Table L.I.4 Average Annual Household Income of the Sample Farmers

Location		Upstream	Midstream	Downstream (West)	Downstream (East)	liP Areas
Family Size	(person)	96	72	78	73	79
Farm Size of the Sample	(fed)	28	3 8	5.4	3.t	3.1
Agricultural Income	(LE)	5,135	6247	7.113	5,849	5,145
Non Farm Income	(LE)	1,942	2.173	494	4,402	1.48
Household Income	(LE)	1,077	8,425	1,607	10,251	6.6%
Household Income per capita	(LE/capita)	737	1,170	975	1,404	840
Agri. Income per land	(LE/fed)	1,834	1,644	1,317	1,887	1,660
Farm Size in the Study Area	(fed)	20	2.7	42	•	3.1
Agr. Income in the Study Area	(LE)	3,668	4,439	5,531		5,145
Household Expenditure	(LE)	7,199	6,801	7.277	8,408	8,120
Expoditure per capita	(LE/capita)	750	945	933	1,152	1.029

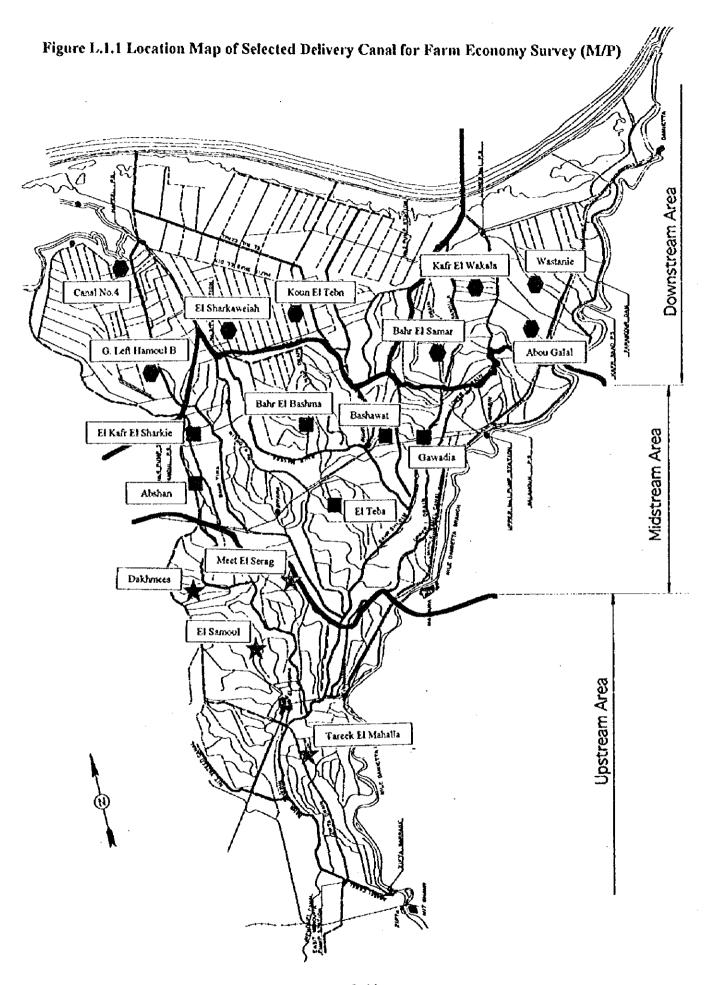
Source: Result of Farm Economy Survey in 1999 by the Study Team
Average Farm Size in the Study Area is based on agricultural Census in 1999/90.

Note: * as of Downstream area.

Table L.1.5 Water Duty and Net Income by Crops

Crops	Water Duty		Net income	cer Feddan		1	ncome per Wa	er Duty	
·		Charbia	Kaff El Sholkh	Oakahia	Dametta	Ghartia .	Ksf B SheAh	OskaNia	Damietta
	(m3/fed)	(LE/fed)	(LE/fed)	(LE/fed)	(LE/fed)	(LE/m3)	(LE/m3)	(LE/m3)	(LE/m3)
Wheat.	2,152.53	580.4	649 8	543.7	5829	027	030	025	026
Horse Beans	1,475.43	402 2	5420	371.8	354.5	027	037	025	024
Barley	1,834,66		330			0.00	002	0.00	000
Lentils	1,704.66	-	3422	59 8		0.00	020	0.04	000
Clover Crop	2.201.26	1,431 8	1,227.6	933.1		0.65	056	0.42	0.00
Clover Fodder	2,747.38	614.1	563 9	3629		0 22	021	0.13	0.00
Flax ·	1,477.14	234.1	343 3	59.0	432 3	015	024	0.04	0 23
Winter Orion	2,591.76	1,237.8		1,032.4		0.43	0.00	0.40	0.00
Winter Garlio	2,531.76			209 2		0.00	600	0.08	0.00
Winter Vegetables(tomato)	1,713 28		1,514.6	9760		0.00	88.0	057	000
Suger Beat	4,076.17	930 2	450 0	574.6		0 23	0.11	0.14	000
Cotton	3,552.63	1,953 3	2.224.1	1,331.1	2,683.0	0 5 5	0 63	037	0.59
Rice	7,041.81	1,207.7	1,078 6	931.9	1,038.0	017	0.15	0.13	0.15
Summer Maize	3,625 00	271.2	509 9	138.0		007	014	0 04	0.00
Summer Vegetables(tomato)	2,551.49	6,015.8	5,424.1	2,331.5	1,686 (2 33	210	0.90	0.65
Surviner Potatoes	1,680 77	4,365.6		5,956.1		2 51	000	3 54	0.00
Summer Sunflower	3,069.35			18.4		0.00	0.00	0.01	0.00
Nile Maize	2,563.22	272.6		2435	253 5	0.11	0.00	0.09	0.10

Source Water Duties MP/WR
Net Income Agricultural Economy in 1995 MALR
Note: Here on this analysis, the statistical data for agricultural net income is used, for the data is more emprehensively collected on the statistics.



L2 Farm Economy Survey for the Feasibility Study

Table L.2.1 Average Data of Family Status and Agriculture by Farm Size as the result of Farm Economy Survey (F/S)

Item	Average (Total)		~3 fed.		3~5 fed.		5 fed.~		Priority Are Average	8
1) No. of Sample Farm Households	130		74		33	···	23		Michael	
2) Family Size (persons)										
Total	8.3		7.5		10.0		8.4		5.2	
Men	4.4		3.9		5.2		4.5		2.6	
Women	3.9		3.6		4.8		3.9		2.6	
3) Labor Force in a family										
Total	5.1		4.8		6.1		5.2		3.2	
Men	2.6		2.5		3.2		2.8		1.7	
Women	2.5		2.3		2.9		2.4		1.5	
4) Farming Land(fed.)	3.2		1.8		3.8		7.2		2.1	
5) Farming Land per capita(fed/capita)	0.4		0.2		0.4		0.9		0.4	
6) Gropping Area(fed) and Intensity(\$)	Area	5	Area	5	Area	3	Area	<u> </u>	<u>Area</u>	
Total	6.24	200	3.60	200	7.56	200	14.35	200	4.2	200
Wheat	1.06	34	0.59	33	1.31	34	2.31	32	9.2 0.68	32
Broad bean	0.40	13	0.24	13	0.46	12	1.21	17	0.03	13
Long Barseem	0.40	28	0.56	31	1.18	32	1.71	24	0.28	13 28
Short Barseem	0.29	10	9.18	10	0.21	6	0.91	13	0.19	9
Sugar Beet	0.31	10	0.16	9	0.51	13	0.31	10	0.19	9
Winter vegetables	0.20	i	0.00	ő	0.10	3	0.31	4	0.13	9
Rice	1.88	59	1.05	58	2.42	64	4.06	56	1.23	59
Cotton	0.79	25	0.53	29	0.73	19	2.16	30	0.53	25
Maize	0.18	6	0.19	11	0.73	6	0.21	3	0.12	73 6
Water Mellon Seed	0.18	8	0.10	6	0.43	11	0.76	11	0.12	10
7) Livestock(No. of Head)										
Cattle	1.1		0.8		1.1		1.8			
Buffalo	1.4		1.2		1.7		1.7			
Chicken(mezt)	15.5		12.1		16.2		24.5			
Chicken(egg)	13.6		12.5		15.0		15.0			
Sheep or Goat	1.3		1.2		1.5		1.4			
8) % of Home Consumption										
Rice	37		47		36		28			
Maiza	54		52		57		50			
Wheat	43		45		53		33			
Bean	23		25		19		22			
Berseem	85		85		ກັ		90			
9) Worker and Working Days(day/year/capi	ita)									
by Status										
Regular Work	No.	Days	No.	Days	No.	Days	No.	Days	No.	
On Own Farm(male)	1.4	327	1.2	326	1.6	306	1.8	333	0.9	
On Own Farm(female)	0.5	266	0.4	283	0.6	292	0.3	299	0.3	
On Other Farm(male)	0.1	176	0.0	0	0.3	198	0.0	ō	0.1	
On Other Farm(female)	0.1	307	0.0	ŏ	0.1	300	0.0	ŏ	0.1	
Non Farm Occupation(male)	0.5	292	0.5	286	0.5	253	0.5	311	0.3	
Non Farm Occupation(female)	0.1	188	0.1	80	0.2	146	0.1	355	0.1	
Temporary Work										
On Own Farm(male)	1.1	148	1.2	147	1.0	161	1.0	118	0.7	
On Own Farm(female)	0.7	145	0.7	135	0.8	175	0.4	113	0.4	
On Other Farm(male)	0.2	135	0.3	105	0.0	0	0.3	199	0.1	
On Other Farm(female)	0.1	85	0.1	120	0.0	ŏ	0.1	250	0.1	
Non Farm Occupation(male)	0.1	203	0.1	123	0.1	330	0.2	146	0.1	
Non Farm Occupation(female)	0.1	215	0.0	0	0.0	350	0.0	o	0.1	

Source: Result of Farm Economiy Survey in 1998 by the Study Team

Table L. 2.2 Unit Yield of Grop by Field Position along the Delivery Canals in the Priority Area

(Case 1) Canal	Area (feddan)	Org/Testian)	Wheat	Broad beans	Berseen (tong)	Berseea (short)	W. Vegetable # ≃Onion	Suger beat	Rice	Cotton	Waiza	S. Vegetable * =Tonato	Kater mellon seed
1. Foda	1, 650	Upstress	1,300	1,550	24,000			20,000	2,050		1, 120		333
	(L≠3.90%m)	Po≪ratream	1, 300	1, 344	24,000			20,000	2, 050		1, 120		333
2. B. No. 6. R	1, 150	Upatress	1, 952	1, 212	24,000	4, 800		25,000	3,000	380	1,950		350
	(L=3, 66km)	Downs to earn	1,431	930	24,000	4, 800		25, 000	2, 262	380	1, 400		220
3. Bahr El Nour	2, \$00	Upa treas	1,650	1,351	25,000		15,000	22, 750	3, 070	630	2, 240	13, 300	300
	(L=7.39km)	Downstress	1, 650	1, 188	24,000		14, 300	20,000	2, 534	470	2, 240	9, 200	150
4. Et. Shoraha	840	Upstream	1,319	930	24,000	6,000		17,000	2, 500	472	1, 680		
	(L=4. 82km)	Downstream	1, 319	930	24,000	6,000		17,000	1, 833	376	1, 680		
5. Hazek	750	Upstream	2. 625	775	24,000	10,000		18, 400	2,000	770	1, 228	12, 000	270
	(L=2. 78km)	Domatress	2, 235	775	22,000	10,000		17, 700	2,000	450	1, 228	9, 400	270
6. E I	1, 712	Opetream	1, 887	930	24,000				2.174	840	2, 049		220
Sharkaseish	(L=4, 43km)	Domistream	1,820	930	21,000				2, 174	584	1. 595		550
7. El Kafr El	1, 428	tips treas	1,905	930	15,000	7, 000	6, 700	21, 700	2, 834	518	1, 638	13, 300	370
Sharkie	(L=7.06ke)	Descriteran	1, 895	930	10,000	6, 800	4, 000	19,000	2, 834	515	1, 232	10, 700	335
8. G No. 7. L	1, 150	Upstress	1,550	1, 325	24,000	6,000	9, 300		2.677	382			244
	(L=3, 25km)	Done site ear	1, 550	1, 228	24,000	5,000	9, 300		2, 280	355			244
9. Zobas	3, 800	Ogntream	1, 800	1, 240	24,000	6,000	4, 600		3,000	630	2, 240		350
	(L=8.15km)	Bounstream	1, 650	1, 151	24,000	5, 600	4, 200		2, 263	453	1, 680		320
Total	14, 978	Upe tream	3, 747	1, 191	23, 310	6, 334	8, 476	21, 382	2, 694	611	1, 908	13, 091	315
(Average)		Downs to east	1. 626	1, 090	22, 224	6, 010	7, 673	20,009	2, 293	459	1, 610	9, 690	266

Canal	Area (folden)	Oug feddin)	Theat	Broad beans	Berseen (long)	Bersees (short)	W. Vegetable # =Onion	Suger beet	Rice	Cotton	K aize	S. Vegetable s =Tonato	Fater mellon seed
t. Foda	1, 650 (L=3, 90km)	Opstream Bowntream		1, 550 1, 344									·
2. 6. No. 6. R	1, 150 (L=3, 66km)	Opatresa Bornstresa	1, 952 1, 431	1, 212 930					3,000 2,262		t, 950 t, 400		350 220
3. Bahr El Nour	2, 500 (L=7, 39km)	Upstream Downstream		1, 351 1, 188	25, 000 24, 000		15, 000 14, 300	22, 750 20, 000	3, 070 2, 534	630 470		13, 300 9, 200	300 150
4. E1. Shoraha	840 (L=4.87km)	Upstream Downstream							2, 500 1, 833	472 378			
5. Hazeli	750 (L≃2, 78km)	Opatresa Domatresa	2, 625 2, 235		24,000 22,000			18, 400 17, 700		770 460		12,000 9,400	
6.El Sharkavelah	1, 712 (L=4, 48ka)	Upstream Bownstream	1,887 1,820		24,000 21,000					840 584	2,049 1,595		
7.El Kafr El Sharkie	1, 426 (E=7, 65%)	Spatream Ocurstream	1, 905 1, 695		15, 000 10, 000	7, 000 6, 800	8, 700 4, 000	21, 700 19, 000		618 515	1, 638 1, 232	13, 300 10, 700	370 33 5
8. 6. No. 7. L	1, 150 (L=3, 25km)	ilga tream Commutress		1, 325 1, 228		6, 690 5, 600			2, 677 2, 280	382 355			
9. Zobsa	3, 800 (L=6, 15km)	Upatream Downstream	1, 890 1, 650	1, 240 1, 151		8, 000 5, 600	4, 600 4, 200	·	3,000 2,263	630 483	2, 240 1, 680		350 320
Total (Average)	14, 978	Upstress Downstress	1, 924 1, 719	1, 323 1, 175	22, 382 19, 838	8, 224 5, 160	8, 353 7, 431	21, 732 19, 326	2, 935 2, 298	632 478	2, 052 1, 543	13, 091 9, 690	339 252

Sorce: Result of Fara Economy Survey (5/5)
Note: The collected data were evaluated between upperpart and lowerpart of a delivery canal in consideration of field observation and the aspect of physical and locational condition on irrigation The data evaluation was concluded with 2 cases by omitting inadequate data.

