

Table A6.5-3LIST OF EXISTING RICE MILLS IN THE PROJECT AREA

No.	Unit	Name of Mill	Location	Capacity (ton/8hrs)	No.	Unit	Name of Mill	Location	Capacity (ton/8hrs)
Kiribbanwewa Block									
1	Habarugala	Cyrl	Gambarakade	Small Scale	1	Samajasewapura	Pemawathie	11th Post	2
2		Kudaoya	D16	Small Scale	2		Senarayaka	11th Post	3
3		Sumathi	D15	Small Scale	3		Udagama	10th Post	3
4	Hathporuwa		Managama PO	Small Scale	4		Kamburupitiya	9 1/2 Weeriyagama	3
5		G.K.	Mincemariwanguwa	Small Scale	5	Suriyawewa Town	Hakmana Stores	Suriyawewa	3
6		Samathikade	D1 Road	Small Scale	6		Wagachchi	69 Pola Road	1
7		Walagala	D1 Road	Small Scale	7		Samantha Stores	Suriyawewa	3
8		Jinasena	D1 Canal	Small Scale	8		Laknuwan	Suriyawewa	3
9		F4	D1	Small Scale	9		Ranawerra	Suriyawewa	6
10		Ratburnalalige	50 Canal	Small Scale	10		Saman	Suriyawewa	6
11			65 Canal	Small Scale	11		Sandamali	Suriyawewa	1
12		Lakshakade	Lakshakade Junction	Small Scale	12		Rangana	Suriyawewa	1
13		Polahandiya	Polahandiya	Small Scale	13		Aparekka	Suriyawewa	1
14			Near School	Small Scale	14		Wewagawa	Suriyawewa	1
15			288 Canal	Small Scale	15		Siriwardana	Suriyawewa	1
16			Near Sarasa	Small Scale	16	Beddewewa	Sena	Nugekanda	3
17			12 Canal	Small Scale	17		Premaratna	Nugekanda	3
18	Kiribbanwewa	Chandradasa	422 K'Wewa Left	Small Scale	18		Amara	Beddewewa	3
19		Ranjith	K'Wewa	Small Scale	19		Kodituwakku	Nabadagaswewa	1
20		Piyasena	Habarugala Road	Small Scale	20	Viharagala	Indika	Suriyawewa	1
21		Kirneris	K'Wewa Left	Small Scale	21		Samagi	Suriyawewa	6
22		Walama	Samagipura	Small Scale	22		Somadasa	Viharagala Road	1
23		Seraman	Samagipura	Small Scale	23	Bagamarakaya	Janaka	Bagamarakaya	3
24		Rathna	K'Wewa	Small Scale	24	Veniwelara	Sarath Kumara	Atioliara	1
25		Sanjeevani	K'Wewa	Small Scale	25		Premadasa	Veniwelara	1
26		Chaminda	K'Wewa	Small Scale	26		Sugathadasa	Viharagala J.	1
27		Dingirumenike	620 K'Wewa	Small Scale	27		Singha	Viharagala J	1
27		Piyadasa	Dematapellessa	Small Scale	28	Bendiganthota	Piyasena	Bendiganthota	1
28		Sanjeeva	Dematapellessa	Small Scale	29	Seenimodarayaya	D.K.	Nabadagaswewa	1
29	Habaraluwewa	Premasiri	Embilipitiya	Small Scale	30	Andarawewa	Kodituwakku	Nabadagaswewa	1
30		Munidasa	Embilipitiya	Small Scale	31		Suriyawathie	Andarawewa	1
31		Soundiyes	Embilipitiya	Small Scale					
32		Muthubanda	D4 Habaraluwewa	Small Scale					
33		Nanadasena	Salpithandiya	Small Scale					
34		Amaradasa	779 Habaraluwewa	Small Scale					
35		Shamala	Habaraluwewa	Small Scale					

