-	3.28	3.28	0.41	0.41	0.82
	Sub-total			17.72	0.43	9.11	9.54	3.11	5.07	8.18
	d. Housing									
	Pump House	220 sq.m	150.00	33.00	-	6.60	6.60	9.90	16.50	26.40
	Guard House	24 sq.m	140.00	3.36	-	0.67	0.67	1.01	1.68	2.69
	Sub-total			36.36	-	7.27	7.27	10.91	18.18	29.09
	e. Miscellaneous Works	L.S		11.42	1.79	1.44	3.23	2.01	6.18	8.19
	Total			720.00	3.00	597.00	600.00	30.00	90.00	120.00

(Cont'd) Table I-2.3

Item No.	Description	Q'tys Unit	Rate (L.E)	Total Cost	Foreign Currency			(Unit: '000 L.E) Local Currency		
					equip-ment	Material	Total	Local Material	Labour	Total
2-3	No.8 Pump Station									
	a. Equipment									
	Pump #200mm	7 Set	8,000	56.00	-	56.00	56.00	-	-	-
	Motor 110 Kw	7 Set	4,750	33.25	-	33.25	33.25	-	-	-
	Auxiliary Equipment	L.S		9.80	-	9.80	9.80	-	-	-
	Pipes and Valves	L.S		30.20	-	30.20	30.20	-	-	-
	Control Panel & Cable	1 Set		40.50	-	40.50	40.50	-	-	-
	Power Sub-station 550KVA	1 Set		38.40	-	38.40	38.40	-	-	-
	Generator 200KVA	1 Set		60.00	-	60.00	60.00	-	-	-
	Pressure Tank	1 Set		40.70	-	40.70	40.70	-	-	-
	Strainer	7 Nos	1,000	7.00	-	7.00	7.00	-	-	-
	Miscellaneous	L.S		4.15	-	4.15	4.15	-	-	-
	Transport and Installation	L.S		70.00	-	28.00	28.00	7.00	35.00	42.00
	Sub-total			<u>390.00</u>	-	<u>348.00</u>	<u>348.00</u>	<u>7.00</u>	<u>35.00</u>	<u>42.00</u>
	b. Intake Facilities									
	Excavation	1,150 cu.m	1.25	1.44	0.59	0.30	0.89	0.03	0.52	0.55
	Backfill	740 cu.m	1.14	0.84	0.02	0.01	0.03	0.02	0.79	0.81
	Concrete (Plain)	5 cu.m	65.36	0.33	0.01	0.09	0.10	0.13	0.10	0.23
	Concrete w/S.B	40 cu.m	179.90	7.20	0.05	3.37	3.42	1.48	2.30	3.78
	Riprap (Masonry)	140 sq.m	21.86	3.06	0.19	0.48	0.67	0.90	1.49	2.39
	R.C Pipe # 700mm	6 m	150.30	0.90	-	0.36	0.36	0.27	0.27	0.54
	Miscellaneous Steel	L.S		0.23	-	0.18	0.18	0.02	0.03	0.05
	Sub-total			<u>14.00</u>	<u>0.86</u>	<u>4.79</u>	<u>5.65</u>	<u>2.85</u>	<u>5.50</u>	<u>8.35</u>
	c. Feeder Canal									
	Excavation	42,000 cu.m	1.25	52.50	21.42	10.92	32.34	1.26	18.90	20.16
	Embankment w/comp.	42,000 cu.m	0.76	31.92	12.60	8.40	21.00	1.26	9.66	10.92
	Gravel Surfacing (10cm)	4,900 sq.m	1.33	6.52	0.39	2.89	3.28	2.70	0.54	3.24
	Sub-total			<u>90.94</u>	<u>34.41</u>	<u>22.21</u>	<u>56.62</u>	<u>5.22</u>	<u>29.10</u>	<u>34.32</u>
	d. Suction Pit									
	Excavation	1,350 cu.m	1.25	1.69	0.69	0.35	1.04	0.04	0.61	0.65
	Backfill	420 cu.m	1.14	0.48	0.01	0.01	0.02	0.01	0.45	0.46
	Concrete (Plain)	10 cu.m	65.36	0.65	0.01	0.18	0.19	0.26	0.20	0.46
	Concrete w/S.B	60 cu.m	179.90	10.79	0.07	5.06	5.13	2.23	3.43	5.66
	Riprap (Masonry)	80 sq.m	21.86	1.75	0.11	0.27	0.38	0.52	0.85	1.37
	Screen	1 Set	4,100	4.10	-	3.28	3.28	0.41	0.41	0.82
	Sub-total			<u>19.46</u>	<u>0.89</u>	<u>9.15</u>	<u>10.04</u>	<u>3.47</u>	<u>5.95</u>	<u>9.42</u>
	e. Housing									
	Pump House	220 sq.m	150.00	33.00	-	6.60	6.60	9.90	16.50	26.40
	Guard House	24 sq.m	140.00	3.36	-	0.67	0.67	1.01	1.68	2.69
	Sub-total			<u>36.36</u>	-	<u>7.27</u>	<u>7.27</u>	<u>10.91</u>	<u>18.18</u>	<u>29.09</u>
	f. Miscellaneous Works	L.S		<u>29.24</u>	<u>5.84</u>	<u>6.58</u>	<u>12.42</u>	<u>10.55</u>	<u>6.27</u>	<u>16.82</u>
	Total			<u>580.00</u>	<u>42.00</u>	<u>398.00</u>	<u>440.00</u>	<u>40.00</u>	<u>100.00</u>	<u>140.00</u>
	Total of (2) Pump Station			<u>1,880.00</u>	<u>50.00</u>	<u>1,520.00</u>	<u>1,520.00</u>	<u>100.00</u>	<u>260.00</u>	<u>360.00</u>
						<u>1,470.00</u>				

(Cont'd) Table I-2.3

Item No.	Description	Q'ty	Unit	Rate (LE)	Total Cost	(Unit: '000 LE)						
						Foreign Currency			Local Currency			
						Equip-ment	Materi	Total	Local Materi	Labour	Total	
(3) Irrigation Networks												
3-1	No.6 Irrigation System (L=5,555m)											
	Pipeline ϕ 600mm	1,100	m	126.07	138.68	4.10	126.35	130.45	0.53	7.70	8.23	
	Pipeline ϕ 500mm	1,580	m	92.75	146.54	5.10	131.31	136.41	0.60	9.53	10.13	
	Pipeline ϕ 450mm	330	m	78.96	26.06	0.99	23.14	24.13	0.12	1.81	1.93	
	Pipeline ϕ 400mm	330	m	65.64	21.66	0.85	19.11	19.96	0.10	1.60	1.70	
	Pipeline ϕ 350mm	895	m	55.97	50.09	1.67	44.33	46.00	0.24	3.85	4.09	
	Pipeline ϕ 300mm	660	m	46.90	30.95	1.09	27.21	28.30	0.16	2.49	2.65	
	Pipeline ϕ 250mm	660	m	30.15	19.90	0.55	17.52	18.07	0.06	1.77	1.83	
	Appurtenant Structure		L.S		43.12		1.45	38.63	40.08	0.19	2.85	3.04
	Sub-total				477.00		15.80	427.60	443.40	2.00	31.60	33.60
3-2	No.7 Irrigation System (L=8,490m)											
	Pipeline ϕ 700mm	1,910	m	164.22	313.66	8.19	288.99	297.18	1.01	15.47	16.48	
	Pipeline ϕ 500mm	815	m	92.75	75.59	2.63	67.74	70.37	0.31	4.91	5.22	
	Pipeline ϕ 450mm	815	m	78.96	64.35	2.44	57.14	59.58	0.29	4.48	4.77	
	Pipeline ϕ 400mm	180	m	65.64	11.81	0.46	10.42	10.88	0.06	0.87	0.93	
	Pipeline ϕ 350mm	840	m	55.97	47.01	1.57	41.60	43.17	0.23	3.61	3.84	
	Pipeline ϕ 300mm	1,725	m	46.90	80.90	2.86	71.11	73.97	0.43	6.50	6.93	
	Pipeline ϕ 250mm	510	m	30.15	15.38	0.42	13.54	13.96	0.05	1.37	1.42	
	Pipeline ϕ 200mm	1,695	m	19.78	33.53	0.92	29.02	29.94	0.08	3.51	3.59	
	Appurtenant Structure		L.S		63.77		1.91	57.54	59.45	0.24	4.08	4.32
	Sub-total				706.00		21.40	637.10	658.50	2.70	44.80	47.50
3-3	No.8 Irrigation System (L=5,700m)											
	Pipeline ϕ 500mm	930	m	92.75	86.26	3.00	77.30	80.30	0.35	5.61	5.96	
	Pipeline ϕ 450mm	700	m	78.96	55.27	2.10	49.08	51.18	0.25	3.84	4.09	
	Pipeline ϕ 350mm	1,630	m	55.97	91.23	3.05	80.73	83.78	0.44	7.01	7.45	
	Pipeline ϕ 300mm	360	m	46.90	16.89	0.60	14.84	15.44	0.09	1.36	1.45	
	Pipeline ϕ 250mm	730	m	30.15	22.01	0.61	19.38	19.99	0.07	1.95	2.02	
	Pipeline ϕ 200mm	1,350	m	19.78	26.70	0.73	23.11	23.84	0.07	2.79	2.86	
	Appurtenant Structure		L.S		29.64		0.91	26.46	27.37	0.13	2.14	2.27
	Sub-total				328.00		11.00	290.90	301.90	1.40	24.70	26.10
3-4	Farm Road (L=98.0Km)											
	Excavation of Ditch	55,860	cu.m	3.39	189.36	-	-	-	-	189.36	189.36	
	Grading & Embankment	392,000	sq.m	0.14	54.88	19.60	11.76	31.36	0.00	23.52	23.52	
	Sub-total				244.24		19.60	11.76	31.36	0.00	212.88	212.88
3-5	Wind Break											
	Plantation of Trees along Farm Road (4m)	98.0	Km	912	89.37	4.61	2.72	7.33	10.15	71.89	82.04	
	Plantation of Trees inside On-Farm (2m)	45.6	Km	456	20.79	1.07	0.63	1.70	2.36	16.73	19.09	
	Water Supply System	115.0	Fed	1,990	228.85	17.82	153.53	171.35	1.61	55.89	57.50	
	Sub-total				339.01		23.50	156.88	180.38	14.12	144.51	158.63
3-6	Miscellaneous		L.S		105.75		8.70	75.76	84.46	9.78	11.51	21.29
	Total				2,200.00		100.00	1600.00	1700.00	30.00	470.00	500.00
(4) Drainage Networks												
4-1	Construction of Drainage Canal (L=15.9Km)											
	a. Canalization											
	Excavation	79,500	cu.m	1.25	99.38	40.55	20.67	61.22	2.38	35.78	38.16	
	Embankment	79,500	cu.m	1.14	90.63	2.38	1.59	3.97	1.59	85.07	86.66	
	Riprap (Dry)	3,180	sq.m	10.77	34.25	3.72	2.99	6.71	4.10	23.44	27.54	
	Sub-total				224.26		46.65	25.25	71.90	8.07	144.29	152.36
	b. Structures (9places)											
	Concrete w/S.B	18	cu.m	179.90	3.24	0.02	1.52	1.54	0.67	1.03	1.70	
	Concrete (plain)	27	cu.m	65.36	1.76	0.02	0.50	0.52	0.69	0.55	1.24	
	Riprap (Wet)	45	sq.m	20.04	0.90	0.06	0.15	0.21	0.23	0.46	0.69	
	Riprap (Dry)	90	sq.m	10.77	0.97	0.11	0.08	0.19	0.12	0.66	0.78	
	Earth Works	90	cu.m	3.39	0.30	-	-	-	-	0.30	0.30	
	Sub-total				7.17		0.21	2.25	2.46	1.71	3.00	4.71
	c. Piezometric System											
	Observation Well	10	Pics	700.00	7.00	-	-	-	4.90	2.10	7.00	
	Water Level Indicator	2	Set	300.00	0.60	-	0.60	0.60	-	-	-	
	Sub-total				7.60		-	0.60	0.60	4.90	2.10	7.00
	d. Miscellaneous				20.97		3.14	1.90	5.04	5.32	10.61	15.93
	Total				260.00		50.00	30.00	80.00	20.00	160.00	180.00

(Cont'd) Table 1-2.3

Item No.	Description	Q'tys	Unit	Rate (L.E)	Total Cost	Foreign Currency			(Unit: '000 L.E) Local Currency		
						Equip-ment	Materi	Total	Local Materi	Labour	Total
(5) On-farm Facilities											
5-1	Pipeline in on-farm (Type A, for 2,000 Fed)										
	Pipeline ø 75mm	7,100	m	5.09	36.14	1.92	26.55	28.47	0.21	7.46	7.67
	Pipeline ø100mm	35,400	m	7.35	260.19	13.45	198.60	212.05	1.06	47.08	48.14
	Pipeline ø125mm	1,800	m	9.51	17.12	0.76	13.66	14.42	0.05	2.65	2.70
	Pipeline ø150mm	6,200	m	13.28	82.34	2.67	69.19	71.86	0.19	10.29	10.48
	Pipeline ø200mm	8,000	m	19.78	158.24	4.32	136.96	141.28	0.40	16.56	16.96
	Appurtenant Structure		L.S		55.97	3.88	38.04	41.92	1.09	12.96	14.05
	Sub-total				610.00	27.00	483.00	510.00	3.00	97.00	100.00
5-2	Pipeline in on-farm (Type B, for 750 Fed)										
	Pipeline ø100mm	16,600	m	7.35	122.01	6.31	93.12	99.43	0.50	22.08	22.58
	Pipeline ø150mm	2,650	m	13.28	35.19	1.14	29.57	30.71	0.08	4.40	4.48
	Pipeline ø200mm	4,000	m	19.78	79.12	2.16	68.48	70.64	0.20	8.28	8.48
	Appurtenant Structure		L.S		23.68	1.39	17.83	19.22	0.22	4.24	4.46
	Sub-total				260.00	11.00	209.00	220.00	1.00	39.00	40.00
5-3	Sprinkler (Hand move)										
	Type A	1,000	Fed	600	600.00	-	570.00	570.00	-	30.00	30.00
	Type B	750	Fed	600	450.00	-	430.00	430.00	-	20.00	20.00
	Sub-total				1,050.00	-	1000.00	1000.00	-	50.00	50.00
5-4	Drip (for Vegetable)										
	Type A	500	Fed	1,200	600.00	-	570.00	570.00	-	30.00	30.00
5-5	Drip (for Fruits)										
	Type A	500	Fed	800	400.00	-	380.00	380.00	-	20.00	20.00
5-6	Miscellaneous		L.S		30.00	2.00	18.00	20.00	1.00	9.00	10.00
	Total				2,950.00	40.00	2660.00	2700.00	5.00	245.00	250.00
(6) Land Reclamation											
6-1	Deep Plowing (1st)	2,750	Fed	128.46	353.26	123.06	106.97	230.03	12.29	110.94	123.23
6-2	Deep Plowing (2nd)	2,750	Fed	64.23	176.63	61.53	53.49	115.02	6.14	55.47	61.61
6-3	Initial Soil Dressing-1 Manua Dredged from Canal	82,500	ton	4.10	338.25	76.73	84.97	161.70	9.07	167.48	176.55
6-4	Initial Soil Dressing-2 Gypsum	1,375	ton	31.44	43.23	1.36	1.38	2.74	36.52	3.97	40.49
6-6	Initial Leaching	2,750	Fed	52.18	143.49	-	74.47	74.47	36.88	32.14	69.02
6-7	Miscellaneous		L.S		45.14	7.32	18.72	26.04	9.10	10.00	19.10
	Total				1,100.00	270.00	340.00	610.00	110.00	380.00	490.00

Table I-2.4 Breakdown of Civil Works (4)

ITEM: 2.2.2, Housing and Infrastructure of Com Osheen Area

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
					equip-ment	Materi	Total	Local Materi	Labour	Total
(Unit: '000 LE)										
(1)	Pre-Engineering									
	Vertical Control	12 Km	50	1	-	-	-	-	1	1
	Pre-construction Survey	2 Mos	2,500	5	-	-	-	-	5	5
	Construction Survey	24 Mos	2,500	60	-	-	-	-	60	60
	Miscellaneous	L.S		4	-	-	-	-	4	4
	Total			70	-	-	-	-	70	70
(2)	Housing									
	Farmers' House, Small	208 Nos	3,060	636.48	-	101.84	101.84	318.24	216.40	534.64
	Farmers' House, Large	62 Nos	4,140	256.68	-	41.07	41.07	128.34	87.27	215.61
	Directors' House	5 Nos	8,100	40.50	-	6.48	6.48	20.25	13.77	34.02
	Technicians' House	31 Nos	5,760	178.56	-	28.57	28.57	89.28	60.71	149.99
	Labour and Other	42 Nos	5,760	241.92	-	38.71	38.71	120.96	82.25	203.21
	Mosque in Hamlet/Village	3 Nos	13,500	40.50	-	6.48	6.48	20.25	13.77	36.02
	Primary School	1 No.	45,000	45.00	-	7.20	7.20	22.50	15.30	37.80
	Storage House	1 No.	6,020	6.02	-	0.96	0.96	3.01	2.05	5.06
	Store	1 No.	8,400	8.40	-	1.34	1.34	4.20	2.86	7.06
	Miscellaneous	L.S		15.94	-	7.35	7.35	7.97	0.62	8.59
	Total			1,470.00	-	240.00	240.00	735.00	495.00	1230.00
(3)	Road									
3-1	Trunk Road (L=8.3Km)									
	Excavation of Ditch	7,300 cu.m	3.39	24.75	-	-	-	-	24.75	24.75
	Grading & Embankment	66,400 sq.m	0.14	9.30	3.32	1.99	5.31	0.00	3.99	3.99
	Gravel Paving	66,400 sq.m	2.21	146.74	6.64	67.73	74.37	64.40	7.97	72.37
	Sub-total			180.79	9.96	69.72	79.68	64.40	36.71	101.11
3-2	Branch Road (L=3.8Km)									
	Excavation of Ditch	2,200 cu.m	3.39	7.46	-	-	-	-	7.46	7.46
	Grading & Embankment	22,800 sq.m	0.14	3.19	1.14	0.68	1.82	0.00	1.37	1.37
	Gravel Paving	22,800 sq.m	1.86	42.41	2.05	19.38	21.43	18.47	2.51	20.98
	Sub-total			53.06	3.19	20.06	23.25	18.47	11.34	29.81
3-3	Wind Break									
	Plantation of Trees along Trunk Road	16.6 Km	912	15.14	0.78	0.46	1.24	1.72	12.18	13.90
	Plantation of Trees along Branch Road	3.8 Km	912	3.46	0.18	0.10	0.28	0.39	2.79	3.18
	Water Supply System	19.5 Fed	1,990	38.80	3.02	26.03	29.05	0.27	9.48	9.75
	Sub-Total			57.40	3.98	26.59	30.57	2.38	24.45	26.83
3-4	Miscellaneous Works	L.S		8.75	0.87	5.63	6.50	1.75	0.50	2.25
	Total			300.00	18.00	122.00	140.00	87.00	73.00	160.00
(4)	Infrastructure									
4-1	Potable Water									
	Treatment Plant	40% x 1 Set	100,000	40.00	-	27.00	27.00	3.25	9.75	13.00
	Pipeline ϕ 75mm	6,700 m	5.09	34.10	1.81	25.06	26.87	0.20	7.03	7.23
	Pipeline ϕ 50mm	4,600 m	3.15	14.49	1.15	8.92	10.07	0.09	4.33	4.42
	Pipeline in Village (ϕ 50mm Pipeline)									
	Hamlet	12 Site	1,270	15.24	1.21	9.38	10.59	0.11	4.54	4.65
	Village	1 Site	2,290	2.29	0.18	1.41	1.59	0.01	0.69	0.70
	Miscellaneous Works	L.S		3.88	0.65	2.23	2.88	0.34	0.66	1.00
	Sub-total			110.00	5.00	74.00	79.00	4.00	27.00	31.00
4-2	Sewage System (Treatment Plant & ϕ 200mm Pipe)									
	Hamlet (160 persons)	12 Site	12,880	154.56	20.94	68.92	89.86	21.33	43.37	64.70
	Village (160 persons)	1 Site	15,810	15.81	1.82	8.15	9.97	1.79	4.05	5.84
	Miscellaneous	L.S		9.63	1.24	3.93	5.17	1.88	2.58	4.46
	Sub-total			180.00	24.00	81.00	105.00	25.00	50.00	75.00

(Cont'd) Table I-2.4

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			(Unit: '000 LE) Local Currency		
					Depre- ciation	Materi	Total	Local Materi	Labour	Total
4-3	Electric Power									
	60KV Trunk Line	40% x 7 Km	43,000	120.40	-	84.28	84.28	10.84	25.28	36.12
	11KV Line	15.7 Km	14,000	219.80	-	153.86	153.86	19.78	46.16	65.94
	Sub-station 66/11 KV	40% x 1 Site	200,000	80.00	-	56.00	56.00	7.20	16.80	24.00
	Distribution 100KVA	13 Site	8,000	104.00	-	72.80	72.80	9.36	21.84	31.20
	Village Distribution									
	Hamlet	12 Site	1,275	15.30	-	12.24	12.24	0.92	2.14	3.06
	Village	1 Site	2,475	2.47	-	1.98	1.98	0.15	0.34	0.49
	Miscellaneous	L.S		18.03	-	12.84	12.84	1.75	3.44	5.19
	Sub-total			560.00	-	394.00	394.00	50.00	116.00	166.00
4-4	Telephon System									
	Trunk Cable Line	30% x 16 Km	4,000	19.20	-	15.36	15.36	1.15	2.69	3.84
	Conection Line	5.3 Km	4,000	21.20	-	16.96	16.96	1.27	2.97	4.24
	Control Exchange	30% x 1 Set	67,000	20.10	-	16.08	16.08	1.21	2.81	4.02
	Miscellaneous Works	L.S		9.50	-	7.60	7.60	0.37	1.53	1.90
	Sub-total			70.00	-	56.00	56.00	4.00	10.00	14.00
4-5	Village Facilities (Land leveling, Road, Wind Break etc.)	L.S		20.00	-	6.00	6.00	4.00	10.00	14.00
	Total			940.00	29.00	611.00	640.00	87.00	213.00	300.00

Table I-2.5 Breakdown of Civil Works (5)
(Agro-Industry)

ITEM: 2.2.3, Agro-Industry

Item	Description	Qty's Unit (LE)	Rate (LE)	(Unit: '000 LE)		Total	Qty's Unit (LE)	Rate	(Unit: '000 LE)	
				Foreign	Local				Foreign	Local
(1) Cattle Breeding and Fattening Center										
1-1	Cattle Shed and Office (per one (1) unit)									
	Fattening Cattle Shed	8,000 sq.m	15	120.00	24.00	96.00				
	2 houses x 4,000 sq.m									
	Raising Cow Shed	180 sq.m	15	2.70	0.54	2.16				
	1 house x 180 sq.m									
	Breeding Shed	180 sq.m	15	2.70	0.54	2.16				
	1 house x 180 sq.m									
	Milking Parlor	80 sq.m	15	1.20	0.24	0.96				
	1 house x 80 sq.m									
	Office	50 sq.m	150	7.50	1.50	6.00				
	1 house x 50 sq.m									
	Sub-total of 1 unit			134.10	26.82	107.28				
	Sub-total of 4 unit			536.40	107.28	429.12				
1-2	Land Grading	36 Fed	156	5.60	-	5.60				
	9 Feddan/unit									
1-3	Agricultural Equipment									
	Milker	4 Unit	103,500	414.00	414.00	-				
	Bulk Cooler	4 Unit	52,000	208.00	208.00	-				
	Tractor & Other Machines	4 Unit	80,200	320.80	320.80	-				
	Sub-total			942.80	942.80	-				
	Physical Contingency			215.20	149.92	65.28				
	Total			1,700.00	1,200.00	500.00				
(2) Agricultural Products										
2-1	Tomato Grading Station	3 Set	223,500	670.50	670.50	-				
	Equipment Cost	Building Works 40 x 40m	1,600 sq.m	100	160.00	32.00				
	Miscellaneous	L.S		9.50	7.50	2.00				
	Total			840.00	710.00	130.00				
(3) Animal Products										
3-1	Slaughterhouse									
	Ground Works	L.S		65.00	20.00	45.00				
	Building Works	1,000 sq.m	200	200.00	40.00	160.00				
	Equipment Works	L.S		290.00	290.00	-				
	Electric Works	L.S		39.00	39.00	-				
	Cold Storage Works	L.S		215.50	215.50	-				
	Water, Drainage,	L.S		34.50	34.50	-				
	Sanitary and Boiler	L.S		190.00	190.00	-				
	Sewage Treatment Works	L.S		43.00	43.00	-				
	Burning Facilities	L.S		31.00	31.00	-				
	Vehicles	L.S		69.00	21.00	48.00				
	Enclosure Works	L.S		34.70	34.70	-				
	Freight and Insurance Cost	L.S		58.80	18.80	40.00				
	Inland Transportation Cost	L.S		229.50	222.50	7.00				
	Physical Contingency									
	Sub-total			1,500.00	1,200.00	300.00				
3-2	Milk Processing Factory									
	Ground Works	L.S		118.30	35.00	83.30				
	Building Works	1,820 sq.m	200	364.00	73.00	291.00				
	Equipment Works	L.S		2,490.00	2,490.00	-				
	Electric Works	L.S		39.00	39.00	-				
	Refrigerator Works	L.S		275.00	275.00	-				
	Water Treatment Facilities	L.S		66.00	66.00	-				
	Sewage Treatment Works	L.S		125.00	125.00	-				
	Vehicles	L.S		51.00	51.00	-				
	Enclosure Works	L.S		125.60	37.00	88.60				
	Freight and Insurance Cost	L.S		373.50	373.50	-				
	Inland Transportation Cost	L.S		201.00	60.00	141.00				
	Physical Contingency	L.S		751.60	595.50	156.10				
	Sub-total			4,980.00	4,220.00	760.00				
Total										
				6,480.00	5,420.00	1,060.00				
Grand Total of Agro-Industry										
				9,020.00	7,330.00	1,690.00				

Table I-2.6 Breakdown of Civil Works (6)