Table L.2.3 Estimate of Farm income by Farm Size

V.GB		(Led)	(led)	(fed)	(fed) (fed)	(100)	(fed)	Vegetables (fed)	8 8	\$ 6 8	97 (F) (247)	(fed)
Day Ca		9,	0.24	99'0	0.18	690	0.16	00.0	1.05	0.63	0.19	
3-Stad		3,8	0,46	1.18	0.21	1.3	0.51	0.10	2.42	S.O.	0.24	
Steel		7.2	1,21	1.71	16.0	2.31	0.71	0.31	4.06	2.16	0.21	
Sarple Ave.		3.2	0.40	0,88	0.29	100	0.31		1.88	67.0	0.18	
F/S Ave.		2,1	0.28	0.56	0.19	850	6,0		1.23	0.53	0.12	
Ferm Chi			Beens	Lond Berseem	Short Berseem	Wheel	Summeet	Vecedanies	Rice	2000	1	
Gross Refur			(LEMOS)	(LEVe		(LE/Ted)	(LE/fect)	(LE/fest)	(,E/eq)	(LETed)	(LESTed)	(LE/fed)
Page 2			1,719			1,340	2,211	2,171	1,801	2,130	1,161	2,550
3~-64ed			1,719		386	1,540	2,211	2.171	1,801	2,130	191	2,550
Aftedor			1,719			1.540	2,211	2,171	1,801	2,130	1,161,1	2,650
Sample Ave.			1,719			1,540	2,211		1,801	2,130	1,461	2,550
F/S Ave			1719	1,388	365	1,540	2211	2.171	1,801	2,130	1461	2,550
Farm Unit income			Beens (LE/fed)	Long Baraeam (LE/fed)	Long Berseem Short Banseem (LEffed)	Wheel	Sugarbeet	Vegetables	Klos Franco	Control	Meize	Water Reston Same
-3/ed			974		Į	Š	ó	1258	910	8	47%	ı
5-5fed			1.28			ş	1,445		910	86	475	
-pegg			971	671	140	406	1,445		940	669	475	
Sample Avn.	3.2600		971	57.1	140	306	1,445		910	669	47.9	
F/S Awe.	2.1600		971	871	140	Š	1,445		940	669	475	
Farm Total Cross Return		Total	Boars (EL)	Cong Benteem	Short Barsaem	Wheet	Sugarbaet	Vegetacles	Rice	Cotton	Meize	Water match Sens
1 Slet	Total	6,018	413			8	355	c	1 804		į	200
(Pa 1 ad)	Day for	0,040						-			3	7
00 00~€	Total	13,126	162	1,638	81	2,017	1,128	217	4.358	1,556	244	1001
(3.8190)) 10 July 10 J	3.654						-				
98	Total	24,699	2,080	2,373	301	3,567	1,570	673	7,312	4,601	244	1,908
28	7	3430										
Sample Ave.		10,080	88	121	112	1,632	685		3,366	1,663	502	67.8
F/S Ave		200		1							Ī	
(Ca)	Day Tag	3.468			2	780	420	391	2,2,10	433	130	\$
fig.		7401	e e	Section Business	11.00		ì					
Cotal Income		income	(LE)	LOND CAINBOOM	Short Barreson (LE)	1	E CONTRACTOR OF THE CONTRACTOR	Vegetables	3 £	8 £	Malze	Weber meden Seers
~3fed	Total	3,119	233			æ	-	c	330	170	8	107
(1.8 fmc)	Dest feet	1.733					-			-		26
3Sed	- 10Kg	7.83	447	1,026	550	1,184	737	52	2.202	010	00	820
(38,00)	J eg, 102	1,893						-			-	
8	3	13,086	1,175	1,489	424	2,088	1,026	380	3,695	1,510	9	1 466
(72,190)	ž,	948								-		3
Semple Ave.	Total	5.584	368	766	41	500	448	262	1,711	- 646	ş	787
(3.2 feet)	Sec fee	1,776									3	,
F/S Ave. Total	Total	0,690	222	909	142	615	9.22	22	1,110	370	473	764

Source, Study Teem
Note: Parment are table and unityied are based on the feath Economy Survey in the Priority Area. The gross and net income per fection is based on the Detailed Farm
Economy Survey and some researches in the Priority Area. (Appendix N)

Table L.2.4 Non-Farm Income and Expenditure

Non-farm income	yes	76 ha	isehold	\$	
(Annual)	no	54 hou	sehold	S	
	Range	400 LE	to	16,600) LE
	Average	3,420 LE		(amoung	76 households)
		1,999 LE		(amoung	130 households)
Expendture	(Cash Base)				
	Average family size	,	8.2	perosns	
	Average expenditur	·e	5,971	LE/year	
	Expenditure per ca	pita	728	LE/year	
	(Food Expendit	ure	2,883	LE)	
	(% of	Food	48	%)	
	(Home Consumption	n Value)			
	Wheat(Main Produc	:t)	505	LE	(757kg+100LE/150kg
	Wheat(By Product)		98	LE	(981kg*25LE/250kg)
	Broad Bean(Main P	roduct	124	LE	(101kg*190LE/155kg
	Broad Bean(By Pro	duct)	10	LE	(169kg*15LE/250kg)
	Barseem		1,122	LE	(18,104kg*62LE/t)
	Maize(Main Product	t)	49	LE	(106kg+65LE/140kg)
	Maize(By Product)		1	LE	(33kg*10LE/250kg)
	Rice(Main Product)	•	905	LE	(1,508kg*600LE/t)
	Total		2,814	LE	
	Total Ave. Expendit	ture	8,785	LE	
	(Food Expendit	ure	4,466	LE)	
	(% of	Food	51	%)	
	Expenditure per c	apita	1,071	LE/year	-
Expendture in the	(Ave. Family	Size in the	Priority	Area)	
Priority Area		Total	5.2	persons	
-	Total Ave. Expendit	ture		•	
Source: Farm Econo		Total	5,569	LE	(5.2*1,071LE)

							(Unit %)
Priority	Children	Vegetable	Chicken	Silk worm	Other Animal	Dairy	Handicraft
F110311y	health	cultivation	raising	raising	care	processing	
No.1	84	4	8	4	8		
No.2	8		54		31	15	4
No.3	4		27		12	31	
No.4	4		8		23	27	
No.5		4					
No.6				4			
No.7							4

Table L.2.6 Result of Farm Economy Survey by Delivery Canal in the Priority Area – Farmers' intention-

Question	Option	Foda	G. No.6 R	Bahr Nur	Shorafa	Hazek	El Sharkewya	Kafr El Shariki	G. No. 7L	Zawbas	ote
What kind of land	subsurface drainage	33	٥	8	٥	5	ន	0	o	8	42
development do you need		Ŋ	8	63	73	0	73	47	83	\$	62
spert from mesks		o	8	જ	₹	0	27	8	27	8	37
improvement	Subsoding	0	83	\$	٥	0	55	53	47	20	ដ
	Deep plowing	0	8	7	0	0	ន	\$	27	٥	ńΰ
	Application of green manure/composit	. 0	S	67	8	0	ដ	۲	\$	8	8
* * * * * * * * * * * * * * * * * * * *	Sounkler impation	0	0	0	٥	0	0	0	0	0	0
	Drie imigation	0	0		٥	0	۰	0	0	0	0
	Other	27	0	0	93	0	٥	7	0	0	45
The second second second											CONT
Quention	Option	Fode	G. No.6 R	Sahr Nur	Shorafa	Hazek	El Sharkenya	Kafr El Shariki	G. No. 7L	Zawbae	Total
if you grow moe,	· Desalinisation of saline soils	0	54	7.3	ያ	S	5	7	\$	2	හි
What is the reason	Maintenance of soil productivity, control of pests	\$	1	S	57	۲.	0	٥	೫	\$	H
	Profitable prop	٥	46	S	23	67	87	27	67	ጸ	ጽ
	For home consumption	8	5	8	8	47	\$	š	\$	8	8
	Other	0	o	0	0	0	0	0	0	0	٥
											(Cark S)
Question	Option	Foda	G. No.6 R	Bahr Nur	Shorefa	Hazek	El Sharkawya	Kafr El Shariki	G. No. 7L	Zewbae	Total
Do you agree to decrease No		ន្ទ	5	\$	8	87	04	જ	3	20	62
rice if saline eoil problem	Yes-potato(as atternative)	0	8	47	0	ţ	27	5	47	8	8
is solved by subsurface		٥	S	S	0	٥	47	8	જ	20	32
drainage/land improvement Yea-fruits tree	ant Yes-fruits tree	o	0	o	0	0	0	0	0	0	٥
	Yearother	٥	٥	٥	٥	٥	7	٥	0	٥	-
v		-									
Question	Option	Fods	G. No.6 R	Bahr Nur	Shorafa	Hazek	El Sharkawya	Kafr El Shariki	G. No. 7L	Zawbaa	Total
Who dioides prope to	decide by themselves	100	87	100	73	6 0	13	13	8	8	8
	Obey prededessor's way	٥	0	^	5	0	0	0	5	0	₹
	and owner	0	0	7	ដ	7	ភ	8	0	ଛ	∞
	Cooperative	0	13	જ	0	0	80	55	8	ę	56
	Aila	0	8	72	7	0	0	٥	27	0	თ
	Agricultural Exrtension Worker	o	0	0	0	0	S.	SS	0	٥	\$5
	Other		٥	\$	٥	0	0	7	7	20	8
Question	Option	Foda	G. No.6 R	Bahr Nur	Shorafa	Hazek	El Sharkewya	Kafr El Shariki	G. No. 7L	Zawbaa	Total
What do you consider	raise agricultural productivity	\$	8	8	8	8	100	88	8	8	8
to increase household	expand farming land by renting and purchasing	0	٥	ţ	0	7	0	٥	0	õ	es
income	cooperate with other farmers	0	o	8	0	7	8	5	47	ଧ	7.
	get non-farm job due to the limit of land	٥	0	13	۲	0	0	5	ß	5	F
	the state of the s	<	č	į	•	•	•	,		•	•

Note: No. of Farmes is 130 households. The answers are multiple,

Table L.2.7 Result of Farm Economy Survey by Delivery Canal in the Priority Area -Farmers' Opinion on Water Quality -

											(Unit: %)
Ouestion	Option	Foda	G. No.6 R	Bahr Nur	Shorafa	Hezek	El Sharkanya	Kafr El Shariki	G. No. 7L	Zawbae	Total
Canal Water Use apart	Drinking Water	0	7	0	27	0	27	13	0	5	Oh
from brigation	Domestic Water	0	8	8	27	0	33	\$	8	8	æ
	Livestock and Poultry	8	3	93	100	100	80	18	8	9	97
	Others	0	7	0	27	0	47	13	•	٥	=
											Chit: 8)
Question	Option	Foda	G. No.6 R	Bahr Nur	Shorafa	Hazek	El Sharkawya	Kafr El Shariki	G, No. 7L	Zewbas	Total
Do you notice any water	No.	27	0	٥	0	٥	0	0	13	0	សា
pollution on canal water at	politrion on canal water at Yes-Domestic waste water	0	53	99	73	87	33	53	47	8	¥
present? What is the cause? Yes-Sewage water	Yes-Sewage water	٥	3	83	100	8	67	80	23	80	2
	Yea-Livestook and Poutry	55	100	100	83	\$	73	67	80	8	æ
-	Yes-Other	0	Ó	13	0	0	13	0	0	٥	5
											(Unit: %)
Ovestion	Option	Fode	G. No.6 R	Behr Nur	Shorafa	Hazek	Et Sharkawya	Kafr El Shanki	G. No. 7L	Zawbaa	Total
Do you have any problem	N _O	27	7	0	0	٥	7	7	7	0	ø
osused by water pollution?	Yes-Disease	£	8	001	8	8	87	93	8	9	35
	Yes-Not suitable for domestic use	47	67	87	0	47	27	٥	8	30	4
	Yes-Other	0	0	0	٥	0	13	٥	0	0	2
											(Unite %)
Question	Option	Fode	G. No.6 R	Bahr Nor	Shorafa	Mazek	El Sharkewya	Kafr El Shariki	G, No. 7t.	Zawbaa	Totel
Do you need to improve	No	13	0	0	0	0	٥	٥	٥	0	7
water quality in canal?	Yes-Drain development and treatment facilitie	27	80	87	8	9	80	93	88	30	84
What kind of measure?	Yes-Canal Protection against livestock	73	88	100	9	87	93	80	83	100	8
	Yes-other	0	0	0	0	0	7	7	7	0	2

Note: No. of Farmes is 130 households. The enswers are multiple.

Figure L.2.1 Location Map of Selected Delivery Canal for Farm Economy Survey (F/S)

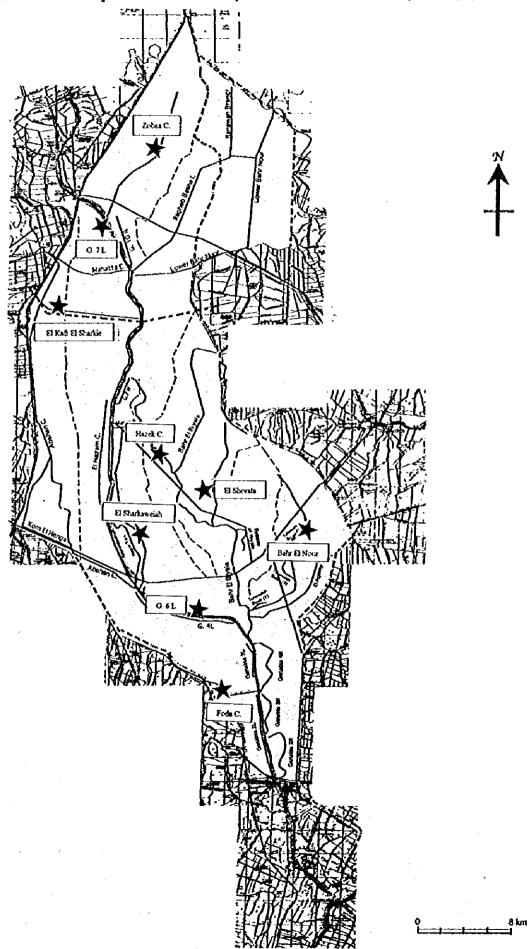


Table L31 Number of Farm Household by Land and Type of Ownership in the Priority Area in 1993

	Ow	ner Operated for	TR.	Ceul	h Rorted *Cwm F	ACTR	Shar-	s Rented + Own 1	Farm.		Total	
	Area (To 3-Sen) (To 3-Sen)	No. of Owner Owner	Average mealed	Aces (leddari) (leddari)	No. of Dwner Owner	Average meafed	Area (feddan) (feddan)	No. of Owner Owner	Average modifes	Area (Teditan) (Teditan)	No. of Owner Owner	Average area led
	· 	 _					Je acanz	(Wild		1.533	2.494	0
0-1 fe35en	1,414	2,350	9.6	89		2.5			9 0			
1 · 2 le 3 lan	3,834	2,407	1.6	210	118	18	C	9	0.0	4,044	2.525	11
2-3 fc 35an	5,208	2.067	23	153	69	2.3	0	0	9.0	5,368	2.135	2
3-4 fedden	3,851	1,092	15	59	17	3.5	0	9	0.0	3,510	1,109	3
4-5 fe 3 lan	2,062	462	45	18	. 4	45	0	0	8 9	2,080	456	41
5-90 fe53an	1252	379	5.9	14	2	7.0	¢	0	6.9	2,265	381	5:
10-20 feddan	547	76	12 5	•	•	0.0	0	0	0.9	947	76	121
20-30 fe 3/an	417	17	24.5	0	. 6	0.0	0	0	0 9	417	11	241
30: 40 fe 3.lsm	202		33 J	D		0.0	0	9	0.0	292		33
40:50 fe36an	71	2	45.5	D	e e	0 0	0	0	0.0	31	2	45
50 fe 3/m -	•	D	0.0	0	6	6.0			. 0 0		0	
Total	20,308	8.658	51	5560	354	16	· ·	0	0.0	20.658	3.212	7.
Quisi-3fe&	10,496	6,824	15	459	331	1.4				19,945	7,455	E:
	(32%)	(77%)		(24%)	940					(53%)	(78%)	

	C'v	nor Operated Fa	78	Ces	h Rented Own F	क ना	Sh.#	e Ronted + Own i	are .		Total	
	Area (Teddan)	No. of Currer	Average	Area (Seddan)	No. of Owner	Arcrage	Area (lessen)	No. of Owner	Average	Area Soddard	No. of Chiner	Average
	රිස මිස්කාව -	Owner	ಕರ್ಷ ಅವರಿ	(Festive)	Owner.	as to fee	(feddan)	Owner	mag fed	Geddani	Owner	* ce € D
0-1632an	2,616	4,363	0.5	123	173	0.7	173	391	0.1	2312	4,927	0.6
1-2 fe dâm	2,902	2,755	1.0	252	152	17	481	254	19	4,635	3,551	15
2-1 & 44as	5.091	1.925	2 6	510	207	25	175	90	2 6	5,777	2222	26
3-4 Sedden	2.220	647	34	159	+3	3.7	459	39	42	2,338	728	35
4-5 le55m	1,749	384	45	48	15	37	90	17	53	1,987	416	4.5
\$-10 fe35an	2,776	405	11	44	7	6.3	200	37	54	3,828	453	87
10-20 fe ššan	1,074	129	13 8	39	6	6.5	204	12	17. 0	1,514	147	13
20-30 to 31an	461	19	243	22	1	24.0	52	2	26 9	536	22	144
30-40 le \$6m	315	10	313	Đ	•	0.0	37		37 €	355	10	32 4
40 50 fe ššan	209	5	41.8	Ð		0.0	•	0	0.5	205	5	418
50 to 35m -	0		0.0		•	0 0		0	60	Đ		0.9
Total	21,014	10.645	11	1,198	604	2.0	1,572	₹42	1.9	23,784	12,092	2 0
Gotal-1fe@	11,609	9,043	13	885	532	1.7	830	795	1.1	13,324	19,310	1.3
	(55%)	(85 V)		000	(\$8V)		33 0	(87%)		QES)	65V	

	0	mer Operated Far	736	Can	h Rented •Cwn F	270	Shar	Bented + Own	Farm		feta	
		No. of Owner	Averaga		No. of Owner	Average		No. of Owner	Average		No. of Owner	Average
	(Ye \$Kan)	Owner	m called	Goddwn	Owr.or	m talled	(Teddan)	Owner	area (led)	(feddar)	Owner	a rate O
0-1 % Ján	565	1,138	B 5	0	0	0.0	0	•	0.0	585	1,138	95
1-2 festin	5,57.6	795	15	0	0	0.0	6		0.0	6,971	785	1.5
2-3 feddan	333	153	7.1	0		Q D	0	•	0.9	333	155	2.1
3 4 fedden	678	175	13	0	0	80	0		0.0	676	175	2.5
4-5 le 15en	232	45	52	a	0	0.0	D	0	0.0	232	45	52
5-10 % Men	929	133	7.0	0	6	0.0	0	9	0.0	929	133	7.6
10-20 leddan	693	50	13.7	11	1	119	0		0 9	€94	51	135
20-38 fe6čen	441	13	232	۰		0.6	6	0	0.0	661	19	232
30-48 fe3dan	99	3	309	a	•	9.0	D	•	0.0	90	1	• 0
40:50 fe3dan	157		393	0	•	0.0	0	•	3.0	157	4	39 3
50 feddan -	37	· 1	37.6			0,0			0.0	27	1	0.0
Total	5,334	1,508	21	11	1	11.0	D		0.0	5,345	2,509	21
(total-31cd)	1.089	2,018	1.0	4		0.0	0	•	0.0	2.989	1.D78	14
	(39 1)	(B3 E)								3:0	(83%)	