Source: Processing Facility Survey by Study Team

Table A6.5-4 MONTHLY FARMGATE AND POLA (PRODUCER) PRICES

Crops	(Unit Rs. /kg)							
	Jan.	Feb.	Mar.	Apr.	May	Average	Max.	Min.
Paddy (Nadu)	10.1	8.0	7.7	8.8	9.7	8.9	10.1	7.7
Chillies	114.4					114.4	114.4	114.4
Green Gram	17.7	18.9	20.8	24.7	26.3	21.7	26.3	17.7
Cowpea	9.7	11.3	12.9	13.0	14.3	12.3	14.3	9.7
Sesame		16.8	18.9			17.8	18.9	16.8
Kurakkan		7.8	8.8			8.3	8.8	7.8
Ground Nuts	18.8	16.7	16.9			17.5	18.8	16.7
Raddish	4.9					4.9	4.9	4.9
Tomates	6.2	6.0	15.2	16.6	20.5	12.9	20.5	6.0
Ladies Fingers	6.0	6.0	10.6	10.4	11.2	8.8	11.2	6.0
Brinjals	8.3	4.7	7.8	5.8	8.1	7.0	8.3	4.7
Pumpkin	2.7	4.0	4.6	10.6	7.3	5.8	10.6	2.7
Bitter Gourd	10.8	7.8	9.0	5.7	12.4	9.1	12.4	5.7
Snake Gourd	6.0	4.5	5.8	8.0	6.4	6.1	8.0	4.5
Luffa	7.1	6.0	10.1	10.0	11.9	9.0	11.9	6.0
Long Beans	7.9	8.3	12.9	12.7	10.7	10.5	12.9	7.9
Green Chillies	27.6	20.7	28.8	25.7	24.1	25.4	28.8	20.7

Source: Marketing Division, Agrarian Research and Training Institute

Table A6.5-5 FARMGATE PRICE OF FARM INPUT

Description	Unit	Price (Rs.)	Description	Unit	Price (Rs.)
Farm Inputs			3) Agro-chemicals		
1) Seeds and Seedlings			Insecticides		
Paddy	(kg)		B.P.M.C EC 50%	100ml	53
Foundation		13.2	Cyfluthrin	100ml	350
Registered		13.0	Carbofuran	500g	40
Certified		12.5	Trichlorfun	100ml	52
Commercial		12.0	Herbicide		
Bitter guard	"	460.0	M.C.P.A (40%)	400ml	78
Snake guard	"	460.0	2,4, D (55%)	400ml	135
Cucumber	"	650.0	Mefenacet (70%)	200g	340
Tomatoes	"	280.0	Metribuzin (70%)	100g	175
Raddish	"	550.0	Fungicides		
Sugarcane (seed cane)	"	0.8	Propineb (70%)	100g	42
Banana	piece	6.1	Bitertanol	100ml	210
			Edifenphos (50%)	100ml	70
2) Fertilizer			Pencycuron (25%)	100g	152
Urea	(50kg)	515			
Sulphate of Ammonia	"	315			
TSP (46% P ₂ O ₅)	"	515			
MOP (60% K ₂ O)	"	475			
IRP (28% P ₂ O ₅)	"	250			
ERP (30% P ₂ O ₅)	"	117			
NPK (5:15:15)	"	520			
Sura cane Basal A	"	512			