ITEM: III. Wahby Downstream Area

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
					equip-ment	Materi	Total	Local Materi	Labour	Total
(1) Pre-Engineering										
	Cadastral Survey	65 Fed	200	13.0	-	1.3	1.3	-	11.7	11.7
	Vertical Control	100 Km	50	5.0	-	0.5	0.5	-	4.5	4.5
	Pre-Construction Survey	4 Mos	2,500	10.0	-	1.0	1.0	-	9.0	9.0
	Construction Survey	33 Mos	2,500	82.5	-	8.2	8.2	-	74.3	74.3
	Hydrology	33 Mos	1,000	33.0	-	3.3	3.3	-	29.7	29.7
	Laboratory Control	33 Mos	1,000	33.0	-	3.3	3.3	-	29.7	29.7
	Negotiation for ROW	5 Mos	1,000	5.0	-	0.5	0.5	-	4.5	4.5
	Miscellaneous Works	L.S		8.5	-	0.9	0.9	-	7.6	7.6
	Total			190.0	-	19.0	19.0	-	171.0	171.0
(2) Rehabilitation of Facilities										
2-1 Rehabilitation of Main Canal (L=21.3Km)										
	Excavation/Dredging	43,000 cu.m	1.69	72.67	32.25	16.34	48.59	1.29	22.79	24.08
	Embankment w/comp.	21,000 cu.m	0.76	15.96	6.30	4.20	10.50	0.63	4.83	5.46
	Gravel Surfacing(18cm)	107,000 sq.m	2.21	236.47	10.70	109.14	119.84	103.79	12.84	116.63
	Riprap (Dry)	21,000 sq.m	10.77	226.17	24.57	19.74	44.31	27.09	154.77	181.86
	Withdrawal of Brick & Concrete	220 cu.m	16.91	3.72	-	-	-	-	3.72	3.72
	Concrete w/S.B	340 cu.m	179.90	61.17	0.40	28.67	29.07	12.64	19.46	32.10
	Concrete (plain)	230 cu.m	65.36	15.03	0.22	4.26	4.48	5.88	4.67	10.55
	Miscellaneous	L.S		28.81	4.56	7.17	11.73	6.90	10.18	17.08
	Sub-total			660.00	79.00	189.52	268.52	158.22	233.26	391.48
2-2 Rehabilitation of Branch Canals (L=28.1Km)										
	Excavation/Dredging	28,000 cu.m	1.25	35.00	14.28	7.28	21.56	0.84	12.60	13.44
	Embankment w/comp.	14,000 cu.m	0.76	10.64	4.20	2.80	7.00	0.42	3.22	3.64
	Gravel Surfacing(10cm)	112,000 sq.m	1.33	148.96	8.96	66.08	75.04	61.60	12.32	73.92
	Riprap	31,000 sq.m	10.77	333.87	36.27	29.14	65.41	39.99	228.47	268.46
	Withdrawal of Brick & Concrete	160 cu.m	16.91	2.71	-	-	-	-	2.71	2.71
	Concrete w/S.B	200 cu.m	179.90	35.98	0.23	16.86	17.09	7.44	11.45	18.89
	Concrete (plain)	140 cu.m	65.36	9.15	0.13	2.60	2.73	3.58	2.84	6.42
	R.C. Pipe #600mm	50 m	115.60	5.78	-	2.31	2.31	1.73	1.74	3.47
	R.C. Pipe #400mm	50 m	67.00	3.35	-	1.34	1.34	1.00	1.01	2.01
	Miscellaneous	L.S		29.56	3.93	5.79	9.72	5.89	13.95	19.84
	Sub-total			615.00	68.00	134.20	202.20	122.49	290.31	412.80
2-3 Rehabilitation of Lateral & Sub-lateral (L=32.0Km)										
	Excavation/Dredging	13,000 cu.m	1.25	16.25	6.63	3.38	10.01	0.39	5.85	6.24
	Embankment w/comp.	13,000 cu.m	0.76	9.88	3.90	2.60	6.50	0.39	2.99	3.38
	Gravel Surfacing(10cm)	65,000 sq.m	1.33	86.45	5.20	38.35	43.55	35.75	7.15	42.90
	Riprap (Dry)	11,000 sq.m	10.77	118.47	12.87	10.34	23.21	14.19	81.07	95.26
	Withdrawal of Brick & Concrete	90 cu.m	16.91	1.52	-	-	-	-	1.52	1.52
	Concrete w/S.B	130 cu.m	179.90	23.39	0.15	10.97	11.12	4.83	7.44	12.27
	Concrete (plain)	140 cu.m	65.36	9.15	0.13	2.60	2.73	3.58	2.84	6.42
	R.C. Pipe #600mm	150 m	115.60	17.34	-	6.94	6.94	5.20	5.20	10.40
	R.C. Pipe #400mm	150 m	67.00	10.05	-	4.02	4.02	3.01	3.02	6.03
	Miscellaneous	L.S		12.50	2.12	2.50	4.62	2.88	5.00	7.88
	Sub-total			305.00	31.00	81.70	112.70	70.22	122.08	192.30
2-4 Rehabilitation of Other Lateral (L=3.50Km)										
	Excavation/Dredging	2,100 cu.m	1.25	2.62	1.07	0.55	1.62	0.06	0.94	1.00
	Embankment w/comp.	2,100 cu.m	0.76	1.60	0.63	0.42	1.05	0.06	0.49	0.55
	Gravel Surfacing(10cm)	12,600 sq.m	1.33	16.76	1.01	7.43	8.44	6.93	1.39	8.32
	Riprap (Dry)	2,100 sq.m	10.77	22.62	2.46	1.97	4.43	2.71	15.48	18.19
	Structure (3 Places)									
	Withdrawal of Brick & Con.	3 cu.m	16.91	0.05	-	-	-	-	0.05	0.05
	Concrete w/S.B	4 cu.m	179.90	0.72	0.00	0.34	0.34	0.15	0.23	0.38
	Concrete (plain)	5 cu.m	65.36	0.33	0.01	0.09	0.10	0.13	0.10	0.23
	Miscellaneous	L.S		5.30	1.82	1.78	3.60	1.03	0.67	1.70
	Sub-total			50.00	7.00	12.58	19.58	11.07	19.35	30.42
	Total			1,630.00	185.00	418.00	603.00	362.00	665.00	1027.00

(Cont'd) Table 1-2.6

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			(Unit: '000 LE) Local Currency		
					equip-ment	Materi	Total	Local Materi	Labour	Total
(3) Construction of Laterals										
3-1 New Hayar Canal (L=2.8Km)										
a. Canalization										
	Excavation	26,000 cu.m	1.25	32.50	13.26	6.76	20.02	0.78	11.70	12.48
	Embankment w/comp.	26,000 cu.m	0.76	19.76	7.80	5.20	13.00	0.78	5.98	6.76
	Gravel Surfacing(15cm)	14,000 sq.m	1.86	26.04	1.26	11.90	13.16	11.34	1.54	12.88
	Riprap (Dry)	2,300 sq.m	10.77	24.77	2.69	2.16	4.85	2.97	16.95	19.92
	Sub-total			<u>103.07</u>	<u>25.01</u>	<u>26.02</u>	<u>51.03</u>	<u>15.87</u>	<u>36.17</u>	<u>52.04</u>
b. Syphon										
	Excavation	1,200 cu.m	1.25	1.50	0.61	0.31	0.92	0.04	0.54	0.58
	Embankment w/comp.	100 cu.m	1.14	0.11	0.00	0.01	0.01	0.00	0.10	0.10
	Backfill	1,100 cu.m	1.14	1.25	0.03	0.02	0.05	0.02	1.18	1.20
	Water Care	L.S		0.30	-	0.15	0.15	0.08	0.07	0.15
	Road Surfacing (18cm)	50 sq.m	2.21	0.11	0.01	0.05	0.06	0.05	0.00	0.05
	Concrete w/S.B	40 cu.m	179.90	7.20	0.05	3.37	3.42	1.49	2.29	3.78
	Concrete (plain)	32 cu.m	65.36	2.09	0.03	0.59	0.62	0.82	0.65	1.47
	Sub-total			<u>12.56</u>	<u>0.73</u>	<u>4.50</u>	<u>5.23</u>	<u>2.50</u>	<u>4.83</u>	<u>7.33</u>
c. Bridge										
	Concrete B. (W=5m, L=7m)	1 place		<u>17.00</u>	-	<u>6.80</u>	<u>6.80</u>	<u>4.40</u>	<u>5.80</u>	<u>10.20</u>
d. Vertical Drop (12 places)										
	Excavation	60 cu.m	3.39	0.20	-	-	-	-	0.20	0.20
	Backfill	48 cu.m	1.14	0.06	-	0.00	0.00	0.00	0.06	0.06
	Embankment	12 cu.m	1.14	0.01	-	0.00	0.00	0.00	0.01	0.01
	Concrete w/S.B	192 cu.m	179.90	34.54	0.22	16.19	16.41	7.14	10.99	18.13
	Sub-total			<u>34.81</u>	<u>0.22</u>	<u>16.19</u>	<u>16.41</u>	<u>7.14</u>	<u>11.26</u>	<u>18.40</u>
e. Other Structures (5 places)										
	Earth Works	150 cu.m	3.39	0.51	-	-	-	-	0.51	0.51
	Concrete w/S.B	75 cu.m	179.90	13.49	0.09	6.32	6.41	2.79	4.29	7.08
	Concrete (plain)	100 cu.m	65.36	6.54	0.10	1.85	1.95	2.56	2.03	4.59
	Sub-total			<u>20.54</u>	<u>0.19</u>	<u>8.17</u>	<u>8.36</u>	<u>5.35</u>	<u>6.83</u>	<u>12.18</u>
f. Miscellaneous Works										
		L.S		<u>22.02</u>	<u>9.85</u>	<u>7.21</u>	<u>17.06</u>	<u>1.86</u>	<u>3.10</u>	<u>4.96</u>
Total of New Hayar Canal				<u>210.00</u>	<u>36.00</u>	<u>68.89</u>	<u>104.89</u>	<u>37.12</u>	<u>67.99</u>	<u>105.11</u>
3-2 New Koddoba Canal (L=3.6Km)										
a. Canalization										
	Excavation	21,000 cu.m	1.05	22.05	9.66	5.25	14.91	0.63	6.51	7.14
	Embankment w/comp.	21,000 cu.m	0.76	15.96	6.30	4.20	10.50	0.63	4.83	5.46
	Gravel Surfacing(15cm)	11,000 sq.m	1.86	20.46	0.99	9.35	10.34	8.91	1.21	10.12
	Riprap	2,000 sq.m	10.77	21.54	2.34	1.88	4.22	2.58	14.74	17.32
	Sub-total			<u>80.01</u>	<u>19.29</u>	<u>20.68</u>	<u>39.97</u>	<u>12.75</u>	<u>27.29</u>	<u>40.04</u>
b. Syphon (1 Place)										
	Excavation	600 cu.m	1.25	0.75	0.30	0.16	0.46	0.02	0.27	0.29
	Embankment w/comp.	100 cu.m	1.14	0.11	0.01	0.00	0.01	0.00	0.10	0.10
	Backfill	500 cu.m	1.14	0.57	0.02	0.01	0.03	0.01	0.53	0.54
	Water Care	L.S		0.30	-	0.15	0.15	0.05	0.10	0.15
	Road Surfacing (18cm)	50 sq.m	2.21	0.11	0.01	0.05	0.06	0.04	0.01	0.05
	Concrete w/S.B	34 cu.m	179.90	6.12	0.04	2.87	2.91	1.26	1.95	3.21
	Concrete (plain)	32 cu.m	65.36	2.09	0.03	0.59	0.62	0.82	0.65	1.47
	P.C. Pipe ϕ 1,000mm	16 m	292.70	4.68	-	1.87	1.87	1.40	1.41	2.81
	Sub-total			<u>14.73</u>	<u>0.41</u>	<u>5.70</u>	<u>6.11</u>	<u>3.60</u>	<u>5.02</u>	<u>8.62</u>
c. Vertical Drop (10 places)										
	Concrete w/S.B	160 cu.m	179.90	28.78	0.19	13.49	13.68	5.95	9.15	15.10
	Excavation	50 cu.m	3.39	0.17	-	-	-	-	0.17	0.17
	Backfill	40 cu.m	1.14	0.05	0.01	0.00	0.01	0.00	0.04	0.04
	Embankment	10 cu.m	1.14	0.01	0.00	0.00	0.00	0.00	0.01	0.01
	Other Works	L.S		2.90	0.02	1.35	1.37	0.59	0.94	1.53
	Sub-total			<u>31.91</u>	<u>0.22</u>	<u>14.84</u>	<u>15.06</u>	<u>6.54</u>	<u>10.31</u>	<u>16.85</u>

(Cont'd) Table I-2.6

Item No.	Description	Q'tys	Unit	Rate (LE)	Total Cost	Foreign Currency			(Unit: '000 LE) Local Currency		
						equip-ment	Materi	Total	Local Materi	Labour	Total
d. Other Appurtenant Structure (5 places)											
	Earth Works	30	cu.m	3.39	0.10	-	-	-	-	0.10	0.10
	Concrete w/S.B	15	cu.m	179.90	2.70	0.02	1.26	1.28	0.56	0.86	1.42
	Concrete (plain)	20	cu.m	65.36	1.31	0.02	0.37	0.39	0.51	0.41	0.92
	Other Works		L.S		0.40	0.00	0.16	0.16	0.11	0.13	0.24
	Sub-total				4.51	0.04	1.79	1.83	1.18	1.50	2.68
e. Miscellaneous Works											
			L.S		8.84	2.04	2.20	4.24	1.62	2.98	4.60
Total of New Koddaba Canal					140.00	22.00	45.21	67.21	25.69	47.10	72.79
3-3 Other Lateral Canal (L=10.0Km)											
a. Canalization											
	Excavation	50,000	cu.m	1.05	52.50	23.00	12.50	35.50	1.50	15.50	17.00
	Embankment w/comp.	50,000	cu.m	0.76	38.00	15.00	10.00	25.00	1.50	11.50	13.00
	Gravel Surfacing(15cm)	30,000	sq.m	1.86	55.80	2.70	25.50	28.20	24.30	3.30	27.60
	Riprap (Dry)	5,000	sq.m	10.77	53.85	5.85	4.70	10.55	6.45	36.85	43.30
	Sub-total				200.15	46.55	52.70	99.25	33.75	67.15	100.90
b. Structures											
	Excavation	250	cu.m	1.25	0.31	0.13	0.06	0.19	0.01	0.11	0.12
	Embankment w/comp.	50	cu.m	1.14	0.06	0.00	0.00	0.00	0.00	0.06	0.06
	Backfill	200	cu.m	1.14	0.23	0.01	0.00	0.01	0.00	0.22	0.22
	Concrete w/S.B	500	cu.m	179.90	89.95	0.58	42.16	42.74	18.59	28.62	47.21
	Concrete (plain)	500	cu.m	65.36	32.68	0.48	9.27	9.75	12.79	10.14	22.93
	Other Works		L.S		12.32	0.12	5.15	5.27	3.14	3.91	7.05
	Sub-total				135.55	1.32	56.64	57.96	34.53	43.06	77.59
c. Miscellaneous Works											
			L.S		14.30	2.13	4.56	6.69	2.91	4.70	7.61
Total of Other Lateral Canal					350.00	50.00	113.90	163.90	71.19	114.91	186.10
Total of Construction of Laterals					700.00	108.00	228.00	336.00	134.00	230.00	364.00
(4) Construction of Canal Structures											
a. Vent (for 13 places)											
	Excavation	70	cu.m	1.25	0.09	-	0.06	0.06	0.00	0.03	0.03
	Backfill	40	cu.m	1.14	0.05	-	0.00	0.00	0.00	0.05	0.05
	Embankment	20	cu.m	1.14	0.02	-	0.00	0.00	0.00	0.02	0.02
	Concrete w/S.B	20	cu.m	179.90	3.60	-	1.71	1.71	0.74	1.15	1.89
	Concrete (plain)	20	cu.m	65.36	1.31	-	0.39	0.39	0.51	0.41	0.92
	Miscellaneous		L.S		1.93	-	0.84	0.84	0.75	0.34	1.09
	Sub-total				7.00	-	3.00	3.00	2.00	2.00	4.00
b. Check and Other Structures (for 13 places)											
	Excavation	130	cu.m	1.25	0.16	-	0.10	0.10	0.00	0.06	0.06
	Backfill	110	cu.m	1.14	0.12	-	0.00	0.00	0.00	0.12	0.12
	Embankment	30	cu.m	1.14	0.03	-	0.00	0.00	0.00	0.03	0.03
	Concrete w/S.B	50	cu.m	179.90	9.00	-	4.28	4.28	1.86	2.86	4.72
	Concrete (plain)	70	cu.m	65.36	4.58	-	1.37	1.37	1.79	1.42	3.21
	Miscellaneous		L.S		2.11	-	1.25	1.25	0.35	0.51	0.86
	Sub-total				16.00	-	7.00	7.00	4.00	5.00	9.00
Total					23.00	-	10.00	10.00	6.00	7.00	13.00

Table I-2.7 Breakdown of Civil Works (7)

ITEM: IV. South Area of Lake Qarun

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
					Equip-ment	Materi	Total	Local Materi	Labour	Total
(Unit: '000 LE)										
(1)	Pre-engineering									
	Cadastral Survey	360 Fed	200	72.0	-	7.2	7.2	-	64.8	64.8
	Vertical Control	56 Km	50	2.8	-	0.3	0.3	-	2.5	2.5
	Pre-Construction Survey	4 Mos	5,000	20.0	-	2.0	2.0	-	18.0	18.0
	Construction Survey	45 Mos	2,500	112.5	-	11.2	11.2	-	101.3	101.3
	Hydrology	45 Mos	1,500	67.5	-	6.7	6.7	-	60.8	60.8
	Laboratory Control	45 Mos	1,500	67.5	-	6.7	6.7	-	60.8	60.8
	Negotiation for ROW	45 Mos	1,000	45.0	-	4.5	4.5	-	40.5	40.5
	Miscellaneous works	L.S		12.7	-	1.4	1.4	-	11.3	11.3
	Total			400.0		40.0	40.0		360.0	360.0
(2)	Construction of Dikes									
2-1	Qarun Dike (L=3,500m)									
	Side Borrow Excavation	170,000 cu.m	1.69	287.30	127.50	64.60	192.10	5.10	90.10	95.20
	Embankment w/comp.	127,000 cu.m	0.76	96.52	38.10	25.40	63.50	3.81	29.21	33.02
	Gravel Surfacing(18cm)	28,000 sq.m	2.21	61.88	2.80	28.56	31.36	27.16	3.36	30.52
	Riprap (Random)	7,000 cu.m	22.55	157.85	26.74	21.49	48.23	11.41	98.21	109.62
	Riprap (Dry)	13,000 sq.m	10.77	140.01	15.21	12.22	27.43	16.77	95.81	112.58
	Riprap (Wet)	13,000 sq.m	20.04	260.52	17.55	44.33	61.88	65.91	132.73	198.64
	Riprap (Masonry)	6,000 sq.m	21.86	131.16	8.10	20.46	28.56	38.76	63.84	102.60
	Miscellaneous works	L.S		54.76	9.00	12.85	21.85	8.15	24.76	32.91
	Sub-total			1,190.00	245.00	229.91	474.91	177.07	538.02	715.09
2-2	Batts Drain (L=2,500m)									
	Excavation	25,000 cu.m	1.69	42.25	18.75	9.50	28.25	0.75	13.25	14.00
	Side Borrow Excavation	40,000 cu.m	1.69	67.60	30.00	15.20	45.20	1.20	21.20	22.40
	Embankment w/comp.	65,000 cu.m	0.76	49.40	19.50	13.00	32.50	1.95	14.95	16.90
	Riprap (Dry)	500 sq.m	10.77	5.38	0.58	0.47	1.05	0.64	3.69	4.33
	Riprap (Wet)	500 sq.m	20.04	10.02	0.67	1.71	2.38	2.53	5.11	7.64
	Concrete (plain)	100 cu.m	65.36	6.54	0.10	1.85	1.95	2.56	2.03	4.59
	Miscellaneous works	L.S		8.81	2.40	3.01	5.41	0.47	2.93	3.40
	Sub-total			190.00	72.00	44.74	116.74	10.10	63.16	73.26
	Total			1,380.00	317.00	274.65	591.65	187.17	601.18	788.35
(3)	Construction and Rehabilitation of Drainage Canals									
3-1	Harawa Area									
a.	Lateral Drain (L=3,000m)									
	Excavation/Dredging	17,000 cu.m	1.69	28.73	12.75	6.46	19.21	0.51	9.01	9.52
	Embankment w/comp.	17,000 cu.m	0.76	12.92	5.10	3.40	8.50	0.51	3.91	4.42
	Concrete (plain)	50 cu.m	65.36	3.27	0.05	0.93	0.98	1.28	1.01	2.29
	Riprap (Dry)	500 sq.m	10.77	5.38	0.58	0.47	1.05	0.65	3.68	4.33
	R.C. Pipe ϕ 400mm	60 m	67.00	4.02	-	1.61	1.61	1.20	1.21	2.41
	Miscellaneous Works	L.S		3.68	1.22	0.90	2.12	0.28	1.28	1.56
	Sub-total			58.00	19.70	13.77	33.47	4.43	20.10	24.53
b.	Sub-lateral Drain (L=4,000m)									
	Excavation	8,000 cu.m	1.25	10.00	4.08	2.08	6.16	0.24	3.60	3.84
	Embankment w/comp.	8,000 cu.m	0.76	6.08	2.40	1.60	4.00	0.24	1.84	2.08
	Concrete (plain)	100 cu.m	65.36	6.54	0.10	1.85	1.95	2.56	2.03	4.59
	Riprap (Dry)	200 sq.m	10.77	2.15	0.23	0.19	0.42	0.26	1.47	1.73
	R.C. Pipe ϕ 300mm	100 m	53.90	5.39	-	2.15	2.15	1.62	1.62	3.24
	Miscellaneous Works	L.S		1.84	0.49	0.41	0.90	0.30	0.64	0.94
	Sub-total			32.00	7.30	8.28	15.58	5.22	11.20	16.42
	Total			90.00	27.00	22.05	49.05	9.65	31.30	40.95
3-2	Bats Said Area									
a.	Main Drain (L=2,300m)									
	Excavation	165,000 cu.m	1.69	278.85	123.75	62.70	186.45	4.95	87.45	92.40
	Embankment w/comp.	13,000 cu.m	0.76	9.88	3.90	2.60	6.50	0.39	2.99	3.38
	Disposal	142,000 cu.m	0.41	58.22	22.72	14.20	36.92	2.84	18.46	21.30
	Concrete (plain)	100 cu.m	65.36	6.54	0.10	1.85	1.95	2.56	2.03	4.59
	Riprap (Dry)	1,000 sq.m	10.77	10.77	1.17	0.94	2.11	1.29	7.37	8.66
	Miscellaneous Works	L.S		20.74	8.36	4.96	13.32	0.68	6.74	7.42
	Sub-total			385.00	160.00	87.25	247.25	12.71	125.04	137.75

(Cont'd) Table I-2.7

Item No.	Description	Q'tys	Unit	Rate (L.E)	Total Cost	Foreign Currency			(Unit: '000 L.E) Local Currency		
						Equip-ment	Materi	Total	Local Materi	Labour	Total
b. Lateral Drain (L=3,800m)											
	Excavation/Dredging	21,000	cu.m	1.69	35.49	15.75	7.98	23.73	0.63	11.13	11.76
	Embankment w/comp.	21,000	cu.m	0.76	15.96	6.30	4.20	10.50	0.63	4.83	5.46
	Concrete (plain)	50	cu.m	65.36	3.27	0.05	0.93	0.98	1.28	1.01	2.29
	Riprap (Dry)	500	sq.m	10.77	5.38	0.58	0.47	1.05	0.65	3.68	4.33
	R.C. Pipe 4400mm	60	m	67.00	4.02	-	1.61	1.61	1.20	1.21	2.41
	Miscellaneous Works		L.S		3.88	1.32	0.97	2.29	0.27	1.32	1.59
	Sub-total				68.00	24.00	16.16	40.16	4.66	23.18	27.84
c. Sub-lateral Drain (L=12,000m)											
	Excavation	30,000	cu.m	1.25	37.50	15.30	7.80	23.10	0.90	13.50	14.40
	Embankment w/comp.	30,000	cu.m	0.76	22.80	9.00	6.00	15.00	0.90	6.90	7.80
	Concrete (plain)	100	cu.m	65.36	6.54	0.10	1.85	1.95	2.56	2.03	4.59
	Riprap (Dry)	200	sq.m	10.77	2.15	0.23	0.19	0.42	0.26	1.47	1.73
	R.C. Pipe 4300mm	240	m	53.90	12.94	-	5.18	5.18	3.88	3.88	7.76
	Miscellaneous Works		L.S		5.07	1.37	1.45	2.82	0.53	1.72	2.25
	Sub-total				87.00	26.00	22.47	48.47	9.03	29.50	38.53
Total					540.00	210.00	125.88	335.88	26.40	177.72	204.12
3-3 Abu Tarfaya Area											
a. Main Drain (L=2,800m)											
	Excavation	200,000	cu.m	1.69	338.00	150.00	76.00	226.00	6.00	106.00	112.00
	Embankment w/comp.	15,000	cu.m	0.76	11.40	4.50	3.00	7.50	0.45	3.45	3.90
	Disposal	185,000	cu.m	0.41	75.85	29.60	18.50	48.10	3.70	24.05	27.75
	Concrete (plain)	100	cu.m	65.36	6.54	0.10	1.85	1.95	2.56	2.03	4.59
	Riprap (Dry)	1,000	sq.m	10.77	10.77	1.17	0.94	2.11	1.29	7.37	8.66
	Miscellaneous Works		L.S		24.44	9.63	6.14	15.77	0.78	7.89	8.67
	Sub-total				467.00	195.00	106.43	301.43	14.78	150.79	165.57
b. Lateral Drain (L=1,100m)											
	Excavation/Dredging	6,000	cu.m	1.69	10.14	4.50	2.28	6.78	0.18	3.18	3.36
	Embankment w/comp.	6,000	cu.m	0.76	4.56	1.80	1.20	3.00	0.18	1.38	1.56
	Concrete (plain)	50	cu.m	65.36	3.27	0.05	0.93	0.98	1.28	1.01	2.29
	Riprap (Dry)	150	sq.m	10.77	1.61	0.17	0.14	0.31	0.19	1.11	1.30
	R.C. Pipe 4400mm	50	m	67.00	3.35	-	1.34	1.34	1.00	1.01	2.01
	Miscellaneous Works		L.S		1.07	0.48	0.10	0.58	0.13	0.36	0.49
	Sub-total				24.00	7.00	5.99	12.99	2.96	8.05	11.01
c. Sub-lateral Drain (L= 6,200m)											
	Excavation	16,000	cu.m	1.25	20.00	8.16	4.16	12.32	0.48	7.20	7.68
	Embankment w/comp.	16,000	cu.m	0.76	12.16	4.80	3.20	8.00	0.48	3.68	4.16
	Concrete (plain)	50	cu.m	65.36	3.27	0.05	0.93	0.98	1.28	1.01	2.29
	Riprap (Dry)	100	sq.m	10.77	1.08	0.12	0.09	0.21	0.13	0.74	0.87
	R.C. Pipe 4300mm	180	m	53.90	9.70	-	3.88	3.88	2.91	2.91	5.82
	Miscellaneous Works		L.S		2.79	0.87	0.66	1.53	0.32	0.94	1.26
	Sub-total				49.00	14.00	12.92	26.92	5.60	16.48	22.08
Total					540.00	216.00	125.34	341.34	23.34	175.32	198.66
3-4 Khor El-Hitan Area											
a. Main Drain (L=2,700m)											
	Excavation	193,000	cu.m	1.69	326.17	144.75	73.34	218.09	5.79	102.29	108.08
	Embankment w/comp.	15,000	cu.m	0.76	11.40	4.50	3.00	7.50	0.45	3.45	3.90
	Disposal	178,000	cu.m	0.41	72.98	28.48	17.80	46.28	3.56	23.14	26.70
	Concrete (plain)	100	cu.m	65.36	6.54	0.10	1.85	1.95	2.56	2.03	4.59
	Riprap (Dry)	1,000	sq.m	10.77	10.77	1.17	0.94	2.11	1.29	7.37	8.66
	Miscellaneous Works		L.S		22.14	8.00	6.28	14.28	0.71	7.15	7.86
	Sub-total				450.00	187.00	103.21	290.21	14.36	145.43	159.79
b. Lateral Drain (L=1,000m)											
	Excavation/Dredging	6,000	cu.m	1.69	10.14	4.50	2.28	6.78	0.18	3.18	3.36
	Embankment w/comp.	6,000	cu.m	0.76	4.56	1.80	1.20	3.00	0.18	1.38	1.56
	Concrete (plain)	50	cu.m	65.36	3.27	0.05	0.93	0.98	1.28	1.01	2.29
	Riprap (Dry)	150	sq.m	10.77	1.61	0.17	0.14	0.31	0.19	1.11	1.30
	R.C. Pipe 4400mm	50	m	67.00	3.35	-	1.34	1.34	1.00	1.01	2.01
	Miscellaneous Works		L.S		1.07	0.48	0.10	0.58	0.13	0.36	0.49
	Sub-total				24.00	7.00	5.99	12.99	2.96	8.05	11.01
c. Sub-lateral Drain (L=2,600m)											
	Excavation	7,000	cu.m	1.25	8.75	3.57	1.82	5.39	0.21	3.15	3.36
	Embankment w/comp.	7,000	cu.m	0.76	5.32	2.10	1.40	3.50	0.21	1.61	1.82
	Concrete (plain)	50	cu.m	65.36	3.27	0.05	0.93	0.98	1.28	1.01	2.29
	Riprap (Dry)	100	sq.m	10.77	1.08	0.12	0.09	0.21	0.13	0.74	0.87
	R.C. Pipe 4300mm	120	m	53.90	6.47	-	2.59	2.59	1.94	1.94	3.88
	Miscellaneous Works		L.S		1.11	0.16	0.40	0.56	0.17	0.38	0.55
	Sub-total				26.00	6.00	7.23	13.23	3.94	8.83	12.77
Total					500.00	200.00	116.43	316.43	21.26	162.31	183.57
Total of (3) Construction & Rehabilitation of Drainage Canal					1,670.00	653.00	389.70	1042.70	80.65	546.65	627.30