	0~	mer Operated Far	789	Cov	h Rented +Own F	# 76	Shar	s Rented • Own	Farma		Total	
	Aven Godson)	No of Owner	Artrege	Area (feddor)	No. of Owner	Ave: ago	Arce Gooden)	No. of Chiner	Average	Area (feddari)	No of Outror	Average
	(Scddan)	Owner	rer led∕	(fe siden)	Owner	# celled	(ಕ್ರತಿಕೆಟ್)	Owner	ore a Test	(feddwr)	Ower	wee'te D
0-1 fesson	161	234	07	- 11	21	0.5	0	0	0.0	172	255	9.3
1-2 feddan	192	70	15	53	21	2.5			0 3	155	91	1.2
2-1 fe Sian	1,05 8	45.9	22	45	27	1.7	0		0.0	1,097	496	22
3-4 Seddan	269	27	35	12	7	1.7	0		0.0	281	54	33
4 5 % 35an	140	43	11	1	2	1.5	0		6.9	143	47	30
5-10 ledšan	30	5	6.0			€0			4.0	39	5	6.9
10-29 Seddan	8	1	6.9	0		69	•		8.5	8	1	8.0
20-30 Seddan	13	1	120	0	D	9.0	e		6.0	13	1	13 4
30-45 fedden	ů	•	0.0	0		68	•		9.0	0	•	
40-50 fe <i>ddi</i> an	e	•	0.0	0		0.0	. •		6.0		•	6.8
\$6 feddan -	•		40	. 0	•	0.0	ò			5	•	9.6
Total	UH	902	29	125	78	16	•		6.0	1,89\$	\$80	1.9
Get &-3fod	1314	773	1.7	110	63	1.6	•		6.0	1,424	842	1.7
	010	Ø6€		(88%)	(894)					050	(86%)	

	Ow	nor Operated Fa		Cool	h Rested (Own F	₽ ₩	Shor	Rented * Own	F PRI		Total	
	Area Seddar	No. of Owner	Average	Area (Teddon)	No. of Owner	Average	Area (Seddan)	No. of Owner	Arerage	Area (feddan)	No. of Owner	Average
	(Jeddun)	Owner	ercalTed	(Teddsm)	Chargor	a called	(feddan)	ONDER	ared tod	(feddan)	Owner	#: # 2 B
9-1 fe dden	4,806	8,085	06	273	338	0.7	173	391	8.4	5,202	8,814	•
1-2 fedden	9,009	6.017	1.5	5:5	291	1.8	481	254	1.9	10,005	8,562	9.5
2-3 Sedden	683,11	4.516	25	316	303	2.4	176	90	2.0	12,575	\$,909	2:
3-1 fe ddan	7,016	1,991	15	230	. 17	3.4	159	38	42	7,405	2.096	3:
1-5 fedden	4,189	936	4.5	. 63	21	33	90	17	5 2	4,342	974	. 43
S-10 feddan	5,987	926	6.5	58	•	6.4	200	87	5.4	6,245	972	6
10-20 Se3den	3,309	256	12.9	. 50	7	7.9	204	12	17.5	3,563	275	134
29-30 feddan	1,332	56	23.8	21		230	52	2	26 9	1,407	59	231
30-40 leddon	611	19	37.1		9. 0	0.0	27	1	17 ♣	648	26	12.4
40-50 fe#len	457	11	41,5			0.0	•	•	4.5	457	11	415
30 feddyn -	27	1	\$7.B		. •	9 5	0		6.0	27	1.	370
You	4E,430	22,914	2.1	1,884	1,037	1.6	1,572	£42	1.9	\$1,886	24,793	2.0
Soul-Hed	25,498	19719	· L4	1,454	932	1.6	830	735	1.1	27,782	20,385	· · · · · ·
	(৫,३%)	(834)		(711)	(90%)		G16)	(87%)		G49)	(82%)	
fate: t) The Land E) in case ti	d Cooperatives in includes the owns is average area do tion for demands	r'e land sogietore ee not seuch die	d in the Agricul telegory class						s 50 Speldjus, Lin	i in decempee		

L.4 Agricultural Development Plan

Table L.4.1 Estimate of Income increase with Proposed Agricultural Development Plan in the Study Area

Upstream	20 fe \$	<u> </u>											
	Without Project							With Pro	ect				
	Crop		Net Return	Total	Crop		Nat Income	Total	MIJA.	Soil	Ide disinage	Meska	Grand Total
Crops	Intensity are	3	per fed	Net Value	intensity	er e a	per fed	Net income	O/M	Improvement	<u>.</u>	Improvement	Income
			(LE, fed)	(fed)	(1)	(fed)	(LE/fed)	(LE)	70	50) (141	
Wheat	37	074	1,47034	1,083	42	0.84	1,692	1,421	LE/fed)	(LE/fed)	(LE/fed)	(LE/fed))
Broad Bean	3	0.06	1,27135	76	3	0.06	1,491	89					
Flax	3	0.06	1,115.79	66	3	0.06	1,292	77					
Short Berseem	16	0.32	239 33	76	12	024	300	72					
Long Berseem	30	0 60	1,024.03	614	25	0.50	1,232	616					
Winter Vegetable	5	0.10	1,995 49	199	9	018	2 2 6 5	407					
Cotton	19	0.38	1,726 98	656	19	0.38	2,468	937					
Maize	3:3	0.66	847.37	559	50	1.00	1,259	1,259					
Rice	37	0.74	1,203.67	890	16	0.32	1,806	577					
Summer Vegetable	5	0.10	2,352 27	235	9	018	3.182	572					
Citrus	6	0.12	1,806.88	216	6	0.12	2.743	323					
Total	194	3 83	i	4,675	194	3 88		6,356	140	100) (282	5,834
			LE/fed	2,338			LE/fed	(3,178)					(2,917)

Midstream	21													
		_W.O	out Project		With Project									
	Crop		Net Return	Total	Crop		Nat Income	Total	WUA	Soil	Ha deinuge	Meska	Grand Total	
Crops	Intensity are:	9	ger fed	Not Value	i ntensity	area	ger fad	Not Income	O/M	(improvement	t	Improvement	Income	
			(LE/fed)	(fed)	(%)	(fed) (LE/fed)	(LE)	70	50	20	141		
Wheat	31	0.83	1,490.43	1237	34	0.91	1,793	1,631	LE/fed)	(LE/fed)	(LE/fed)	(LE/fed)		
Broad Bean	8	0.18	1,499.70	239	2	0.00	1.826	91						
Sugar beet	3	0.03	1,658 52	132	3	0.00	1,985	158						
Short Berseem	22	0.59	342 53	202	23	0.62	425	263						
Long Berseem	24	0.64	881.58	564	21	0.72	1,127	811						
Winter Vegetable	3	0.08	1,903.44	152	10	0.27	2 277	613						
Cotton	22	0.59	1,745 03	1031	22	0.59	2.832	1,670						
Maze	16	0.43	839.62	361	42	1.13	1,410	1,593			-			
Rice	49	1.32	1,038.94	1368	21	0.54	1,765	983						
Sunflower	0	0.00	ı	0	0	0.00	•	0						
Summer Vegetable	7	0.18	2.304.08	414	14	0.37	3,490	1,291						
Citrus	1	0.02	2,225 90	44	5	0.00	3,632	72						
Total	184			5,744	199	5 32	:	9,181	189	135	54	380.7	8,422	
			LE/fe J	2,127			LE/fed	(3,400)					(3.119	

<u>Downstream</u>	42	•						Net Incom	Total	WUA	Soil impre	. Tile draine	Meska	Grand Total
		With	out Project							Yrth Pro				
	Crop		Net Return	Total	Crop			Net Income	Total	WUA	Soil	Tie drainage	Meska	Grand Total
Crops	intensity area	<u> </u>	per fed	Net Value	Intensity	area		ser fed	Nat Income	O/M	improvement		lingros emark	Income
·			(LE/fed)	(fed)				(LE/fed)		70	50	20	141	
Wheat	22	092	1332 56	1225	28	1	1.17	1,617	1,891	LE/fed)	(LE/fed)	(LE/fed)	(LE/fed)	
Broad Bean	5	021	1104.89	232	7	0	23	1,379	339					
Sugar Beet	5	021	117587	247	6	0	25	1,446	361					
Short Berseem	20	0.84	308 23	258	22	0	3.92	388	356					
Long Berseem	18	0.75	961.06	720	23	0	96	1,217	1,168					
Winter Vegetable	4	016	114437	183	10	0	42	1,423	597					
Cotton	20	084	1757.05	1475	12	0	50	2,846	1,423					
Maize	10	0.42	£49 97	356	9	0	37	1,425	527					
Rice	33	1.38	1048 91	1447	33	1	.38	1,783	2,460					
Sunflower	0	0.00	701,64	. 0	6	0	25	1,125	281					
Summer Vegetable	7	0 29	212449	516	10	0	142	3,248	1,364					
Citrus	2	0.08	1851 20	148	2	0	80 (3,151	252					
Total	146			6,907	168	7	1.01		11,079	294	210	84	592 2	9,899
			LE/fed					LE/fed	(2,638)					(2,357)

Note: Cost sharing by farmers for Meska improvement is estimated with no interest and 20 years repayment

Average Income in the M/P area

				W/O	
s/erage		Total	No. Farm	Income	
	20	187,400	83,700	4,675	391297500
	27	223,900	82,928	5,744	476326944
	42	303,900	72,357	6,907	439769799
Total (Average			238,983	5,722	1367394243

				W/	
average		Total	No Farm	înçome	
	20	187,400	83,700	5,834	488305800
	27	223,900	82,926	8,422	698421650
	42	303,900	72,357	9,899	716247472
			238 983	7.963	1902980921

Table 1.4.2 Estimate of Vegetable Supply from the Priority Area and Future Demand

(1) Estimate Supply of Vegetables from the Priority Area

			Pre	esent Prod	uct	
Crop	fed		ton/fed	Total	supply Ratio	Total Supply
Winter Vegetable					114110	Оорріу
Upstream		950	8.78	8,341	0.9	7,507
Midstream		210	8.78	1,844	0.9	1,660
Downstream		770	7.75	5,968	0.9	5,371
Sub-Total				•		14,538
Summer Vegetable						•
Upstream		740	10.54	7,800	0.95	7,410
Midstream		620	10.54	6,535	0.95	6,208
Downstream		770	10.49	8,077	0.95	7,673
Sub-Total				•••		21,291
Grand Total						35,829

		Prod	uct With P	roject	
Crop	fed	ton/fed	Total	supply Ratio	Total Supply
Winter Vegetable					······································
Upstream	1689	9.83	16,514	0.9	14,863
Midstream	1650	9.83	16,220	0.9	14,598
Downstream	206	0 8.68	17,881	0.9	16,093
Sub-Total					45,554
Summer Vegetable					
Upstream	1470	0 14.23	20,918	0.95	19,872
Midstream	227	0 14.23	32,302	0.95	30,687
Downstream	206	0 14.16	29,170	0.95	27,712
Sub-Total					78,271
Grand Total					123,825

Source: Study Team

Note: Supply Ratio is the ratio of products being sold.

(2)Estimate of Demand

Total Population in 1996 = 59,272 thousand

Growth Ratio = 2.1%

Expected Population in 2007 = 59,272*102.1%^11 =

74,496 thousand

Vegetable Consumption = 204.7 kg per capita

Future Demand for vegetables in Egypt = 204.7kg*74,496 thousand =15,249 thousand tons

L.5 Questionnaire

L.5.1 FARM ECONOMY SURVEY

Farm		
No.	 	

					11101
Name of					
Farmer			Date interview	ved:	,1998
Address	:Subvillage :		Enumerator	<u>:</u>	
	Village	:	Checked by	_:	
	District	:			
	Governorate	:			
	Delivery Cana	1:			
	Mesqua	:			
1 Settle	ment in This Vill	age : Since(Years)			

1. Settlement in This Village: Sincel	(ears)
2. Family Composition and Working Co	aditions:

	Fani	ly Com	position		Educa-		Working Days(Nov., 1997 to Oct., 199			.,1998)				
	ļ				tion	1	Worked on				Non-farm Occupation			
	İ	Sex		J		Your Fal	ruo	Other Par	ws		<u> </u>			
No.	Age	Male	Female	Pamily Status	() fyr old)	Status	Days Worked (d/yr)	Status	Days Worked (d/yr)	Yearly Income (LE/yr)	Job Sites	Status	Ðays Worked (d∕yr)	Yearly Income (LE/yr)
	(1)	(2)	(3)	(4)	(5)	(6) 8,T	(7)	(8) R,D	(9)	(10)	(11)	(12) R,D	(13)	(14)
2		 	1	 	1	R,T		R,D	İ			R,D		
3	_					R,T		R,D	ļ			R,D	<u> </u>	
4		L	ļ	ļ		R,T	ļ	R,D	-			R,D		
_5		 -	ļ	-		R,T	 	R,D				R,D		ļ
6 7	_	 -	 	 		R,T R,T		R,D R,D	 	┪━┈	 	R,D R,D	┼	 -
8	_	-		 		R,T	-	R,D	:	1	 	R,D	1	
9			l	<u> </u>		R,T		R,D				R,D		
10						R,T		R,D			ļ	R.D	.	
11		ļ	ļ	<u> </u>		R,T		R,D	<u> </u>	_	<u> </u>	R,D		<u> </u>
13		 		-		R,T		R,O	 	 -	 	R,D R,D		
14 15	t					R,T R,T		R,D R,D				R,D		
16						R,T		R,D	ļ	. 		R,D	 	
17	_	├	 	 		R,T R,T		R,D R,D	 	+	╂	R,D R,D	 	

Note: Code/Description Col. Code/Description Col. 1=head of family (6,8,12)) Working R=regular employee (4) Pamily Status Status /worker 2≍spouse T=temporary employee 3≈chűdren /worker 4=son-in-law D=per day basis 5=daughter-in-law 6=parent 7=relatives (11) Job Site 1=vithin the village 2=outside the village 8=servant/employee & others (5) Education but within the l=illiterate district 2=read and write 3=within the province 3=primary certificate 4=medium certificate but outside the 5=over medium certificate district 6=university certificate 4=outside the province 7=vocational/technical 5-others(specify) others(specify)

(Unit :fed.)

		Farming Lar	ıd			Share	Land
Land Items	Own	Rent	Subtotal	Lease	Total	Cropping	Title *1
1. Cultivated Land for	(1)	(2)	(3)	(4)	(5)=(3)+(4)	(6)	(7)
- Annual crops		ļ					ļ
- Perennial crops							ļ
Subtotal							
No. of plots							
Distance(m, max to min)							\
2. Idle Land							
(Cultivable Wasted)		J				i	
3. Homestead							
4. Others		 				<u> </u>	ļ
(Specify:)							<u> </u>
Total					<u> </u>		

Note: (7) *1··· a. national land b. registered as private c. Others (Specify)

Distance: from residence to field

4. Rate of Rent and Leased Land Fee(Nov.,1997-Oct.,1998)

Items			1.Annual Field Crops	2.Perennial Crops	3.Others
1.Rent fee per year					
a. Paid în cash	(LE/fed.)	(1)			
b. Paid in kind	(Kg/fed.)	(2)			
	Kind	(3)			
2.Lease fee per year			<u>.</u>		
a. Received in cash	(LE/fed.)	(4)			
b. Received in kind	(Kg/fed.)	(5)			
	Kind	(6)			
3. Price of land	(LE/fed.)	(7)	<u> </u>		
4. Tax	(LE/fed.)	(8)			

Note: Others ···Including the area of house lot and others.

5. Crop Production(Nov.1997-Oct.1958)

Name of Major	Growing	Major	Crop	Produc	tion		Danage	e		Water
Crops	Period	Varieties	Rotation	Planted Area (fed)	Unit Yield Ong/fed)	Production (kg)	Lack of Water	Saline Solls	Drainage	Source
(i)	(2)	(3)	(0)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Vinter Season						M				
1.			i			В			_1	
						[M	_1	ļ	ı	
2						В				
				1		М		1		
3.						B				
		1	į.			M			1	
4					<u> </u>	В				_1
Summer Season			1			М	_		l l	
<u>l</u>						В	_			
	1					M	_1			i i
2	!					8			-	
				1		М	⊸ l			
3.						B				
		1		1		М		1		
4.						В	-			
Nile .						<u>M</u>		1		
1.		_		<u> </u>		8	<u> </u>			
			l		İ	М	-	ĺ	ļ	
2.						<u></u> 8				
Perennial Crops	Į.		1		1	<u>M</u>	-1	1	1	
1.						8				
	l l	1				<u>M</u>			Į.	
2.	1		ı	i i	i	8	ł			. I

2.		<u>N</u> 8	<u>L</u>
Note: Col.		Code / Description	_
(2)	Growing period From planting to harvesting	Er. From Early Nov Mid May	
(3)	Major Variety	t = high yielding/improved varieties (specify:) 2 = local/traditional varieties (specify:)	
W	Crop Rotation	I= two years rotation 2= three years rotation 3= po rotation	
(f)	Production	M= main products, B= by products	
(8),(9),(10)	Crop Damage	1= severely damaged 2= moderately damaged 3= no damage	
(11)	Water Source	1= canal 2= canal(re-use) 3= well 4= drain 5= others(specify)	

(Unit: Kg) 7.Othres 6.Seeds to Custoner 5.Directly 4.Coopmcentral 3. Private market Social farm_gate 2. To Middlemen by lot Consumption 1.Hone

6. Destination of Chop Products, Major Eight Cropal Nov., 1997-Oct., 1998)

. Investory of Livertock and Poultry (New 1907-Ors., 1998.)