Source: SGB, Farm Economic Survey, Land Use Survey

Table A6.6-1 AGRICULTURAL CREDIT FOR PADDY

Season	Block	Approved		Granted		Re-paid		Recov Rate
		No. of farmers	Amount (Rs. 1000)	No. of farmers	Amount (Rs. 1000)	No. of farmers	Amount (Rs. 1000)	
88/89 Maha	Embilipitiya	207	1,295	207	1,070	171	915	85.5
	Chandrika Wewa	215	1,555	215	1,334	174	1,106	82.9
	Murawasihena	151	630	151	585	147	559	95.6
	Binkama	202	989	202	905	190	856	94.6
	Angunakolapelessa	95	468	96	399	89	372	93.2
	Kiriibban Wewa	31	172	31	126	25	92	73.6
	Suriya Wewa	279	1,547	279	1,318	-	1,154	87.5
	Total	1,180	6,656	1,181	5,736	796	5,054	88.1
89 Yala	Embilipitiya	199	1,481	199	1,207	107	747	61.9
	Chandrika Wewa	233	2,071	233	1,710	90	722	42.2
	Murawasihena	153	655	153	545	145	477	87.5
	Binkama	174	680	174	679	155	590	87.0
	Angunakolapelessa	95	456	95	346	87	333	96.3
	Kiriibban Wewa	70	434	70	307	16	79	25.5
	Suriya Wewa	233	1,208	233	1,026	-	898	87.5
	Total	1,157	6,984	1,157	5,820	600	3,846	66.1
89/90 Maha	Embilipitiya	210	1,231	210	1,231	170	988	80.3
	Chandrika Wewa	232	1,815	232	1,815	180	516	28.5
	Murawasihena	157	1,028	157	851	142	1,016	119.4
	Binkama	168	1,326	168	1,036	150	1,254	121.1
	Angunakolapelessa	95	719	95	658	82	608	92.4
	Kiriibban Wewa	70	352	70	352	33	143	40.6
	Suriya Wewa	229	1,441	229	1,296	15	1,212	93.5
	Total	1,161	7,911	1,161	7,238	772	5,737	79.3
90 Yala	Embilipitiya	227	1,823	227	1,178	-	-	-
	Chandrika Wewa	304	2,829	304	1,796	-	-	-
	Murawasihena	165	1,278	165	1,278	-	-	-
	Binkama	215	1,986	215	1,986	-	-	-
	Angunakolapelessa	94	870	94	870	-	-	-
	Kiriibban Wewa	53	385	53	272	-	-	-
	Suriya Wewa	308	2,537	308	1,601	-	-	-
	Total	1,366	11,708	1,366	8,980	-	-	-

Source: MEA Walawe Project Office

Table A6.7-1 CROP BUDGET WITHOUT PROJECT CONDITION (1/2)

Description	Unit	Paddy Maha		Paddy Yala		Paddy Maha*1		Vegetable	
		Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value
Yield	l/h	4.8		3.8		3.3		20.0	
Price	Rs/t		8,000		8,000		8,000		3,500
Gross Revenue	Rs/h		38,400		30,400		26,400		70,000
INPUTS									
Seed Material	kg	130	1,040	130	1,040	130	1,040	3-6	2,760
Fertilizer									
Am.Sulphate	kg		0		0		0		
Urea	kg	160	1,648	150	1,545	120	1,236	310	3,193
TSP	kg	150	1,545	150	1,545	120	1,236	380	3,914
MP (K2O)	kg	70	665	70	665	60	570	175	1,662
Organic	kg							4000	6,000
Agrochemicals									
Insecticide	l/kg		500		500		250		2,000
Fungicides	l/kg	3	750	3	750	1	250		3,000
Weedicides	l/kg	4	760	4	760	1	190		800
Machinery									
2W.Tractor	md	3	3,660	3	3,660	2	2,440	2	2,440
Sprayer	md	4	720	4	720	2	360	4	720
Thresher	md	1	470	1	470	1	470		
Miscellaneous									2,000
Labour									
Land Prepn.	md	35		34		33		60	
Planting	md	9		9		9		10	
Fertilising	md	5		3		2		8	
P/D Control	md	8		6		6		40	
Weeding	md	14		14		13			
Earthing	md							60	
Irrigation	md	19		19		19		50	
Crop Watching	md	19		19		19		60	
Miscellaneous	md							30	
Harvesting	md	17		16		16		90	
Processing	md	19		18		18		25	
Total	md	145		138		135		433	
Hired Labour	md	66	5,940	63	5,670	63	5,670	171	15,390
Cost of Prodn.	Rs/h		17,698		17,325		13,712		43,879
Net Revenue	Rs/h		20,702		13,075		12,688		26,121
(Rounded)			20,700		13,100		12,700		26,100

*1: under Tank Irrigation System in the Extensionm Area

Table A6.7-1 CROP BUDGET WITHOUT PROJECT CONDITION (2/2)