(Cont'd) Table I-2.7

Item No.	Description	Q'tys	Unit	Rate (LE)	Total Cost	Foreign Currency			(Unit: '000 LE) Local Currency		
						Equip-ment	Materi	Total	Local Materi	Labour	Total
(4) Pump Stations											
4-1	Abd El-Rahman Pump Station										
	Pump House	20	sq.m	150	3.00	-	0.60	0.60	0.90	1.50	2.40
	Pump and Engine										
	Mixed Flow Volute Pump with Engine ϕ 200mm, 9 Ps	2	set	7,250	14.50	-	14.50	14.50	-	-	-
	Auxiliary Equipment		L.S		1.85	-	1.85	1.85	-	-	-
	Pipes and Valves		L.S		4.15	-	4.15	4.15	-	-	-
	Transport and Installation		L.S		4.50	-	2.10	2.10	0.72	1.68	2.40
	Sub-total				<u>28.00</u>	-	<u>23.20</u>	<u>23.20</u>	<u>1.62</u>	<u>3.18</u>	<u>4.80</u>
	Suction, Excavation	50	cu.m	1.25	0.06	-	0.04	0.04	0.00	0.02	0.02
	" Embankment	10	cu.m	1.14	0.01	-	0.00	0.00	0.00	0.01	0.01
	" Concrete w/S.B	20	cu.m	179.90	3.60	-	1.71	1.71	0.74	1.15	1.89
	Discharge, Concrete w/S.B	9	cu.m	179.90	1.62	-	0.77	0.77	0.33	0.52	0.85
	" R.C Pipe ϕ 600mm	24	m	115.60	2.77	-	1.11	1.11	0.83	0.83	1.66
	Appurtenant Earth Works	10	cu.m	3.39	0.03	-	-	-	-	0.03	0.03
	Miscellaneous Works		L.S		0.91	-	0.41	0.41	0.21	0.29	0.50
	Sub-total				<u>9.00</u>	-	<u>4.04</u>	<u>4.04</u>	<u>2.11</u>	<u>2.85</u>	<u>4.96</u>
	Total				<u>37.00</u>	-	<u>27.24</u>	<u>27.24</u>	<u>3.73</u>	<u>6.03</u>	<u>9.76</u>
4-2	Abu Haraw Pump Station										
	Pump House	24	sq.m	150	3.60	-	0.72	0.72	1.08	1.80	2.88
	Pump and Engine										
	Mixed Flow Volute Pump with Engine ϕ 250mm, 18 Ps	3	set	9,250	27.75	-	27.75	27.75	-	-	-
	Auxiliary Equipment		L.S		2.00	-	2.00	2.00	-	-	-
	Pipes and Valves		L.S		9.35	-	9.35	9.35	-	-	-
	Transport and Installation		L.S		6.90	-	3.15	3.15	1.13	2.62	3.75
	Sub-total				<u>49.60</u>	-	<u>42.97</u>	<u>42.97</u>	<u>2.21</u>	<u>4.42</u>	<u>6.63</u>
	Suction, Excavation	50	cu.m	1.25	0.06	-	0.04	0.04	0.00	0.02	0.02
	" Embankment	10	cu.m	1.14	0.01	-	0.00	0.00	0.00	0.01	0.01
	" Concrete w/S.B	20	cu.m	179.90	3.60	-	1.71	1.71	0.74	1.15	1.89
	Discharge, Concrete w/S.B	9	cu.m	179.90	1.62	-	0.77	0.77	0.33	0.52	0.85
	" R.C Pipe ϕ 600mm	24	m	115.60	2.77	-	1.11	1.11	0.83	0.83	1.66
	Appurtenant Earth Works	10	cu.m	3.39	0.03	-	-	-	-	0.03	0.03
	Miscellaneous Works		L.S		0.31	-	0.14	0.14	0.07	0.10	0.17
	Sub-total				<u>8.40</u>	-	<u>3.77</u>	<u>3.77</u>	<u>1.97</u>	<u>2.66</u>	<u>4.63</u>
	Total				<u>58.00</u>	-	<u>46.74</u>	<u>46.74</u>	<u>4.18</u>	<u>7.08</u>	<u>11.26</u>
4-3	Bats Said Pump Station										
	Pump House	32	sq.m	150	4.80	-	0.96	0.96	1.44	2.40	3.84
	Pump and Engine										
	Mixed Flow Volute Pump & with Engine ϕ 250mm, 18 Ps	4	set	9,250	37.00	-	37.00	37.00	-	-	-
	Auxiliary Equipment		L.S		4.00	-	4.00	4.00	-	-	-
	Pipes and Valves		L.S		12.45	-	12.45	12.45	-	-	-
	Transport and Installation		L.S		9.55	-	4.40	4.40	1.55	3.60	5.15
	Sub-total				<u>67.80</u>	-	<u>58.81</u>	<u>58.81</u>	<u>2.99</u>	<u>6.00</u>	<u>8.99</u>
	Suction, Excavation	100	cu.m	1.25	0.13	-	0.08	0.08	0.00	0.05	0.05
	" Embankment	20	cu.m	1.14	0.02	-	0.00	0.00	0.00	0.02	0.02
	" Concrete w/S.B	32	cu.m	179.90	5.76	-	2.74	2.74	1.19	1.83	3.02
	Discharge, Concrete w/S.B	13	cu.m	179.90	2.34	-	1.11	1.11	0.48	0.75	1.23
	" R.C Pipe ϕ 700mm	24	m	150.30	3.61	-	1.44	1.44	1.08	1.09	2.17
	Withdrawal & Reconstruction of										
	Asphalt Pavement	24	sq.m	16.91	0.41	-	0.06	0.06	0.13	0.22	0.35
	Riprap (Wet)	19	sq.m	20.04	0.38	-	0.09	0.09	0.10	0.19	0.29
	Riprap (Dry)	16	sq.m	10.77	0.17	-	0.03	0.03	0.02	0.12	0.14
	Riprap (Masonry)	4	sq.m	21.86	0.09	-	0.02	0.02	0.03	0.04	0.07
	Excavation	46	cu.m	1.25	0.06	-	0.04	0.04	0.00	0.02	0.02
	Backfill	34	cu.m	1.14	0.04	-	0.00	0.00	0.00	0.04	0.04
	Miscellaneous Works		L.S		0.19	-	0.08	0.08	0.05	0.06	0.11
	Sub-total				<u>13.20</u>	-	<u>5.69</u>	<u>5.69</u>	<u>3.08</u>	<u>4.43</u>	<u>7.51</u>
	Total				<u>81.00</u>	-	<u>64.50</u>	<u>64.50</u>	<u>6.07</u>	<u>10.43</u>	<u>16.50</u>

(Cont'd) Table I-2.7

Item No.	Description	Q'tys	Unit	Rate (L.E)	Total Cost	Foreign Currency			(Unit: '000 L.E) Local Currency		
						Equip-ment	Materi	Total	Local Materi	Labour	Total
4-4	Abu Tarfaya Pump Station										
	Pump House	24	sq.m	150	3.60	-	0.72	0.72	1.08	1.80	2.88
	Pump and Engine										
	Mixed Flow Volute Pump & with Engine ø250mm, 18 Ps	3	set	9,250	27.75	-	27.75	27.75	-	-	-
	Auxiliary Equipment		L.S		2.00	-	2.00	2.00	-	-	-
	Pipes and Valves		L.S		9.35	-	9.35	9.35	-	-	-
	Transpor and Installation		L.S		6.90	-	4.15	4.15	1.13	1.62	2.75
	Sub-total				49.60	-	43.97	43.97	2.21	3.42	5.63
	Suction, Excavation	50	cu.m	1.25	0.06	-	0.04	0.04	0.00	0.02	0.02
	" Embankment	10	cu.m	1.14	0.01	-	0.00	0.00	0.00	0.01	0.01
	" Concrete w/S.B	20	cu.m	179.90	3.60	-	1.71	1.71	0.74	1.15	1.89
	Discharge, Concrete w/S.B	9	cu.m	179.90	1.62	-	0.77	0.77	0.33	0.52	0.85
	" R.C Pipe ø600mm	24	m	115.60	2.77	-	1.11	1.11	0.83	0.83	1.66
	Withdrawal & Reconstruction of										
	Asphalt Pavement	32	sq.m	16.91	0.54	-	0.08	0.08	0.17	0.29	0.46
	Riprap (Wet)	20	sq.m	20.04	0.40	-	0.10	0.10	0.10	0.20	0.30
	Riprap (Dry)	24	sq.m	10.77	0.26	-	0.05	0.05	0.03	0.18	0.21
	Riprap (Masonry)	12	sq.m	21.86	0.26	-	0.06	0.06	0.07	0.13	0.20
	Excavation	46	cu.m	1.25	0.06	-	0.04	0.04	0.00	0.02	0.02
	Backfill	34	cu.m	1.14	0.04	-	0.00	0.00	0.00	0.04	0.04
	Miscellaneous Works		L.S		0.28	-	0.12	0.12	0.06	0.10	0.16
	Sub-total				9.90	-	4.08	4.08	2.33	3.49	5.82
	Total				59.50	-	48.05	48.05	4.54	6.91	11.45
4-5	Khor El-Hitan Pump Station										
	Pump House	20	sq.m	150	3.00	-	0.60	0.60	0.90	1.50	2.40
	Pump and Engine										
	Mixed Flow Volute Pump & with Engine ø250mm, 18 Ps	2	set	9,250	18.50	-	18.50	18.50	-	-	-
	Auxiliary Equipment		L.S		1.85	-	1.85	1.85	-	-	-
	Pipes and Valves		L.S		6.25	-	6.25	6.25	-	-	-
	Transpor and Installation		L.S		5.00	-	2.30	2.30	0.81	1.89	2.70
	Sub-total				34.60	-	29.50	29.50	1.71	3.39	5.10
	Suction, Excavation	50	cu.m	1.25	0.06	-	0.04	0.04	0.00	0.02	0.02
	" Embankment	10	cu.m	1.14	0.01	-	0.00	0.00	0.00	0.01	0.01
	" Concrete w/S.B	20	cu.m	179.90	3.60	-	1.71	1.71	0.74	1.15	1.89
	Discharge, Concrete w/S.B	9	cu.m	179.90	1.62	-	0.77	0.77	0.33	0.52	0.85
	" R.C Pipe ø600mm	24	m	115.60	2.77	-	1.11	1.11	0.83	0.83	1.66
	Withdrawal & Reconstruction of										
	Asphalt Pavement	32	sq.m	16.91	0.54	-	0.08	0.08	0.17	0.29	0.46
	Riprap (Wet)	20	sq.m	20.04	0.40	-	0.10	0.10	0.10	0.20	0.30
	Riprap (Dry)	24	sq.m	10.77	0.26	-	0.05	0.05	0.03	0.18	0.21
	Riprap (Masonry)	12	sq.m	21.86	0.26	-	0.06	0.06	0.07	0.13	0.20
	Excavation	46	cu.m	1.25	0.06	-	0.04	0.04	0.00	0.02	0.02
	Backfill	34	cu.m	1.14	0.04	-	0.00	0.00	0.00	0.04	0.04
	Miscellaneous Works		L.S		0.28	-	0.11	0.11	0.07	0.10	0.17
	Sub-total				9.90	-	4.07	4.07	2.34	3.49	5.83
	Total				44.50	-	33.57	33.57	4.05	6.88	10.93
Total Of (4) Pump Station					280.00	-	220.10	220.10	22.57	37.33	59.90

Table I-2.8 Breakdown of Civil Works (B)

ITEM: V. Model Farm

(Unit: LE)

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
					Equip-ment	Materi	Total	Local Materi	Labour	Total
(1) Pre-engineering										
	Cadastral Survey	60 Fed	100	6,000	-	600	600	-	5,400	5,400
	Vertical Control	10 Km	50	500	-	100	100	-	400	400
	Pre-Construction Survey	2 Mos	2,500	5,000	-	500	500	-	4,500	4,500
	Construction Survey	12 Mos	2,000	24,000	-	2,400	2,400	-	21,600	21,600
	Hydrology	12 Mos	1,500	18,000	-	1,800	1,800	-	16,200	16,200
	Laboratory Control	12 Mos	1,500	18,000	-	1,800	1,800	-	16,200	16,200
	Negotiation for ROW	2 Mos	1,000	2,000	-	200	200	-	1,800	1,800
	Miscellaneous works	L.S		6,500	-	2,600	2,600	-	3,900	3,900
	Total			80,000	-	10,000	10,000	-	70,000	70,000
(2) Irrigation Facilities										
2-1 Pump Station										
a. Pump facilities										
	Pump House 4x5m	20 sq.m	150	3,000	-	-	-	1,000	2,000	3,000
	Pump and Power Facilities									
	Ø150mm, 66kw, 90m	4 set	62,500	250,000	-	238,000	238,000	-	12,000	12,000
	Pressure Tank	L.S		40,000	-	40,000	40,000	-	-	-
	Strainer	4 set	1,000	4,000	-	4,000	4,000	-	-	-
	Sub-total			297,000	-	282,000	282,000	1,000	14,000	15,000
b. Intake Structures (Vent Model 36)										
	Excavation	50 cu.m	1.25	63	-	39	39	2	22	24
	Backfill	20 cu.m	1.14	23	-	1	1	1	21	22
	Embankment	30 cu.m	1.14	34	-	1	1	1	32	33
	Concrete w/S.B	5 cu.m	179.90	900	-	428	428	186	286	472
	Concrete (Plain)	1 cu.m	65.36	65	-	19	19	26	20	46
	Riprap (Wet)	27 sq.m	20.04	541	-	128	128	137	276	413
	Riprap (Dry)	6 sq.m	10.77	65	-	13	13	8	44	52
	Sub-total			1,691	-	629	629	361	701	1,062
c. Suction Facilities										
	Excavation	20 cu.m	1.25	25	-	15	15	1	9	10
	Backfill	10 cu.m	1.14	11	-	0	0	0	11	11
	Embankment	10 cu.m	1.14	11	-	0	0	0	11	11
	Concrete w/S.B	5 cu.m	179.90	900	-	428	428	186	286	472
	Concrete (Plain)	1 cu.m	65.36	65	-	19	19	26	20	46
	Sub-total			1,012	-	462	462	213	337	550
d. Miscellaneous Works										
		L.S		14,297	-	12,909	12,909	426	962	1,388
	Total			314,000	-	296,000	296,000	2,000	16,000	18,000
2-2 Distribution Pipeline										
	Main Line Ø300mm	1,620 m	46.90	75,978	2,690	66,776	69,466	405	6,107	6,512
	Branch Line Ø200mm	1,370 m	19.78	27,099	740	23,454	24,194	69	2,836	2,905
	Field Line Ø200mm	1,250 m	19.78	24,725	675	21,400	22,075	63	2,587	2,650
	Field Line Ø150mm	840 m	13.28	11,155	361	9,375	9,736	25	1,394	1,419
	Field Line Ø100mm	5,420 m	7.35	39,837	2,060	30,406	32,466	162	7,209	7,371
	Appurtenant Facilities	L.S		53,638	1,958	45,423	47,381	217	6,040	6,257
	Miscellaneous Works	L.S		27,568	516	24,166	24,682	59	2,827	2,886
	Total			260,000	9,000	221,000	230,000	1,000	29,000	30,000
2-3 On-farm Facilities										
	Sprinkler System	76 set	1,700	129,200	-	129,200	129,200	-	-	-
	Drip System for Vegetable)	48 set	1,900	91,200	-	91,200	91,200	-	-	-
	Appurtenant Facilities	L.S		33,100	-	26,480	26,480	3,310	3,310	6,620
	Miscellaneous Works	L.S		12,500	-	10,120	10,120	690	1,690	2,380
	Total			266,000	-	257,000	257,000	4,000	5,000	9,000
2-4 Road (Except Trunk Road)										
	Excavation of Ditch	4,740 cu.m	3.39	16,069	-	-	-	-	16,069	16,069
	Grading & Embankment	33,200 sq.m	0.14	4,648	1,660	996	2,656	-	1,992	1,992
	Gravel Paving (10cm)	33,200 sq.m	1.33	44,156	2,656	19,588	22,244	18,260	3,652	21,912
	Wind Break W=4.0m	8.3 Km	912	7,570	391	230	621	860	6,089	6,949
	Wind Break W=2.0m	4.2 Km	456	1,915	99	58	157	217	1,541	1,758
	Irrigation for Wind B.	9.9 Fed	1,990	19,701	1,535	13,216	14,751	139	4,811	4,950
	Miscellaneous Work	L.S		5,941	659	1,912	2,571	1,524	1,846	3,370
	Total			100,000	7,000	36,000	43,000	21,000	36,000	57,000

(Cont'd) Table 1-2.8

Item No.	Description	Q'tys	Unit	Rate (L.E)	Total Cost	Foreign Currency			Local Currency			
						Equip-ment	Materi	Total	Local Materi	Labour	Total	
2-5	Land Reclamation											
	Deep Plowing	250	Fed	207.50	51,875	18,075	15,707	33,782	1,803	16,290	18,093	
	Initial Soil Dressing-1	7,500	ton	4.10	30,750	6,975	7,725	14,700	825	15,225	16,050	
	Initial Soil Dressing-2	250	ton	31.44	7,860	247	250	497	6,640	723	7,363	
	Initial Leaching	250	Fed	52.18	13,045	-	6,770	6,770	3,352	2,923	6,275	
	Miscellaneous Works		L.S		6,470	703	2,548	3,251	1,380	1,839	3,219	
	Total				110,000	26,000	33,000	59,000	14,000	37,000	51,000	
	Total of (2) Irrigation Facilities				1,050,000	42,000	843,000	885,000	42,000	123,000	165,000	
	3) Reserch, Laboratory and Training Facilities											
3-1	Building Works											
	Office Building	200	sq.m	200	40,000	-	8,000	8,000	12,000	20,000	32,000	
	Training Building	100	sq.m	200	20,000	-	4,000	4,000	6,000	10,000	16,000	
	Recerch Building	100	sq.m	200	20,000	-	4,000	4,000	6,000	10,000	16,000	
	Laboratory Building	50	sq.m	200	10,000	-	2,000	2,000	3,000	5,000	8,000	
	Warehouse	200	sq.m	100	20,000	-	4,000	4,000	6,000	10,000	16,000	
	Garage	120	sq.m	100	12,000	-	2,400	2,400	3,600	6,000	9,600	
	Dormitory	120	sq.m	200	24,000	-	4,800	4,800	7,200	12,000	19,200	
	Staff Quarter 50sq.m x 5	250	sq.m	200	50,000	-	10,000	10,000	15,000	25,000	40,000	
	Appurtenant Facilities (Electricity, Water Supply, sewage and Others)		L.S		35,000	-	7,000	7,000	10,500	17,500	28,000	
	Miscellaneous		L.S		11,000	-	800	800	4,700	5,500	10,200	
	Total				242,000	-	47,000	47,000	74,000	121,000	195,000	
3-2	Reserch & Laboratory Instruments											
			L.S		200,000	-	200,000	200,000	-	-	-	
3-3	Training & Education Instruments											
			L.S		10,000	-	10,000	10,000	-	-	-	
	Total of (3) Facilities				452,000	-	257,000	257,000	74,000	121,000	195,000	

Table I-2.9 Unit Cot of Manpowers and Materials

	<u>Unit</u>	<u>Unit Cost</u>
1. Common Labor	/day	5.0 LE
2. Skilled Labor	"	8.0
3. Operator for Heavy Equipment	"	10.0
4. Operator for Truck or Vehicle	"	8.0
5. Carpenter	"	10.0
6. Masonry	"	15.0
7. Surveyor	"	10.0
8. Steel Bender	"	12.0
9. Portland Cement	ton	80.0
10. Steel Bar (round)	"	500.0
11. Steel Bar (deformed)	"	800.0
12. Crashed Gravel	cu.m	6.0
13. Coarse Aggregate (Washed Gravel)	"	8.0
14. Fine Aggregate (Sand)	"	5.0
15. Timber	"	250.0
16. Gasoline	litter	0.15
17. Diesel Oil	"	0.03
18. Grease	kg	1.15
19. Brick (Clay, 25 x 12 x 6 cm)	pcs 1000	60.0
20. Electric Charge	Kw.h	0.0245

I-3. Cost of Construction Equipment

Table I-3.1 Cost of Construction Equipment (1)
(Land Reclamation of North Wahby Area)

Description	Qty's	Unit Price	(Unit: '000LE)		
			Total	Foreign	Local
a. Construction Equipment					
Bulldozer w/ripper 32ton	1 No.	200	200	190	10
Bulldozer w/ripper 21ton	1 No.	125	125	119	6
Back hoe 0.35cu.m	6 Nos	44	264	251	13
Tractor Shovel 1.0cu.m	1 No.	75	75	72	3
Track Crane 5ton	1 No.	35	35	33	2
Water Lorry 5.5cu.m	2 Nos	22	44	42	2
Dump Track 8ton	10 Nos	23	230	220	10
Track 6ton	1 No.	14	14	13	1
Concrete Mixer 0.5 cu.m	1 No.	10	10	9	1
Miscellaneous Equipment	L.S		53	51	2
Sub-total			<u>1,050</u>	<u>1,000</u>	<u>50</u>
b. Vehicles					
Jeep & Wagon	5 Nos	13	65	62	3
Micro Bus	1 No.	13	13	12	1
Motor Cycle	10 Nos	2	20	19	1
Workshop Equipment	1 Set		22	17	5
Sub-total			<u>120</u>	<u>110</u>	<u>10</u>
Total			<u>1,170</u>	<u>1,110</u>	<u>60</u>

Table I-3.2 Cost of Construction Equipment (2)
(Land Reclamation of Com Osheem Area)

Description	Qty's	Unit Price	(Unit: '000LE)		
			Total	Foreign	Local
a. Construction Equipment					
Bulldozer 21ton	1 No.	115	115	110	5
Back hoe 0.35cu.m	4 Nos	44	176	167	9
Tractor Shovel 1.0cu.m	1 No.	75	75	72	3
Track Crane 5ton	1 No.	35	35	33	2
Grader 3.7m	1 No.	55	55	52	3
Road Roller	1 No.	37	37	35	2
Tire Roller	1 No.	36	36	34	2
Water Lorry 5.5cu.m	3 Nos	22	66	63	3
Dump Track 8ton	5 Nos	23	115	110	5
Track 6ton	2 Nos	14	28	26	2
Concrete Mixer 0.5 cu.m	1 No.	10	10	9	1
Miscellaneous Equipment	L.S		52	49	3
Sub-total			<u>800</u>	<u>760</u>	<u>40</u>
b. Vehicles					
Jeep & Wagon	5 Nos	13	65	62	3
Micro Bus	1 No.	13	13	12	1
Motor Cycle	10 Nos	2	20	19	1
Workshop Equipment	1 Set		22	17	5
Sub-total			<u>120</u>	<u>110</u>	<u>10</u>
Total			<u>920</u>	<u>870</u>	<u>50</u>

Table I-3.3 Cost of Construction Equipment (3)
(Wahby Downstream Area)

				(Unit: '000LE)		
Description		Qty's	Unit Price	Total	Foreign	Local
a. Construction Equipment						
Drag Line	0.6cu.m	2 Nos	90	180	172	8
Back hoe	1.0cu.m	1 No.	120	120	114	6
Back hoe	0.35cu.m	3 Nos	44	132	126	6
Bulldozer	21ton	1 No.	115	115	109	6
Grader	3.7m	2 Nos	55	110	106	4
Compaction Roller	1.0ton	1 No.	8	8	7	1
Track	6ton	1 No.	14	14	13	1
Concrete Mixer	0.5cu.m	1 No.	10	10	9	1
Miscellaneous Equipment		L.S		24	17	7
Sub-total				<u>713</u>	<u>673</u>	<u>40</u>
b. Vehicles						
Jeep & Wagon		2 Nos	13	26	26	-
Motor Cycle		3 Nos	2	6	6	-
Sub-total				<u>32</u>	<u>32</u>	-
Total				<u>745</u>	<u>705</u>	<u>40</u>

Table I-3.4 Cost of Construction Equipment (4)
(South Area of Lake Qarun)

				(Unit: '000LE)		
Description		Qty's	Unit Price	Total	Foreign	Local
a. Construction Equipment						
Drag Line	0.6cu.m	12 Nos	90	1,080	1,026	54
Back hoe	0.35cu.m	2 Nos	44	88	84	4
Bulldozer	21ton	3 Nos	115	345	328	17
Grader	3.7m	1 No.	55	55	53	2
Track	6ton	2 Nos	14	28	27	1
Concrete Mixer	0.5cu.m	2 Nos	10	20	19	1
Miscellaneous Equipment		L.S		32	21	11
Sub-total				<u>1,648</u>	<u>1,558</u>	<u>90</u>
b. Vehicles						
Jeep & Wagon		2 Nos	13	26	26	-
Motor Cycle		3 Nos	2	6	6	-
Sub-total				<u>32</u>	<u>32</u>	-
Total				<u>1,680</u>	<u>1,590</u>	<u>90</u>

Table I-3.5 Cost of Equipment (5)
(Model Farm)

Description	Qty's	Unit Price	(Unit: '000LE)		
			Total	Foreign	Local
a. Construction Equipment					
Bulldozer w/ripper 32ton	1 No.	200	200	190	10
Bulldozer 15ton	3 Nos	75	225	216	9
Back hoe 0.35cu.m	3 Nos	44	132	126	6
Back hoe 0.10cu.m	2 Nos	26	52	50	2
Grader 2.5m	1 No.	44	44	42	2
Front End Loader 1.0cu.m	1 No.	34	34	33	1
Compaction Roller 1.0ton	1 No.	8	8	7	1
Concrete Mixer 0.5 cu.m	1 No.	10	10	9	1
Miscellaneous Equipment	L.S		22	20	2
Sub-total			<u>727</u>	<u>693</u>	<u>34</u>
b. Vehicles					
Jeep & Wagon	5 Nos	13	65	62	3
Micro Bus	2 Nos	13	26	24	2
Motor Cycle	5 Nos	2	10	9	1
Sub-total			<u>101</u>	<u>95</u>	<u>6</u>
c. Agricultural Equipment					
Tractor 60ps	4 Nos	19.1	76.4	72.6	3.8
Rotavator 230cm	4 Nos	3.6	14.4	13.7	0.7
Mold Board Plow 14"x2	2 Nos	1.8	3.6	3.4	0.2
Disk Harrow 15"x24	2 Nos	2.4	4.8	4.6	0.2
Tooth Harrow 310cm	2 Nos	1.2	2.4	2.3	0.1
Sprayer 600lit.	1 No.	4.1	4.1	3.9	0.2
Thresher 3hr/Fed	1 No.	1.0	1.0	0.9	0.1
Manure Spreader	1 No.	3.7	3.7	3.5	0.2
Forage Harvester	2 Nos	4.6	9.2	8.7	0.5
Farm Wagon	2 Nos	6.0	12.0	11.4	0.6
Broad Caster	1 No.	0.9	0.9	0.8	0.1
Truck 2ton	2 No.	5.8	11.6	11.0	0.6
Miscellaneous	L.S		5.9	3.2	2.7
Sub-total			<u>150.0</u>	<u>140.0</u>	<u>10.0</u>
d. Office Equipment					
Theodolite	1 No.	3.7	3.7	3.7	-
Level	2 Nos	1.4	2.8	2.8	-
Copy Machine	1 No.	2.8	2.8	2.8	-
Electric Calculator	10 Nos	0.1	1.0	1.0	-
Miscellaneous	L.S		1.7	1.7	-
Sub-total			<u>12.0</u>	<u>12.0</u>	-
Total			<u>990.0</u>	<u>940.0</u>	<u>50.0</u>

I-4. Cost of Agricultural Development

Table I-4.1 Cost of Agricultural Development (1)
(Land Reclamation of North Wahby Area)

(Unit: '000LE)

Description	Qty's	Unit Price	Total	Foreign	Local
a. Agricultural Development					
	L.S		400.0	200.0	200.0
b. Agricultural Equipment					
Tractor	60ps 12 Nos	19.1	229.2	217.7	11.5
Rotavator	230cm 6 Nos	3.6	21.6	20.5	1.1
Mold Board Plow	14"x2 8 Nos	1.8	14.4	13.7	0.7
Disk Harrow	15"x24 8 Nos	2.4	19.2	18.3	0.9
Tooth Harrow	310cm 8 Nos	1.2	9.6	9.1	0.5
Sprayer	600lit. 7 Nos	4.1	28.7	27.3	1.4
Thresher	3hr/Fed 7 Nos	1.0	7.0	6.6	0.4
Ridger	3 rows 7 Nos	0.7	4.9	6.7	0.2
Cultivator	3 rows 1 No.	1.1	1.1	1.0	0.1
Miscellaneous	L.S		14.3	9.1	3.2
Sub-total			350.0	330.0	20.0
Total			750.0	530.0	220.0

Table I-4.2 Cost of Agricultural Development (2)
(Land Reclamation of Com Osheem Area)

(Unit: '000LE)