(tems	Unit	1.00**	2.Cow	3.Buffalo	4.Buffalo	5. Chicken	6. Chicken	7.2Neep
		<2 years	22 years				(Ear)	
. July,1996	No.							
2.Bought	76,	,						
	Value(LE)							
).Born	Nb.							
1,5010	No.							
	Value(LE)				_			
5.Dend	No.							
5.Consumed								
at Home	No.							
7.Others.	No.							
3. Jun.,1997	No.							

J.Sounte of Domestic, Water/Cooking Puel, Tollet and Sevage

	Diffosione Water			Other Domestic Water			Source of
Source	Distance	Amount	Petchine		Distance	Amount	Cooking Pust
ð	8	8	(9)		(9)	Œ	(8)
	æ		times/day		E		
(9) Type of Toller			-dy(, (01)	(10) Type of Sewage	(11) Garbage Disposition		
Nete;							
Çol. '		Code / Description		Col.		Code / Description	
(1),(5) Water source		1 Total well		C),(6) distance		in meter(one way)	
		Sentation well			from home		
-		Swirtigation canal					
		4m@minage canal					
		Sertiver etc.		(9) Totlet type		1 mng facilities	
						2=pit	
						3=fush tollet	
			-			4 "other(specify)	
(3),(7) Amount		Impufficient year round					
		Sheuffeient only in					
		Winter season		(10) Sewage type		1=no facilities	
₹,		3*Insufficient year				2*pit	
		puhor				З=тевриа сала	
						4 edminage canal	
:						S-other(specify)	
(B) Fluei source	, .	Imwhaat ofraw					
		2"other grop residue					
	-	3"propane gas		(11) Carbage		:=roads	
	-	4*other(specify)		Disposition		Zecanala	

9. Non-Farming Income (Nov,1997-Oct,1998)

тентин жана шишкин кала жани жани жани жани жани жани жани жан	Annual Inco	me
Source	In cash	In kind
office data in the contract of	(LE)	(Kg)
1.Renting Fee of Working Animals to Others		
2.Renting Fee of Farm Machinery's and		
or Accessories to others		
3.Interest Earned on Money Loaned to Others		
4.Allowance from Relative and Others		
5.Receipt of Gift from Relative		
6.Salary and Wages of Family Members		
7. Others(specify:		
Total		

10. Household Expenditure

per month	a. Wheat, corn b. Beans c. Eggs d. Meat		Subtotal	Amount per Paid In Cash (LE)	Amount (Kg)	Amount per year (LE)
per month	b. Beans c. Eggs d. Meat	i. Beef il. Poultry iii. Milk iv. Others()			(Kg)	
per month	b. Beans c. Eggs d. Meat	i. Beef il. Poultry iii. Milk iv. Others()		(LE)	(Kg)	
per month	b. Beans c. Eggs d. Meat	i. Beef il. Poultry iii. Milk iv. Others()				
per month	b. Beans c. Eggs d. Meat	i. Beef il. Poultry iii. Milk iv. Others()				
month	c. Eggs d. Meat	il. Poultry iil. Milk iv. Others()	0.14-14			
-	d. Meat	il. Poultry iil. Milk iv. Others()	0.1244			
	e. Fish	iii. Milk iv. Others()	0.14-1-1			
	e. Fish	iv. Others()	0.11.1.1			
	e. Fish		0.14-1-1			
	e. Fish		O La_4_1			
	e. Fish		Subtotai			
		 Freshwater fish)			
		ii. Marine fish				
			Subtotal			
	f. Vegetables					
	g. Other viands	<u> </u>				
		Total				
2.Tea, beverages and etc. per month						
	garettes per mo	nth				<u> </u>
	a. House rent					
	b. House impro					
		tenance/operation				
<u>]</u>	d. House furnis	shing and equipmen	<u>t </u>			·
<u></u>		Total			1	
	t and water per	year	· · · · · · · · · · · · · · · · · · ·			
6.Clothing per						
		expense per year				· · · · · · · · · · · · · · · · · · ·
		nication per year				* *
9.Recreation p						
10.Education p			<u> </u>			·
11.Tax per yea		****	<u> </u>			<u> </u>
12.Payment to						<u> </u>
13.Others per y	year(1				
					1	

1. Information about N	icska ir rigation system	1.1	
(1) General Information	on Irrigation System Co	vering Your Fa	rmland
a. Number of parcels	s for your farmland	·····	
b. Number of Meska	canals covering your fa	rmland	_
c. Number of Water	Users' Associations cov	ering your farm	land
d. Water supply in D	Pelivery Canal before Me	squa : rotation	ally
continuously	_ In case of rotational in	rigation, how is	the rotation?
Summ	er Season	Winter S	Scason
Days On	Days Off	Days On	Days Off
e. Location of respec	tive irrigation facilities		
		Upstream_	Midstream Downstream
 Delivery canal in 	nmain canal		
•			
- Meska canal in d	lelivery canal		
•	•		
 Meska canal in d Fannland(most p canal 	•	way of group-us	se or
 Meska canal in d Familiand(most p canal 	parcels) in Meska or management is in the	way of group-us	se or
- Meska canal in d - Familand(most p canal f. Meska canal wate individual	parcels) in Meska er management is in the		
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual	parcels) in Meska er management is in the	each Meska w	se or hich serve your farmland ber of Marwa intakes
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual g. Number of farme	parcels) in Meska er management is in the v? ers and Marwa intakes of	each Meska w	hich serve your farmland
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual g. Number of farme Meska	parcels) in Meska er management is in the v? ers and Marwa intakes of	each Meska w	hich serve your farmland
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual g. Number of farme Meska A	parcels) in Meska er management is in the v ? ers and Marwa intakes of	each Meska w s <u>Numl</u>	hich serve your farmland
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual g. Number of farme Meska A B C	parcels) in Meska or management is in the v ? ors and Marwa intakes of Number of farmer	each Meska w s <u>Numl</u>	hich serve your farmland ber of Marwa intakes
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual g. Number of farme Meska A B C	parcels) in Meska or management is in the v ? ors and Marwa intakes of Number of farmer	each Meska w S Numl Company of the company of the	hich serve your farmland ber of Marwa intakes
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual g. Number of farme Meska A B C (2) So called "Sakia in irrigation of your fa	er management is in the variety of farmer Ring " or other tradition rouland? "Yes"	each Meska wis Numl	hich serve your farmland ber of Marwa intakes g irrigation system is still viable
- Meska canal in d - Farmland(most p canal f. Meska canal wate individual g. Number of farme Meska A B C 2) So called "Sakia in irrigation of your fa 3) Do you encounter any	er management is in the variety of farmer Ring " or other tradition rouland? "Yes"	each Meska was Number of State	hich serve your farmland ber of Marwa intakes g irrigation system is still viable rned Meska systems for
- Meska canal in of - Farmland(most program) f. Meska canal water individual g. Number of farmer MeskaA B C 2) So called "Sakia in irrigation of your factor of	er management is in the variety of farmer Ring " or other tradition ruland? "Yes" y significant water shorta	each Meska was Number of State	hich serve your farmland ber of Marwa intakes g irrigation system is still viable rned Meska systems for it inadequate?
- Meska canal in of - Fannland(most program) f. Meska canal water individual g. Number of farmer MeskaA B C (2) So called "Sakia in irrigation of your factor is good to be past ten years?" a. Only in summer see	er management is in the variety of farmer Ring " or other tradition rolland? "Yes" y significant water shorta	each Meska was Number of State	hich serve your farmland ber of Marwa intakes g irrigation system is still viable rned Meska systems for it inadequate? min)

(4) What do you think of the cause on water shortage (respondent of (2))?	
	Present 10years
	ago
a. Inadequate water is delivered to Mesqua by Delivery Canal	
b. Water does not reach downstream in Meska even though water at head	
of Meska is enough	
c. Meska facilities have less capacity to bring water adequately	
d. Farmers tend to take excess water in the upstream	_
e. Meska elevation is too high to bring the water from Delivery Canal	
f. Others (specify)	
Present	
10 years ago	
(5) Do you use water in drains as a supplemental water? "Yes" "No" _	If "Yes",
how often do you use water in drains?	
a. Quite often during both summer and winter season	
b. Quite often but only during summer season	
c. Occasionally both summer and winter season	
d. Occasionally only during summer season	
c. Others (specify:)
(6) What kind of Meska water losses do you notice?	
a. Mesqua water is wasted during night	
b. Seepage water losses from Meska canal	
c. Illegal intake of water from other canals	
d. Others (specify:)
e. No losses are observed	
12. Information about Operation and Maintenance of Meska Irrigation Sys	tem
(1) Do you have your own pump and / or Sakia for Marwa irrigation? "Yes"	, or "No"
If "Yes", its capacity isHP,Vmin, and /or applicable for	feddan.
(2) By how many farmers the pump and /or Sakia is owned and used ?far	mers
(3) How much you paid for the pump and/or Sakia including installation?	LE
(4) The pump and/or saqiya was purchased in 19, and expectedly more	years durable
(5) Do you intake water directly from non-Meska canal?"No", "Yes"	·
(6) If "Yes" in (5) do you agree to stop the direct irrigation when IIP will contri	bute to distribute
irrigation water properly "Yes" "No"	

	Mcska_	Drainage(including thesubs
a. By offering your own labor		-
b. By cost payment		
c. By hiring laborers		
d. By hiring rental machines		
e. No joining		
(specify the reason)		
(8) How much money or how many days you sp	pend annual	ly for the above mentioned job
Meska_	Dra	un(including the subsurface)
LE/year, or days/year		_ LE/year, or days/
(9) How such rules are decided in allocating sh	ared burden	against each farmers?
a. By discussion among farmers in each yo	ear of crop s	eason
b. By customary law such as " haqq al-'ar	rab"	_
c. By fixed regulations etc.		
d. Others (specify:		
(10) Have you encountered any conflict/dispute	es on water a	allocation and distribution
for past ten years?		
Among users With	Government	al staff including gate keepers
a. Quite often		-
b. Occasionally		→
c. Rarely	 	
d. Never		-
(11) What kind of conflicts are mostly seen in	your irriga	tion group ?
a. Offense against the decided allocation a	s per canal	0&M
b. Inequity of water allocation between he	ad and tail r	eaches
c. Illegal installation of pump/Sakia	_	
d. Destruction or loss of pump/Sakia cause	d by other r	members
e. Destruction of canals incurred by carele	ss driving o	f tractor
f. Others (specify:		

(12) If rules decided are not observed by some farmers, then what kind of penalty will be impose	d
to him?	
a. Monetary fine	
b. Report to police	
c. Others (specify:)	
(13) In case of penalty decision or conflict solution, who will be a most influential person in your	٢
irrigation group?	
a. Village chief	
b. Police	
c. Senior member of rural community	
d. Through democratic negotiation among members	
c. Others(specify:)	
13. Intention on Improvement of Mesqua Operation and Maintenance	
(1) Have you ever heard about "Irrigation Improvement Project(IIP)" which is aiming at a bold	
innovation of giving water users a large authority and responsibility through the	
establishment of "Water Users Association(WUA)", as a regal entity, in Meska canal?	
"Ycs", or "No"	
If "Yes", from whom you have heard this subject?	
a. From other farmers of intimate	
b. From MPWWR staff	
c. From others	
(specify:)	
(2) If a WUA is established in your Meska canal, what kind of merit you expect?	
(Please more than one in accordance with your expectation)	
a. Stable and equitable water supply	
b. Decrease O/M cost for Meska and drainage	
c. More flexible and efficient water supply for diversified crops	
d Decrease in conflict / dispute regarding water distribution	
e. Removal in over- intervention by Government for farmers' self- governing	
c. Other merit	
(specify:)	
f. No merit is expected	

(3) What kind of Mesqua improvement do you need?	
a. Continuous flow of irrigation	
b. One-point lifting mesqua irrigation system(raised lining canal)	
c. One-point lifting Meska irrigation(pipe line)	
d. Lining of existing Meska canal	
e. Repair of existing Meska canal	
f. Others (specify:)
g. No response	
(4) If the above said Meska irrigation system improvement succeeds to distribute	
water adequately and timely, do you agree to pay the project cost with applying	
specially arranged amortization system?	
"Yes", "No" If "No", specify the reason:	
(5) Can you afford to spare money for payment of water charge after improvement of	
irrigation system? "Yes" , "No" If "Yes" how many percent in total far	m
income can you pay?	
a. less than 4%	
b. 4-6%	
c. over 6%	
14. Information on Improvement Project Other than Meska System Development	
(1) What kind of land development do you need to improve crop production other than	
Mesqua system improvement?	
a. Subsurface drainage	
b. Land leveling	
c. Application of gypsum	
d. Subsoiling	
e. Deep plowing	
f. Application of green manure/ compost	
g. Sprinkler irrigation	÷
h. Drip irrigation	
i. Others(specify:)

(2) Do you grow rice? "Yes" "No" If "Yes" What is the reason to grow r	ice?
a. Desalination of saline soils	
b. Maintenance of soil productivity/ control of pests	
c. Profitable crop	
d. For home consumption	
c. Others (specify:	.)
(3) Do you agree to decrease rice cropping area or change rice to other crops if saline	
soil problems are properly solved through subsurface drainage / soil improvement?	
"Yes", "No" If "Yes", what kinds crop do you prefer to grow instead of r	ice
a. Potato	
b. Vegetables (specify the major vegetables)	
c. Fruit trees (specify the fruit tree)	_
d. Others (specify major crops)	•
(4) Do you use canal water for other purpose than irrigation at present?	
a. Drinking water	
b. Domestic water	
c. Livestock and poultry	
d. Others (specify:	`
(5) Do you notice any water pollution for canal water at present? "Yes" "No"	_ ,
If "Yes" what cause on water pollution do you notice?	
a. Domestic waste water pollutes canal water	
b. Other sewage water than the above pollutes canal water	
c. Livestock and poultry pollute mesqua water	
d. Others (specify:	`
(6) Do you have any kinds of problems caused by water pollution in canal?	- /
"Yes", "No" If "Yes", specify the problems	
a. Disease were born by water ? If so what kinds of diseases are?	
b. Canal water is not suitable for domestic use	
c. Others (specify:)
(7) Do you need to improve water quality in canal? "Yes" "No" If	
"Yes", what kind of measure do you want apply?	
a. Stop to drain domestic water to canals through development of drainage and	
treatment facilities of polluted water	

 b. Protection of canal water from pollution caused by livestock and poultry at 	
village level	
c. Others (specify:)
(8)How do you decide the planting crops, cropping area and cropping pattern?	
a. decide by myself considering profitability under the farming condition	
b. obey the others (chose from the list below)	
i. predecessor's way	
ii. land owner	
iii. cooperative,	
iv. Aila	
v. Water User's Association	
vi. agricultural extension worker	
vii. other (specify:)
(9)What do you consider to increase your household income	
a. raise agricultural productivity by improvement of land and irrigation system	
b. expand farming land by renting or purchasing	
c. cooperate with other farmers for production and selling	
d. get non-farm job due to the limit of farming land	
e. get non-farm job due to the financial shortage to improve land and irrigation system	
f. other(specify:	
)
15. Others	
What are the main constraints in your opinion about hampering agricultural production	n and /
or income increase other than the preceding question to achieve successful standard of	
(1)	
(2)	
(3)	
\`\	

L.5.2 DETAILED FARM ECONOMY SURVEY

Farm			
No.			

are of Farmer who answered		
	Date interviewed:	,1998
ddress:Subvillage :	Enumerator :	
Village :	Checked by :	
District :		
Governorate :		
Delivery Canal:		
No. of Family Member:		

1. Farm-gate Price of Major Eight Sold Crop(Nov, 1997-Oct., 1998)

	Unit	Unit Price							
		M	ddemen	Directly to market			Cooperative	Directly to	1
Main Products		By lot	Farm gate	Village	Local	Central	7	1	Froducts*1
1. Wheat									
2. Faba bean			1			1		 	
3. Mazie						j	i		
4. Cotton			<u> </u>			<u> </u>			
5. Nice					\- <u>-</u>		I		
6.()								·	
1.()						† · · · · · · · · · · · · · · · · · · ·	 	 	
8.()			1			 	 	 	

Note: +1---(1) Fresh (2)Orled (3) With shell

2 Inventory of Capital Investment (As of Oct., 1998)

Itens	Capacity	Number	Used Year (yew)	Original Value(LE)	Repair Cost(LE/yr)	d of non
1. House(du elling)						
2.Shed for animals						
3.Shed for farming						
4.Tractor,4wheel	HF*		l	1		ļ
5.Hand Tractor	HP*				·	1
6.Irrigation Pump Set	HP				1	
7.Sprayer				1		·
8.Other Machineries for Crop Production					1	
a.(Name)					· · · · · · · · · · · · · · · · · · ·	-
b.()					· · · · · · · · · · · · · ·	1
e.()				<u> </u>	 	t
9 Harrow for Animal					1	
0.Bell Cart .						
11.Cora Sheller (by man power/ by engine)						l
2.Bicycle						l
3.Motor bleyele				<u> </u>	T	
4.Truck	CC		· 	l	1	
5.Private Car	CC				·	· · · · · · · · · · · · · · · · · · ·
6.TV set						
7.Padio set						···