Description	Unit	Banana 1st		Banana 2 - 5		Sugarcane 1st		Sugarcane 2-4	
		Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value
Yield	t/h	3.3		18		115		95	
Price	Rs/t		10,000		10,000		800		800
Gross Revenue	Rs/h		33,000		180,000		92,000		76,000
INPUTS									
1. Seed Material	sukr	1000	4,500			7500	6,375	0.8	680
2. Fertilizer									
Am.Sulphate	kg								
Urea	kg	73	751	146	1,503	240	2,472	296	3,050
TSP	kg	73	751	146	1,503	95	978	95	978
MP	kg	104	988	208	1,976	100	950	100	950
Organic	kg	2000	3,000	2000	3,000				
3. Agrochemicals									
Insecticide	l/kg								
Fungicides	l/kg	2	625		1,500				
Weedicides	l/kg	4	660				2,800		
4. Machinery									
2W.Tractor	md	3	3,660				12,000		2500
Sprayer	md	2	300	2	300		180		
Thresher	md								
Miscellaneous									
5. Labour									
Land Prepn.	md	80				4			
Planting	md	12				16		8	
Fertilising	md	5		20		6		6	
P/D Control	md	10		15		4		4	
Weeding	md	20		25		105		105	
Earthing	md					25		25	
Irrigation	md	20		30		30		28	
Crop Watching	md	60		365					
Miscellaneous	md							12	
Harvesting	md	10		78		137		112	
Processing	md	5		26					
Total	md	222		559		327		300	
Hired Labour		100	9,000	78	7,020	197	17,730	157	14,130
Cost of Prodn.	Rs/h		24,235		16,802		43,485		22,288
Net Revenue	Rs/h		8,765		163,198		48,515		53,712
(Rounded)			8,800		163,200		48,500		53,700
Average					132,320				52,400

Table A6.7-2 PRODUCTION VALUE IN THE IRRIGATED AREA

1. without condition							
Crop	Unit Yield (ton/ha)	Season	Old Area		Extension Area		Production Value Rs. 1,000
			area ha	prod ton	area ha	Prod. ton	
Paddy	4.8	Maha	2,540	12,192			52,578
	3.8	Yala	2,540	9,652			33,274
	3.3	Maha			80	264	1,016
Banana	15.0	An	50	750			6,616
Vegetables	20.0	Maha	310	6,200			8,091
	20.0	Yala	310	6,200			8,091
OFC		Maha					6,725 *1
Ground Total							116,391

*1: Estimated Value from the Result of Farm Economic Survey

2. with condition							
Crop	Unit Yield (ton/ha)	Season	Old Area		Extension Area		Production Value Rs. 1,000
			area ha	prod ton	area ha	Prod. ton	
Paddy	5.5	Maha	2,220	12,210	2,320	12,760	106,236
	5.5	Yala	2,220	12,210	2,320	12,760	106,236
Banana	17.0	An	400	6,800	210	3,570	92,537
Sugarcane	114.0	An	820	93,480	2,180	248,520	219,900
Vegetables	25.0	Maha	260	6,500	240	6,000	28,050
	25.0	Yala	260	6,500	240	6,000	28,050
B. Onion	12.0	Maha	240	2,880	390	4,680	75,600
	12.0	Yala	240	2,880	390	4,680	75,600
Ground Total							732,209
Balance (with-without)							615,818

Balance of Crop Production (with-without) (unit: ton)

	with	without	Balance
Paddy	49,940	22,108	27,832
Sugarcane	342,000	0	342,000
Banana	10,370	750	9,620
Vegetable	25,000	12,400	12,600
Bic Onion	15,120	0	15,120