Description	Qty's	Unit Price	Total	Foreign	Local
a. Agricultural Development					
	L.S		200.0	100.0	100.0
b. Agricultural Equipment					
Tractor	60ps 10 Nos	19.1	191.0	181.5	9.5
Rotavator	230cm 6 Nos	3.6	21.6	20.5	1.1
Mold Board Plow	14"x2 6 Nos	1.8	10.8	10.3	0.5
Disk Harrow	15"x24 6 Nos	2.4	14.4	13.7	0.7
Tooth Harrow	310cm 6 Nos	1.2	7.2	6.9	0.3
Sprayer	600lit. 3 Nos	4.1	12.3	11.7	0.6
Thresher	3hr/Fed 3 Nos	1.0	3.0	2.9	0.1
Ridger	3 rows 4 Nos	0.7	2.8	2.7	0.1
Cultivator	3 rows 1 No.	1.1	1.1	1.0	0.1
Manure Spreader	3 Nos	3.7	11.1	10.5	0.6
Forage Harvester	6 Nos	4.6	27.6	26.2	1.4
Farm Wagon	6 Nos	6.0	36.0	34.2	1.8
Broad Caster	3 Nos	0.9	2.7	2.6	0.1
Miscellaneous	L.S		8.4	5.3	3.1
Sub-total			350.0	330.0	20.0
Total			550.0	430.0	120.0

I-5. Cost of Project Facilities

Table I-5.1 Cost of Project Facilities (1)
(Land Reclamation of North Wabby Area)

Description	Qty's	Unit Rate (LE)	Total		(Unit: '000 LE)	
			Foreign	Local	Foreign	Local
a. Building Works						
Office Building	800 sq.m	200	160	32	128	-
Work Shop	350 sq.m	100	35	7	28	-
Dormitory	200 sq.m	150	30	6	24	-
Staff Quarter 50x5	250 sq.m	200	50	10	40	-
Appurtenant Facilities	L.S	55	55	5	50	-
Sub-total			330	60	270	-
b. Office Equipment						
Theodolite	1 No.	3.7	3.7	3.7	-	-
Level	2 Nos	1.4	2.8	2.8	-	-
Copy Machine	1 No.	2.8	2.8	2.8	-	-
Electric Calculator	10 Nos	0.1	1.0	1.0	-	-
Soil & Hydraulic	L.S	2.9	2.9	2.9	-	-
Survey Equipment	L.S	6.8	6.8	6.8	-	-
Miscellaneous			20.0	20.0	-	-
Sub-total			350	80	270	-
Total						

Table I-5.2 Cost of Project Facilities (2)
(Land Reclamation of Com Osheem Area)

Description	Qty's	Unit Rate (LE)	Total		(Unit: '000 LE)	
			Foreign	Local	Foreign	Local
a. Building Works						
Sub-office Building	100 sq.m	200	20	4	16	-
Staff Quarter 50x10	500 sq.m	200	100	20	80	-
Garage	400 sq.m	100	40	8	32	-
Appurtenant Facilities	L.S	30	30	8	22	-
Sub-total			190	40	150	-
b. Office Equipment						
Theodolite	1 No.	3.7	3.7	3.7	-	-
Level	2 Nos	1.4	2.8	2.8	-	-
Copy Machine	1 No.	2.8	2.8	2.8	-	-
Electric Calculator	10 Nos	0.1	1.0	1.0	-	-
Soil & Hydraulic	L.S	2.9	2.9	2.9	-	-
Survey Equipment	L.S	6.8	6.8	6.8	-	-
Miscellaneous			20.0	20.0	-	-
Sub-total			210	60	150	-
Total						

Table I-5.3 Cost of Project Facilities (3)
(Wabby Downstream Area)

Description	Qty's	Unit Rate (LE)	Total		(Unit: '000 LE)	
			Foreign	Local	Foreign	Local
a. Building Works						
Office Building	200 sq.m	200	40	8	32	-
Garage	250 sq.m	100	25	5	20	-
Work Shop	50 sq.m	100	5	1	4	-
Staff Quarter 50x8	400 sq.m	200	80	16	64	-
Appurtenant Facilities	L.S	30	30	5	25	-
Sub-total			180	35	145	-
b. Office Equipment						
Theodolite	1 No.	3.7	3.7	3.7	-	-
Level	1 No.	1.4	1.4	1.4	-	-
Copy Machine	1 No.	2.8	2.8	2.8	-	-
Soil & Hydraulic	L.S	2.9	2.9	2.9	-	-
Survey Equipment	L.S	4.2	4.2	4.2	-	-
Miscellaneous			15.0	15.0	-	-
Sub-total			195	50	145	-
Total						

Table I-5.4 Cost of Project Facilities (4)
(South Area of Lake Qarun)

Description	Qty's	Unit Rate (LE)	Total		(Unit: '000 LE)	
			Foreign	Local	Foreign	Local
a. Building Works						
Office Building	200 sq.m	200	40	8	32	-
Garage	250 sq.m	100	25	5	20	-
Work Shop	50 sq.m	100	5	1	4	-
Staff Quarter 50x8	400 sq.m	200	80	16	64	-
Appurtenant Facilities	L.S	30	30	5	25	-
Sub-total			180	35	145	-
b. Office Equipment						
Theodolite	2 Nos	3.7	7.4	7.4	-	-
Level	2 Nos	1.4	2.8	2.8	-	-
Copy Machine	1 No.	2.8	2.8	2.8	-	-
Electric Calculator	5 Nos	0.1	0.5	0.5	-	-
Soil & Hydraulic	L.S	2.9	2.9	2.9	-	-
Survey Equipment	L.S	3.6	3.6	3.6	-	-
Miscellaneous			20.0	20.0	-	-
Sub-total			200	55	145	-
Total						

I-6. Cost of Consulting Services

Table I-6.1 Cost of Engineering for Detail Design

Description	Qty's	Unit Price (LE)		Cost ('000 LE)		
		Foreign	Local	Total	Foreign	Local
Consultant Remuneration (F)	75 M/M	12,000	-	900	900	-
Consultant Remuneration (L)	115 M/M	6,000	-	690	690	-
International Trips	20 Trips	3,500	-	70	70	-
Communication, Transportation & etc.	12 Mos	-	8,000	96	-	96
Per Diem Allowance	53 M/M	-	2,400	127.2	-	127.2
Other Items	12 Mos	-	3,000	36	-	36
Miscellaneous Expenditure	L.S	-	-	80.8	40.0	40.8
Total				2,000	1,700	300

Table I-6.2 Cost of Consulting Services (1)
(Implementation of North Wahby and Com Osheem Area)

Description	Qty's	Unit Price (LE)		Cost ('000 LE)		
		Foreign	Local	Total	Foreign	Local
Consultant Remuneration (F)	93 M/M	12,000	-	1,116	1,116	-
Consultant Remuneration (L)	108 M/M	6,000	-	648	648	-
Inter National Trips	13 Trips	3,500	-	45.5	45.5	-
Communication, Transportation & etc.	69 Mos	-	1,000	69	-	69
Per Diem Allowance	93 M/M	-	2,400	223.2	-	223.2
Other Items	69 Mos	-	1,500	103.5	-	103.5
Miscellaneous Expenditure	L.S	-	-	104.8	90.5	14.3
Total				2,310	1,900	410
			North Wahby Area (60%)	1,390	1,140	250
			Com Osheem Area (40%)	920	760	160

Table I-6.3 Cost of Consulting Services (2)
(Implementation of Wahby Downstream Area)

Description	Qty's	Unit Price (LE)		Cost ('000 LE)		
		Foreign	Local	Total	Foreign	Local
Consultant Remuneration (F)	58 M/M	12,000	-	696	696	-
Consultant Remuneration (L)	63 M/M	6,000	-	378	378	-
International Trips	12 Trips	3,500	-	42	42	-
Communication, Transportation & etc.	45 Mos	-	1,000	45	-	45
Per Diem Allowance	58 M/M	-	2,400	139.2	-	139.2
Other Items	45 Mos	-	1,200	54	-	54
Miscellaneous Expenditure	L.S	-	-	65.8	54	11.8
Total				1,420	1,170	250

Table I-6.4 Cost of Consulting Services (3)
(Implementation of South Area of Lake Qarun)

Description	Qty's	Unit Price (LE)		Cost ('000 LE)		
		Foreign	Local	Total	Foreign	Local
Consultant Remuneration (F)	44 M/M	12,000	-	528	528	-
Consultant Remuneration (L)	55 M/M	6,000	-	330	330	-
International Trips	10 Trips	3,500	-	35	35	-
Communication, Transportation & etc.	48 Mos	-	1,000	48	-	48
Per Diem Allowance	44 M/M	-	2,400	105.6	-	105.6
Other Items	48 Mos	-	1,300	62.4	-	62.4
Miscellaneous Expenditure	L.S	-	-	61	47	14
Total				1,170	940	230

Table I-6.5 Cost of Consulting Services (4)
(Model Farm)

Description	Qty's	Unit Price (LE)		Cost ('000 LE)		
		Foreign	Local	Total	Foreign	Local
Consultant Remuneration (F)	28 M/M	12,000	-	336	336	-
Consultant Remuneration (L)	23 M/M	6,000	-	138	138	-
International Trips	6 Trips	3,500	-	21	21	-
Communication, Transportation & etc.	21 Mos	-	1,000	21	-	21
Per Diem Allowance	20 M/M	-	2,400	48	-	48
Other Items	21 Mos	-	600	12.6	-	12.6
Miscellaneous Expenditure	L.S	-	-	23.4	15	8.4
Total				600	510	90

I-7. Disbursement Schedule

Table I-7.1 Summary of Disbursement Schedule

Description	1(1984)		2(1985)		3(1986)		4(1987)	
	Total F.C.	L.C.	Total F.C.	L.C.	Total F.C.	L.C.	Total F.C.	L.C.
I. Engineering for Detail Design	2,000	1,700	400	340	1,600	1,360	240	
II. Land Reclamation Area								
2.1 North Wahby Area								
2.1.1 Land Reclamation	28,000	16,900					800	200
2.1.2 Housing and Infrastructure	10,300	2,700					50	30
2.2 Com Osbeem Area								
2.2.1 Land Reclamation Area	20,000	12,300					700	500
2.2.2 Housing and Infrastructure	5,800	1,600					40	10
2.2.3 Agro-industry	14,200	10,400						30
Sub-total	<u>78,300</u>	<u>43,900</u>					<u>1,590</u>	<u>1,140</u>
Sub-total								<u>450</u>
III. Wahby downstream Area	9,400	3,900					690	390
IV. South Area of Lake Qarun	11,400	5,000					1,030	850
V. Model Farm	4,300	3,200	150	100	2,650	2,100	1,500	1,000
Total	<u>105,400</u>	<u>57,700</u>	<u>550</u>	<u>440</u>	<u>4,250</u>	<u>3,460</u>	<u>4,810</u>	<u>3,380</u>
								<u>1,430</u>
(Unit: '000LE)								
Description	5(1988)		6(1989)		7(1990)		8(1991)	
	Total F.C.	L.C.	Total F.C.	L.C.	Total F.C.	L.C.	Total F.C.	L.C.
I. Engineering for Detail Design								
II. Land Reclamation Area								
2.1 North Wahby Area								
2.1.1 Land Reclamation	2,400	1,300	3,500	2,000	8,000	5,000	7,900	4,700
2.1.2 Housing and Infrastructure	500	240	2,400	970	3,550	920	3,000	450
2.2 Com Osbeem Area								
2.2.1 Land Reclamation Area	1,800	1,100	2,800	1,600	5,800	3,600	5,400	3,300
2.2.2 Housing and Infrastructure	340	160	1,200	470	1,810	460	1,810	370
2.2.3 Agro-industry	5,040	2,800	9,900	5,040	32,770	12,700	23,230	12,570
Sub-total								
Sub-total								
III. Wahby downstream Area	1,530	810	1,630	640	2,530	1,020	2,150	760
IV. South Area of Lake Qarun	2,270	1,520	1,920	600	2,680	910	2,250	750
V. Model Farm								
Total	<u>8,840</u>	<u>5,130</u>	<u>13,450</u>	<u>6,280</u>	<u>27,980</u>	<u>14,630</u>	<u>27,630</u>	<u>14,080</u>
								<u>13,550</u>
								<u>17,890</u>
								<u>10,300</u>
								<u>7,590</u>
(Unit: '000LE)								

Table I-7.2 Disbursement Schedule (Land Reclamation Area)

Description	4 (1987)		5 (1988)		6 (1989)		7 (1990)		8 (1991)		9 (1992)	
	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.
1.1 Land Reclamation of North Wabby Area												
(1) Civil Works												
a. Pre-Engineering	430	40	390	80	100	100	100	100	60	60	40	40
b. Pump Station	2,805	2,125	680	280	210	210	70	1,120	850	270	1,120	850
c. Irrigation Networks	2,190	1,600	590	660	480	180	660	480	180	660	480	180
d. Drainage Networks	240	40	200	220	160	60	30	30	120	20	100	90
e. On-farm Facilities	4,650	4,250	400	470	430	40	1,400	1,280	1,400	1,280	1,400	1,280
f. Land Reclamation	1,285	515	770	130	50	80	380	150	230	260	110	150
Sub-total of (1)	(11,600)	(8,570)	(3,030)	(20)	(10)	(10)	(460)	(240)	(220)	(1,890)	(1,270)	(820)
(2) Land Acquisition and Compensation	150	-	150	150	150	150	150	150	150	150	150	150
(3) Construction Equipment	1,170	1,110	60	470	450	20	700	660	40	350	300	50
(4) Agricultural Development	750	530	220	130	20	110	220	60	160	180	360	330
(5) Project Facilities	350	80	270	3	-	5	45	-	45	180	360	330
(6) Engineering and Administration	1,120	-	1,120	15	10	5	55	40	15	230	190	40
(7) Consulting Services	1,390	1,140	250	640	490	150	1,630	1,000	630	2,300	1,460	840
Sub-total of (1) to (7)	16,530	11,430	5,100	60	60	-	170	100	70	200	140	60
(8) Physical Contingency	1,670	1,170	500	700	550	150	1,800	1,100	700	2,500	1,600	900
Sub-total of (1) to (8)	18,200	12,600	5,600	100	50	50	600	200	400	1,000	400	600
(9) Price Escalation	9,800	4,300	5,500	800	600	200	2,400	1,300	1,100	3,500	2,000	1,500
Total	28,000	16,900	11,100	850	630	220	2,900	1,540	1,360	5,900	2,970	2,930
Total of North Wabby Area	38,300	19,600	18,700	850	630	220	2,900	1,540	1,360	5,900	2,970	2,930
2.1.2 Housing and Infrastructure of North Wabby Area												
(1) Civil Works												
a. Pre-Engineering	90	10	80	5	3	2	35	7	28	20	20	10
b. Pump Station	2,800	450	2,350	240	40	240	1,120	180	940	1,120	180	940
c. Irrigation Networks	540	250	290	110	50	60	430	200	230	630	430	200
d. Drainage Networks	1,570	1,080	490	160	110	50	630	430	200	630	430	200
e. On-farm Facilities	(5,000)	(1,790)	(3,210)	(5)	(3)	(2)	(305)	(167)	(138)	(690)	(1,770)	(610)
f. Land Reclamation	400	110	290	15	7	8	65	23	42	100	30	70
Sub-total of (1)	5,400	1,900	3,500	20	10	10	370	190	180	1,460	760	1,370
(2) Engineering and Administration	500	200	300	10	10	-	30	20	10	130	60	110
Sub-total of (1) & (2)	5,900	2,100	3,800	30	20	10	400	210	190	1,590	820	1,480
(3) Physical Contingency	4,400	600	3,800	20	10	10	100	30	70	810	200	610
Sub-total of (1) to (3)	10,300	2,700	7,600	50	30	20	500	240	260	2,400	970	1,430
(4) Price Escalation	38,300	19,600	18,700	850	630	220	2,900	1,540	1,360	5,900	2,970	2,930
Total of North Wabby Area	44,100	22,300	21,000	900	660	240	3,300	1,780	1,620	8,300	4,140	4,360
2.2.1 Land Reclamation of Com Oshem Area												
(1) Civil Works												
a. Pre-Engineering	400	40	360	20	10	10	80	30	50	100	100	100
b. Pump Station	1,830	1,470	360	190	150	40	430	200	230	590	140	730
c. Irrigation Networks	2,100	1,600	500	630	480	150	630	480	150	630	480	150
d. Drainage Networks	210	30	180	210	30	180	210	30	180	210	30	180
e. On-farm Facilities	2,910	2,660	250	300	270	30	870	800	70	880	800	80
f. Land Reclamation	830	340	490	80	30	50	250	100	150	170	70	100
Sub-total of (1)	(8,280)	(6,140)	(2,140)	(20)	(10)	(10)	(310)	(220)	(150)	(470)	(2,600)	(1,970)
(2) Land Acquisition and Compensation	90	-	90	90	90	90	90	90	90	90	90	90
(3) Construction Equipment	920	870	50	370	350	20	550	520	30	30	230	200
(4) Agricultural Development	550	430	120	80	20	60	130	40	90	140	250	240
(5) Project Facilities	210	60	150	10	10	30	40	30	140	140	130	50
(6) Engineering and Administration	800	-	800	20	10	10	50	40	10	160	130	90
(7) Consulting Services	920	760	160	30	20	10	50	40	10	160	130	90
Sub-total of (1) to (7)	11,770	8,260	3,510	510	400	110	1,220	820	400	1,770	1,130	640
(8) Physical Contingency	1,230	840	390	40	-	40	130	80	50	230	170	60
Sub-total of (1) to (8)	13,000	9,100	3,900	550	400	150	1,350	900	450	2,000	1,300	700
(9) Price Escalation	7,000	3,200	3,800	150	100	50	450	200	250	800	300	500
Total	20,000	12,300	7,700	700	500	200	1,800	1,100	700	2,800	1,600	1,200
2.2.2 Housing and Infrastructure of Com Oshem Area												
(1) Civil Works												
a. Pre-Engineering	70	-	70	5	5	5	25	5	25	20	20	10
b. Pump Station	1,470	240	1,230	120	20	100	600	100	500	600	100	500
c. Irrigation Networks	300	140	160	60	30	30	240	110	130	280	190	90
d. Drainage Networks	940	640	300	100	70	30	280	190	90	280	190	90
e. On-farm Facilities	(2,780)	(1,020)	(1,760)	(5)	(5)	(5)	(185)	(85)	(65)	(660)	(300)	(340)
f. Land Reclamation	220	80	140	15	10	5	45	20	25	50	20	30
Sub-total of (1)	3,000	1,100	1,900	20	10	10	230	120	110	710	340	370
(2) Engineering and Administration	300	100	200	10	10	10	70	30	40	90	30	60
Sub-total of (1) & (2)	3,300	1,200	2,100	30	10	20	250	130	120	780	370	410
(3) Physical Contingency	2,500	400	2,100	10	10	10	90	30	60	420	100	320
Sub-total of (1) to (3)	5,800	1,600	4,200	40	10	30	340	160	180	1,200	470	790
(4) Price Escalation	5,180	3,070	2,110	740	510	230	2,140	1,260	880	4,000	2,070	1,930
Total	14,200	10,400	8,800	740	510	230	2,140	1,260	880	4,000	2,070	1,930
Total of Com Oshem Area	40,000	24,300	19,700	900	660	240	3,300	1,780	1,620	8,300	4,140	4,360
Total of Land Reclamation Area	78,300	43,900	34,400	1,590	1,140	450	5,040	2,800	2,240	9,900	5,040	4,860

Table I-7.3 Disbursement Schedule (Wahby Downstream Area)

Description	4(1987)		5(1988)		6(1989)		7(1990)		8(1991)		9(1992)	
	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.
(1) Civil Works	190	171	10	4	45	15	30	45	45	45	140	40
a. Pre-Engineering	1,445	418	1,027	145	435	125	310	435	310	290	88	202
b. Rehabilitation of Facilities	592	228	364	60	25	35	240	90	150	242	50	25
c. Construction of Laterals	23	10	13	2	1	1	10	5	5	3	1	2
d. Construction of Canal Structures	(2,250)	(675)	(1,575)	(4)	(55)	(135)	(151)	(391)	(730)	(585)	(179)	(406)
Sub-total of (1)	250	250	110	110	140	140	140	100	20	40	40	40
(2) Land Acquisition and Compensation	745	705	40	280	20	445	20	20	20	20	20	20
(3) Construction Equipment	200	100	100	80	24	56	89	90	90	75	27	27
(4) Agricultural Development	195	50	145	6	24	24	24	450	370	350	59	130
(5) Project Facilities	290	290	290	4	2	126	104	22	360	299	61	450
(6) Engineering and Administration	1,420	1,170	250	510	310	200	1,040	610	430	970	450	520
(7) Consulting Services	5,350	2,700	2,650	50	30	20	100	60	40	100	50	140
Sub-total of (1) to (7)	5,900	3,000	2,900	560	340	220	1,140	670	470	1,070	500	570
(8) Physical Contingency	3,500	900	2,600	130	50	80	390	140	250	560	140	420
Sub-total of (1) to (8)	9,400	3,900	5,500	690	390	300	1,530	810	720	1,630	640	990
(9) Price Escalation												
Total												

Table I-7.4 Disbursement Schedule (South Area of Lake Qarun)

Description	4(1987)		5(1988)		6(1989)		7(1990)		8(1991)		9(1992)	
	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.
(1) Civil Works	400	40	360	20	8	12	160	32	128	80	80	60
a. Pre-Engineering	1,063	275	778	213	55	158	319	83	236	318	82	236
b. Construction of Dike	1,017	390	627	102	40	62	305	117	186	204	78	126
c. Construction & Rehabilitation of Drainage Canals	280	220	60	28	22	6	112	88	24	112	88	24
d. Pump Stations	(2,760)	(925)	(1,835)	(20)	(8)	(12)	(262)	(72)	(190)	(628)	(194)	(432)
Sub-total of (1)	250	250	110	110	50	50	100	100	100	100	100	100
(2) Land Acquisition and Compensation	1,680	1,590	90	680	644	56	1,000	946	54	60	50	10
(3) Construction Equipment	200	55	145	70	14	56	130	41	89	120	100	45
(4) Agricultural Development	400	400	400	5	4	11	103	81	22	279	226	55
(5) Project Facilities	1,170	940	230	790	670	120	1,580	1,140	440	1,100	420	680
(6) Engineering and Administration	6,560	3,560	3,000	70	60	10	150	110	40	110	40	70
(7) Consulting Services	640	340	300	860	730	130	1,730	1,250	480	1,210	460	750
Sub-total of (1) to (7)	7,200	3,900	3,300	4,200	1,100	540	270	710	140	570	1,300	230
(8) Physical Contingency	4,200	1,100	3,100	170	120	50	540	270	270	710	140	570
Sub-total of (1) to (8)	11,400	5,000	6,400	1,030	950	180	2,270	1,520	750	1,920	600	1,320
(9) Price Escalation												
Total												

Table I-7.5 Disbursement Schedule (Model Farm)

Description	Total		2(1985)		3(1986)		4(1987)	
	Total	L.C	Total	L.C	Total	L.C	Total	L.C
	F.C		F.C		F.C		F.C	
(1) Civil Works								
a. Pre-Engineering	80	10	20	10	60	60	408	65
b. Irrigation Facilities	1,008	843			600	500	408	343
c. Research, Laboratory & Training Facilities	452	257			90	50	362	207
Sub-total of (1)	(1,540)	(430)	(20)	(10)	(750)	(550)	(770)	(550)
	(1,110)							(220)
(2) Land Acquisition and Compensation	10	-	10	-	10	-	10	-
(3) Equipment	990	940			990	940		
(4) Engineering and Administration	210	-	10	-	100	-	100	-
(5) Consulting Services	600	510	80	70	280	240	240	200
Sub-total of (1) to (5)	3,350	2,560	110	80	2,130	1,730	400	750
(6) Physical Contingency	350	260	20	10	210	170	40	80
Sub-total of (1) to (6)	3,700	2,820	130	90	2,340	1,900	440	830
(7) Price Escalation	600	380	20	10	310	200	110	170
Total	4,300	3,200	150	100	2,650	2,100	550	1,000

I-8. Estimate of O & M Cost

Table I-8.1. Estimate of O & M Cost
(Land Reclamation Area)

1. North Wahby Area	(Unit: LE)	2. Com Osheem Area	(Unit: LE)
1-1. O & M Cost of Pump Stations (5 Places)		2-1. O & M Cost of Pump Stations (3 Places)	
a. Annual Electric Charge	268,380	a. Annual Electric Charge	189,670
10,954,380 Kwh x 0.0245 LE/Kwh =		7,741,860 Kwh x 0.0245 LE/Kwh =	
b. Salary and Wages	71,760	b. Salary and Wages	44,640
Mechanical Eng. 1 Person x @300 x 12 = 3,600		Mechanical Eng. 1 Person x @300 x 12 = 3,600	
Electric Eng. 0.6 Persons x @300 x 12 = 2,160		Electric Eng. 0.4 Persons x @300 x 12 = 1,440	
Operator 3x5 15 Persons x @200 x 12 = 36,000		Operator 3x3 9 Persons x @200 x 12 = 21,600	
Labor 3x5 15 Persons x @100 x 12 = 18,000		Labor 3x3 9 Persons x @100 x 12 = 10,800	
Watchman 5x2 10 Persons x @100 x 12 = 12,000		Watchman 3x2 6 Persons x @100 x 12 = 7,200	
c. Maintenance Cost	79,430	c. Maintenance Cost	57,520
1,740,000 LE x (1-0.17) x 5.5% =		1,260,000 LE x (1-0.17) x 5.5% =	
Note: 1,740,000 LE consists of equipment cost of pump facilities. A rate of 0.17 and 5.5 are rates of an international freight charge and annual repair cost, respectively.		Note: 1,260,000 LE consists of equipment cost of pump facilities. A rate of 0.17 and 5.5 are rates of an international freight charge and annual repair cost, respectively.	
Sub-total	<u>419,570</u>	Sub-total	<u>291,830</u>
1-2. Maintenance Cost of Pipeline		2-2. Maintenance Cost of Pipeline	
Main Pipeline L = 31.37 Km 1,524,000 x 0.003 = 4,570		Main Pipeline L = 19.75 Km 1,511,000 x 0.003 = 4,530	
On-farm Line L = 111.10 Km 1,220,000 x 0.003 = 3,660		On-farm Line L = 53.20 Km 580,000 x 0.003 = 1,740	
Sub-total	<u>8,230</u>	Sub-total	<u>6,270</u>
1-3. Maintenance Cost of Drainage Canal		2-3. Maintenance Cost of Drainage Canal	
L=18.1 Km 300,000 x 0.003 = 900		L=15.9 Km 260,000 x 0.003 = 780	
1-4. Maintenance Cost of Road		2-4. Maintenance Cost of Road	
Trunk road (Gravel Paving) L= 16.0 Km 282,880 x 1/5 x 30% = 16,970		Trunk road (Gravel Paving) L= 8.30 Km 146,740 x 1/5 x 30% = 8,800	
Branch road (Gravel Paving) L= 1.7 Km 22,540 x 1/5 x 30% = 1,350		Branch road (Gravel Paving) L= 3.8 Km 42,410 x 1/5 x 30% = 2,540	
Farm road (Grading and compaction) L= 106.3 Km 59,530 x 1/2 x 30% = 8,930		Farm road (Grading and compaction) L= 98.0 Km 54,880 x 1/2 x 30% = 8,230	
Sub-total	<u>27,250</u>	Sub-total	<u>19,570</u>
1-5. Total of North Wahby Area	<u>455,950</u>	2-5. Total Com Osheem Area	<u>318,450</u>
		Total of Land Reclamation Area	<u>774,400</u>

Table I-8.2. Estimate of O & M Cost.
(Wahby Downstream Area)

	(Unit: LE)
1. Salary and Wages	
Civil Engineer	1 person x @300 x 12 =
Labors	1 persons x @150 x 12 =
Labors	3 persons x @100 x 12 =
<u>Sub-total</u>	<u>9,000</u>
2. Canal Dredging L = 16.5 km	
	16.5 km x 3 cu.m/m x 0.028* =
	cf. * MOI, Fayoum data, 1984
	<u>1,390</u>
3. Total Cost of Wahby Down Stream Area	
	<u>10,390</u>

Table I-8.3 Estimate of O & M Cost
(South Area of Lake Qarun)