Note;*...including attachments

3. Loan and Debt

	Remaining	Source	Loan			Repayment of Debt		Remaining	
Purpose	Debt	of	Cash	In K	Gind .	by Jun.1998		Debt	
•	(Jun,1997)	Loan	l . I	ftem.	Ks	Principal	Interest	(Jun, 1998)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1.Crop Froduction 4. b.	(LE)		(LE)			(LE)	(L/yeu)	(LE)	
ė.		1					l	· · · · · · · · · · · · · · · · · · ·	
2.Livestok]						I	
3.Machinery							†———		
Farm Land							 	<u> </u>	
Total									

Note:			
Col.	Code/Description	Cd.	Code/Description
(1) Crop	l= fertilizer	(2) Source of	1= merchant
Production	2= seeds/seedings	Loan	2= land owner

3= hired labor 4= others(specify) 3= refutives 4= bank(specify)

4-	1. I	ise of	Fatin	Transit I	ł v	MALOR	Crop(N	av 1997	-Oct	1999)

1. Crop Name (

)

2. Variety (

1

3. Planted Area (

fe-d-dan)

	T 11
ġ.	Labie

ltem	Unit	per	Total	Purchase	Purchase		nd by Credit
	_	feddan	 	Frice	from	Term	Interest
	_		<u> </u>	(LE/unit)		year	
A. Yield							
B. Farm Input							
1. Machinery		· · · · · · · · · · · · · · · · · · ·					
(1) Tractor			ļ				
- Ploving	hr .		ļ				
- Harrewing	to_		ļ				
(2) Irrigation pump	hr .	· · · · · · · · · · · · · · · · · · ·	<u> </u>				
(3) Sprayer	hr	 	\				.=
(t) Thresher	hr						
(5) Combine	hr						
(6) Winnowing	tu			ļ			
2. Farm input			<u> </u>		·		
(i) Seeds/seedlings	Kg						
(2) Fertilizer	Kg			ļ			
- พ	Kg						
(Major kind)					<u> </u>		
- P2O5	Kg						
(Major kind)			ļ				
- K	Kg	 					
(Major kind)							
- Maraire/Compost							
(3) Insecticides	liter						
(Major kind)							
(4) Fungicides	kg	·					
(Major kind)							
(5) Herbickes	kg						
(Major kind)							
(6) Animal works							
- Land preparation	cow hr						
- Transportation	donk hr						

4-2 Labor (nput (man hr) and Labor Coat by Operation, Month and Crop

Month		, u.												
	Operation Seed-	Seed-	-brad-	Sowing/	Watering	Ferbizing	Weeding	Spraving	Havesting	Threshing	Winnowing	Transport-		Total
_		Family/	ş	Family/Hired	Family/Hired	Family/Hirad	Family/Hired	Family/Hired	Family/Hired	Family/Hired	Femily/Hired	Femily/Hired	Family/Hired	Family/Mired
Žo.	man-hr	7	,				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		***************************************	,	**************************************	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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Note: # includes value of board

									l					
Operation		Seed- bedding	Land" preparation	Sowing/ Planting	Wetening	Forthizing	Weeding	Spraving	Harvesting	Threshing	Winnowing	Transport- ation	Specify	Total
Honeth (Specify)														
	762	Own/Hired	d Own/Hired	Own/Hired	Own/Hired	Own/ Hired	Own/Hired	Own/Hired	Own/Hired	Own/Hired	Own/Hired	Own/Hined	Own/Hired	Own/Hired
1. Machinery										_				
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	Cost(LE)					/		/	/	/	,	, ,		,
(3)Sprayer	, tu	,	,	,	7	/	, ,	,	,	/	/	/	,	,
	Cost(LE)	/	/	/	/	,		,			/	- 1	`	/
(4)Thresher	hr	,	,	,	,	/	,	/	/	/	/	/	/	/
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(6)Winnow Machinery	14	,	,	,	,		,	/	,	/	,	(,	/
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4-4 Volumes of Materials by Operation , by Month and by Major Crops

Name()	 >	bed Area(
1. Crop Nam	2. Varioty	3 Plante

Operation		Seed-	Land- preparation	Sowing/ Planting	Watering	Fortilizing	Weeding	Spraving	Harvesting	Threshing	Winnowing	Transport"	Specify	Yotal
Month (Specify)	1 1													
	Unit													u-aya.
1, Materials	:													mm. O com
(1)Seeds/Seedlings	Ž. (***************************************	***************************************	***************************************	***************************************	*************************	***************************************		***************************************		-	
3	COSTLEY													
(Z)refuizers	3													•·••••
(Major kind)	**************************************	<u>. </u>	****	***************************************	***************************************		***************************************	***************************************	***************************************	***************************************			•	
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(Major kind)				-					7			***************************************	***************************************	***************************************
	Cost(LE)													
(3)Insectooldes													***************************************);//aqqu mar/yamin
(Major kind)	ite											100		***************************************
	Cost(LE)													
(4)Fungioides														
(Mejor kind)	¥						-						**************************************	
	Cost(LE)													
(5)Herbioides													***************************************	
(Major kind)	×												***************************************	Ĭ
	Cost(LE)													1.5
(6)Other(Specify)	***************************************	H 1011 1011 1011 1011 1011 1011 1011 10	1		***************************************				*************************				***************************************	
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	Cost(LE)													
(7)OilLubrication oil	littor		/	/	//	//	/	/						
	Cost(LE)													
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(1)Cows	È													
	Cost(LE)													
(2)Donkey	i.	(*** 1 *** 7 7 7 *** *** *** *** *** ***	7H790714444077800000079407153	***************************************	***************************************				(77.53000P-4-10.51000P-1-1-1-1	***************************************		-	171111111111111111111111111111111111111	
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(3)Other(Specify)	JL.	***************************************		***************************************	***************************************	***************************************		***************************************	***************************************	***************************************		***************************************	***************************************	
	Cost(LE)													

v Curing Making Dung Cake dairy Handicraft handicraft handicraft processing Handicraft h	Soed Land Planking Irrigation Wooding Post Harvosting	Sociation Sociation Planting Irrigation Weeding Peet Harvesting Storage Propagation Planting Irrigation Planting Peet Harvesting Storage Propagation Planting Peet Harvesting Storage Propagation Planting Planting Peet Harvesting Storage Propagation Planting Planti		acou				Crop muspandary			
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Priority in number	Priority in number	Priority in number	Number	health	cultivation	raising	raising	care	processing		_
			Priority in number								- 1

APPENDIX M.

COST ESTIMATE AND IMPLEMENTATION PLAN

Appendix M Cost Estimate and Implementation Plan
M.1 Cost Estimation of M/P
Table M.1.1 Project Cost Estimation (M/P)
Table M.1.2 Cost Estimate of Project Component (1)
Table M.1.3 Cost Estimate of Project Component (2)
M.2 Cost Estimation (F/S) M-5
Table M.2.1 Project Cost Estimation (F/S)
Table M.2.2 Cost Estimate of Prodect in the Priority Area (F/S)
Table M.2.3 Cost Comparison: Alternative Plans of Regulator
Table M.2.4 Cost Comparison of Meska to be Proposed
M.3 Implementation Plan

Figure M.3.1 Organization Chart of Project Implementation

M.1 Cost Estimation of M/P

Table M.1.1 Project Cost Estimation (MP)

			Unit-1,000	
-	Description Improvement of Major Facilities	Foreign Cost (L.E.)	Local Cost (LE)	Total
		13,203	7,427	20,630
	(2) Rahbeen Regulator	44,346	25,314	099'69
		24,960	14,040	39,000
	(4) Bahr Tera and Abshan Motorization	439	192	631
	_	316	734	1,050
	(6) Hamoul Pumping Station	22,798	6,002	28,800
	(7) Slope Protection	4,838	11,290	16.128
	(8) Weed Control	6,120	089	6,800
	Subjectal	117.020	62.679	182,699
Сį	Improven			
		9,246	3,082	12,328
		10,296	24,024	34,320
		743	319	1,062
	(4) Replace of Intake Gate	4,601	1,559	6,160
	[মাত্যবৃদ্ধ	24.886	28.284	53,870
က်	Moska Improvement	547,835	821,754	1,369,589
4	Water Management	5,356	344	5,700
۸.	Drainage Improvement Tile Drainage	58,197	232,789	290,986
ý	Pilot Sheme	4,083	4,850	8,933
٠.	Demonstration Farm	446	3,292	3,738
o	Pump, Gate and Apparatus Repair Shop	780	\$20	1,300
o.	Water Conservation Plan	832	92	226
20	10. Administration & Consultants Remunaration	83,538	127,413	210,951
	TOTAL	842,973	1,285,717	2,128,690

Table M.1.2 Cost Estimate of Project Component (1)

Item		Quantitiy	Unit	Unit Price	Total	Remark
				(LE)	(000 LE)	
1. Main Irrigation System Improvement						
(1)Monofy barrage	Barrage Body w/ Gate	8	E	910,000	18,200	
	Embankment	3,000	E E	25	75	
	Stone Ptching	2,427	33	100	243	
	Temoprary Work		10%		1,852	
	Georogical Survey	1.0	LS	260,000	260	
	Total				20,630	
(2)Rahabeen Barrage	See Table M.2.2					
(3)improvement of Damara	Damara Regulator	8	ε	300,000	24,000	
Regulator	Box Culvert	3,000	Ε	2,000	6,000	
	Temporary Work		30%		000'6	
	Total				39.000	
(4)Bahr Tera and Abshan Motorization See Table M.2.2	ר See Table M.2.2					
(5)Tera Main Canai Reembankment	See Table M.2.2					
(6)Hamoul Puming Station	See Table M.2.2					
(7)Slope Protection	Side Slope Protection	201,600	£	8	16,128	
The state of the s	(72km) Total				46.00	
	500				10,126	
(8)Weed Control	Weed Cut Equipment		set	1,700,000	6,800	
	Total				6,800	

Table M.1.3 Cost Estimate of Project Component (2)

2. Improvement of Delivery Cenal						
2. Improvement of Delivery Cen				(LE)	(000 LE)	
	~e					
	(1) Slope Protection	154,100	e E	8	12,328	92km
	(2) Check Structure	6,864	3 E	5,000	34,320	every 3km
	(3) Repair	1,280	æ	830	1,062	80 delivery canals
	(4) Replacement	1,232	m 2	5,000	6,160	77 delivery canals
Total					53,870	
3. Improvement of Meska irrigation System	ion System	695,223	fod	1,970	1,369,589	1,369,589 See Table M.2.2
4. Water Management System Improvement	mprovement					
-	(1) Soft ware	<u>‡</u>	set T	31,644	4,557	
	(2) Operation Cost	240	month	2,000	480	
	(3) Training Cost	8	time	28,000	260	
	(4) Seminar Operating Cost etc.	10	time	10,000	8	
	(5) Miscellaneous	+	ş		6	
Total					5,700	
5.Drainage Improvement	Field Orainage	333,700	fed	009	200,220	200,220 See Table M.2.2
(Tite Orainage)	Repair Drainage	453,830	fo b	200	90,766	
Total 4					290,986	
6, Pilot Farm	See Table M.2.2					
7. Demonstration Form	See Table M.2.2				-	
8. Reinforcement of Existing Workshop	orkshop					
for Pump & Gate etc.						
	Letho	, 4	set	250,000	1,000	
	Others		308		300	
Total					1,300	
9. Water Conservation Plan	Sec. Table 14.00					

M.2 Cost Estimation (F/S)

Table M.2.1 Project Cost Estimation (F/S)

			Unit:1,000	
	Description	Foreign Cost (LE)	Local Cost (LE)	<u>Total</u>
1.	Improvement of Major Facilities	_		
	(1) Rahbeen Regulator	44,346	25,314	69,660
	(2) Bahr Tera Intake Gate	258	102 90	360 271
	(3) Epshan Regulator (4) Slope Protection and Reembankment in	181	70	211
	the Tera Main Cana!	316	734	1,050
	(5) Hamoul Pump Station	22,798	6,002	28,800
	(2)	•	•	
	Subtotal	<u>67,899</u>	<u>32,242</u>	<u>100,141</u>
2.	Improvement of Delivery Canal			
	(1) Installation of Check Gate	1,668	532	2,200
	(2) Slope Protection	105	245	350
	(3) Replace of Litake Gate	127	43	170
	Subtotal	<u>1,900</u>	<u>820</u>	<u>2,720</u>
3.	Improvement of Meska Canal 56,930 Feddan (23,911 ha)			
	Subtotal	44,860	<u>67,292</u>	<u>112,152</u>
4.	Water Management Improvement			
	Subtotal	<u>8,416</u>	<u>684</u>	9,100
5.	Drainage Improvement			
	Subtotal	1,878	<u>7,512</u>	<u>9,390</u>
6.	Pilot Sheme			
	Subtotal	4,083	<u>4,850</u>	8,933
7.	Demonstration Farm			
	Subtotal	<u>35</u>	<u>258</u>	<u>293</u>
8.	Establishment of Pump, Gate and Apparatus Repair Shop			
	Subtotal	<u>195</u>	<u>130</u>	325
9.	Water Conservation Plan			
	<u>Subtotal</u>	<u>208</u>	<u>23</u>	<u>231</u>
10	Administration & Consultants Remunaration			
	Subtotal	<u>13,382</u>	13,382	<u> 26,764</u>
	TOTAL	142,856	127,193	270,049

Table M.2.2 Cost Estimate of Prodect in the Priority Area (F/S)

1. Improvement of Major Facilities

(1) Rahbeen Regulator

Description	Chit	\$;O	Unit Cost	Amo	Amount (1000 LE)		Remarks	arks
			(LE)	5	ည	Total	FC	၁၂
1 Temporary Work								
(1) Earth work (cut/backfill)	m³	6,480	28	36	145	181	20%	80%
(2) Gate (3m × 6No)	٩	5	220,000	880	220	1,100	80%	20%
(3) Sheet pile	£	400	16,200	4,546	1,948	6,494	70%	30%
(4) Drainage operation	day	580	9,500	1,653	3,857	5,510	30%	70%
Sub-Total				7,115	6,170	13,285		
						-		
2 Main Structure					-			
(1) Earth work	m ³	3,250	26	26	29	85	30%	70%
(2) Break of old structures	"	3,900	250	293	289	975	30%	70%
(3) Concrete work	"	6,500	2,550	8,290	8,290	16,580	20%	20%
(4) Sheet pile (water stop)	Š	120	2,500	210	8	300	70%	30%
(5) Steed support pile	"	200	52,300	8,368	2,092	10,460	80%	20%
(6) Bridge (I-sharp)	æ	70	174,860	9,792	2,448	12,240	80%	20%
(7) Gate and Hoist	6	sets	1,109,000	7,986	1,997	6,983	30%	20%
(8) Concrete block	w _s	2,460	760	935	935	1,870	20%	50%
Sub-Total				35,900	16,593	52,493		
3 Gate Operation Building								
(1) Building work	a ₂	20	4,000	24	56	80	30%	70%
(2) Operation equipment at site	No	6	27,300	221	52	246	%06	10%
(3) Operation panel at Tanta	"	5	15,600	28	က	31	%06	10%
Sub-Total				273	84	357		
			,					
4 Miscellaneous				1,058	2,467	3,525	30%	70%
Total				44,346	25,314	099.69		

(2) Bahr Tera Intake Gate

15	ပ္		70%		2	.0%	Ş	7												
Remarks	FC		30%		%06	%O6	% % % % %	30%			 							-		
<u> </u>	Total		30.0		218.4	15.6	14.3	31.7	 360.0								-			
Amount (1000 LE)	ည		56		21	2	-	22	102.0				 						 	
Amor	FC		24		197	14	13	01	258.0		 . —-									
Unit Cost	(LE)		4,000		27,300	15,600	14,300			_			 -							
O,t	•		20		ထ	-	-				 									
Unit			m²		N٥	Ν̈́	No													
Description		Bahr Tera Motorization	(1) Building work	(2) Gate operation motor	and apparatus	(3) Operation board at site	(4) Monitoring panel at Tanta	(5) Miscellaneous	Total											

(3) Abshan Regulator

Description	Chit	Δ. Ο	Unit Cost	Ame	Amount (1000 LE)	Œ	Ren	Romarks
	•		(LE)	FC	S)	Total	FC	rc TC
1 Epshan Motorization	-							
(1) Building work	m ²	50	4,000	24	56	80.0	30%	70%
(2) Gate operation motor								
and Apparatus	No	5	27,300	123	14	136.5	%06	10%
(3) Operation board at site	No	-	15,600	14	2	15.6	%06	
(4) Monitoring panel at Katei shike	Š		14,300	13	-	14.3	%O6	10%
(5) Miscellaneous				7	18	24.6	30%	
Total				181.0	0'06	271.0		
			,					
			į					

(4) Slope Protection and Reembankment in Bahr Tera Main Canal

rks LC	70%	70%	70%													
Remarks FC L	30%	30%	30%			***							-	 		
E) Total	269	676	105	C C	000			 				! !				-
Amount (1000 LE)	188	473	73	104	457		 				-					
Amor FC	81	203	32	916	316											
Unit Cost (LE)	8	13	-													
Ġ	3,360	52,000				-										
C Dist	m ₃	E	Ş			Z										
Description	Bahr Tera Main Canal (1,2km)	Improvement of Embankment (20km)	Miscellaneous		lotai											

(5) Hamoul Pump Station

Description	Cait	λ ; .Ο	Unit Cost	Amor	Amount (1000 LE)	(ii)	Remarks	arks
			(LE)	FC	၁၂	Total	5.	CC
1 Access Canal Work								
(1) Excavation	E E	58,100	24	418	976	1,394	30%	70%
(2) Embankment	"	3,000	32	53	63	96	30%	70%
Sub-Total				447	1,043	1,490		
2 Pump House								
(1) Reinforcing concrete	ະ	1,700	2,600	2,210	2,210	4.420	20%	20%
(2) Pump house	m	33	4,000	99	99	132	20%	20%
Sub-Total				2,276	2,276	4,552		
								
3 Pump Unit and Apparatus								
(1) Pump unit	N _o	3	4.100,000	10,800	1,200	12,000	%06	10%
(2) Valves, crane and trash plant	sets	"	1,760,000	4,752	528	5,280	%06	%O:
(3) Coming electric board	"	"	990.000	2,673	297	2,970	%06	10%
(4) Operation panel	.11	"	610,000	1,647	183	1,830	%06	10%
Sub-Total				19.872	2,208	22,080		
- 1					i.		300	
4 Miscellaneous				203	4/5	8/9	308	5
Total				22,798	6,002	28,800		

2. Improvement of Delivery Canal

Description	Unit	,≩; O	Unit Cost	Amo	Amount (1000 LE)		Rem	Remarks
			(LE)	FC	၁၂	Total	인	ပ္
1 Check gate								
(1) Gate	No	31	65,000	1,612	403	2.015	%08 80%	20%
(2) Miscellaneous	s)			99	129	185	30%	70%
Sub-Total				1,668	532	2,200		
			,					
2 Slope Protection								
(1) Pitching (3.8km)	ຶ້ະ	6,373	- 05	96	223	319	30%	70%
(2) Miscellaneous	- Ls			တ	22	31	30%	70%
Sub-Total				105	245	350		
3 Replace of Intake Gate								
(1) Gate	S N	က	51,000	122	31	153	80%	20%
(2) Miscellaneous	s)			5	12	17	30%	70%
Sub-Total				127	43	170		
Total				1,900	820	2,720	:	
			,					
						-		

3. Improvement of Meska Irrigation System

Description	Chit	Š	Unit Cost	Amo	Amount (1000 LE)	(ii)	Remarks	rks
		•	(LE)	F.	S	Total	5	၁၂
Bahr El Nour	Fed	1,003	1,890	758	1,137.	1,895	40%	%09
Mashabik	Fed	8	1,930	62	92	154	40%	%09
Rabwa West	Fed	92	2,180	8	120	200	40%	60%
Rabwa East	Fed	100	4,300	172	258	430	40%	809
El Bora	Fed	20	1,920	జ	58	96	40%	%09
El Dewake	Fed	100	1,920	77	115	192	40%	90%
Abo Kora	Fed	150	1,920	116	174	590	40%	909
Tarfaya	Fed	350	1,920	269	403	672	40%	60%
Gobaah	Fed	40	1,920	စ္က	46	76	40%	%09
El Seteen	Fed	8	1,920	77	115	192	40%	%O9
Zant	Fed	150	1,920	115	173	288	40%	%O9
Abou El Ela	Fed	163	1,920	125	188	313	40%	%09
El Bagara	Fed	93	1,920	7.1	107	178	40%	%09
Hoad "25"	Fed	233	1,920	179	268	447	40%	%09 80%
Matbek	Fed	76	1,920	ည်	88	146	40%	%09
Meska Balat	Fed	13	1,920	10	15	22	40%	80
El Walda	Fed	130	1,920	18	150	250	40%	%09
Safwat Ebed	Fed	4	1,920	30	46	76	40%	%09
Sheikh Hassan	Fed	8	1,920	62	36	154	40%	80%
Ganadi	Fed	35	1,920	27	41	89	40%	%09
Kishar	Fed	8	1,920	77	116	193	40%	80%
Nour(1)	Fed Fed	160	1,920	123	185	308	40%	%09
Nour(2)	Fed	207	1,920	159	239	368	40%	%09
Nour(3)	Fed	455	1,920	320	524	874	40%	%09
Total	Fed	4,000	1,920	3,166	4,749	7.915	40%	%09
1/4000	Fed	1	1,970	•				
	Fed	56,930	1.970	44,860	67.292	112.152	40%	%09

 Improvement of Meska Irrigation System (Continue) Mashabik Canal Works

arks	၁																						•	
Remarks	ပ်																							
	Total		2,208	8,487	5,076	1,226	4,161	21,158	-		19,350	9,280	24,670	13,734	67,034	 ~	39,618	26,400	66,018	154,210				
Amount (LE)	၁၂		_									!												
▼	75																	-					 	
Unit Cost	(FE)		4	3	ო	2	တ		_ -		150	160	2,467	7			39,618	26,400	-					
\$ O	;		225	2,829	1,692	613	1,387				129	28	10	1,962			•							
Chit	:		£Ψ	°E	E E	m ²	35				ືຍ	်န	ż	E.			۶٦	Ls						
Description		1 Earth Work	(1) Excavation	(2) Backfill	(3) Embankment	(4) Slope Shaped Berm	(5) Slope Shaped Side Slope	Sub-Total		2 Canal Work	(1) Brick	(2) Base Concrete	(3) Box	(4) Temporary Canal	Sub-Total	3 Pumping Work	(1) Pump Station	(2) Pump	Sub-Total	Total				

3. Improvement of Meska Irrigation System (Continue) Rabwa East Canal Works

Description	Chit	ξ O	Unit Cost		Amount (LE)		Ren	Remarks
			(LE) [5 S	S S	Total	<u></u>	CC
1 Earth Work		1						
(1) Excavation	ະເ	1,442	4			5,768		
(2) Backfill	ິເ	8,509				25,527		
(3) Embankment	E.	4,335	ო			13,005		
(4) Slope Shaped Berm	m ²	2,506	7			5,012		
(5) Slope Shaped Side Slope	3.5	3,549	က			10,647		
Sub-Total						59,959		
2 Canal Work								
(1) Brick	ິຍ	301	150			45,150		
(2) Base Concrete	E	136	160			21,760		
(3) Box	ž	19	2,467			46,873		
(4) Value Box	ž	1	1,367			1,367		
(5) PVD ϕ 350	£	1,435	100			143,500		
(6) Temporary Canal	s E	4,592	7			32,144		
Sub-Total						290,794		
3 Pumping Work								
(1) Pump Station	Ls	-	52,864			52,864		
(2) Pump	Ls		26,400			26,400		
Sub-Total					_	79,264		
Total						430,017		
					. –			
		_						
						_		

3. Improvement of Meska Irrigation System (Continue) Rabwa West Canal Works

Description	Coit	ζ <u>.</u> Ο	Unit Cost		Amount (LE)		Ren	Remarks
			(LE)	단	ပ္	Total	5	L'C
1 Earth Work								
(1) Excavation	ະພ	633	4			2,532		
(2) Backfill	ິ E	3,762	က			11,286		
(3) Embankment	_e w	2,048	က		-	6,144		
(4) Slope Shaped Berm	m²	1,566	2			3,132		
(5) Slope Shaped Side Slope	"L	1,690	က			5,070		
Sub-Total						28,164		
7777								
	ŗ							
(1) Bnok	°E	132	150			19,800		
(2) Base Concrete	e E	09	160			9,600		
(3) Box	ž	7	2,467			17,269		
(4) Value Box	ŗ	-	1,367			1,367	<u></u>	
(5) PVD φ350	£	312	100			31,200		
(6) Temporary Canal	ພູ	2,016	7			14,112		
Sub-Total						93,348		
1								
3 Fumping Work								
(1) Pump Station	Ls	-	52,864			52,864		
(2) Pump	Ls	-	26,400			26,400		
Sub-Total						79,264		
Total						200,776		
				~ 4				
					==			

3. Improvement of Meska Irrigation System (Continue) Bahr El Nour Canal Works (for Direct Irrigation)

Remarks	၁၂ 							 	, , -											 -		
L.	FC																					
	Total		29,748	61,272	14,800	50,214	156,034		233,100	112,480	407,055	752,635		594 270	396,000	990,270	1,898,939					
Amount (LE)	ပ္																					
	<u>Б</u>					:																
Unit Cost	(E		4	3	2	3			150	9	2,467			39 612	26.400						 	
O,ts			7,437	20,424	7,400	16,738		_	1,554	703	165			r.	5 2	}			 			
Unit	<u> </u>		m ₃	m	35	3 ⁵			m ³	E.	ż			_	3 2							
Description		1 Earth Work	(1) Excavation	(2) Embankment	(3) Slope Shaped Berm	(4) Slope Shaped Side Slope	Sub-Total	 2 Canal Work	(1) Brick	(2) Base Concrete	(3) Box	Sub-Total	2 District West	(1) Dum Station	(2) Pump	Sub-Total	Total					

4. Water Management Improvement

Description	Unit	O.t.	Unit Cost	Amo	Amount (1000 LE)	LE)	Rem	Remarks
			(LE)	FC	CC	Total	고	ပ္
1 Water Management								
(1) Soft ware	set	144	31,643.75	4,557	0	4,556.7	100%	8
(2) Operation cost	month	240	2,000	336	144	480	70%	30%
(3) Training cost	time	20	28,000	392	168	260	70%	30%
(4) Seminar operating cost etc.	time	10	10,000	70	30	30	70%	30%
(5) Miscellaneous	Ls	-			2	3.3	30%	70%
Sub-Total				5.356	344	5,700		
2 Weed Cut Equipment	District	2	1 700	3,060	340	3,400	%06	10%
- 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0 + 0		į.		9170	703	0		
				5	\$	3	-	
			_					
							-	

5. Drainage Improvement

Description	Unit	ζ <u>τ</u> ,Ο	Unit Cost	Amo	Amount (1000 LE)	ũ	Remarks	arks
			(LE)	FC	ວາ	Total	고	ပ
1 Drainage Development								
Field drainage work	fed	13,400	009	1,608	6,432	8,040	20%	80%
	-			j				
2 Repair Drainage Work	fed	2,500	200	5	400	200	20%	80%
3 Miscellous				170	88	820	20%	808
Total				1.878	7,512	9,390		

6. Establishment of Pilot Scheme

Description	Coit	Ç.O	Unit Cost	Am	Amount (1000 LE)	Œ	Ren	Remarks
			(LE)	<u>Б</u>	rc	Total	ည	၁၂
1 Procument of Equipment								
Including Observation and Laboratory	S.	1	1,018,000	1.018		1,018	100%	ð
Instruments								
2 Civil Work	LS.	-	7.915.000	3,065	4.850	7,915	40%	809
				200.				
local				4,083	053.4	8,933		
								-3.
					ļ			
							!	
				F				•

6. Establishment of Pilot Scheme (Continue)

Summary of Project Cost

Description	Unit	A,O	Unit Cost	Amo	Amount (1000 LE)	(ii)	Rer	Remarks
-		•	(LE)	7.	ပ္	Total	J.	ე ე
1 Soil and Water Analysis				41	0	41		
2 Agriculture				458	0	458		
3 Imigation and Drainage				274	0	274		
4 Water Management				245	0	245		
Total				1,018	0	1.018		
	,							
				-				
						. ——		

6. Establishment of Pilot Scheme (Continue)

Name of Structures: Water Quality Equipment and Agriculture

Description	Unit	φ O	Unit Cost	Amy	Amount (1000 LE)	(ii)	8	Romarks
			(LE)	FC	၁၂	Total	FC	ပ
1 Water Quality								
Water Quality Checker(Handy Type)	set	2	9,250	19	0	19		
Rapid Water Quality Analyzer	set	v	21,725	22	0	22		
(N,P,K,etc.)								
Sub-total				1.7	0	41		
				-				
2 Agricultural Research								
Soil Stick and Soil Color Chart	set	2	1,134	2	0	2		
Soil Auger (Dia 4")	set	2	2,925	9	0	9		
Soil Hardness Tester	set	2	1,159	2	0	2		
pH, EC Motor	set	2	2.750	9	0	9		
Electronic Balance	sot	,-	2.700	S	0	3		
Planimeter	set	3	2,113	4	0	4		
Measuning Tape(1001) and Hand Level	set	2	1,585	3	0	3		
Sd5	set	2	4.587	6	0	6		
Survey Equipment(Level and Staff, etc.)	set	2	5.309	11	0	11		
Survey Equipment(Theodrite and pole, etc.)	set	3 -	15,773	16	0	16		
Tractor (80ps)	set	,-	258,732	259	0	259		
Leveller (5m)	set		63,000	63	0	83		
Stable Cultivator	set		24,000	54	0	24		
Laser Equipment	ST	1	20.000	20	0	20		
Sub-total				458	0	458		

6. Establishment of Pilot Scheme (Continue)

Name of Structures: Irrigation and Drainage and Water Management

Description	Unit	\$.O	Unit Cost	Amo	Amount (1000 LE)	LE)	Rer	Remarks
			(LE)	건	S)	Total	မင	rc C
3 Irrigation and Drainage	•							
Automotic Water Level Gauge (Logger Type)	set	14	9,278	130	0	130		
Curent Meter	set	2	10.451	21	0	21		
4WD Station Wagon	set	2	61,546	123	0	123		
Sub-total				274	0	274		
1								
Water Management		•		:	ľ			
Desktop Computor(Pentium II 450 Mz) HD6GB, win 98	set	9	7.731	46	0	46		
External HD 6.4 GB w/bay sapcer	set	3	3,107	6	0	6		
Color Monitor 21 class	set	3	3,865	12	0	12		
Color Monitor 17" class	set	က	2.577	8	0	∞		
Printer (Leaser Printer) B&W A4 size	set	-	3,608	4	0	4		
Printer (BJ Printer) Color B4 size	set	1	1,030	T	0	ı		
Scaner (A3 800 × 1600 dpi)	set	-	5,154	5	0	2		
Scaner (A4 800 × 1600 dpi)	set	¥	2.061	2	0	2		
Router (for ISDN)	set	1	1,030	-	0	1		
Hub (10/100 M. 8 port)	set		773	-	0	-		
LAH & Modem (10 base-T + 56k)	set	2	5:5	1	0	1		
LAH board (Dos/V)	set	4	257	1	0	1		
Ether net cable (10base, 100m)	ST	-	515		0	1		
Printer Server	set	ļ	773]]	0	1		
Projector (Liquid Crystal, Resolution 800 × 600 dot)	set	1	17,010	17	0	17		
Desital Camera (1.3 million dot)	set	3	1.804	5	0	2		
Filter Screen	set	9	515	3	0	3		
CDRW (Driver/Rewritable)	sot	9	1,030	9	0	9		
MS Office 97 (Professional)	set	9	1,288	8	0	∞		
Page Maker 6.5	set	က	2,577	00	0	8		

6. Establishment of Pilot Scheme (Continue)

Name of Structures: Water Management

Description	Cnit	Α <u>.</u> Ο	Unit Cost	Amon	Amount (1000 LE)	Û	Rei	Remarks
			(LE)	ဌ	27	Total	FC	ပ
Sap 90	set	2	3,350	7	0	7		
Auto Cad 14	set	က	2,319	7	0	7		
Map Info (V4.5) Professional	set	2	15,979	32	0	32		
SGML (win 98/NT 4.0)	set	1	4,639	5	0	2		
NT Server	set	-	2.577	က	0	3		
Desk for Computor	set	9	1,288	හ	0	8		
Suply and Accesarry	S	1	3,865	4	0	4		
Inkjet Ploter (Color, AO size)	set	1	39,123	39	0	39		
Sub-total				245	٥	245		
			Pank					
				•				

7. Demonstration Farm

Amount (1000 LE) Remarks	LC Total FC LC		104 7.8 feddam × 51 marwa	112 = 400 fed (M/P)	10	216 226		332	- 20	382			40 40	80	48 48		40		12 12	16		500 500	300 300	
Amount	고				01	ဝှ	 <u></u>	332	20	382	~					· — ·	40	 			· ·			
Unit Cost	L (E)		260	350				83,000	6,200				20,000	4,000			10,000		200	4,000		50,000	20,000	
O.			400	320									2	2			4		24	4		5	9	
Unit			feddam	deddam	<u>ရှိ</u>			4	∞				unit	unit			set	 	M/M	Y/W		M/M	M/M	
Description		1 Investment Cost	(1) Land lerelling	(2) Gypsum application	(3) Soil & water bab. Equipment	Sub-Total	2 Vehicles	(1) Double cabin pickup	(2) Motorcycle	Sub-Total		3 Office Equipments	(1) P.C computer including software	(2) Copy machine	Sub-Total		4 Audio Visual Aids	 5 Current Costs	(1) Labors	(2) Driver	(3) Specialized experts	-On farm Water Management	-Land improvement	