1. Bats Said area		
1-1. Pumping Station (1 stations)	(Unit:LE)	
a. Annual Fuel Consumption		
0.22 kg/ps/hr / 0.85 kg/lit x 5,894 (hr/3 units) x 18 (ps x 3 units) = 27,459 lit		
b. Fuel Cost		<u>1,038</u>
27,459 lit x 1.05 x 0.03 LE/lit x 1.2 =		
including 5% of preparation works and 20% of other kinds of oils such as grease, machine oil, etc.		
c. Salary and Wages		
Mechanical Eng. 1 person x @300 x 12 x 0.32 =		1,152
Operators 2 persons x @200 x 12 x 0.32 =		1,536
Laborers 3 persons x @100 x 12 x 0.32 =		1,152
Watch man 2 x 1 2 persons x @100 x 12 =		2,400
<u>Sub-total</u>		<u>6,240</u>
Note: 0.32=5,894 hrs / 18,290 hrs		
d. Maintenance Cost		<u>1,872</u>
41,000 LE x (1 - 0.17) x 5.5% =		
Note: 41,000 LE consists of pump and engine costs with auxiliary equipments. A rate of 0.17 and 5.5 are rates of an international freight charge and annual repair cost, respectively.		
e. Total (b + c + d)		<u>9,150</u>
1-2. Drain Dredging * L = 22.1 km*		
22.1 km x 3 cu.m/m x 0.028 =		
cf. MOI, Fayoum data, 1984		
1-3. Total of Bats Said Area		<u>11,006</u>
2. Abu Tarfaya and Khor el Hitan Area		
2-1. Pumping Station (2 stations)	(Unit:LE)	
a. Annual Fuel Consumption		
0.22 kg/ps/hr / 0.85 kg/lit x 4,132 hr/2 units x 18 ps x 2 units = 19,250 lit		
0.22 kg/ps/hr / 0.85 kg/lit x 2,064 hr/1 unit x 18 ps x 1 unit = 9,616 lit		
19,250 + 9,616 = 28,866 lit		
b. Fuel Cost		<u>1,091</u>
28,866 lit x 1.05 x 0.03 LE/lit x 1.2 =		
including 5% of preparation works and 20% of other kinds of oils such as grease, machine oil, etc.		
c. Salary and Wages		
Mechanical Eng. 1 person x @300 x 12 x 0.34 =		1,224
Operators 2 persons x @200 x 12 x 0.34 =		1,632
Laborers 3 persons x @100 x 12 x 0.34 =		1,224
Watch man 2 x 2 4 persons x @100 x 12 =		4,800
<u>Sub-total</u>		<u>8,880</u>
Note: 0.34 = (4,132 + 2,064) / 18,290 hrs		
d. Maintenance Cost		<u>2,287</u>
(29,750 + 20,350) LE x (1 - 0.17) x 5.5% =		
Note: (29,750 + 20,350) LE consists of pump and engine costs with auxiliary equipments. A rate of 0.17 and 5.5 are rates of an international freight charge and annual repair cost, respectively.		
e. Total (b + c + d)		<u>12,258</u>
2-2. Drain Dredging * L = (10.1 + 6.3) = 16.4 km		
16.4 km x 3 cu.m/m x 0.028 =		
cf. MOI, Fayoum data, 1984		
2-3. Total of Abu Tarfaya and Khor el Hitan Area		<u>13,636</u>

(Cont'd) Table I-8.3

3. Abu el Rahman and Abu Harawa Area	(Unit: LE)
3-1. Pumping Station (2 stations)	
a. Annual Fuel Consumption	
0.22 kg/ps/hr / 0.85 kg/lit x 2,068 hr/unit x 9 ps/unit	
x 1 unit = 4,817 lit	
0.22 kg/ps/hr / 0.85 kg/lit x 4,132 hr/2 units x 18 ps	
x 2 units = 19,250 lit	
4,817 + 19,250 = 24,067 lit	
b. Fuel Cost	910
24,067 lit x 1.05 x 0.03 LE/lit x 1.2 =	
including 5% of preparation works and 20% of other kinds	
of oils such as grease, machine oil, etc.	
c. Salary and Wages	
Mechanical Eng. 1 person x @300 x 12 x 0.34 =	1,224
Operators 2 persons x @200 x 12 x 0.34 =	1,632
Laborers 3 persons x @100 x 12 x 0.34 =	1,224
Watch man 2 x 2 4 persons x @100 x 12 =	4,800
Sub-total	8,880
Note: (2,068 + 4,132) / 18,290 hrs = 0.34	
d. Maintenance Cost	2,104
(16,350 + 29,750) LE x (1 - 0.17) x 5.5% =	
Note: (16,350 + 29,750) LE consist of pump and engine	
costs with auxiliary equipments. A rate of 0.17	
and 5.5 are rates of an international freight	
charge and annual repair cost, respectively.	
e. Total (b + c + d)	11,894
3-2. Road (Dike)	
Gravel 3.5 km x 8 m x 2.2 LE/sq.m/5 years x 30 % =	3,696
Reparing works will be done one time per five years.	
A road surface of 30% will be supplemented or repaired.	
3-3. Drain Dredging	588
7.0 km x 3 cu.m/m x 0.028 =	
cf. MOI, Fayoum data, 1984	
3-4. Total of Abu el Rahman and Abu Harawa Area	16,178
<u>Total of South Area of Lake Qarun</u>	<u>40,720</u>

Table I-8.4 Estimate of O & M Cost
(Model Farm)

1. O & M Cost of Pump Station	(Unit: LE)
a. Annual Electric Charge	24,370
994,620 Kwh x 0.0245 LE/Kwh =	
b. Salary and Wages	13,920
Mechanical Eng. 0.1 Persons x @300 x 12 =	360
Electric Eng. 0.1 Persons x @300 x 12 =	360
Operator 3 Persons x @200 x 12 =	7,200
Labor 3 Persons x @100 x 12 =	3,600
Watchman 2 Persons x @100 x 12 =	2,400
c. Maintenance Cost	13,420
294,000 LE x (1-0.17) x 5.5% =	
Note: 294,000 LE consists of equipment	
cost of pump facilities. A rate of	
0.17 and 5.5 are rates of an inter-	
national freight charge and annual	
repair cost, respectively.	
Sub-total	51,710
2. Maintenance Cost of Pipeline	780
L = 10.5 Km 260,000 x 0.003 =	
3. Maintenance Cost of Road	2,650
Gravel Paving L = 8.30 Km	
44,156 x 1/5 x 30% =	
4. Total of Model Farm	55,140

I-9. Project Cost for Improvement of Existing Canals
(Land Reclamation Area)

Table I-9. Project Cost for Improvement of Existing Drainage
(Land Reclamation Area)

(Unit: '000LE)

Item No.	Description	Q'tys Unit	Rate (LE)	Total Cost	Foreign Currency			Local Currency		
					Equip-ment	Materi	Total	Local Materi	Labour	Total
(1) Civil Works										
1. Pre-engineering										
	Cadastral Survey	42 Fed	200	8.40	-	0.84	0.84	-	7.50	7.56
	Vertical Control	17.5Km	50	0.87	-	0.08	0.08	-	0.79	0.79
	Pre-Construction Survey	1 Mo.	2,500	2.50	-	0.25	0.25	-	2.25	2.25
	Construction Survey	6 Mos	2,500	15.00	-	1.50	1.50	-	13.50	13.50
	Laboratory Control	6 Mos	1,000	6.00	-	0.60	0.60	-	5.40	5.40
	Negotiation for ROW	1 Mo.	1,000	1.00	-	0.10	0.10	-	0.90	0.90
	Miscellaneous works	L.S		6.23	-	1.63	1.63	-	4.60	4.60
	Sub-total			40.00	-	5.00	5.00	-	35.00	35.00
2. Improvement of Drainage Canals (3 Drains, Total Length = 17.3 Km)										
	Excavation	34,600 cu.m	1.69	58.47	25.95	13.15	39.10	1.04	18.33	19.37
	Embankment	34,600 cu.m	1.14	39.44	1.04	0.69	1.73	0.69	37.02	37.71
	Riprap (Wet)	3,460 sq.m	20.04	69.34	4.67	11.80	16.47	17.54	35.33	52.87
	Riprap (Dry)	3,460 sq.m	10.77	37.26	4.05	3.25	7.30	4.46	25.50	29.96
	Sub-total			204.51	35.71	28.89	64.60	23.73	116.18	139.91
3. Improvement of Structures (20 places)										
	Concrete w/S.B	20 cu.m	179.90	3.60	0.02	1.69	1.71	0.75	1.14	1.89
	Concrete (plain)	40 cu.m	65.36	2.61	0.04	0.74	0.78	1.02	0.81	1.83
	Riprap (Wet)	200 sq.m	20.04	4.01	0.27	0.68	0.95	1.01	2.05	3.06
	Riprap (Dry)	200 sq.m	10.77	2.15	0.23	0.19	0.42	0.26	1.47	1.73
	Earth Works	200 cu.m	3.39	0.68	-	-	-	-	0.68	0.68
	Sub-total			13.05	0.56	3.30	3.86	3.04	6.15	9.19
4. Miscellaneous Works										
				22.44	3.73	2.81	6.54	3.23	12.67	15.90
Total of Civil Works				280.00	40.00	40.00	80.00	30.00	170.00	200.00
(2) Land Acquisition and Compensation										
1. Land Acquisition										
		15 Fed	4,000	60.00						60.00
2. Compensation										
		10 Fed	400	4.00						4.00
Total				64.00						64.00
(3) Engineering and Administration										
				36.00						36.00
Total of (1) to (3)				380.00			80.00			300.00
(4) Physical Contingency										
				40.00			10.00			30.00
Total of Project Cost				420.00			90.00			330.00

Note; This estimated cost is applied for only the economic evaluation of the land reclamation in the North Wahby and Com Osheem Area.

APPENDIX J.

ECONOMIC EVALUATION

APPENDIX J

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APPENDIX J-1 Commodity Price

Table J1-1 Exchange Rate for US\$

		<u>Yen/US\$</u>
1983	May	233.78
"	June	239.20
"	July	239.47
"	Aug.	243.32
"	Sept.	241.84
"	Oct.	231.98
"	Nov.	234.28
"	Dec.	233.36
1984	Jan.	232.94
"	Feb.	232.70
"	Mar.	224.43
"	Apr.	224.06
"	May	232.33
"	Jun.	232.33
"	Aug.	241.40
"	Sept.	244.35

Source: Tokyo Bank

Table J1-2 Exchange Rate for Egyptian Pound

		<u>Selling</u>	<u>Buying</u>	<u>Average</u>	
1984	Jul. 19	82.6	81.80	82.2	(L.E/100 US\$)
	" 26	82.7	81.90	82.3	
	:	:	:	:	
	" 31	82.7	81.90	82.3	
	Aug. 1	82.90	82.10	82.5	
	:	:	:	:	
	7	82.90	82.10	82.5	
	8	82.70	81.90	82.3	
	:	:	:	:	
	15	82.70	81.90	82.3	
	:	:	:	:	
	21	82.70	81.90	82.3	

Source: Egyptian Gazette

Table J1-3 Index Numbers of Wholesale Prices

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
All Items *	186.6	214.1	234.6	285.2	308.9	337.7
	100	114.7	125.7	152.8	165.5	180.9
		+14.7	+9.6	+21.6	+8.3	+9.3

Note : * 1965/66 = 100

Source: Statistical Yearbook, 1983.
Central Agency for Public Mobilization
and Statistics.

Table J1-4 Index Numbers of Consumer Prices

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
All Items *	185.1	205.6	226.0	272.7	301.2	245.8
	100	111.1	109.9	120.7	110.5	81.6
		+11.1	+9.9	+20.7	+10.5	-18.4

Note : 1965/66 = 100

Source: Statistical Yearbook, 1983.
Central Agency for Public Mobilization
and Statistics.

Table J1-5 Main Accounting Ratio by Category in Egypt
 - Conversion Factor -

<u>Items</u>	<u>Social Accounting Prices</u>
Standard Conversion Factor (SCF)	0.965
Rural average consumption	1.070
Rural (Formal Sector) Unskilled Labor	0.220
Marginal Productivity of Capital at Border Prices (Efficiency Prices)	10.0
<u>Tradable Goods</u>	
Cement	2.185
Electric Machinery	0.965
Electrical Distribution Machinery	0.830
Electrical Motors	0.849
Iron and Steel Products	0.937
Iron and Steel	0.928
Machinery (metal work)	0.965
Machinery Spare parts	0.965
Plastics	0.810
Rubber Products	0.788
Trucks and Lorries	0.910
<u>Agricultural Inputs and Outputs</u>	
Agricultural Machinery	1.159
" Spares	1.021
" Implements	0.992
Fertilizer	1.663
Pesticides	1.976
Seeds	1.149
Maize	1.313
Onions	4.259
Rice	2.043
Wheat	1.591

<u>Items</u>	<u>Social Accounting Prices</u>
<u>Petroleum Products</u>	
Crude Oil	1.010
Diesel	6.751
Fuel Oil	15.299
Kerosene	5.883
<u>Urban Consumer Goods (Tradable)</u>	
Beef (rationed)	1.978
Beef (non-rationed)	1.007
Fruit	0.658
Maize	1.798
Milk and Products	0.968
Vegetables	0.919
<u>Rural Consumer Goods</u>	
Meat (non-rationed)	1.163
<u>Non Traded Goods</u>	
Animal Fodder	1.085
Electricity	3.321
Milk Products	1.266
Port and Harboer Charges	1.315
Road Transport (goods)	1.365

Source: Shadow Prices for Trade Strategy and
Investment Planning in Egypt
John M. Page, Jr.,
World Bank Staff Working Papers, No.521.

Table J1-6 Calculation of Standard Conversion Factor

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Average</u>
	(Unit: L.E 1,000)				
1. Import (c.i.f., total)	2,632,191	2,686,213	3,402,000	6,187,497	3,726,975
2. Export (f.o.b., total)	679,754	1,287,813	2,132,178	2,262,982	1,590,682
3. Import Duties and Taxes	1,009,505	961,844	1,153,958	2,175,256	1,525,141
4. Export Duties and Taxes	2,142	1,119	1,030	1,182	1,368
5. Export Subsidy	-	-	-	-	-
6. (1 + 2)	3,311,945	3,974,026	5,534,178	8,450,479	5,517,657
7. (1 + 2 + 3 - 4 - 5)	4,319,308	4,954,751	6,687,106	10,624,553	6,641,450
8. SCF (6 / 7)	<u>0.766</u>	<u>0.805</u>	<u>0.827</u>	<u>0.795</u>	<u>0.800</u>

Table J1-7 Prices of Commodities at Present

<u>Crops</u>	<u>Farmgate Price</u>		<u>Retail Price</u>	
	<u>Unit</u>	<u>L.E.</u>	<u>Unit</u>	<u>L.E.</u>
Wheat	Ardab(150kg)	25	Ardab	25
Rice(hulled)	-	-	Ton	150
Rice(unhulled)	Ton	105	-	-
Barely	Ardab(120kg)	15	Ardab	15
Broad Beans	Ardab(150kg)	36	Ardab	36
Berseem	Ardab(157kg)	48	Ardab	20
Maize	Ardab(140kg)	20 to 25	Ardab	20 to 25
Cotton with seed	Kentar(157.5kg)	70 to 75	-	-
Sunflower	Ton	160 to 400	Ton	400
Sesame	Ardab(120kg)	80 to 100	Ardab	80 to 100
Sorghum	Kg	1.2	Kg	1.2
Tomatoes (Nili)	Ton	50	Ton	100
Tomatoes (summer)	Ton	200	Ton	300
" (winter)	Ton	50 to 130	"	75 to 200
Cabbage	Ton	50	Ton	100
Squash (summer)	Ton	50	Ton	80
(winter)	Ton	120	Ton	250
Potato (summer)	Ton	100	Ton	150
(nili)	Ton	150	Ton	250
Soybeans	Ton	250	Ton	300
Onion	Ton	50 to 65	Ton	70
Watermelon	Ton	100 to 250	Ton	200 to 400
Strawberry	Ton	600	Ton	1,000
Groundnuts	Ardab(75kg)	35 to 45	Ardab	40 to 50
Melon	Ton	100 to 200	Ton	200 to 350
Cucumber(summer)	Ton	100	Ton	150
(nili)	Ton	150	Ton	200
Okra	Ton	200 to 250	Ton	300
Orange	Ton	250 to 270	Ton	350
Lemon	1,000 pieces	4	1,000 pcs.	10 to 20
Mongo (mini.)	Ton	500	Ton	750
(maxi.)	Ton	1,250	Ton	7,000
Sugacane	Ton	48	Ton	60
Guave	Ton	150 to 250	Ton	200
Dates	Ton	200 to 250	Ton	500
Olives	Ton	400 to 500	Ton	700

	<u>Farmgate Price</u>		<u>Retail Price</u>	
	<u>Unit</u>	<u>L.E.</u>	<u>Unit</u>	<u>L.E.</u>
<u>Animal</u>				
Buffalo(pregnant)	Head	1,000	Head	1,000
(not ")	Head	800	Head	800
Baladi (pregnant)	Head	800	Head	800
(not ")	Head	600	Head	600
Donkey	Head	70	Head	80
Goats	Head	5	Head	7
Ducks	Head	4.5 to 6	Head	5 to 6
Lamb (sheep)	Head Male 100, Female 120		Head	150
Milk	Kg	25 to 30 pias	Kg	40 pias
Meat	Kg	2.2	Kg	4
	<u>1 year</u>	<u>2 years</u>	<u>3 years</u>	
Buffalo	300 to 400	500 to 600	700 to 800	
Baladi Caw	300 to 360	400 to 450	500	
Milk Cattle		1,000 to 1,400		
<u>Straw</u>				
Wheat	Ton	100	Ton	110
Barley	Ton	100	Ton	110
Beans	Ton	60	Ton	90
Maize	Ton	15 to 30	Ton	35
Sunflower	Ton	10 to 35	Ton	40
Rice	Ton	20 to 25	Ton	35
Seasame	Ton	10 to 20	Ton	25
Groundnuts	Ton	20 to 30	Ton	25 to 35
<u>Young Trees</u>				
Orange	One tree	0.650	One tree	0.750
Lemon (seeds)		0.250		0.500
(trees)	One tree	0.650	One tree	0.750
Mongo (seeds)		1.500		2.000
(trees)	One tree	1.000	One tree	1.000
Grape (seeds)		0.150		0.150
(trees)	One tree	0.200	One tree	0.250
Sugacane		0.500		1.000
Guava (seeds)		0.250		0.250
(trees)	One tree	0.700	One tree	
Dates		6.000		6.000
		3.000		3.000
Olives (trees)	One tree	0.800	One tree	1.250

	<u>Farmgate Price</u>		<u>Retail Price</u>	
	<u>Unit</u>	<u>L.E.</u>	<u>Unit</u>	<u>L.E.</u>
<u>Fertilizers</u>				
Urea (46%)	50 kg	6.5	50 kg	6.5
Super phosphate (19.5%)	50 kg	2.0	50 kg	2.0
Potassium sulfate (19.5%)	50 kg	4.0	50 kg	4.0
Potassium sulfate (S04)	50 kg	5.5	50 kg	5.5
<u>Chemicals</u>				
Robigan 2%			Liter	52.0
Tamaron			Liter	11.79
Koprozan			Pauder	3.23
Lanit			Kg	25.86
Dinethweet			Liter	3.49
			Kg	22.77
<u>Seeds</u>				
Wheat	Ardab (150 kg)	25	Ardab	25
Rice (unhulled)	Ardab	18	Ardab	18
Broad beans	Ardab (150 kg)	36	Ardab	36
Berseem	Ardab (157 kg)	60 to 150	Ardab	60 to 150
Maize	Ardab (140 kg)	20	Ardab	20
Cotton	Ardab (120 kg)	9.6	Ardab	9.6
Sunflower	Ton	400	Ton	400
Sudan grass	Kentar	1.2	Kentar	1.2
Tomatoes	Kg	20 to 40	Kg	20 to 40
Soybeans	Ton	250	Ton	250
Potatoes	Ton	480	Ton	480
Onions	Ardab (102kg)	306	Ardab	306
Watermelon	Kg	4.5	Kg	4.5
Squash	Kenter	4	Kenter	4
Cabbage	Kenter	3.8	Kenter	3.8
Sorghum	Kg	0.5	Kg	0.8
Groundnuts	75 kg	60	75 kg	60

Table J1-8 Price of crops and Input Materials

Kind	1979				1980				1981				1982				1983			
	Wholesale		Retail		Wholesale		Retail		Wholesale		Retail		Wholesale		Retail		Wholesale		Retail	
	Unit	Price	Unit	Price	Unit	Price	Unit	Price	Unit	Price	Unit	Price	Unit	Price	Unit	Price	Unit	Price	Unit	Price
<u>(Fertilizers)</u>																				
Urea	Ton	70.40	Ton	70.40	Ton	89.22	Ton	89.22	Ton	118.8	Ton	118.8	Ton	118.8	Ton	118.8	Ton	136.80	Ton	126.80
Super phosphate	"	20.16	"	20.16	"	27.30	"	27.30	"	30.30	"	30.30	"	30.30	"	30.30	"	30.30	"	30.30
Potassium sulphate	"	36.00	"	36.00	"	42.00	"	42.00	"	57.00	"	57.00	"	57.00	"	57.00	"	57.00	"	57.00
<u>(Seeds)</u>																				
Wheat	Ardab	11.452		Ardab	11.452		Ardab	14.70		Ardab	14.70		Ardab	14.70		Ardab	16.00			
Rice	Killa	7.455		Killa	7.455		Killa	12.64		Killa	15.39		Killa	15.39		Killa	19.30			
Bean	Ardab	23.10		Ardab	23.10		Ardab	35.00		Ardab	42.00		Ardab	42.00		Ardab	42.30			
Nili maize	"	22.00		"	22.00		"	50.403		"	50.403		"	50.403		"	50.403			
Cotton	"	2.870		"	2.87		"	3.495		"	3.495		"	3.495		"	3.670			
Sunflower	Killa	0.265		Killa	0.265		Killa	0.265		Killa	0.265		Killa	0.265		Killa	0.265			
Sorghum (sugar grass)	Ardab	45.00		Ardab	45.00		Ardab	52.38		Ardab	52.38		Ardab	59.58		Ardab	73.50			
Ground nuts	Killa	15.89		Killa	15.89		Killa	19.05		Killa	19.05		Killa	19.05		Killa	34.80			
Price according to degree of purity																				
Barley	Ardab	20.00		Ardab	25.00		Ardab	35.00		Ardab	35.00		Ardab	35.00		Ardab	37.00			
Wheat	"	9.50		"	11.50		"	11.50		"	11.50		"	11.50		"	11.50			
Sesame	"	50.0		"	65.00		"	75.00		"	75.00		"	75.00		"	75.00			

Source : MOA, Fayoum

APPENDIX J-2, Import and Export

Table J2-1 Balance of Trade between Egypt and Foreign Countries

(Unit: L.E. 1,000)

<u>Year</u>	<u>Exports</u>	<u>Imports</u>	<u>Balance</u>
1952	150172	227698	- 77526
1977	668478	1884278	-1215800
1978	679754	2632180	-1952426
1979	1287813	2686212	-1398399
1980	2132178	3401999	-1269821
1981	2262982	6187486	-3924504
1982*	2184122	6354517	-4170395

Source: Statistical Yearbook

Table J2-2 Exports of Some Principal Commodities

(Unit: L.E. 1,000)

<u>Commodities</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982*</u>
Petroleum Oil Crude	119124	140671	396490	1233280	1230530	1211240
Raw Cotton	182268	131523	267277	296372	319964	286021
Cotton Yarn	68614	89613	130098	135871	108603	86625
Cotton Fabrics	24539	27161	41012	26723	23524	15802
Sugar Cane Refined	10249	7228	8894	3014	10422	6172
Oranges	21350	20741	14410	27239	32980	36835
Rice	23378	19882	22072	24648	29825	8129
Potatoes	16404	5784	18812	22744	17928	28762

Source: Statistical Yearbook, 1983

Table J2-3 Imports of Some Principal Commodities

(Unit: L.E. 1,000)

<u>Commodities</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982*</u>
Wheat	128604	169001	174340	308890	531202	492235
Wheat Flour	49368	74799	68419	71720	250819	192187
Maize	30010	37974	31346	71739	219864	210101
Meat Chilled or Frozen	22904	34610	49495	118739	208619	120559
Dairy Products	26144	49019	49171	78106	150852	117233
Sugar Refined	16768	40628	34862	84742	164419	98302
Motor Vehicles for transport of goods	55122	111385	102611	117768	221959	168696
Automobiles	53466	73347	83688	83542	133107	177976
Parts for motor Vehicles & tractors	39621	83506	84488	44580	161140	165271
Bars & Rods Building Iron	18631	29920	99933	180394	152231	172192
Excavating Lending Loring and exctracting machinery	35922	61458	67544	78103	95109	132673
Organic & Inorganic Chemicals	64069	69839	52629	86091	130138	122307
Cement	25693	44452	99001	103096	164910	250129

Source: Statistical Yearbook, 1983

Table J2-4 Export of Commodities Concerned the Project

Crop	1981			1982		
	Value	Q'ty	LE/ton	Value	Q'ty	LE/ton
	1,000LE	Ton		1,000LE	Ton	
Fresh Tomatoes	1,136	3,294	345	2,977	8,576	347
Mangoes	223	206	1,083	491	438	1,121
Oranges	32,980	113,719	290	36,835	101,257	364
Watermelon	2,864	10,915	262	2,725	7,148	381
Groundnuts	3,379	4,507	750	2,700	4,642	582
Tomato paste	-	-	-	-	-	-
Fruits juices	6,680	7,122	938	3,948	3,955	998
Raw cotton	319,964	3,551M/K	90LE/K	286,021	4,003M/K	71LE/K

Source: Monthly Bulletin of Foreign Trade -
Jan./Dec. 1982, Aug. 1983

Table J2-5 Imports of Commodities Concerned the Project

Items	1981			1982		
	Value	Q'ty	LE/ton	Value	Q'ty	LE/ton
	1,000LE	Ton		1,000LE	Ton	
Wheat	531,202	3,092,410	172	492,235	2,919,703	169
Maize	219,864	1,289,415	171	210,101	1,296,640	162
Cement	164,915	4,215,981	39	250,129	5,772,684	43
Fertilizers	72,392	682,668	106	15,988	196,445	81
Meat chilled or frozen	208,619	200,400	1,041	157,023	137,888	1,139
Dairy Produce, bird's eggs, natural honey	150,852	118,442	1,274	117,233	86,724	1,352

Source: Monthly Bulletin of Foreign Trade -
Jan./Dec. 1982, Aug. 1983

Table J2-6 Fresh Tomato Exported from Egypt

Country	1979			1980			1981		
	Value 1,000LE	Q'ty Ton	LE/kg	Value 1,000LE	Q'ty Ton	LE/kg	Value 1,000LE	Q'ty Ton	LE/kg
(Arab Country)									
Saudi Arabia	151	463	0.33	197	577	0.34	373	1,036	0.36
Algeria	-	-	-	-	-	-	2	5	0.40
Lebanon	315	1,150	0.27	255	688	0.34	131	391	0.34
Kuwait	423	1,711	0.25	230	677	0.34	440	1,284	0.34
Bahrain	9	32	0.28	-	-	-	54	154	0.35
U.A.E.	20	79	0.25	-	-	-	76	233	0.33
Oman	-	-	-	-	-	-	9	23	0.39

Table J2-6 Continued

	Unit	Actual Price at Present	1995	
			Financial	Economic
<u>Seeds</u>				
Wheat	kg	0.17	0.2	0.22
Tomato(winter)	"	20 to 40	30	34
Groundnuts	"	0.8	0.8	0.9
Watermelon	"	4.5	4.5	5.2
Barley	"	0.13	0.13	0.15
Beans	"	0.24	0.24	0.28
Onions	"	3.0	3.0	3.5
Cotton with seed	"	0.08	0.08	0.09
Millet(sorghum)	"	0.50	0.5	0.57
Sesame	"	0.67 to 0.83	0.75	0.86
Sunflower	"	0.4	0.4	0.46
Maize	"	0.14	0.14	0.16
Berseem	"	0.38 to 0.96	0.67	0.77
Unskilled labor per day		4.0	4.0	2.0

Note: 1. Economic price of berseem and sorghum is the equivalent value to production cost in the project.

2. Domestic price of tomato is estimated using actual price at present.

Export price of tomato is estimated by the price structure which F.O.B. Egypt in 1982 in 347 L.E. per ton.

3. According to the Monthly Bulletin of Foreign Trade, 1983 F.O.B. price of raw cotton is 71 L.E./kantar 1982.

This is the same as the farm gate price in Table J1-7.