7. Demonstration Farm (Continue)

Remarks	၁၂				x 2					4 months						51				
Rem	FC		-		400 feddam	cropping		 		3 persons X 4 months					F/S	= 3,738*4/51				
Ē	Total	300	1,128		320	54	374		200	240	009	1,040	200	3,738	293					
Amount (1000 LE)	၁၂	300	1,128		320	54	374		200	240	009	1,040	200	 3,306	258					
Amor	FC													432	35					
Unit Cost	(LE)	5.000			400				10,000	20,000	6,000	16,000								
⊅.Ċ		09			800				50	12	8									
Chit		W/W			feddam	្ន			No	M/M	M/M		ST							
Description		-Local specialized agronomist	Sub-Total	6 Input Materials	(1) Seeds, fertilizers, chemicals	(2) Others	Subtotal	7 Training	(1) Workshop/seminars	(2) Overseas training	(3) traveling/trips	Sub-Total	8 Fuel and others	Total						

8. Establishment of Pump, Gate and Appratus Repair Shop

Description	Chit	O	Unit Cost	Amo	Amount (1000 LE)	(E)	Rem	Remarks
	-		(LE)	5	ပ္	Total	단	ပ
Lethe	Set		250,000	150	100	250		
Others	_1	Ţ		45	30	75	-	
Total				195	130	325		
		-						
						-		
								1
			,					
						-		

9. Water Conservation Plan

Description	Unit	à O	Unit Cost	Amo	Amount (1000 LE)	(E)	Ren	Remarks
			(LE)	FC	CC	Total	ပ်	သ
1 Dakahlia Governorate								
(1) Water quality checker (2sets)				17	2	19	%06	
(2) Rapid water quality analyzer (1set)				20	2	22	%06	10%
(3) Computer-vehicles				171	19	190	%06	
Sub-Total				208	23	231		Ĺ
2 Kafr El Sheikh Governorate								
(1) Water quality checker (2sets)				17	2	19	806	80
(2) Rapid water quality analyzer (1set)				20	2	22	806	
(3) Computer-vehicles				171	19	130	%06	10%
Sub-Total	_			208	23	231		
3 Gharbia Governorate				i				
(1) Water quality checker (2sets)				17	2	19	806	10%
(2) Rapid water quality analyzer (1set)				20	2	22	%06	10%]
(3) Computer-vehicles				171	19	190	% 0 6	10%
Sub-Total				208	23	231		
4 Damietta Governorate								
(1) Water quality checker (2sets)				17	2	19	%0 6	10%
(2) Rapid water quality analyzer (1set)				20	2	22	%06	10%
(3) Computer-vehicles			-	171	19	198	%06	10%
Sub-Total				208	23	231	-	
Total				832	92	924	924 (M/P)	
				208	23	231	231 (F/S) Kafr El Sheikh	El Sheikh

Table M.2.3 Cost Comparison: Alternative Plans of Regulator

Description	Plan-A (1,000LE)	Plan-8 (1,000LE)	Plan-C (1,000LE)	Plan-D (1,000LE)
1 Temporary Work	13,285	13,285	13,285	16,923
2 Main Structure	42,510	41,938	42,630	42,510
3 Gate and Hoist	9,983	13,339	12,110	9,983
4 Miscellaneous	3,882	6,856	6,803	6,942
Total	69,660 (100%)	75,418 (108)	74,828 (107)	76,358 (110)

				GATE			LIE	₹	TOTAL
JA	.TERNATI\	VE PLANS	SPAN(m)	No.	SUB TOTAL(m)	SPAN(m)	No.	SUB TOTAL(m)	LENGTH (m)
	MAIN RI	EGULATOR	5.0	6	30.0	1.5	5	7.5	37.5
 ^	SUB		5.0	3	15.0	1.5	2	3.0	18.0
	MAIN	,	11.5	3	34.5	1.5	2	3.0	37.5
В	SUB		11.5 5.0	· 1	16.5	1.5	1	1.5	18.0
	MAIN	,	5.0	8	40.0	1.5	7	10.5	50.5
C	SUB		11.5 5.0	1	16.5	1.5	í	1.5	18.0
0	MAIN	1	5.0	6	30.0	1.5	5	7.5	37.5
	SU8	,	5.0	3	15.0	1.5	2	3.0	18.0

Table M.2.4 Cost Comparison of Meska to be Proposed

	-		10000	Care.	6,000	1	0 0000	,	,		Į,		
			3	228	C-BSB-2		Ceses.	200	-88.5	3	6-9se-9	0.98.0	Case-1:
			Raised	Widen	Raised	Raised	Pipeline	Pipeline	Stone	500	Raised	Raised	Raised
			9-shape	Ex. canal	Brick (Trap.)	Brick (Rect.)	w/ A. Valve	w/F.pond	Prching	G. Ppe	J-shape	Brick (Trap.)	Brick (Rect.)
tems	Description	Q.O	r one-point P.		one-point P.	one-point P.	one-point P.	one-point P.		w/Marrhole	Ord. P	Ord, P	Od. P
Pump Station	House	.	11,747	0	11,747	11,747	19,367	19,367	0	Ö	0	0	0
	Suction Pit	-	12,739	O	12,739	12,739	12,739	12,739	0	ō	O	0	0
	Delivery Pit	-	3,764	O	3,764	3,764	9,391	9,391	0	0	7,990	3,764	3,764
	Intake	-	2,606	7,606	7,606	7,606	2,606	7.606	7,606	2,606	2,606	7,606	7,606
	Intake Pipe	18.8	3,761	3,761	3,761	3,761	3,761	3,761	3,761	3,761	3,761	3,751	3,761
	Paved canal	15 m	ō	0	0	0	Ö	٥	0	0	2,764	2,764	2,764
sub-total			39,618	11,367	39,618	39,618	52,864	52,864	11,367	11,367	22,121	17,895	17,895
Pupm	Equipment		26,400	O	26,400	26,400	26,400	26,400	0	О	0	0	0
Canal	Gara	1,300 m	213,005	24,284	147,420	161,863	252,487	238,330	239,512	780,000	213,005	147,420	161,863
	Вох	19	10,678	0	10,678	10,678	20,809	129,626	O	284,852	10,678	10,678	10,678
	Crossing	19	17,447	17,447	17,447	17,447	0	0	17,447	0	17,447	17,447	17,447
sub-total			241,130	41,731	175,545	189,988	273,296	367,956	256,959	1,064,852	241,130	175,545	189,988
										-			
Temporary Canal		1,300 m	42,120	42,120	42,120	42,120	42,120	42,120	42,120	42,120	42,120	42,120	42,120
		-								!			
Total	Construction cost		349,268	95,218	283,683	298,126	394,680	489,340	310,446	1,118,339	305,371	235,560	250,004
	w/benefit	86	0	Ö	ō	0	ō	0	0	0	0	0	O
	Total		349,268	95,218	283,683	298,126	394,680	489,340	310,446	1,118,339	305,371	235,560	250,004
,	per feddan		2,513	685	2.041	2,145	2,839	3.520	2,233	8.046	2 197	1,695	1 799
					l							1	*

Unit Cost

Delevery Tank for Existing Pump

						Total			
Items	Sepecification	Unit	Q'ty	Unit cost	Total	\$	uint	Cost	Remarks
Backfill of Existing Meska		EE.	00.0	11.00	0.00	0	£	0	
								~ -	
Embankment		m3	0	11.00	0000	0	E	0	
Delivery Tank	Base Concrete	m3	6.40	160.00	1024.00		- "		
	Reinforced concrete	E	3.38	500.00	1690.00				
	forms	m2	52.76	100.00	5276.00				
sub-total					7990.00		ā	066'2	
Canal Pavement	Stone Pitching	£	1,00	184.24	184.24	15	ε	2,764	
					<u> </u>				
Total								794 01	

M-29

Pipe Line Meska (w/ Farmpond)

*						Total			
items	Sepecification	Ç	Q'ty	Unit cost	Total	۵'ئې	uint	Cost	Remarks
Backfill of Existing Meska		m3	3.10	11,00	34,10	1,300	Ε	44,330	44,330 w/ transportation
Embankment		6) E	0	1.8	00.00	1,300	Ε	0	O 'w/ transcontation
Stope shaped	berm	m2	0.00		0.00				
-op-	side slope	m2	0.00		0.00				
Canal	PVC (dia 400 mm)	٤	1.00	200.00	200.00	400	 E	80,000	
	PVC (dia 350 mm)	E	1.00	160.00	160.00	400	E	64,000	
	PVC (dia 300 mm)	£	1.00	100.00	100.00	200	E	50,000	
sub-total						1,300		194,000	
			-						
Outlets	Main bosy (concrete)	8	26.40	500.00	13200.00	-			
	PVC (dia 250 mm)	ε	3.20	115.00	368.00				reinforced C.
	Form	m2	48.00	100.00	4800.00				
	Gate (t= 5 mm)	ton	0.05	3000.00	150.00				
sub-total					18,518.00	12	ઇવ	129,626	
					-				
Total								561,956	

Unit Cost

Pipe Line Meska (w/ Alfalfa Valve)

						Total			
Items	Sepecification	Unit	Q'ty	Unit cost	Total	0.60	unt	Cost	Remarks
Backfill of Existing Meska	-	11 3	3.10	11.00	34.10	1,300	ε	44,330 w/ vanaportation	Dortation
				•					
Embankment		m3	0.99	11,00	10.89	1,300	E	14,157 W/ transportation	portation
Stope shaped	perm Serm	E E	8,00		00.00				
	ade stope	m2	0.85		00:0				
Canal	PVC (dia 400 mm)	E	1.00	200.002	200.00	400	ε	80,000	
	PVC (dia 350 mm)	£	1.00	160.00	160.00	400	£	64,000	
	PVC (dia 300 mm)	£	1.00	100.00	100.00	200	ε	20,000	
sub-total		:				1,300	£	194,000	
Outlets	Alfalfa Valve	8	1.00	190.00	190.00			-	
,	PVC (dia 75 mm)	£	2.00	115.00	230.00			reinforced C.	rced C.
	C. Box (concrete)	m3	0,48	200.00	240.00				
	Base concrete	m3	0.27	160.00	43.20				
	Iron cover	ton	0.02	1600.00	32.00				
	Form	m2	2.10	100.00	210.00	-			
	Gate (t= 5 mm)	ton	0.05	3000.00	150.00			4.0	
sub-total					1,095.20	19	ρks	50,809	,
								,	
Total		•						467,296	

M-31

Unit Cost

Brick Lining Meska (Trapezoid shape canal)

		_ -				Total			
tems	Sepecification	Unit	٥,۵	Unit cost	Total	0,4	cint	Cost	Remarks
Backfill of Existing Meska		m3	3.20	11.00	35.20	1,300	Ε	45,760	45,760 w/ transportation
Embankment		m3	1,72	11.00	18.92	1,300	ε	24,596	24,596 w/ unreportation
Slope shaped	bern	m2	1,00	2.00	2.00				
- op -	side slope	m2	2.26	3.00	6.78				
sub-total					8.78	1,300	E	11,414	
Canal	Concrete (base)	m3	0.10	160.00	16.00				
	Вяск	т3	0.23	150.00	34.50		[w/ mortar
sub-total					50.50	1,300	£	65,650	
Outlets	Concrete (base)	m3	00.0	160.00	0.00				
	Concrete (main body)	m3	0.22	200.00	110.00		—		reinforced C.
	Forms		3.02	100.00	302.00				
	Gate (t= 5 mm)		0.05	3000.00	150.00				
sub-total					\$62.00	19	25 Sign	10,678	
Crossing	Concrete pipe (dia 600 mm)	E	3.00	60.00	180.00				
	Concrete	m3	3.50	200.00	1750.00				
	Backfill	m3	0.78	11.00	8.58				
sub-total					1938.58	6	şē	17,447	***************************************
					 .				
Total								175,545	

M-32

Unit Cost

Brick Lining Meska (Rectangle shape canal)

						ota			
tems	Sepecification	Unit	Ç.	Unit cost	Total	۵.۵	cint	Cost	Remarks
Backfill of Existing Meska		H3	3.20	11.00	35,20	1,300	E	45,760	45,760 w/ transportation
Embankment		E = 33	1,69	11.00	18.59	1,300	ε	24,167	24,167 W/ transportation
Slope shaped	berm	# S	1.00	2.00	2.00				
- op -	side slope	E	3.54	3.00	10.62				
sub-total					12.62	1,300	ε	16,406	
Canal	Concrete (base)	£	0.11	160.00	17.60				
	Brick	EE.	0.27	150.00	40.50				.w/ mortar
sub-total					58.10	1,300	Ε	75,530	
Outlets	Concrete (base)	E E	0.00	160.00	0.00			ercent Arthe degrees	
	Concrete (main body)	E#	0.22	200.00	110.00				reinforced C.
	Forms		3.02	100.00	302.00				
	Gate (t= 5 mm)		0.05	3000.00	150.00				
sub-total					562.00	19	sta e	10,678	
		^							
Crossing	Concrete pipe (dia 600 mm)	E	3.00	60.00	180.00				
	Concrete	m3	3.50	500.00	1750.00				
	Backfill	m3	0.78	11.00	8.58				
sub-total				,	1938.58		siq 6	17,447	- Agentin
					4.0				
Total								189.988	

Pump Station for Pipe Line Meska

						Total			<u> </u>
items	Sepecification	Unit	\$	Unit cost	Total	Q'ty	cin	Ç	Remarks
Pump House	Wall (brick)	m3	8.10	150.00	1,215.00				w/ transportation
	do (concrete)	m3	1.35	200.00	675.00				
	Pillar (concrete)	33	1,13	200.00	565.00				
	Floor(concrete)	m3	3.00	200.00	1,500.00				
	Base (concrete)	m3	0.65	160.00	104.00				
	Roof (concrete)	m3	4.50	500.00	2,250.00				
	Window (iron bar dia 19 mm)	т3	0,40	1600.00	640.00				
	Door (Iron plate t=5 mm)	ton	2.64	3000.00	7,920.00				
	Excavation (manual)	m3	4.32	7.00	30.24				
	backfill (manual)	m3	3.30	4.00	13.20				
	forms	m2	44.55	100.00	4,455.00				
sub-total					19,367,44		8	19,367	2
Suction pit	Base (concrete)	m3	1,52	160.00	243.20				
	main body (concrete)	m3	5.90	500.00	2,950.00				
	cover (iron plate t=4 mm)	ton	0.17	3000.00	510.00				
	excavation (machine)	m3	40.53	4.00	162.12				
	Backfill (machine)	m3	24.55	3.00	73.65				
	forms	m2	88.00	100.00	8,800.00			-	
sub-total					12,738.97	-	8	12.739	6
Diliver tank	Base (concrete)	m3	1,46	160.00	233.60				
	main body (concrete)	m3	6.50	200.00	3,250.00		 		
	excavation (machine)	m3	26.65	4.00	106.60				
	Backfill (machine)	H3	18.53	3.00	55.59				
	forms	m2	54.90	100.00	5,490.00				
	Over flow pipe		4.50	30.00	135.00				
	drain pipe		4.00	30.00	120.00				
sub-total					9,390.79	-	E	9.391	
							-		
Total			-						

Unit Cost

Temporary Canal

Items Excavation									
ecavation	Sepecification	Cnit	O,tò	Unit cost	Total	<i>ب</i>	t a	Cost	Remarks
	manuai	m3	00'0	7.00	0.00				w/ transportation
	machine	m3	3.20	4.00	12.80				
Backfill	manual	£E	00.00	4,00	00.0				
	machine	m3	3.20	3.00	09'6				
Compensation		m2	10.00	1.00	10.00		-		
sub-total					32.40	1,300	ε	42,120	
				-					
				J. 1881.					
Value of the second sec									
				- · · · -					
					-				
4.					-				
Total		•						42,120	

intake Structure

						Total			
Items	Sepecification	Çajt	Q'ty	Unit cost	Total	٥,4	rin tu	Cost	Remarks
Intake section	Excavation (manual)	т3	0.00	7.00	0.00				w/ transportation
	do (machine)	m3	9.98	4.00	39.92		-		
	base concrete	m3	2.09	160.00	334.40				
	main body concrete	£	2.66	500.00	1,330.00				
	forms	m2	25.20	160.00	4,032.00				
	Stone Pitching	m3	9.43	120.00	1,131,60				
	Screen (L-90)	ton	10.50	52.00	546.00				
	do (dia 19 mm)	tot	0.16	1200.00	192.00				
sub-total					7,605,92		X	7,606	
Pipe Conduit	Excavation (manual)	m3	0	2,00	00:00				
M-4	do (machine)	m3	4.88	4.00	19.52				
	backfill (manual)	m3	0	4.00	00.0				
	do (machine)	EE.	4.54	3.00	13.62				
	base concrete	ţ	0.36	160.00	27.60		. <u>-</u>		
	Concrete pipe (dia 800 mm)	ε	0.1	160.00	160.00				
sub-total					250.74	31	£	3,761	
							-		
Total							. <u> </u>	11,367	

Pump Station (for Open Canal Meska)