APPENDIX J-3. Estimation of Financial and Economic
Farm Gate Price

Table J3-1 Farmgate Prices by Commodity

(Unit: LE)

<u>Commodity</u>	<u>Unit</u>	<u>Actual Price at Present</u>	<u>1995</u>	
			<u>Financial</u>	<u>Economic</u>
<u>Crops</u>				
Wheat	ton	167	200	216
Tomato (Winter)	"	50 to 130	Domestic 100	80
			Export 159	160
Groundnuts	"	467 to 600	600	595
Watermelon	"	100 to 250	175	140
Olives	"	400 to 500	500	400
Orange	"	250 to 270	309	300
Mango	"	500 to 1,250	880	700
Guava	"	150 to 250	200	160
<u>Fertilizer</u>				
Urea (45%)	ton	130	276	288
TSP (19.5%)	"	40	105	110
Potash (60%)	"	110	177	190
<u>Animal Fodder</u>				
Wheat Straw	ton	100	100	109
Berseem (Green)	"		15	15
Maize Straw	"	30	30	33
Sorghum (Green)	"		8	8
Barley Straw	"	100	100	109
Beans Straw	"	60	60	65
<u>Animal Products</u>				
Milk (Baladi, Friesian)	kg	25 to 30	25	24
Milk (Baffalo)	"	40	40	39
Meat	"	2.2	2.2	4.4
<u>Crops</u>				
Barley	ton	125	125	100
Beans	"	240	240	192
Onion	"	65	65	52
Maize	"	161	202	217
Cotton with seed	"	476	476	476
Millet (Sorghum)	"	178	178	193
Sesame	"	833	833	666
Sunflower	"	400	400	320

Table J3-2 Financial and Economic Price Structure for Wheat
- 1983 Constant Price -

<u>Cost Item</u>	<u>Financial</u>	<u>Economic</u>
1. F.O.B., U.S.A. (us\$/ton) <u>1/</u>	149	149
2. Ocean Freight (us\$/ton)	+ 40	+ 40
3. C.I.F., Alexandria (us\$/ton)	189	189
(L.E./ton)	155	155
4. Management fee, profit, imports <u>2/</u> +	10	+ 14 <u>5/</u>
5. Port fees, fiscal stamps <u>3/</u> +	5	+ 7 <u>5/</u>
6. Port handling, storage, sundries <u>4/</u> +	30	+ 40 <u>5/</u>
7. Transport Alexandria to Cairo +	10	+ 14 <u>6/</u>
8. Transport Fayoum to Cairo	5	7
9. Collection, storage, commission	5	7
10. Farm gate price per ton	200	216

Note: 1/ Primary Commodity Price Forecasts.

Office Memorandum,

World Bank, Jul. 13, 1984.

Wheat is Canadian No.1, Western Bed Spring in store
Thunder Bay.

2/, 3/, 4/ are based on Fayoum Agricultural Development
Project, Fesibility Study, Oct. 1982.

5/ Conversion factors of port and harbor charges is
1.315 based on Shadow Prices for Trade Strategy
and Investment Planning in Egypt, World Bank, 1982.

6/ Conversion factor of road transport (goods) is
1.365 based on World Bank Report.

Table J3-3 Financial and Economic Price Structure for Urea (N-45)
- 1983 Constant Price -

<u>Cost Item</u>	<u>1990</u>		<u>1995</u>	
	<u>Fin.</u>	<u>Econ.</u>	<u>Fin.</u>	<u>Econ.</u>
1. Export Price, F.O.B. Europe (US\$/ton) <u>1/</u>	250	250	260	260
2. Ocean Freight (US\$/ton)	+35	+35	+36	+36
3. Import Price, C.I.F. Alexandria (US\$/ton)	285	285	296	296
(LE/ton)	234	234	243	243
4. Port Handling, Storage and Processing	+15	+20	+15	+20
5. Ex-godown Price	249	254	258	263
6. Transport Cost from Port to Tamiah Storage	+16	+22	+16	+22

Cost Item	1990		1995	
	Fin.	Econ.	Fin.	Econ.
7. Transport Cost from Storage to Farm	+2	+3	+2	+3
8. Farm Gate Price per ton	267	279	276	288

Note: 1. Fin.: Financial
Econ.: Economic

2. Transportation cost: Fayoum to Cairo 40LE/5 ton truck
Fayoum to Alexandria 80LE/5 ton truck
 $80 \div 5 = 16$

3. Conversion Factor: road transport (goods) 1.365
port and harbor charges 1.315

4. 1/ Primary Commodity Price Forecasts,
Office Memorandum, July 13, 1984, World Bank

Table J3-4 Financial and Economic Price Structure for TSP (46%)
- 1983 Constant Price -

Cost Item	1990, 1995	
	Financial	Economic
1. Export Price, F.O.B. US. Gulf (US\$/ton) 1/	170	170
2. Ocean Freight (US\$/ton)	+40	+40
3. Import Price, C.I.F. Alexandria (USE\$/ton)	210	210
4. Port Handling, Storage and Processing	+15	+20
5. Ex-godown Price	225	230
6. Transport Cost from Port to Tamialh Storage	+20	+27
7. Transport Cost from Storage Farm	+2	+3
8. Farm Gate Price per ton	247	260
9. Convert to content 19.5%	105	110

Note: 1/ : Primary Commodity Price Forecasts, July 13, 1984, World Bank.

Table J3-5 Financial and Economic Price Structure
for Muriate of Potash (60%)
- 1983 Constant Price -

<u>Cost Item</u>	<u>1990, 1995</u>	
	<u>Financial</u>	<u>Economic</u>
1. Export Price, F.O.B., Vancouver (US\$/ton)	100	100
2. Ocean Freight (US\$/ton)	+40	+40
3. Import Price, C.I.F., Alexandria (US\$/ton)	140	140
4. Port handling, Storage and Processing	+15	+20
5. Ex-godown price	155	160
6. Transport Cost from Port to Tamiah Storage	+20	+27
7. Transport Cost from Storage to Farm	+2	+3
8. Farm gate Price per ton	177	190

Table J3-6 Price Structure for Oranges

<u>Cost Item</u>	<u>1995</u>	
	<u>Financial</u>	<u>Economic</u>
1. F.O.B. Alexandria (L.E./ton)	364	364
2. Port Handling, Storage, Port Fees	15	20
3. Transport Fayoum to Alexandria	20	27
4. Packing, Collection, Grading	20	17
5. Farmgate Price for delivered Orange	309	300

Note: 1. F.O.B. Prices of Oranges
1982 364 L.E./ton

Source: Monthly Bulletin of Foreign Trade
Jan./Dec. 1982, Aug. 1983.

Table J3-7 Price Structure for Tomatoes

<u>Cost Item</u>	1982	
	<u>Financial</u>	<u>Economic</u>
1. F.O.B., Cairo Airport (L.E./ton)	347	347
2. Profit: Nile Company (5%)	25	20
3. Overheads, Management fees	22	17
4. Handling cost, airport	16	21
5. Transport	25	34
6. Packing, Packing materials	23	18
7. Collection, grading center	10	8
8. Price of selected tomatoes, Fayoum	227	229
9. Wastage, losses, not acceptable 30%	68	69
10. Farm gate price for delivered tomatoes (export)	159	160

- Note: 1. Based on Fayoum Agricultural Development Project Feasibility Study, Oct. 1982, Agrar-Und Hydrotechnik GMBH.
2. F.O.B. is based on the monthly bulletin of foreign trade, Jan./Dec. 1982, Aug. 1983.
3. Operating cost per ton in the grading center of agricultural cooperation is estimated at about five L.E. In this table, 10 L.E. is used.

Table J3-8 Price Structure for Maize

<u>Cost Item</u>	1995	
	<u>Financial</u>	<u>Economic</u>
1. CIF, Alexandria (LE/ton) <u>1/</u>	162	162
2. Port charge, handling, profit of <u>2/</u> importer	+40	+53
3. Transport cost Alexandria to Cairo <u>3/</u>	+10	+14
4. Transport cost Fayoum to Cairo	-5	-7
5. Collection, storage, commission Fayoum	-5	-5
6. Farm gate price	202	217

- Note: 1/ is an imported price in 1982.
- 2/ : Conversion factor of port and harbor charges is 1.315.
- 3/ : Conversion factor of road transport is 1.365.

APPENDIX J-4. Estimation of Economic Benefit

Table J4-1 Schedule of Benefit Growing
in North Wahby & Com Osheem Areas

Project Year	--- North Wahby Area ---			---Com Osheem Area---				
	<u>I</u>	<u>Settler II</u>	<u>III</u>	<u>Cattle B.C.</u>		<u>I</u>	<u>Settler</u>	
				<u>I</u>	<u>II</u>		<u>II</u>	<u>III</u>
6(1989)	O.F.	--	--	O.F.	--	O.F.	--	--
7(1990)	L.	O.F.	--	L.	O.F.	L.	O.F.	--
8(1991)	<u>1st.S.</u>	L.	O.F.	<u>1st.S.</u>	L.	<u>1st.S.</u>	L.	O.F.
9(1992)	<u>2nd.S.</u>	<u>1st.S.</u>	L.	<u>2nd.S.</u>	<u>1st.S.</u>	<u>2nd.S.</u>	<u>1st.S.</u>	L.
10(1993)	<u>3rd.S.</u>	<u>2nd.S.</u>	<u>1st.S.</u>	<u>3rd.S.</u>	<u>2nd.S.</u>	<u>3rd.S.</u>	<u>2nd.S.</u>	<u>1st.S.</u>
11(1994)	-do-	<u>3rd.S.</u>	<u>2nd.S.</u>	-do-	<u>3rd.S.</u>	-do-	<u>3rd.S.</u>	<u>2nd.S.</u>
12(1995)	-do-	-do-	<u>3rd.S.</u>	<u>Full</u>	-do-	-do-	-do-	<u>3rd.S.</u>
13(1996)	-do-	-do-	-do-	-do-	<u>Full</u>	-do-	-do-	-do-
14(1997)	-do-	-do-	-do-	-do-	-so-	-do-	-do-	-do-
15(1998)	-do-	-do-	-do-	-do-	-do-	-do-	-do-	-do-
16(1999)	-do-	-do-	-do-	-do-	-do-	-do-	-do-	-do-
17(2000)	<u>Full</u>	-do-	-do-	-do-	-do-	<u>Full</u>	-do-	-do-
18(2001)	-do-	<u>Full</u>	-do-	-do-	-do-	-do-	<u>Full</u>	-do-
19(2002)	-do-	-do-	<u>Full</u>	-do-	-do-	-do-	-do-	<u>Full</u>

Note: O.F. : On-Farm Work
L. : Leaching
1st.S. : First Stage
2nd.S. : Second Stage
3rd.S. : Third Stage
F. : Full Development
Cattle B.C. : Cattle Breeding Center

Table J4-2 Area of Crop

		(Unit: Fed)					
<u>Project</u>	<u>Crop</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1995</u>	<u>1997</u>	<u>2001</u>
<u>North Wahby</u>							
	Berseem	945	1,733	2,521	3,152	2,416	2,100
	Tomato	--	--	158	526	526	526
	wheat	--	473	788	841	526	526
	Groundnuts	--	--	315	1,050	1,050	1,050
	Watermelon	--	--	568	1,892	1,303	1,050
	Sorghum	945	1,733	1,890	1,050	1,050	1,050
	Olive	--	126	294	420	420	420
	Orange	--	125	303	465	465	465
	Mango	--	83	202	310	310	310
	Guava	--	81	101	155	155	155
	<u>Total</u>	<u>1,890</u>	<u>4,354</u>	<u>7,140</u>	<u>9,861</u>	<u>8,221</u>	<u>7,652</u>
<u>Com Osheem</u>							
<u>a. Settler</u>							
	Berseem	300	675	1,188	1,443	1,114	1,000
	Tomato	--	--	50	251	251	251
	Wheat	--	150	313	251	251	251
	Groundnuts	--	--	100	500	500	500
	Watermelon	--	--	140	702	591	500
	Sorghum	300	825	1,300	500	500	500
	Olive	--	40	110	200	200	200
	Orange	--	30	83	150	150	150
	Mango	--	20	55	100	100	100
	Guava	--	10	27	50	50	50
	<u>Total</u>	<u>600</u>	<u>1,750</u>	<u>3,366</u>	<u>4,147</u>	<u>3,707</u>	<u>3,502</u>
<u>Cattle Breeding</u>							
<u>b. Center</u>							
	Berseem	500	1,000	1,000	1,000	1,000	1,000
	Sorghum	500	1,000	1,000	1,000	1,000	1,000
	<u>Total</u>	<u>1,000</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>
<u>c. Subtotal</u>							
		<u>1,600</u>	<u>3,750</u>	<u>5,366</u>	<u>6,147</u>	<u>5,707</u>	<u>5,502</u>
<u>Grand Total</u>							
		<u>3,490</u>	<u>8,104</u>	<u>12,506</u>	<u>16,008</u>	<u>13,928</u>	<u>13,154</u>
<u>Cropping Intensity</u>							
		48	113	174	222	193	183

Note: Cropping intensity is calculated as one season of orchard. The acreage projected by 1997 include intercrops as berseem and watermelon.

Table J4-3 Production of Crop

(Unit: 1,000 ton)

Crop	Area	8yrs	9yrs	10yrs	12yrs	17yrs	18yrs
		(1991)	(1992)	(1993)	(1995)	(2000)	(2001)
Berseem	N.W.	4.9	10.5	14.8	23.5	26.3	26.3
	C.O.	4.2	10.8	16.4	28.4	32.5	32.5
Tomato	N.W.	--	--	1.7	6.6	7.9	7.9
	C.O.	--	--	0.6	2.9	3.7	3.7
Wheat	N.W.	--	0.5	1.0	0.9	0.9	0.9
	C.O.	--	0.2	0.4	0.4	0.4	0.4
Groundnuts	N.W.	--	--	0.1	0.6	0.8	0.8
	C.O.	--	--	0.04	0.3	0.4	0.4
Watermelon	N.W.	--	--	3.1	12.8	10.5	10.5
	C.O.	--	--	1.0	5.7	4.8	4.8
Sorghum	N.W.	4.3	15.1	22.0	17.9	18.9	18.9
	C.O.	3.6	12.6	23.0	25.6	27.0	27.0
Fruits	N.W.	--	--	0.2	1.7	7.4	7.5
	C.O.	--	--	0.06	0.5	3.2	3.6

Note: N.W. is North Wahby Area.

C.O. is Com Osheem Area including Cattle fattening center.

Table J4-4 Production of Livestock

Area	Products	8yrs (1991)	9yrs (1992)	10yrs (1993)	12yrs (1995)	17yrs (2000)	18yrs (2001)
North Wahby	<u>Fattening Cattle</u>						
	No. (head)	160	650	960	760	800	800
	Beef (ton)	45	179	265	210	222	222
	<u>Milking Cow</u>						
	No. (head)	351	1,404	2,080	2,550	1,735	1,735
	Milk (ton)	324	1,291	1,913	1,525	1,599	1,599
Com Osheem	(Settlers)						
	<u>Fattening Cattle</u>						
	No. (head)	50	250	460	380	380	380
	Beef (ton)	14	70	128	108	111	111
	<u>Milking Cow</u>						
	No. (head)	110	546	1,008	1,250	845	845
Milk (ton)	100	503	927	748	797	797	
Com Osheem	(Cattle Breeding Center)						
	<u>Fattening Cattle</u>						
	No. (head)	150	480	880	1,160	1,200	1,200
	Beef (ton)	54	170	311	412	424	424
	<u>Milking Cow</u>						
	No. (head)	377	1,206	2,200	2,924	3,015	3,015
Milk (ton)	1,337	4,269	7,789	10,354	10,674	10,674	

Note: Number of livestock includes calf.

Table J4-5 Net Production Value per Feddan
- North Wahby & Com Osheem Areas -

Crop	Economic			Financial		
	Gross Income LE	Production Cost LE	Net Production Value LE	Gross Income LE	Production Cost LE	Net Production Value LE
Wheat	585	179	406(69)%	540	229	311
Tomato (EXPO)	2,400	536	1,864(78)	2,385	759	1,626
(DOME)	1,200		664(55)	1,500		741
Groundnuts	476	164	312(66)	480	253	227
Watermelon	1,400	192	1,208(86)	1,750	261	1,489
Olive	2,800	777	2,025(72)	3,500	934	2,566
Orange	2,400	728	1,672(70)	2,472	836	1,636
Mango	4,200	1,553	2,647(63)	5,280	1,367	3,913
Guava	1,120	715	405(36)	1,400	842	558

Note: EXPO and DOME of tomato are for export and for domestic.

Table J4-6 Gross Income per Feddan with Project
(Economic)

Crop	Grain or Products			Straw			Green Forage			Total LE
	Yield ton	Price LE	Gross Income LE	Yield ton	Price LE	Gross Income LE	Yield ton	Price LE	Gross Income LE	
Wheat	1.8	216	389	1.8	109	196	--	--	--	585
Tomato	15	160	2,400	--	--	--	--	--	--	2,400
"	15	80	1,200	--	--	--	--	--	--	1,200
Groundnuts	0.8	595	476	--	--	--	--	--	--	476
Watermelon	10	140	1,400	--	--	--	--	--	--	1,400
Olive	7	400	2,800	--	--	--	--	--	--	2,800
Orange	8	300	2,400	--	--	--	--	--	--	2,400
Mango	6	700	4,200	--	--	--	--	--	--	4,200
Guava	7	160	1,120	--	--	--	--	--	--	1,120

Table J4-7 Gross Income per Feddan with Project
(Financial)

Crop	Grain or Products			Straw			Green Forage			Total LE
	Yield ton	Price LE	Gross Income LE	Yield ton	Price LE	Gross Income LE	Yield ton	Price LE	Gross Income LE	
Wheat	1.8	200	360	1.8	100	180	--	--	--	540
Tomato	15	159	2,385	--	--	--	--	--	--	2,385
"	15	100	1,500	--	--	--	--	--	--	1,500
Groundnuts	0.8	600	480	--	--	--	--	--	--	480
Watermelon	10	175	1,750	--	--	--	--	--	--	1,750
Olive	7	500	3,500	--	--	--	--	--	--	3,500
Orange	8	309	2,472	--	--	--	--	--	--	2,472
Mango	6	880	5,280	--	--	--	--	--	--	5,280
Guava	7	200	1,400	--	--	--	--	--	--	1,400

Table J4-8 Production Cost per Feddan with Project
(Economic)

Crops	Seed		Urea		Phosphate		
	Qty kg	Price LE	Qty kg	Price LE	Qty kg	Price LE	Valve LE
Farmers Berseem(L)	15	0.67x1.149=0.77	100	14.4/50kg	500	5.5/50kg	55
Berseem(S)	15	"	100	"	100	"	11
Wheat	75	0.17x1.149=0.2	150	"	100	"	11
Tomato	0.25	30x1.149=34	160	"	300	"	33
Groundnuts	15	0.8x1.149=0.9	50	"	200	"	22
Watermelon	1	4.5x1.149=5.2	50	"	200	"	22
Sorghum	25	0.5x1.149=0.6	100	"	100	"	11
Olive			300	"	300	"	55
Orange			300	"	300	"	33
Mango			1,000	"	200	"	22
Guava			200	"	200	"	22
Cattle Berseem	15	0.77	100	"	500	"	55
Fattening Sorghum	25	0.77	100	"	100	"	11
Center							

Note: Seeds cost of fruits are annual cost which initial planting costs are divided by life years of fruits tree.

Production Cost per Feddan with Project
(Economic)

(Continue)

Crops	Potassium		Labor		Farm		Protection		Total		
	Q'ty kg	Price LE	Value LE	Q'ty days	Price LE	Value LE	Machine LE	Q'ty LE	Price LE	Value LE	Cost LE
Farmers Berseem(L)	--	--	--	64	2	128	46		8x1.976	16	286
Berseem(S)	--	--	--	28	2	56	46			--	154
Wheat	--	--	--	27	2	54	56			--	179
Tomato	100	9.5/50	19	Man 70 Boy 86 46	2 1.5 2	140 129 92	77 22			85	536
Groundnuts				45	2	90	21			40	192
Watermelon				44	2	88	22			--	165
Sorghum				155	2	310	26		157x1.976	310	777
Olive				131	2	262	30		"	310	728
Orange				137	2	274	39		458x1.976	905	1.553
Mango	100	9.5/50	19	140	2	280	55		157x1.976	310	715
Guava				64	2	128	70			16	310
Cattle Berseem				44	2	88	52			--	195
Fattening Sorghum											
Center											

Table J4-9 Production Cost per Feddan with Project
(Financial)

Crops	Seed		Urea		Phosphate	
	Qty	Price	Qty	Price	Qty	Price
	kg	LE	kg	LE	kg	LE
Farmers Berseem(L)	15	0.67	100	13.8/50kg	500	5.3/50kg
Berseem(S)	15	0.67	100	"	100	"
wheat	75	0.17	150	"	100	"
Tomato	0.25	30	160	"	500	"
Groundnuts	15	0.8	50	"	200	"
Watermelon	1	4.5	50	"	200	"
Sorghum	25	0.5	100	"	100	"
Olive		16	300	"	300	"
Orange		10	300	"	300	"
Mango		7	1,000	"	200	"
Guava		13	200	"	200	"
Cattle Berseem	15	0.67	100	"	500	"
Battening Sorghum	25	0.5	100	"	100	"
Center						

Production Cost per Feddan with Project
(Financial)

(continue)

Crops	Potassium			Labor			Farm		Protection			Total Cost LE
	Q'ty kg	Price LE	Value LE	Q'ty days	Price LE	Value LE	Machine LE		Q'ty LE	Price LE	Value LE	
Farmers Berseem(L)	--	--	--	64	4	256	46				8	401
Berseem(S)	--	--	--	28	4	112	46				--	279
Wheat	--	--	--	27	4	108	56				--	229
Tomato	100	8.9/50kg	18	Man 70 Boy 86	4 3	280 258	77				42	759
Groundnuts	--	--	--	46	4	184	22				--	255
Watermelon	--	--	--	45	4	180	21				20	261
Sorghum	--	--	--	44	4	176	22				--	250
Olive	--	--	--	155	4	620	26				157	934
Orange	--	--	--	151	4	524	30				157	836
Mango	100	8.9/50kg	18	157	4	548	39				458	1.367
Guava	--	--	--	140	4	560	35				157	842
Cattle Berseem				64	4	256	70				8	425
Fattening Sorghum				44	4	176	52				--	280
Center												

Table J4-10 Initial Planting Cost of Fruits per Feddan
(Economic)

<u>Cost Item</u>	<u>Olive</u>	<u>Orange</u>	<u>Mango</u>	<u>Guava</u>
Ploughing	12LEx1.159(C.F)=14LE	"	"	"
Leveling	6LEx1.159(C.F)=7LE	"	"	"
Irrigation Canal	10LEx0.5(C.F)=5LE	"	"	"
Digging Hole	150LEx0.5(C.F)=75LE	"	80x0.5=40	"
Seedling	120LEx1.149(C.F)=138	97x1.149=111	80x1.149=92	105x1.149=120
Planting Labor	16LEx0.5(C.F)=8	"	"	"
Irrigation	39LEx0.5(C.F)=20	"	"	"
Manure	45LEx0.5(C.F)=23	"	24x0.5=12	"
Fertilizer Chemical	12LEx1.663(C.F)=20	"	"	"
Fertilizer Labor	4LEx0.5=2	"	"	"
<u>Total Cost</u>	<u>312</u>	<u>285</u>	<u>220</u>	<u>294</u>
Life Years	25	40	40	30
Annual Cost	12	7	6	10

Source : Farm Management Survey, Aug. 1984. C.F is conversion factor.

Table J4-11 Initial Planting Cost of Fruits per Feddan
(Financial)

<u>Cost Item</u>	<u>Olive</u>	<u>Orange</u>	<u>Mango</u>	<u>Guava</u>
Ploughing	3LE/horx4hor=12LE (Machine)	"	"	"
Leveling	5LE/horx2hor=6LE (Machine)	"	"	"
Irrigation Canal	10LE (Labor)	"	"	"
Digging Hole	150holex1LE=150LE (Labor)	"	80x1=80	"
Seedling	Olive 0.8LE/treex150tree=120LE	0.65LEx150=97LE	1.0LEx80=80LE	0.7LEx150=105
Planting Labor	4manx4.0LE=16LE (Labor)	"	"	"
Irrigation	one time per two week 26time/yearx1.5LE=39LE (Labor)	"	"	"
Farmyard Manure	150hole x0.5LE/hole=45 (Labor)	"	80x0.5=24	"
Fertilizer Chemical	12LE	"	"	"
Fertilizer Labor	4LE	"	"	"
<u>Total Cost</u>	<u>402</u>	<u>391</u>	<u>283</u>	<u>399</u>
Machine	18	18	18	18
Fertilizer	12	12	12	12
Labor	572	561	253	569

Note: Actual farmgate prices are used.

Table J4-12 Net Production Value for Meat with Project
(Economic)

	<u>Baladi Cow</u>	<u>Friesian</u>
<u>Gross Income</u>		
Meat	350kgx4.4LE= <u>1,540LE</u>	500kgx4.4LE= <u>2,200LE</u>
<u>Production Cost</u>		
Stock Calf	1headx400LE=400LE	1headx450LE=450LE
Fodder	3,025kgx0.016LE=48LE	5,300kgx0.016=85LE
Concentrate	425kgx0.04LEx1.085=18LE	740kgx0.04LEx1.085=32LE
Wheat Straw	540kgx0.109LE=59LE	540kgx0.109LE=59LE
Labor	11LE	14LE
Insurance	4LE	5LE
Other	60LE	90LE
<u>Total</u>	<u>628LE</u>	<u>735LE</u>
<u>Pro. Cost excluding fodder produced</u>	<u>580LE</u>	<u>650LE</u>
<u>Net Production Value</u>	<u>960LE</u>	<u>1,550LE</u>

Table J4-13 Net Production Value for Meat with Project
(Financial)

	<u>Baladi Cow</u>	<u>Friesian</u>
<u>Gross Income</u>		
Meat	350kgx2.2LE= <u>770LE</u>	500kgx2.2LE= <u>1,100LE</u>
<u>Production Cost</u>		
Stock Calf	1headx400LE=400LE	1headx450LE=450LE
Fodder	3,025kgx0.016LE=48LE	5,300kgx0.016=85LE
Concentrate	425kgx0.04LE=17LE	740kgx0.04LE=30LE
Wheat Straw	540kgx0.1LE=54LE	540kgx0.1LE=54LE
Labor	22LE	22LE
Insurance	4LE	4LE
Other	29LE	34LE
<u>Total</u>	<u>574LE</u>	<u>679LE</u>
<u>Pro. Cost excluding fodder produced</u>	<u>526LE</u>	<u>594LE</u>
<u>Net Production Value</u>	<u>244LE</u>	<u>506LE</u>

Table J4-14 Net Production Value for Milk with Project
(Economic)

	Baladi Cow	Baffalo	Friesian
<u>Gross Income</u>			
Milk	800kgx0.24LE=192LE	1,400kgx0.59LE=546LE	4,200kgx0.24LE=1,008LE
Calff(female)	0.3headx325LEx1.007=98LE	0.3headx400LEx1.007=121LE	0.45headx425LEx1.007=184LE
Calff(male)	0.3headx400LEx1.007=121LE	0.3headx350LEx1.007=106LE	0.45headx425LEx1.007=184LE
Cull	0.14headx700LEx1.007=99LE	0.14headx550LEx1.007=78LE	0.14headx950LEx1.007=154LE
<u>Total</u>	<u>510LE</u>	<u>851LE</u>	<u>1,510LE</u>
<u>Production Cost</u>			
Green Maize	4.6tx13LE=60LE	5.4tx13LE=70LE	6.5tx13LE=82LE
Sorghum*	1.1tx8LE=8.8LE	1.0tx8LE=8LE	1.4tx8LE=11.2LE
Wheat Straw*	1.5tx109LE=163.5LE	1.4tx109LE=152.6LE	2.0tx109LE=218LE
Berseem*	8.5tx15LE=1,257LE	8.1tx15LE=121.5LE	11.4tx15LE=171LE
Concentrate	1.1tx40LEx1.085=48LE	0.9tx40LEx1.085=39LE	2.5tx40LEx1.085=100LE
Insurance	14LE	20LE	30LE
Labor	55LE	55LE	55LE
Replacement*	45LE	60LE	210LE
Others (5%)	26LE	26LE	44LE
<u>Total</u>	<u>548LE</u>	<u>552LE</u>	<u>921LE</u>
Pro. cost excluding fodder produced and replacement cost	203LE	210LE	511LE
<u>Net Production Value</u>	<u>507LE</u>	<u>641LE</u>	<u>1,199LE</u>

Note: Marks of * are excluded from total cost because of intermediate produce.

Table J4-15 Net Production Value for Milk with Project
(Financial)

	Baladi Cow	Baffalo	Friesian
<u>Gross Income</u>			
Milk	800kgx0.25LE=200LE	1,400kgx0.4LE=560LE	4,200kgx0.25LE=1,050LE
Calf (female)	0.5headx325LE=98LE	0.5headx400LE=120LE	0.43headx425LE=183LE
Calf (male)	0.5headx400LE=120LE	0.5headx350LE=105LE	0.45headx425LE=183LE
Cull	0.14headx700=98LE	0.14headx550LE=77LE	0.14headx950LE=133LE
<u>Total</u>	<u>516LE</u>	<u>862LE</u>	<u>1,549LE</u>
<u>Production Cost</u>			
Green Maize	4.6tx13LE=60LE	5.4tx13LE=70LE	6.3tx13LE=82LE
Sorghum	1.1tx8LE=8.8LE	1.0tx8LE=8LE	1.4tx8LE=11.2LE
Wheat Straw	1.5tx100LE=150LE	1.4tx100LE=140LE	2.0tx100LE=200LE
Berseem	8.5tx15LE=127.5LE	8.1tx15LE=121.5LE	11.4tx15LE=171LE
Concentrate	1.1tx40LE=44LE	0.9tx40LE=36LE	2.3tx40LE=92LE
Insurance	14LE	14LE	14LE
Labor	110LE	110LE	110LE
Replacement	45LE	45LE	210LE
Others (5%)	28LE	27LE	45LE
<u>Total</u>	<u>587LE</u>	<u>572LE</u>	<u>935LE</u>
Pro. Cost excluding fodder produced and replacement cost	<u>256LE</u>	<u>257LE</u>	<u>343LE</u>
<u>Net Production Value</u>	<u>260LE</u>	<u>605LE</u>	<u>1,206LE</u>

Table J4-16 Farm Machinery Cost per Feddan

Crops	(Economic)			(Unit: LE/feddan)	
	Fixed Cost	Fuel Cost	Wage	Total	
Farmers Berseem	15	27	6	46	
Tomato	61	14	2	77	
Wheat	52	20	4	56	
Groundnuts	13	7	2	22	
Watermelon	12	7	2	21	
Sorghum	15	7	2	22	
Olive	17	7	2	26	
Orange	21	7	2	50	
Mango	50	7	2	59	
Guava	26	7	2	55	
Cattle Berseem	57	27	6	70	
Fattening Center Sorghum	54	14	4	52	

Table J4-17 Farm Machinery Cost per Feddan
(Financial)

<u>Crops</u>	<u>Fixed Cost</u>	<u>Fuel Cost</u>	<u>Wage</u>	<u>Total</u> (LE)
Farmers Berseem	11	4	6	21
Tomato	53	2	2	57
Wheat	29	5	4	36
Groundnuts	11	1	2	14
Watermelon	10	1	2	13
Sorghum	11	1	2	14
Olive	14	1	2	17
Orange	18	1	2	21
Mango	26	1	2	29
Guava	22	1	2	25
Cattle Berseem	35	4	6	45
Fattening Center Sorghum	29	2	4	35

Note: Fixed cost consists of annual depreciation and repair cost.

Table J4-18 N.P.V. in North Wahby Area

(Unit: 1000 LE)

	7 (1990)	8 (1991)	9 (1992)	10 (1993)	11 (1994)	12 (1995)	13 (1996)	14 (1997)	15 (1998)	16 (1999)	17 (2000)	18 (2001)	19 (2002)	20 (2003)
A. Crop Husbandry														
G.I.	--	220	1,240	2,581	4,005	4,751	5,542	5,741	6,127	6,274	6,518			
P.C.	75	223	522	767	1,055	1,251	1,333	1,450	1,524	1,565	1,585			
N.P.V.	-75	-3	718	1,814	2,948	3,520	4,009	4,291	4,603	4,709	4,753			
B. Animal Husbandry														
G.I.	436	1,743	2,578	2,557	2,056	2,129	2,161	2,159	2,159	2,159	2,159			
P.C.	604	1,376	2,057	2,001	1,844	1,864	1,839	1,787	1,764	1,746	1,746			
N.P.V.	-168	367	521	556	212	265	322	372	595	413	413			
C. Total N.P.V.	-245	564	1,259	2,370	5,160	5,785	4,531	4,663	4,998	5,122	5,146			

Table J4-19 N.P.V. in Com Osheem Area

(Unit: 1000 LE)

	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	(1990)	(1991)	(1992)	(1993)	(1994)	(1995)	(1996)	(1997)	(1998)	(1999)	(2000)	(2001)	(2002)	(2003)
[Settler]														
A. Crop Husbandry														
G.I.	--	70	427	1,082	1,753	2,125	2,358	2,619	2,841	2,929	2,960			
P.C.	24	81	221	371	537	668	725	761	800	821	837			
N.P.V.	-24	-11	206	711	1,216	1,457	1,633	1,858	2,041	2,108	2,123			
B. Animal Husbandry														
G.I.	136	673	1,243	1,376	1,014	1,050	1,079	1,078	1,078	1,078	1,078	1,078	1,078	1,078
P.C.	142	502	878	865	695	702	702	665	660	656	656	656	656	656
N.P.V.	-6	171	565	511	319	348	377	413	418	422	422	422	422	422
C. Sub-Total N.P.V.	-30	160	571	1,222	1,535	1,805	2,010	2,271	2,459	2,530	2,545			
[Cattle Fattening Center]														
A. Animal Husbandry														
G.I.	803	2,564	4,687	5,902	6,211	6,409	6,409	6,409	6,409	6,409	6,409	6,409	6,409	6,409
P.C.	343	917	1,436	1,758	1,883	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908	1,908
N.P.V.	460	1,647	3,251	4,144	4,328	4,501	4,501	4,501	4,501	4,501	4,501	4,501	4,501	4,501
Total N.P.V.	430	1,807	3,822	5,366	5,863	6,306	6,511	6,772	6,960	7,031	7,046			

Table J4-20 Summarized N.P.V.

	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	(1990)	(1991)	(1992)	(1993)	(1994)	(1995)	(1996)	(1997)	(1998)	(1999)	(2000)	(2001)	(2002)	(2003)
North Wahby		-243	364	1,239	2,570	3,160	3,785	4,331	4,663	4,998	5,122	5,146		
Com Osheem		430	1,807	3,822	5,366	5,863	6,306	6,511	6,772	6,960	7,031	7,046		
Total N.P.V.		<u>187</u>	<u>2,171</u>	<u>5,061</u>	<u>7,736</u>	<u>9,023</u>	<u>10,091</u>	<u>10,842</u>	<u>11,435</u>	<u>11,958</u>	<u>12,153</u>	<u>12,192</u>		

(Unit: 1,000 L.E)

Note: After the year 2000 the benefits obtained from casuarina trees would be added at 355,000LF.

Table J4-21 Crop Area and Production with Project
- Wahby Downstream Area -

	1991		1992		1993		1994	
	Area fed	Q'ty ton	Area fed	Q'ty ton	Area fed	Q'ty ton	Area fed	Q'ty ton
Berseem (Long)	4,819	91,175	4,866	93,428	5,453	104,697	5,648	108,441
Berseem (Short)	360	1,702	388	1,863	472	2,265	513	2,462
Wheat	3,285	4,599	3,410	4,886	3,767	5,768	3,910	6,256
Barley	976	1,103	1,013	1,249	1,120	1,414	1,163	1,466
Beans	428	398	444	444	490	505	509	560
Tomato (winter)	1,087	10,816	1,130	12,430	1,250	14,140	1,300	15,600
Onions	10	70	20	140	50	350	70	490
Cotton	360	300	388	349	472	440	513	513
Maize	2,837	2,893	3,063	4,090	3,741	5,361	4,091	6,157
Millet	4,557	5,926	4,612	7,074	5,359	8,746	5,711	9,709
Sesame	149	60	158	69	192	84	221	96
Sunflower	234	187	253	202	309	247	338	271
Tomato (summer)	104	1,035	212	2,332	561	6,404	782	9,384
<u>Total</u>	<u>19,006</u>		<u>19,957</u>		<u>23,236</u>		<u>24,769</u>	

Table J4-22 Production of By-Products with Project
(Wahby Downstream Area)

	1991		1992		1993		1994	
	Area fed	Qty ton	Area fed	Qty ton	Area fed	Qty ton	Area fed	Qty ton
Wheat Stream	3,285	6,669	3,410	7,161	3,767	8,028	3,910	8,602
Maize Stream	2,857	8,681	3,063	10,017	3,741	12,845	4,091	14,319
Millet Stream	4,557	13,532	4,612	15,071	5,359	18,392	5,711	19,989
<u>Total</u>	<u>10,479</u>	<u>28,682</u>	<u>11,085</u>	<u>32,249</u>	<u>12,867</u>	<u>39,263</u>	<u>13,712</u>	<u>42,910</u>

Table J4-25 Forage Production and Number of Livestock
(Wahby Downstream Area)

	Without Project	With the Project		
		1991	1992	1994
<u>Winter</u>				
Berseem (L)	90,597(ton)	91,175	95,428	104,697
Berseem (S)	1,692(")	1,702	1,863	2,265
<u>Summer</u>				
Wheat Straw	6,570(")	6,669	7,161	8,028
Maize Straw	8,511(")	8,681	10,017	12,843
Millet Straw	13,071(")	13,332	15,071	18,592
<u>Buffalo</u>				
Adult	1,400(head)	1,410	1,580	1,930
Heifer	420(")	430	470	580
Bull Calf	420(")	430	470	580
<u>Baladi</u>				
Adult	5,580(head)	5,620	6,330	7,720
Heifer	1,670(")	1,690	1,900	2,320
Bull Calf	1,670(")	1,690	1,900	2,320
Remining	46,696(ton)	47,900	44,100	23,200
Berseem to be sold	700(1,000LE)	719	662	348
				293

Table J4-24 Crop Budget per Feddan with Project
(Wahby Downstream Area)

(Unit: LE)

	Economic			Financial		
	Gross income	Production Cost	Net Pro. Value	Gross income	Production Cost	Net Pro. Value
Berseem	490	204	286	463	307	156
Wheat	586	203	383	520	286	234
Barely	274	171	103	288	249	59
Beans	258	140	118	294	204	90
Onions	364	269	95	455	293	162
Tomato	960	564	396	1,200	718	482
Cotton	440	309	131	393	442	-49
Maize	333	178	155	307	223	84
Millet	386	188	198	298	273	25
Sesame	273	135	138	340	200	140
Sunflower	266	141	125	330	205	125

Table J4-25 Crop Budget per Feddan without Project
(Wahby Downstream Area)

(Unit: LE)

	Economic			Financial		
	Gross income	Production Cost	Net Pro. Value	Gross income	Production Cost	Net Pro. Value
Berseem(L)	490	204	286	463	307	129
Wheat	520	181	339	480	270	210
Barely	274	171	103	288	249	39
Beans	258	140	118	294	204	90
Onions	364	269	95	455	293	162
Tomato	760	511	249	950	680	270
Cotton	391	265	126	391	412	-21
Maize	294	157	137	272	202	70
Millet	350	167	183	273	252	21
Sesame	273	135	138	340	200	140
Sunflower	266	141	125	330	205	125

J4-26 Gross Income per Feddan with Project
(Economic) (Wahby Downstream Area)

Crop	Grain or Products			Straw			Green Forage			Total (LE)
	Yield (t)	Price (LE)	Gross income (LE)	Yield (t)	Price (LE)	Gross income (LE)	Yield (t)	Price (LE)	Gross income (LE)	
Berseem	0.27	770	208	-	-	-	18.8	15	282	490
Wheat	1.6	216	346	2.2	109	240	-	-	-	586
Barely	1.1	100	110	1.5	109	164	-	-	-	274
Beans	0.9	192	173	1.3	65	85	-	-	-	258
Onions	7.0	52	364	-	-	-	-	-	-	364
Tomato	12.0	80	960	-	-	-	-	-	-	960
Cotton	0.9	476	428	1.5	8	12	-	-	-	440
Maize	1.0	217	217	3.5	33	116	-	-	-	333
Millet	1.4	193	270	3.5	33	116	-	-	-	386
Sesame	0.4	666	266	0.84	8	7	-	-	-	273
Sunflower	0.8	320	256	1.0	10	10	-	-	-	266

J4-27 Gross Income per Feddan without Project
(Economic) (Wahby Downstream Area)

Crop	Grain or Products			Straw			Green Forage			Total (LE)
	Yield (t)	Price (LE)	Gross income (LE)	Yield (t)	Price (LE)	Gross income (LE)	Yield (t)	Price (LE)	Gross income (LE)	
Berseem	0.27	770	208	-	-	-	18.8	15	282	490
Wheat	1.4	216	302	2.0	109	218	-	-	-	520
Barely	1.1	100	110	1.5	109	164	-	-	-	274
Beans	0.9	192	173	1.3	65	85	-	-	-	258
Onions	7.0	52	364	-	-	-	-	-	-	364
Tomato	9.5	80	760	-	-	-	-	-	-	760
Cotton	0.8	476	381	1.3	8	10	-	-	-	391
Maize	0.9	217	195	3.0	33	99	-	-	-	294
Millet	1.3	193	251	3.0	33	99	-	-	-	350
Sesame	0.4	666	266	0.84	8	7	-	-	-	273
Sunflower	0.8	320	256	1.0	10	10	-	-	-	266

Tabje J4-28 Production Cost per Feddan without and with Project
(Economic)

(Unit: L.E.)

Item	Berseem(L)		Berseem(S)		Wheat		Barley		Beans		Onions		Tomato	
	w/o	w	w/o	w	w/o	w	w/o	w	w/o	w	w/o	w	w/o	w
Seed	12	12	12	12	17	17	11	11	21	21	85	85	40	40
Fertilizer														
Nitrogen	29	29	29	29	29	45	57	57	29	29	58	58	46	46
Phosphate	44	44	11	11	11	11	11	11	11	11	11	11	22	22
Potassium	-	-	-	-	-	-	-	-	-	-	-	-	-	19
Manure	-	-	-	-	21	21	21	21	-	-	21	21	15	50
Protection	-	-	-	-	-	-	-	-	-	-	-	-	158	138
Labor	108	108	60	60	92	100	80	80	68	68	83	83	239	258
Machine	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<u>Total Cost</u>	204	204	123	123	181	205	171	171	140	140	269	269	511	564

Note: Water management labor with the Project shall reduce because of supply of enough irrigation water, on the other hand harvesting labor with the Project shall increase. On berseem, barley, beans, onion and sesame, both labor cost are assumed at the same value.

(Continued: Table J4-28)

Item	Cotton		Maize		Millet		Sesame		Sunflower	
	w/o	w	w/o	w	w/o	w	w/o	w	w/o	w
Seed	2	2	12	12	14	14	5	5	3	3
Fertilizer										
Nitrogen	43	43	43	43	43	43	29	29	29	29
Phosphate	22	22	11	11	11	11	11	11	11	11
Potassium	-	-	-	-	-	-	-	-	-	-
Mannure	15	30	-	21	-	21	15	15	21	21
Protection	22	45	-	-	-	-	-	-	-	-
Labor	150	158	80	80	99	99	66	66	66	66
Machine	11	11	11	11	11	11	11	11	11	11
<u>Total Cost</u>	265	309	157	178	167	188	135	135	141	141

Table J4-29 Production and Gross Income without Project
(Wahby Downstream Area)
- Crop Husbandry -

Crop Area	Yield fed. ton/fed.	Grain Green Forage & Vegetable				Straw			
		Total Product	Unit Price	Gross Income	Yield	Total Prod.	Unit Price	Gross Income	Total Gross Income
		ton	LE/ton	1,000LE	ton/fed	ton	LE/ton	1,000LE	1,000LE
(Winter Crop)	(10,965)	(108,743)	(1,944)	(9,247)	(196)				
Berseem (Long)	4,819	18.8	90,597 (Animal Husbandry)	-	-	-	-	-	-
Berseem (Short)	560	4.7	1,692 (")	-	-	-	-	-	-
Wheat	5,285	1.4	4,599	216	933	2.0	6,570 (Animal Husbandry)	953	953
Barley	976	1.1	1,074	100	107	1.5	1,464	160	267
Beans	428	0.9	385	192	74	1.5	556	36	110
Tomato	1,087	9.5	10,326	80	826	-	-	-	826
Onions	10	7.0	70	52	4	-	-	-	4
(Summer Crop)	(8,041)	(9,740)	(1,963)	(26,079)	(7)				
Cotton	360	0.8	288	476	157	1.3	468	8	141
Maize	2,857	0.9	2,553	217	554	5.0	8,511 (Animal Husbandry)	554	554
Millet	4,357	1.3	5,664	193	1,095	5.0	13,071 (")	1,095	1,095
Sesame	149	0.4	60	666	40	0.84	125	8	41
Sunflower	254	0.8	187	520	60	1.0	254	10	62
Tomato	104	9.5	988	80	79	-	-	-	79
<u>Total</u>	<u>19,006</u>		<u>118,483</u>		<u>5,907</u>		<u>55,526</u>	<u>203</u>	<u>4,110</u>

Note: Cropping Intensity: Winter Season 75% x 14,620 fed : 10,965 fed.
Summer season 55% x 14,620 fed : 8,041 fed.

Table J4-30

Gross income with Project
- Crop Husbandry -

	1991		1992		1993		1994		By- Product
	Crop	By- Product	Crop	By- Product	Crop	By- Product	Crop	By- Product	
			- 1,000 LE -						
Berseem (Long)	A.H	-	A.H	-	A.H	-	A.H	-	-
Berseem (Short)	A.H	-	A.H	-	A.H	-	A.H	-	-
Wheat	995	A.H	1,055	A.H	1,246	A.H	1,352	A.H	A.H
Barley	110	160	125	166	142	183	139	190	
Beans	77	36	86	37	97	42	94	43	
Tomato (Winter)	865	-	995	-	1,131	-	1,248	-	-
Onions	4	-	9	-	24	-	34	-	-
Cotton	145	4	166	5	209	6	227	6	
Maize	628	A.H	887	A.H	1,163	A.H	1,020	A.H	A.H
Millet	1,145	A.H	1,365	A.H	1,688	A.H	1,642	A.H	A.H
Sesame	40	1	43	1	51	1	59	1	
Sunflower	60	2	65	3	79	3	87	3	
Tomato (summer)	100	-	299	-	818	-	1,200	-	
<u>Total</u>	<u>4,165</u>	<u>203</u>	<u>5,075</u>	<u>211</u>	<u>6,648</u>	<u>235</u>	<u>7,102</u>	<u>245</u>	
<u>Grand Total</u>		<u>4,366</u>		<u>5,286</u>		<u>6,883</u>		<u>7,345</u>	

Note: A.H. means destination to animal husbandry.

Table J4-31 Production Cost in Crop Husbandry without Project
(Wahby Downstream Area)

<u>Crop</u>	<u>Crop Area</u> fed.	<u>Unit Cost</u> LE/fed	<u>Production Cost</u> 1,000LE
(Winter Crop)			
Wheat	3,285	181	595
Barley	976	171	167
Beans	428	140	60
Tomato	1,087	511	555
Onions	10	269	3
(Summer Crop)			
Cotton	360	265	95
Maize	2,837	157	445
Millet	4,357	167	728
Sesame	149	135	20
Sunflower	234	141	33
Tomato	104	511	53
<u>Total</u>			<u>2,754</u>

Table J4-32 Production Cost of Berseem
(Without the Project)

<u>Crop</u>	<u>Crop Area</u> fed.	<u>Unit Cost</u> LE/fed.	<u>Production Cost</u> 1,000LE
Berseem (L)	4,819	204	983
Berseem (S)	360	123	44
<u>Total</u>	<u>5,179</u>		<u>1,027</u>

Table J4-53 Production Cost with Project

(Unit: 1,000 L.E)

	1991		1992		1993		1994	
	C.H.	A.H.	C.H.	A.H.	C.H.	A.H.	C.H.	A.H.
Berseem (L)	-	983	-	993	-	1,102	-	1,152
Berseem (S)	-	44	-	48	-	58	-	63
Wheat	610	-	674	-	754	-	793	-
Barley	167	-	173	-	192	-	199	-
Beans	60	-	62	-	68	-	70	-
Tomato (Winter)	567	-	619	-	696	-	754	-
Onions	3	-	6	-	14	-	19	-
Cotton	100	-	118	-	146	-	159	-
Maize	460	-	538	-	665	-	728	-
Millet	749	-	855	-	1,007	-	1,074	-
Sesame	20	-	21	-	26	-	30	-
Sunflower	33	-	36	-	43	-	47	-
Tomato (summer)	58	-	117	-	313	-	441	-
<u>Total</u>	<u>2,827</u>	<u>1,027</u>	<u>3,219</u>	<u>1,041</u>	<u>3,924</u>	<u>1,160</u>	<u>4,294</u>	<u>1,215</u>

Note: C.H. : Crop husbandry

A.H. : Animal husbandry

Table J4-34 Net Production Value in Animal Husbandry without and with Project
-Wahby Downstream Area-

	Unit	Buffalo		Baladi		Total
		Adult	Bull calf	Adult	Bull calf	
N.P.V./head excluding fodder cost Produced						
Milk	L.E.	641	-	507	-	960
Meat	L.E.	-	960	-	960	-
Without the Project						
Number of Cattle	head	1,400	420	5,580	1,670	
N.P.V./head excluding fodder cost Produced	1,000L.E.	897	403	1,713	1,603	4,616
With the Project						
1991						
Number of Cattle	head	1,410	430	5,620	1,690	
N.P.V./head excluding fodder cost Produced	1,000L.E.	904	413	1,725	1,622	4,664
1992						
Number of Cattle	head	1,580	470	6,330	1,900	
N.P.V./head excluding fodder cost Produced	1,000L.E.	1,013	451	1,943	1,824	5,251
1993						
Number of Cattle	head	1,930	580	7,720	2,320	
N.P.V./head excluding fodder cost Produced	1,000L.E.	1,257	557	2,370	2,227	6,391
1994						
Number of Cattle	head	2,100	630	8,420	2,530	
N.P.V./head excluding fodder cost Produced	1,000L.E.	1,346	605	2,585	2,429	6,965

Note: excluding Cost of Fodder Produced

Table J4-55 Net Production Value in Wahby Downstream Area

(Unit: 1,000 L.E)

Item	Without Project		With Project		
	1990	1991	1992	1993	1993
(Crop Husbandry)					
a. Gross income	4,110	4,366	5,286	6,883	7,345
b. Production Cost	2,754	2,827	5,219	3,924	4,294
c. N.P.V.	1,356	1,539	2,067	2,959	3,051
(Animal Husbandry)					
a. N.P.V. excluding Berseem Cost	4,616	4,664	5,231	6,391	6,965
b. Gross income of berseem sold	700	714	647	341	286
c. Production Cost of Berseem	(-)1,027	(-)1,027	(-)1,041	(-)1,160	(-)1,215
d. N.P.V.	4,289	4,351	4,837	5,572	6,036
(Total N.P.V.)	5,645	5,890	6,904	8,531	9,087
Incremental N.P.V.		245	1,259	2,886	3,442

Note: 1. N.P.V.: Net Production Value

2. Berseem is estimated in animal husbandry. Berseem sold means remains after feeding.

3. Production cost of grains such as wheat, maize and millet are included in crop husbandry.

Table J4-36 Arable Land at Present or Without Project
- South Area of Lake Qarun -

Sub Area	Project Gross Area	EL-45 to-40m. EL-40 to-38m. (Unit: Fed.)				Total Arable Land	
		Submerged Area	Direct Af-fected Area Gross Land	Indirect Af-fected Area Gross Land	Arable Land		
1. Abu Hawara	2,120	350	1,590	1,350	200	170	1,520
2. Bato Said	2,890	100	1,590	1,550	1,200	1,020	2,570
3. Abu Tarfaya & Khore el-Hifonl,970		50	1,140	970	570	485	1,455
<u>Total</u>	<u>6,770</u>	<u>480</u>	<u>4,320</u>	<u>3,670</u>	<u>1,970</u>	<u>1,675</u>	<u>5,545</u>

Table J4-37 Arable Land with Project
- South Area of Lake Qarun -

Sub Area	Project Gross Area	Improvement Class A				Improvement Class B				Total Arable Land
		Submerged Area	Gross Land	Arable Land	New Land	Gross Land	Old Land	Gross Land	Arable Land	
1. Abu Hawara	2,120	60	1,860	1,580	250	1,550	200	170	1,750	
2. Bato Said	2,890	60	1,630	1,385	55	1,350	1,200	1,020	2,405	
3. Abu Tarfaya & Khore el-Hifonl,970		50	1,140	970	-	970	570	485	1,455	
<u>Total</u>	<u>6,770</u>	<u>170</u>	<u>4,630</u>	<u>3,955</u>	<u>265</u>	<u>3,670</u>	<u>1,970</u>	<u>1,675</u>	<u>5,610</u>	

Note: Improvement Class A ... Gross land = Direct gross land 4,320 + New land 510 = 4,630
Arable land=Old Land 3,670+New land 265=3,955
New arable land=510 x 0.85 =265

Table J4-38 Crop Area without Project
South Area of Lake Qarun

(Unit: Fed.)

Crop	Bat Said		Abu Tarfaya		Abu Harawa	
	Total	Direct affected	Indirect affected	Total	Direct affected	Indirect affected
Berseem	1,245	709	536	544	518	42
Wheat	559	318	241	249	142	19
Barley	72	41	31	-	19	3
Beans	158	79	59	47	54	4
Tomato	-	-	-	99	-	-
Onion	1	1	0	15	5	-
Cotton	345	196	149	249	250	28
Maize	251	145	108	615	183	20
Millet	659	375	284	152	499	54
Sunflower	1	1	0	88	-	-
Total	3,271	1,863	1,408	2,058	1,520	170
In winter	2,015	(85%)	954	(66%)	518	(40%)
In summer	1,256	(53%)	1,104	(76%)	932	(60%)
Arable land	(2,370)	(1,350)	(1,020)	(1,455)	(1,520)	(170)

Table J4-39 Crop Area with Project
Bats Said Sub-Area in South Area of Lake Qarun

(Unit: fed.)

Crop	1991			1992			1993			
	Class A		Total	Class A		Total	Class A		Total	
	New Land	Old Land		New Land	Old Land		New Land	Old Land		
Berseem(L)	12	520	590	13	520	590	14	498	576	888
Berseem(S)	4	200	163	4	220	170	5	252	191	448
Wheat	7	524	246	7	331	250	8	337	255	600
Beans	-	82	61	-	84	62	2	85	63	150
Barley	2	42	52	2	43	55	1	43	55	77
Cotton	4	200	163	5	220	170	5	252	191	448
Maize	3	155	118	4	170	128	4	183	139	326
Millet	8	409	310	9	445	337	10	483	364	857
Total	40	1,932	1,483	44	2,033	1,540	49	2,133	1,612	3,794
Arable Land (2,370)										
Cropping intensity			146%							155%
										160%

Note: Class A means the direct affected area.

Class B means the indirect affected area.

Table J4-40 Crop Area with Project
Abu-Tarfaya in South Area of Lake Qarun

(Unit: Fed.)

Crop	1992			1993			1994		
	Class A		Total	Class A		Total	Class A		Total
	Old Land	Class B		Old Land	Class B		Old Land	Class B	
Berseem (L)	217	109	526	239	119	358	261	130	391
Berseem (S)	167	83	250	168	84	252	168	84	252
Wheat	176	88	264	186	93	279	196	98	294
Beans	33	17	50	35	18	53	37	19	56
Tomato	70	35	105	74	37	111	78	39	117
Onion	14	5	19	15	6	21	17	8	25
Cotton	167	83	250	168	84	252	168	84	252
Maize	412	206	618	414	207	621	415	207	622
Millet	102	51	153	103	51	154	105	51	154
Sunflower	60	29	89	60	30	90	61	31	92
Total	1,418	706	2,124	1,462	729	2,191	1,504	721	2,225

Arable Land (1,455)

Cropping intensity

146%

151%

153%

Table J4-41. Crop Area with Project
Abu Harawa in South Area of Lake Qarun

(Unit: Fed.)