						20.0			
Items	Sepecification	Ç	Q.¢	Unit cost	Total	٠, ئ	cint	Cost	Remarks
Pump House	Wall (brick)	m3	8.10	150.00	1,215.00				w/ transportation
	do (concrete)	m3	1.35		675.00			:	
	Pillar (concrete)	m3	1.13	200.00	565.00				
	Floor(concrete)	m3	3.00		1,500.00				
	Base (concrete)	m3	0.65	160.00	104.00				
	Roof (concrete)	m3	4.50	200.00	2,250.00				
	Window (iron bar dia 19 mm)	m3	0.40	1600.00	640.00				
	Door (Iron plate t=5 mm)	ton	01.0	3000.00	300.00		·		
	Excavation (manual)	m3	4.32	2,00	30.24				
	backfill (manual)	m3	3.30	00,4	13.20				
	forms	m2	44.55	100.00	4,455.00				
sub-total					11,747,44		8	11,747	21
Suction pit	Base (concrete)	m3	1,52	160.00	243.20				
	main body (concrete)	m3	5.9	200,00	2,950.00				
	cover (iron plate t-4 mm)	ton	0.17	3000.00	510.00				-
	excavation (machine)	m3	40.53	4.00	162.12				
	Backfill (machine)	ш3	24.55	3.00	73.65				
	forms	т2	88	100.00	8,800.00				
sub-total					12,738.97		8	12,739	62
Diliver tank	Base (concrete)	m3	1.64	160.00	262.40				
	main body (concrete)	т3	2.59	200.00	1,295.00				
	excavation (machine)	m3	3.11	4.00	12,44				
	Backfill (machine)	m3	1.15	3,00	3.45				
	forms	m2	19.36	100.00	1,936.00				
	Over flow pipe		4.5	30.00	135.00				
	drain pipe		4.0	30.00	120.00				
sub-total					3,764,29		8	3,764	*
Total								28.251	

Unit Cost

Pipe Meska by Gravity w/ Man-hole

						Total	•		
tems	Sepecification	- C	٥,۵	Unit cost	Total	۵,۵	vint	Cost	Remarks
Backfill of Existing Meska		m3	3.10	11.00	34.10	1,300	£	390,000	390,000 w/ transportation
Embankment	by machine	m3	0	7.00	00.0			0	0 w/ transportation
	by manual	E	0	4.00	0.00				
sub-total					0.00	1,300	Æ	0	
Slope shaped	berm	35	0.00		0.00				111111111111111111111111111111111111111
- 90 -	side slope	- Zm	0.00		0.00				
sub-total									
Canal	Concrete Pipe (dia 1,000 mm)	ε	1.00	300.00	300.00	1,300	ε	390,000	
Outlets (manhole)	excavation (machine)	m3	6.01	4.00	24,04				
	backfill (machine)	m3	2.76	3.00	8.28				
	Base Concrete	m3	1.06	160.00	169.60				
	Main body (concrete)	m3	3,94	500.00	1970.00				E
	Cover (Dia 760 mm)	£	0.05	500.00	25.00				
	forms	m2	32.81	100.00	3281.00	•			reinforced C.
sub-total					5477.92	52	S _C	284,852	
									;
Total								1,064,852	

Stone Pitcing Paved Meska

Items Backfill of Existing Meska			_	_		Total		_	
Backfill of Existing Meska	Sepecification	Unit	۵,۵	Unit cost	Total	Q'ty	uint	Cost	Remarks
		m3	0.00	0.00	00:0	1,300	E	0	O:w/ transportston
				•					
Excavation	by machine	m3	0.00	7.00	0.00			0	O w/ transportation
	by manual	m3	0.96	4,00	3.84				
sub-total					3.84	1,300	ε	4,992	
				-					
Slope shaped	berm	m2	0.00		0.00				
- 90 -	side slope	_ m2	0.00		0.00				
sub-total									
Canal	Concrete (Base)	m3	0.10	160.00	16.00				
	Pitching lining	m3	1.13	120.00	135,60				
	Conrete (foundation)	m3	0.18	160.00	28.80				
sub-total					180,40	1,300	ε	234,520	
Outlets	Concrete (base)	E	00.0	160.00	0.00				
	Concrete (main body)	m3	0.00		0.00				reinforced C.
sub-total					0.00	19	sla	0	
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		c						
S. Company	Contrate Contrate	e E	0000	3 6	7250 00				
	Backfill	9 E	0.78		8.58				
sub-total		·			1938,58	6	왕	17,447	
Total		•					 	256,959	

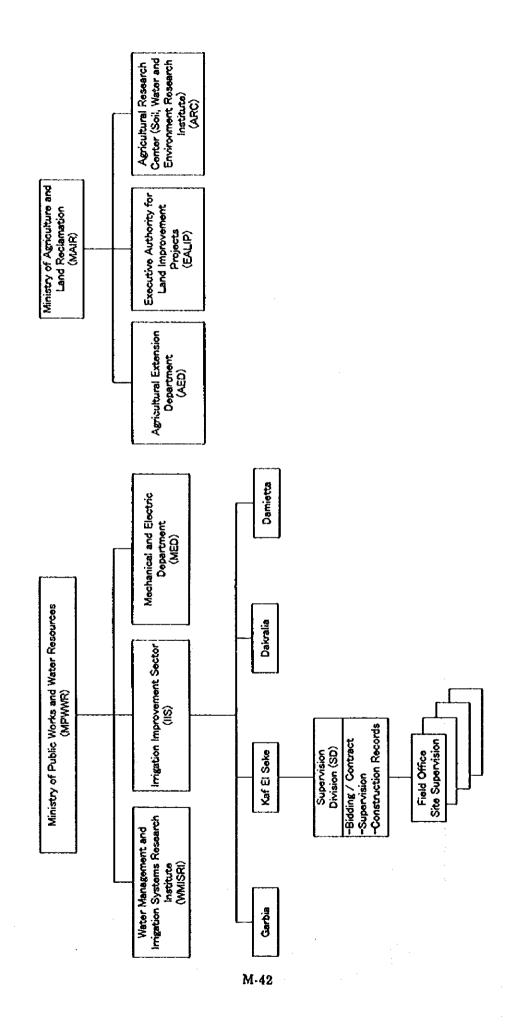
Widening of Existing Meska

						1013			
tems	Sepecification	Š	٥,۵	Unit cost	Total	5 Q,Q	uint	Cost	Remarks
Backfill of Existing Meska		m3	0.00	11.00	0.00	1,300	ε	0	O w/ transportation
Excavation	by machine	E E	0	2.00	0.00			Ö	O w/ transportation
	by manual	E E	1.28	4.00	5.12				
sub-total					5.12	1,300	E	6,656	
Stope shaped	berm	m2	00.0	2.00	00'0				
- op -	side slope	m2	4.52	3.00	13.56				
sub-total					13.56	1,300	ε	17,628	
Canal	J sahpe canal	ε	00.0	102.00	0.00	0	ε	0	
	V 1/2	•		0000			_ -		Antonia de la constante de la
Outlets	Concrete (base)	Ê	3	20.00	2		-		
-	Concrete (main body)	m3	0.00	200.00	00.0				reinforced C.
	Forms		000	100.00	0.00]	
	Gate (t= 5 mm)		00.0	3000,00	0.00				
sub-total					0.00	0	SE SE	0	
Crossing	Concrete pipe (dia 600 mm)	£	3.00	90.09	180.00				
	Concrete	m3	3.50	200,00	1750.00				
	Bactdill	m3	0.78	11.00	8.58				
sub-total					1938.58	6	pis	17,447	
TAta								41.731	

J Shape Pre-Cast Canal

						Total			
tems	Sepecification	Unit	٧٦.٥	Unit cost	Total	۵'5	uint	Cost	Remarks
Backfill of Existing Meska		m3	3.20	. 11.00	35.20	1,300	£	45,760 ~/	45,760 w/ transportation
Compact fill		EE .	1.5.1	11.00	16.61	1,300	£	21,593 "	21,593 w/ transportation
Stope shaped	t sa	žE	1.00	2.00	2.00				
- 00 -	side slope	m2	2.68	3.00	8.04				
sub-total					10.04	1,300	£	13,052	
Canal	J sahpe canal	E	1.00	102.00	102.00	1,300	٤	132,600	
							-		
Outlets	Concrete (base)	щ3	00.0	160.00	00:00				
VI-4	Concrete (main body)	m3	0.22	500.00	110.00			re In	reinforced C.
	Forms		3.02	100.00	302.00				
	Gate (t= 5 mm)		0.05	3000.00	150.00				
sub-total					562.00	19	<u>전</u>	10,678	
Crossing	Concrete pipe (dia 600 mm)	ε	3.00	60.00	180.00			-	
	Concrete	m3	3.50	200.00	1750.00				
,	Backfill	m3	0.78	11.00	8.58		-		
sub-total					1938.58	6	sld	17,447	
Total								241,130	

Figure M.3.1 Organization Chart of Project Implementation



APPENDIX N.

PROJECT EVALUATION

Appendix N Project Evaluation

N.1 Feasibility Study	N-1
Table N.1.1 ~ N.1.19 Financial Price and Economic Price	
Table N.1.20 ~ N.1.52 Project Benefit by Crop	
Table N.1.53 ~ N.1.62 Estimate of IRR	
N.2 Preliminary project evaluation of Master Plan	N-3
Table N.2.1 Benefit Flow of the Project in the Study Area (M/P) at Financial Price	
Table N.2.2 Project Cost in the Study Area (M/P) at Faunacial Price	
Table N.2.3 Cost Flow of the Project in the Study Area (M/P) (Financial Price)	
Table N.2.4 Summary of Financial Analysis of the Priject in the study Area (M/P)	

Appendix N Project Evaluation

N.1 Feasibility Study

N.1.1 Financial Price and Economic Price

Financial prices are adapted by the research of MALR, Agricultural Cooperatives in the Priority Area, data of IIS monitoring section, wholesale price at Tanta wholesale market. Economic prices are estimated basing on commodity prices and price projections of World Bank in 1998 November and Standard Conversion Factor (SCF) with 0.88. Foreign exchange rate is applied with 3.40 LE to US\$ 1. (Refer to Table N.1~N.1.19)

N.1.2 Project Benefit

(1) Net return of agricultural products

Net return with and without project situation by crop is estimated with above-mentioned prices and input-output studied. The labor cost is divided into family labor and hired labor by the ratio of 0.7: 0.3 regarding the farm economy survey and agricultural census in 1989/90. Unit yield increase of crops is fully attained after four (4) years of project implementation. The increase ratio of unit yield is different between location from upstream to downstream reaches of the Study Area as well as the Priority Area. Hence the benefit by unit yield increase varies by location. With project situation by introducing one-point pumping system operated by a WUA, the pumping cost is eliminated from production cost of with project situation. Instead, pumping cost is accounted at O& M cost of WUA with project situation. Cost of land leveling and land improvement (gypsum application and subsoiling) is estimated at 50LE/fed (US\$35/ha) and deducted from the net return value with project situation, since the unit yield with project can be attained with this farming practice.

(2) Reduction of Operation and Maintenance

O&M costs are counted for the project evaluation with the difference between with and without project situation.

- 1) Rehabilitated facilities: count difference of O&M between before and after implementation

 For the most of the facilities, O&M cost will be approximately
 same except for Rahbeen Regulator, Bahr Tera Intake Gate and
 Abshan Regulator which will be motorized and added 1 % of
 construction cost to that of after implementation.
- 2) Newly constructed facilities: 3 % of construction cost
- 3) Meska: count O& M cost of WUAs as follows;

O & M cost (LE/fcd/year)

	Without Project	With Project	Net Benefit
WUA O&M cost			
Pumping Operation	0	10	-10
Pumping	0	28	-28
Meska Maintenance	0	4	-4
Contingency	0	28	-28
Pumping cost by farmer	(187)	(0)	(187)
Meska Maintanance by Farmer	9	0	9 ′
Delivery canal			
Operation	1	0	1
Maintenance	4	2	2
Total	14 (201)	72 (72)	-58 (129)

Note: Pumping cost by a farmer is included in the production cost without project situation.

The value of pumping cost without project situation is as of upstream reaches of the Priority Area. (Refer to Table N.1.55)

N.1.3 Project Cost

(1) Investment Cost

Financial investment cost is estimated with the conditions as follows;

- a) Investment Cost: estimate with foreign currency and local currency (See Appendix M)
- b) Administration and Consultant fee: 11% of a)
- c) Physical Contingency: 5 % of (a) + b))
- d) Price Escalation Contingency: F/C = World Bank Inflation Index

 $\label{eq:continuous} \mathcal{L}_{i} = \{ (i,j) \in \mathcal{L}_{i} \mid (i,j) \in \mathcal{L}_{i} : i \in \mathcal{L}_{i} \}$

L/C = 4.2 % annually

(a) +b)) × Price Escalation Contingency

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Price Escalation for Foreign Currency and Local Currency

Year	International Infation Index 1998=100	Local Inflation Index
1998	100.00	100.00
1999	101.33	104.20
2000	103.91	108.58
2001	106.57	113.14
2002	109.30	117.89
2003	112.10	122.84
2004	114.97	128.00
2005	117.91	133.38
2006	120.85	138.98
2007	123.86	144.82
2008	126.94	150.90
2009	133.32	157.24
2010	136.64	163.84
2011	140.04	170.72
2012	143.53	177.89
2013	147.10	185.36
2014	150.76	193.15
2015	154.51	201.26
2016	158.36	209.71
2017	162.30	218.52
2018	166.34	227.70

Source: Foreign: World Bank Commodity Market 1988 Nov.

Local: Wholesale Price Index in 1997 (Since the price Index in Egypt is Decreasing, recent index ratio is adapted.)

Economic investment cost is calculated by converting local currency to economic price with SCF and excluding price escalation contingency. (Refer to Table N.1.57)

(2) Replacement Cost

During 30 years (evaluation term), replacement cost is required for only Meska improvement with 190 LE/fed (9.6% of total construction cost) by every 10 years.

N.2 Preliminary project evaluation of Master Plan

With the same assumption of the Feasibility Study, the project evaluation for the Master Plan was carried out with FIRR estimate. (Refer to Table N.2.1~N.2.4)

Table N.1.1 Financial and Economic Farm-Gate Prices (LE at 1998/99 prices)

Crops	Local	(kg)	Unit Pri	ce	Remark
-	unit		Financial	Economic	•
Mheat	ardab	150.0	100	88	
Broad beans	ardab	155.0	190	255	
Berseem(long)	ton	1000.0	62	55	Fin.Price#0.8
Berseem(short)	ton	1000.0	62	55	Fin.Price+0.8
V.Vegetables	ton	1000.0	260	264	
Sugar beet	ton	1000.0	100	128	
Rice(Unmilled)	ton	1000.0	600	397	
seed) Cotton	kantear	157.5	520	458	
Azize(summer)	ardab	140.0	65	54	
i.Vegetables	ton	1000.0	300		Fin.Price#0.0
Vater mellon seed	ton	1000.0	7500	6600	Fin.Price#0.8
litrus	ton	1000.0	450	396	Fin.Price#0.8
lax straw	load/calm	250.0	250	220	Fin.Price#0.8
Sunflower	ton		1,320	1,162	Fin.Price#0.8
Yheat str <i>a</i> w	load/calm	250.0	25.00	22.00	Fin.Price#0.8
Broad bean straw	load/calm	250.0	15.00		Fin.Price+0.8
Sugar beat stalks	load/calm	250.0	4.40		Fin.Price+0.8
•		250.0 250.0			Fin.Price+0.6
Cotton stalks	load/calm	-	15.00		
daize stalks	load/calm	250.0	10.00		Fin.Price#0.
łaize green fodder	load/calm	250.0	120.00		Fin.Price#0.
lice straw	load/calm	250.0	5.00		Fin.Price+0.
lax seed	ton		1,900.00	1,672.00	Fin.Price#0.
Berseem seed	kg		3.10		Fin.Price#0.
Vheat seed	kg		1.10	0.97	Fin.Price*0.0
Broad bean seed	kg		2.20	1.94	Fin.Price#0.
Subar beet seed	kg		20.00	17,60	Fin.Price#0.
Y.Vegetables seed	kg		3.50	3.08	Fin.Price#0.8
Cotton seed	kg		1.70		Fin.Price#0.
Maîze seed	kg		0.70		Fin.Price#0
	•				Fin.Price+0.
Rice seed	kg		1.00		
Vater mellon seed	kg		7.50		Fin.Price*0.
3,Vegetables seed	kg		7.00		Fin.Price*0.
Ditrus seedling	kg		105.28		Fin.Price#0.8
lax seed	kg		2.60		Fin.Price#0.8
Sunflower Seed	. kg		2.00	1.76	Fin.Price#0.6
abour	man/hour		1.33	w/o 0.79	
				w/p 0.83	,
fractor	hour		•	30.62	
Pumping(irrigating)	*		3 20	(5HP) 3.33	
Plowing(Tractor)	-		25.00	38.00	
Machine threshing	*		12.00	13.00	•
Machine winnowing	~		10.00	11.00	
total			22.00	24.00	
Sprayer	*		2.00	2.81	· . · · <u>·</u>
Machine transportation	n ton-km			0.13	
Animal works:					
Cultivation	hour		1.4		Fin.Price#0.8
Transportation	-		0.7	0.62	Fin.Price#0.9
ertifizer:					
N(Urea)	ton		(598)1,300	(766)1,665	
P205(TSP)	-		(1,113)2,100	(662)1,505	
K(MP)	•		(450)900	(580)1,160	
Manure	m3		2.40		Fin.Price#0.
	ano -		2.70	2.11	: HIST (700TO.
Agri. Chemicals	Pa		B.:		Ci. D :- :0:
Insecticides	liter		Differ b		Fin.Price#0.
Fungicides	_		crops.		·
Herbicides	-				-
Fuel					
Diesel oil	liter		0.40	0.39	

Representative crop of winter vwgwtable is onion.

Representative crop of summer vegetable is tomato.

Financial price is based on average farm-gate price during the last three years. 0.88= SCF(Standard conversion factor).

Fertilizer is Nutrient price.

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