Crop	1993			1994			1995			
	Class A		Total	Class A		Total	Class A		Total	
	New Land	Old Land		New Land	Old Land		New Land	Old Land		
Berseem (L)	56	158	218	39	259	54	42	362	45	449
Berseem (S)	40	244	515	45	269	54	47	292	57	576
Wheat	54	180	239	57	253	51	40	293	57	570
Beans	-	50	56	-	65	8	11	81	10	102
Barley	15	24	40	15	32	4	5	59	5	49
Cotton	40	244	515	43	269	54	47	292	57	576
Maize	50	180	232	52	197	24	35	214	27	276
Millet	78	470	607	84	515	65	91	561	70	722
Total	271	1,550	2,022	295	1,859	234	318	2,134	268	2,720

Arable Land (1,520)

Cropping intensity

153%

157%

179%

Table J4-42 Crop Production
South Area of Lake Qarun

(Unit: ton)

Crop	Bats Said			Abu Tarfaya			Abu Harawa					
	Without Project	With Project		Without Project	With Project		Without Project	With Project				
		1991	1992		1993	1992		1993	1994	1993	1994	1995
Berseem (L)	16,974	17,822	18,205	17,732	5,544	6,217	6,920	7,558	2,374	3,845	6,400	8,913
Berseem (S)	1,627	1,784	1,944	2,238	1,171	1,192	1,210	1,218	1,161	1,418	1,664	1,861
Wheat	727	852	905	956	349	405	437	490	217	312	470	576
Beans	83	102	121	149	33	42	50	58	25	41	67	97
Barley	94	108	120	123	-	-	-	-	29	51	71	76
Tomato	-	-	-	-	693	840	999	1,053	-	-	-	-
Onion	-	-	-	-	135	167	192	232	-	-	-	-
Cotton	511	545	594	447	224	225	252	252	225	279	357	371
Maize	551	447	506	584	861	927	1,014	1,036	256	549	417	480
Millet	1,120	1,260	1,421	1,541	258	260	272	277	813	968	1,170	1,291
Sunflower	-	-	-	-	53	53	65	65	-	-	-	-
Total	21,287	22,720	23,615	25,770	9,521	10,328	11,409	12,239	5,100	7,263	10,596	13,665

Table J4-43 Forage Production and Number of Livestock
- South Area of Lake Qarun -

Item	Unit	Without Project	With Project				
			1991	1992	1993	1994	1995
<u>Winter Crop</u>							
Berseem (L)	ton	22,518	25,740	26,796	28,497	31,690	34,203
Berseem (S)	"	3,959	4,116	4,297	4,866	5,120	5,517
<u>Summer Crop</u>							
Wheat Straw	"	1,615	1,917	2,131	2,404	2,666	2,781
Maize Straw	"	2,464	2,799	3,597	4,052	4,195	4,285
Millet Straw	"	5,520	4,258	4,644	5,485	5,859	6,067
<u>Buffalo</u>							
Adult	head	570	440	500	580	620	640
Heifer	"	110	150	150	170	180	190
Bull Calf	"	110	130	150	170	180	190
<u>Baladi</u>							
Adult	"	1,500	1,770	2,040	2,340	2,500	2,590
Heifer	"	450	530	610	700	750	770
Bull Calf	"	450	530	610	700	750	770
Berseem to be sold	ton	10,582	11,071	9,503	8,543	10,290	12,065
Sales	LE 1,000	159	161	143	128	154	181

Note: Figures are totalized by three sub-project.

Table J.4-44 Production Cost at Full Stage

(Unit: L.E/fed.)

	Class A				Class B	
	Newland		Oldland		W/O	W/
	W/O	W/	W/O	W/		
Berseem (L)	-	224	224	236	236	236
Berseem (S)	-	142	142	147	147	147
Wheat	-	172	172	203	203	203
Barley	-	161	161	171	171	171
Beans	-	129	129	140	140	140
Onions	-	269	269	269	269	269
Tomato	-	496	496	546	546	546
Cotton	-	264	264	288	288	288
Maize	-	154	154	178	178	178
Millet	-	164	164	188	188	188
Sesame	-	135	135	135	135	135
Sunflower	-	141	141	141	141	141

Table J.4-45 Production Cost

(Unit: L.E./fed)

<u>Old Land</u>	<u>0</u>	<u>1 yr</u>	<u>2 yr</u>	<u>3 yr</u>
Berseem (L)	224	228	232	236
Berseem (S)	142	143	145	147
Wheat	172	182	192	203
Barley	161	164	167	171
Beans	129	133	137	140
Onions	269	269	269	269
Tomato	496	513	530	546
Cotton	264	272	280	288
Maize	154	162	170	178
Millet	164	172	180	188
Sesame	135	135	135	135
Sunflower	141	141	141	141
<u>New Land</u>				
Berseem (L)	-	176	204	224
Berseem (S)	-	112	136	142
Wheat	-	138	141	172
Barley	-	129	150	161
Beans	-	-	-	129
Cotton	-	229	242	264
Maize	-	145	151	154
Millet	-	152	160	164

Table J.4-46 Net Production Value excluding Berseem Production Cost
in Animal Husbandry
South Area of Lake Qarun

	Unit	Buffalo		Baladi		Total
		Adult	Bull calf	Adult	Bull calf	
N.P.V./head excluding fodder cost Produced						
Milk	L.E.	641	-	307	-	-
Meat	L.E.	-	960	-	960	960
Without the Project						
Number of Cattle						
N.P.V./head excluding fodder cost Produced	head	570	110	1,500	450	450
	1,000L.E.	237	106	461	432	1,236
With the Project						
1991						
Number of Cattle						
N.P.V./head excluding fodder cost Produced	head	440	130	1,770	530	530
	1,000L.E.	282	125	543	509	1,459
1992						
Number of Cattle						
N.P.V./head excluding fodder cost Produced	head	500	150	2,040	610	610
	1,000L.E.	321	144	626	586	1,677
1993						
Number of Cattle						
N.P.V./head excluding fodder cost Produced	head	580	170	2,340	700	700
	1,000L.E.	372	163	718	672	1,925
1994						
Number of Cattle						
N.P.V./head excluding fodder cost Produced	head	620	180	2,500	750	750
	1,000L.E.	397	173	768	720	2,058
1995						
Number of Cattle						
N.P.V./head excluding fodder cost Produced	head	640	190	2,590	770	770
	1,000L.E.	410	182	795	739	2,126

Table J.4-47 Net Production Value with Project

(Unit: 1,000 L.E.)

	<u>Bats Said</u>	<u>Abu Tarfaya</u>	<u>Abu Harawa</u>	<u>Total</u>
<u>1991</u>				
<u>G.I.</u>	747	510	382	1,639
<u>P.C.</u>	421	296	210	927
<u>N.P.V.</u>	326	214	172	712
<u>1992</u>				
<u>G.I.</u>	832	553	382	1,767
<u>P.C.</u>	458	334	210	1,002
<u>N.P.V.</u>	374	219	172	765
<u>1993</u>				
<u>G.I.</u>	915	613	489	2,017
<u>P.C.</u>	504	346	283	1,133
<u>N.P.V.</u>	411	267	206	884
<u>1994</u>				
<u>G.I.</u>	915	640	617	2,172
<u>P.C.</u>	504	365	335	1,204
<u>N.P.V.</u>	411	275	282	968
<u>1995</u>				
<u>G.I.</u>	915	640	703	2,258
<u>P.C.</u>	504	365	385	1,254
<u>N.P.V.</u>	411	275	318	1,004

Note: G.I. : Gross Income
P.C. : Production Cost
N.P.V. : Net Production Value

Table J4-48. Net Production Value
South Area of Lake Qarun

(Unit: 1,000 L.E.)

Item	Without Project				With Project		
	1991	1992	1993	1994	1995	1994	1995
(Crop Husbandry)							
a. Gross Income	1,554	1,767	2,017	2,172	2,258		
b. Production Cost	944	1,002	1,133	1,204	1,254		
c. N.P.V.	590	765	884	968	1,004		
(Animal Husbandry)							
a. N.P.V. excluding fodder cost produced	1,236	1,677	1,925	2,058	2,126		
b. Berseem Gross Income sold	159	143	128	154	181		
c. Production Cost of Berseem	(-)396	(-)421	(-)488	(-)530	(-)564		
d. N.P.V.	999	1,399	1,565	1,682	1,734		
(Total N.P.V.)	1,589	2,164	2,449	2,650	2,738		
Incremental N.P.V.	<u>328</u>	<u>575</u>	<u>860</u>	<u>1,061</u>	<u>1,149</u>		

APPENDIX J-5. Evaluation of the Project Cost

Table J5-1 Economic Project Cost for North Wahby Area

(Unit: 1,000 L.E)

Item	Total		1987		1988	
	Total	L.C.	Total	L.C.	Total	L.C.
A. Financial Project Cost excluding Price Escalation	17,490	5,520	230	150	1,150	660
B. L.C. excluding unskilled labor cost	-	4,315	-	125	-	560
C. Economic L.C. (B x 0.8)	-	3,450	-	100	-	448
D. Unskilled labor cost	-	1,207	-	5	-	100
E. Economic unskilled labor cost(D x 0.5)	-	605	-	2	-	50
F. Economic Project Cost (F.C. of A + L.C. of C & E)	16,025	4,055	202	102	988	498

	1989		1990		1991		1992	
	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.
A.	2,680	900	5,430	1,550	4,870	1,440	5,150	860
B.	-	659	-	1,179	-	1,125	-	685
C.	-	511	-	945	-	900	-	548
D.	-	261	-	551	-	515	-	175
E.	-	131	-	176	-	158	-	88
F.	2,422	642	5,019	1,119	4,488	1,058	2,906	636

Note: F.C.; Foreign Currency
L.C.; Local Currency

Table JS-2 Economic Project Cost for Com Osheem Area

(Unit: 1,000 L.E)

Item	1987		1988						
	Total	L.C.	Total	L.C.					
	F.C.	L.C.	F.C.	L.C.					
A. Financial Project Cost excluding Price Escalation	12,240	8,410	3,830	180	50	130	840	420	420
B. L.C. excluding unskilled labor cost	-	-	2,885	-	-	125	-	-	348
C. Economic L.C. (B x 0.8)	-	-	2,308	-	-	100	-	-	278
D. Unskilled labor cost	-	-	945	-	-	5	-	-	72
E. Economic unskilled labor cost (D x 0.5)	-	-	472	-	-	2	-	-	36
F. Economic Project Cost (F.C. of A + L.C. of C & E)	11,190	8,410	2,780	152	50	102	734	420	314

	1989		1990		1991		1992					
	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.				
	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.				
A.	2,110	1,410	700	3,790	2,700	1,090	3,280	2,340	940	2,040	1,490	550
B.	-	-	487	-	-	822	-	-	-	696	-	407
C.	-	-	390	-	-	658	-	-	-	557	-	325
D.	-	-	213	-	-	268	-	-	-	244	-	143
E.	-	-	107	-	-	134	-	-	-	122	-	71
F.	1,907	1,410	497	3,492	2,700	792	3,019	2,340	679	1,886	1,490	396

Note: F.C.; Foreign Currency
L.C.; Local Currency

Table JS-3 Economic Project Cost for North Wahby and Com Osheem Areas

(Unit: 1,000 L.E)

Item	1987		1988		1989	
	Total F.C.	L.C.	Total F.C.	L.C.	Total F.C.	L.C.
<u>Financial</u>						
North Wahby	17,490	11,970	5,520	130	230	100
Com Osheem	12,240	8,410	3,830	180	50	150
<u>Total</u>	<u>29,730</u>	<u>20,380</u>	<u>9,350</u>	<u>410</u>	<u>150</u>	<u>260</u>
<u>Economic</u>						
North Wahby	16,025	11,970	4,055	202	100	102
Com Osheem	11,190	8,410	2,780	152	50	102
<u>Total</u>	<u>27,215</u>	<u>20,380</u>	<u>6,835</u>	<u>354</u>	<u>150</u>	<u>204</u>
<u>1990</u>						
<u>1991</u>						
<u>1992</u>						
Item	1990		1991		1992	
	Total F.C.	L.C.	Total F.C.	L.C.	Total F.C.	L.C.
<u>Financial</u>						
North Wahby	5,450	3,900	1,530	4,870	3,430	1,440
Com Osheem	5,790	2,700	1,090	3,280	2,540	940
<u>Total</u>	<u>9,220</u>	<u>6,600</u>	<u>2,620</u>	<u>8,150</u>	<u>5,770</u>	<u>2,380</u>
<u>Economic</u>						
North Wahby	5,019	3,900	1,119	4,488	3,450	1,058
Com Osheem	3,492	2,700	792	5,019	2,540	679
<u>Total</u>	<u>8,511</u>	<u>6,600</u>	<u>1,911</u>	<u>7,507</u>	<u>5,770</u>	<u>1,737</u>

Note:

F.C.; Foreign Currency
L.C.; Local Currency

Table J5-4 Economic Project Cost for Model Farm in Com Osheem Area

(Unit: L.E. 1,000)

	1985		1986		1987	
	Total	F.C. L.C.	Total	F.C. L.C.	Total	F.C. L.C.
A. Financial Project Cost excluding price escalation	2,764	1,934 830	130	90	40	1,272 872 400
B. L.C. excluding unskilled labor cost	-	- 670	-	-	35	- - 327
C. Economics L.C. (B x 0.8)	-	- 536	-	-	28	- - 262
D. Unskilled labor cost	-	- 160	-	-	5	- - 73
E. Economic unskilled labor cost (D x 0.5)	-	- 80	-	-	2	- - 37
F. Economic Project Cost (F.C. of A + L.C. of C&E)	<u>2,550</u>	<u>1,934 616</u>	<u>120</u>	<u>90</u>	<u>30</u>	<u>1,171 872 299</u>

Note: F.C.; Foreign Currency
L.C.; Local Currency

Table J.5-5 Economic Cost of Re-Use Water Pump Station
- North Wahby & Com Osheedm Areas -

(Unit: 1,000 L.E)

Item	1985		1986		1987	
	Total	L.C.	Total	L.C.	Total	L.C.
A. Financial Cost	9,469	8,687	782	782	1,762	1,571
B. L.C. x 0.8	-	6,950	-	-	-	1,097
C. Economic Cost	<u>7,732</u>	<u>6,950</u>	<u>782</u>	<u>782</u>	<u>1,488</u>	<u>1,097</u>
						<u>591</u>
						<u>591</u>

Item	1986		1987	
	Total	L.C.	Total	L.C.
A. Financial Cost	4,855	4,464	591	591
B. L.C. x 0.8	-	3,571	-	-
C. Economic Cost	<u>3,962</u>	<u>3,571</u>	<u>591</u>	<u>591</u>

Note: F.C.: Foreign Currency
L.C.: Local Currency

Table J.5-6 O & M Cost for North Wahby Area

(Unit: L.E. 1,000)

<u>Item</u>	<u>Financial</u>	<u>Economic</u>
1. Pump station		
a. Electric Charge	268,380	891,290
b. Salary and Wages	71,760	56,760
c. Repair Cost	79,430	76,650
Sub-total	419,570	1,024,700
2. Pipeline		
a. Repair Cost	8,230	7,712
3. Drainage Canal	900	843
4. Road		
a. Repair Cost	27,250	27,250
Total of O & M Cost	<u>455,950</u>	<u>1,060,505</u>

Table J.5-7 O & M Cost for Com Osheem Area

(Unit: L.E. 1,000)

<u>Item</u>	<u>Financial</u>	<u>Economic</u>
1. Pump Station		
a. Electric Charge	189,670	629,894
b. Salary and Wages	44,640	35,640
c. Repair Cost	57,520	55,507
Sub-total	291,830	721,041
2. Pipeline		
a. Repair Cost	6,270	5,875
3. Drainage Canal	780	730
4. Road		
a. Repair Cost	19,570	19,570
Total of O & M Cost	<u>318,450</u>	<u>747,216</u>

Table J.5-8 Economic O & M Cost for Re-Use Water Project
 - North Wahby and Com Osheem Areas -

(Unit: L.E.)

<u>Item</u>	<u>Financial</u>	<u>Economic</u>
1. Electric Charge	240,956	800,215
2. Maintenance of Elec./Mecha.	36,073	34,810
3. Salary & Wages	6,432	6,432
4. Maintenance Canals & electrical lines	120,052	96,040
5. Maintenance of pressure pipeline	3,756	3,519
<u>Total</u>	<u>407,269</u>	<u>941,016</u>

Table J.5-9 Economic O & M Cost for Model Farm
 - North Wahby and Com Osheem Areas -

(Unit: L.E.)

<u>Item</u>	<u>Financial</u>	<u>Economic</u>
1. Electric Charge	24,370	80,933
2. Salary & Wages	13,920	10,920
3. Maintenance Cost of Pump facilities	13,420	12,950
4. Maintenance of Pipe Line	780	730
5. Road	2,650	2,650
<u>Total</u>	<u>55,140</u>	<u>108,183</u>

Table J.5-10 Replacement Cost of Pump Facilities
- North Wahby & Com Osheem Areas -

1. At 13.5 years after operation:
 15% of Pump Cost only with contingency of 10%
 $15\% \text{ of } 880,150 \text{ L.E} \times 1.1 = 145,225 \text{ L.E}$
 $\approx 145 \times 10^3 \text{ L.E}$
2. At 26 years after operation:
 80% of Pump Cost only with contingency of 10%
 $80\% \text{ of } 880,150 \text{ L.E} \times 1.1 = 774,532 \text{ L.E}$
 $\approx 775 \times 10^3 \text{ L.E}$
3. At 38.5 years after operation
 As same as the above 1 $= 145,225 \text{ L.E}$
 $\approx 145 \times 10^3 \text{ L.E}$

Table J.5-11 Replacement Cost of On Farm Facilities
- North Wahby & Com Osheem Areas -

(Unit: 1,000 L.E)

	Project Year				North Wahby		Com Osheem	
	Yrs	Yrs	Yrs	Yrs	Drip	Sprinkler	Drip	Sprinkler
A.	15	23	33	45	630	378	236	248
	14	24	34	44	840	504	436	458
	15	25	35	45	630	378	328	344
B.	18	28	38	48	630	-	236	-
	19	29	39	49	840	-	436	-
	20	30	40	50	630	-	328	-

Table J.5-12 Replacement Cost for Re-Use Water Project
- North Wahby and Com Osheem Areas -

13.5 years after operation	111,400 L.E.
26 - do -	594,300 L.E.
38.5 - do -	111,400 L.E.

J.5-13 Economic Project Cost for Existing
Drainage Canal Improvement Project

(Unit: L.E. 1,000)

<u>Item</u>	<u>Total</u>	<u>F.C.</u>	<u>L.C.</u>
A. Financial Project Cost excluding Price Escalation	420	90	330
B. L.C. excluding unskilled labor cost	-	-	251
C. Economic L.C. (B x 0.8)	-	-	201
D. Unskilled Labor Cost	-	-	79
E. Economic unskilled labor cost (D x 0.5)	-	-	40
F. Economic Project Cost (F.C. of A + L.C. of C&E)	332	90	241

Note: F.C.; Foreign Currency
 L.C.; Local Currency

Table J5-14 Economic Project Cost for Wahby Downstream Area

(Unit: 1,000 L.E)

	Total		1987		1988	
	Total	L.C.	Total	F.C.	Total	F.C.
A. Financial Project Cost excluding Price Escalation	5,448	2,860	260	60	710	265
B. L.C. excluding unskilled labor cost	-	2,390	-	197	-	401
C. Economic L.C. (B x 0.8)	-	1,912	-	158	-	321
D. Unskilled Labor Cost	-	470	-	3	-	44
E. Economic Unskilled Labor Cost(D x 0.5)	-	236	-	2	-	22
F. Economic Project Cost (F.C. of A + L.C. of C & E)	4,736	2,148	220	60	608	265

	1989		1990		1991		1992	
	Total	F.C.	Total	F.C.	Total	F.C.	Total	F.C.
A.	1,130	560	1,624	859	1,239	620	485	224
B.	-	451	-	619	-	501	-	221
C.	-	361	-	495	-	400	-	177
D.	-	119	-	146	-	118	-	40
E.	-	60	-	73	-	59	-	20
F.	981	560	1,427	859	1,079	620	421	224

Note: F.C.; Foreign Currency
L.C.; Local Currency

Table J.5-15 Economic Cost for Re-Use Water Project
(Wahby Downstream Area)

(Unit: 1,000 L.E)

<u>Item</u>	<u>Total</u>			<u>1985</u>		
	<u>Total</u>	<u>L.C.</u>	<u>F.C.</u>	<u>Total</u>	<u>L.C.</u>	<u>F.C.</u>
A. Financial Cost	8,198	7,521	677	1,525	1,187	338
B. L.C. x 0.8	-	6,017	-	-	950	-
C. Economic Cost	6,694	6,017	677	1,288	950	338

<u>Item</u>	<u>1986</u>			<u>1987</u>		
	<u>Total</u>	<u>L.C.</u>	<u>F.C.</u>	<u>Total</u>	<u>L.C.</u>	<u>F.C.</u>
A. Financial Cost	4,204	3,865	339	2,469	2,469	-
B. L.C. x 0.8	-	3,092	-	-	1,975	-
C. Economic Cost	3,431	3,092	339	1,975	1,975	-

Note: F.C.; Foreign Currency
L.C.; Local Currency

Table J.5-16 Economic O & M Cost
(Wahby Downstream Area)

(Unit: L.E.)

<u>Item</u>	<u>Financial</u>	<u>Economic</u>
1. Salary and Wages		
Civil Engineer	3,600	3,600
Labors (A)	1,800	1,800
Labors (B)	3,600	1,800
Sub-total	9,000	7,200
2. Canal Dredging	1,390	1,112
3. Total Cost	10,390	8,312

Table J.5-17 Economic O & M Cost of Re-Use Water Project
(Wahby Downstream Area)

(Unit: L.E)

<u>Item</u>	<u>Financial</u>	<u>Economic</u>
1. Electric Charge	196,956	654,090
2. Maintenance of Elec./Mecha.	31,227	30,134
3. Salary & Wage	5,568	5,568
4. Maintenance canals & electrical lines	103,948	83,158
5. Maintenance of pressure pipeline	3,252	3,047
<u>Total</u>	<u>340,951</u>	<u>775,997</u>

Table J.5-18 Replacement Cost of Re-Use Water Project
(Wahby Downstream Area)

13.5 years after operation	96,500 L.E.
26 - do -	514,500 L.E.
38.5 - do -	96,500 L.E.

Table J.5-19 Economic Project Cost
(South Area of Lake Qarun)

(Unit: 1,000 L.E)

Item	Total		1987		1988	
	Total	L.C.	Total F.C.	L.C.	Total F.C.	L.C.
A. Financial Project Cost excluding Price Escalation	6,490	3,211	180	94	785	427
B. L.C. excluding unskilled labor cost	-	2,715	-	88	-	356
C. Economic L.C. (B x 0.8)	-	2,172	-	70	-	285
D. Unskilled labor cost	-	496	-	6	-	71
E. Economic unskilled labor cost(D x 0.5)	-	248	-	3	-	36
F. Economic Project Cost (F.C. of A + L.C. of C & E)	5,699	2,420	159	75	689	521

	1989		1990		1991		1992	
	Total	L.C.	Total	L.C.	Total	L.C.	Total	L.C.
A.	1,469	750	1,871	900	1,436	680	739	360
B.	-	642	-	763	-	561	-	505
C.	-	514	-	610	-	449	-	244
D.	-	108	-	137	-	119	-	55
E.	-	54	-	68	-	59	-	28
F.	1,287	568	1,649	678	1,264	508	651	272

Note: F.C.: Foreign Currency
L.C.: Local Currency

Table J.5-20

Economic O & M Cost

- South Area of Lake Qarun -

(Unit: L.E)

	<u>Bats Said</u>	<u>Abu Tarfaya</u>	<u>Abu Harawa</u>	<u>Total</u>
1. Pumping Station				
a. Fuel Cost	1,038 x C.F.1.010 = 1,048	1,091 x C.F.1.010 = 1,102	910 x C.F.1.010 = 919	
b. Salary & Wages	(sub-total) (5,664)	(8,268)	(8,268)	
Mechanical Eng.	1,152	1,224	1,224	
Operators	1,536	1,632	1,632	
Labors	576	612	612	
Watch man	2,400	4,800	4,800	
c. Repair Cost	1,872 x C.F.0.965 = 1,806	2,287 x C.F.0.965 = 2,207	2,104 x C.F.0.965 = 2,030	
d. Sub-total	8,518	11,577	11,217	
2. Repair Cost of Dike Road	-	-	3,696	
3. Drain Dredging	1,856	1,378	588	
4. Total O & M Cost	10,374	12,955	15,501	38,830
1 + 2 + 3	11,006	13,636	16,178	40,820
Financial				

Table J.5-21 Replacement Cost
 - South Area of Lake Oarun -

(Unit: L.E.)

		<u>12.5 year^{1/}</u>	<u>25 year^{2/}</u>	<u>37.5 year^{1/}</u>
Bat Said	(45,100)	6,765	38,335	6,765
Abu Tarfaya	(55,110)	8,267	46,843	8,267
Abu Harawa	(50,710)	7,607	43,103	7,607

Note: 1/ 15% of Pump cost only including contingency of 10%

2/ 80% - do -

Note: Replacement Cost by year

<u>Project year</u>	<u>Bad Said</u>	<u>Abu Tarfaya</u>	<u>Abu Harawa</u>
18	6,765	-	-
19	-	8,267	-
20	-	-	7,607
30	38,335	-	-
31	-	46,843	-
32	-	-	43,103
43	6,765	-	-
44	-	8,267	-
45	-	-	7,607

APPENDIX J-6. Calculation of EIRR

Table J.6-1 Project Economic Cost and Return
-North Wahby and Com Osheem Areas-

(UNIT : MILLION L.E.)

YEAR	PROJECT COST		TOTAL (1)	INCREMENTAL BENEFITS (2)	PROJECT RETURN (3) =(2)-(1)	PRESENT WORTH VALUE (3)*DISCOUNT RATE	
	CAPITAL	O & M				(12 %)	(13 %)
1 1985	1.610	0.0	1.610	0.0	-1.610	-1.438	-1.425
2 1986	5.220	0.0	5.220	0.0	-5.220	-4.161	-4.088
3 1987	3.810	0.0	3.810	0.0	-3.810	-2.712	-2.641
4 1988	1.720	0.110	1.830	0.0	-1.830	-1.163	-1.122
5 1989	4.330	0.110	4.440	0.0	-4.440	-2.519	-2.410
6 1990	8.510	0.110	8.620	0.0	-8.620	-4.367	-4.140
7 1991	7.510	1.600	9.110	0.190	-8.920	-4.035	-3.792
8 1992	4.790	2.940	7.730	2.170	-5.560	-2.246	-2.091
9 1993	0.0	2.870	2.870	5.060	2.190	0.790	0.729
10 1994	0.0	2.870	2.870	7.740	4.870	1.568	1.435
11 1995	0.0	2.870	2.870	9.020	6.150	1.768	1.603
12 1996	0.0	2.870	2.870	10.090	7.220	1.853	1.666
13 1997	0.0	3.920	3.920	10.840	6.920	1.586	1.413
14 1998	0.0	4.140	4.140	11.440	7.300	1.494	1.319
15 1999	0.0	3.830	3.830	11.960	8.130	1.483	1.300
16 2000	0.0	2.870	2.870	12.150	9.280	1.514	1.313
17 2001	0.330	3.310	3.640	12.190	8.550	1.245	1.071
18 2002	0.0	4.430	4.430	12.190	7.760	1.009	0.860
19 2003	0.0	5.110	5.110	12.190	7.080	0.822	0.694
20 2004	0.0	4.550	4.550	12.190	7.640	0.792	0.663
21 2005	0.0	2.870	2.870	12.190	9.320	0.863	0.716
22 2006	0.0	3.020	3.020	12.190	9.170	0.758	0.623
23 2007	0.0	3.920	3.920	12.190	8.270	0.610	0.497
24 2008	0.0	4.150	4.150	12.190	8.040	0.530	0.428
25 2009	0.0	3.830	3.830	12.190	8.360	0.492	0.394
26 2010	0.0	2.870	2.870	12.190	9.320	0.489	0.388
27 2011	0.0	2.870	2.870	12.190	9.320	0.437	0.344
28 2012	0.0	4.430	4.430	12.190	7.760	0.325	0.253
29 2013	0.0	5.700	5.700	12.190	6.490	0.243	0.187
30 2014	0.0	4.550	4.550	12.190	7.640	0.255	0.195
31 2015	0.0	2.870	2.870	12.190	9.320	0.278	0.211
32 2016	0.0	2.870	2.870	12.190	9.320	0.248	0.187
33 2017	0.0	3.920	3.920	12.190	8.270	0.196	0.147
34 2018	0.0	4.920	4.920	12.190	7.270	0.154	0.114
35 2019	0.0	3.830	3.830	12.190	8.360	0.158	0.116
36 2020	0.0	2.870	2.870	12.190	9.320	0.158	0.114
37 2021	0.0	2.870	2.870	12.190	9.320	0.141	0.101
38 2022	0.0	4.430	4.430	12.190	7.760	0.105	0.075
39 2023	0.0	5.110	5.110	12.190	7.080	0.085	0.060
40 2024	0.0	4.550	4.550	12.190	7.640	0.082	0.058
41 2025	0.0	2.870	2.870	12.190	9.320	0.085	0.062
42 2026	0.0	2.980	2.980	12.190	9.210	0.079	0.054
43 2027	0.0	3.920	3.920	12.190	8.270	0.063	0.043
44 2028	0.0	4.920	4.920	12.190	7.270	0.050	0.034
45 2029	0.0	3.830	3.830	12.190	8.360	0.051	0.034
46 2030	0.0	2.870	2.870	12.190	9.320	0.051	0.034
47 2031	0.0	3.020	3.020	12.190	9.170	0.045	0.029
48 2032	0.0	4.430	4.430	12.190	7.760	0.034	0.022
49 2033	0.0	5.110	5.110	12.190	7.080	0.027	0.018
50 2034	0.0	4.550	4.550	12.190	7.640	0.026	0.017
TOTAL	37.830	163.460	201.290	495.120	293.830	0.407	-2.088

$I R R = 12 \dots 12 + 0.41 / (0.41 + 2.09) = 12.16$