Table A6.7-3 SUMMARY OF FARM BUDGET IN AND AROUND EXTENSION AREA

Block	Gross Income			Gross Outgo		Net Reserve
	Agricultural Income	Subcidy or Loans	Others *3	Living expences	Production Cost	
Southern Part in the Extension Area						
Area 1	25,900	4,800	7,700	31,800	2,900	3,700 -1,100 *1
Middle in the Extension Area						
Area 2	8,300	6,300	2,800	14,700	2,300	400 -5,900 *1
Suriyawewa Block in the Extension Area						
Area 3	7,700	12,700	4,600	16,300	7,900	800 -11,900 *1
Western Part in the Suriyawewa Block in the Old Area (Non-irrigation)						
Area 4	15,000	8,200	3,800	23,000	3,900	100 -8,100 *1
Western Part in the Extension Area						
Area 5	4,300	4,600	5,800	15,100	1,900	-2,300 -6,900 *1
Average*2	10,100	8,800	4,800	18,500	4,900	300 -8,500

Area 1:	Arabokka Katuwewa Pitawala Wewa Ballagas Wewa Kattana Wewa	Area 2:	Bolhinda Wewa Karuwala Wewa Wadiwewa Julwewa	Area 3:	Mahaara Andara Wewa Swodagama Usgala Namadagaswewa
Area 4:	Bedigantota Katukeyu Ara Watawana Seenimodara Yaya	Area 5:	Phalugas Wala Pahalagama Habarathwala South Kadwara North Kadawara	Sugar Area	Monaragala Moraketiya

*1: excluding loan or subsidy

*2: weighted average

*3: labour wage etc.

Table A6.7-4 JANASAVIYA AND FOODSTAMPS RECEIVING HOUSEHOLDS

A.G.A. Div.	G.N. Div.	Total Households	Not Rec. J/FS (Above Poverty Level)		Below Poverty Level		Janasaviya Holders		FS Holders		Selected for FS		Other Categories		Received Lands under J No.
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Hambantota	Sisiliasagama	508	355	69.9	153	30.1	77	15.2	72	14.2	31	1.0	27	5.3	6
	Miriggawila	338	164	48.5	174	51.5	101	29.9	68	20.1	40	2.7	32	9.5	39
	Siribopura	365	119	32.6	246	67.4	174	47.7	74	20.3	18	0.0	20	5.5	42
	Samodagama	188	58	30.9	130	69.1	112	59.6	23	12.2	1	0.0	5	2.7	0
	Galwewa	224	56	25.0	168	75.0	150	67.0	22	9.0	1	0.0	5	2.2	11
	Bellagaswewa	391	101	25.8	290	74.2	267	68.3	24	6.1	1	0.0	2	0.5	104
	Siyabalagasvila Sout	253	104	41.1	149	58.9	113	44.7	36	14.2	6	0.0	6	2.4	0
	Uda Baragama	81	32	39.5	49	60.5	42	51.9	6	7.4	3	2.5	2	2.5	17
	Arawanamulla	157	39	24.8	118	75.2	96	61.1	20	12.7	3	1.3	1	0.6	15
	Pahala Beragama	233	77	33.0	156	66.9	133	57.1	23	9.9	2	0.4	2	0.9	2
	Managgawa	135	41	30.4	94	69.6	71	52.6	24	17.8	4	0.0	5	3.7	28
	Badhigantota	271	90	33.2	181	66.8	137	50.6	42	15.5	3	0.7	1	0.4	3
Sub-total		3,144	1,236	39.3	1,908	60.7	1,473	46.9	434	13.8	113	3.6	108	3.4	267
Suriyawewa	Mahawahikadaara	373	167	44.8	206	55.2	173	46.4	33	8.8	8	2.1	6	1.6	1
	Namadagaswewa	517	236	45.6	281	54.4	219	42.4	63	12.2	1	0.2	2	0.4	0
	Andarawewa	234	101	43.1	133	56.8	114	48.7	19	8.1	2	0.9	2	0.9	14
Sub-total		1,124	504	44.8	620	55.2	506	45.0	115	9.3	11	0.2	10	0.9	15
Ambalantota	Godakoggalla	208	57	27.4	151	72.6	72	34.6	136	65.4	60	28.8	86	41.3	0
	Koggalla	243	88	36.2	155	63.8	19	7.8	148	60.9	0	0.0	12	4.9	0
	Habarawewa	339	115	33.9	224	66.1	30	8.8	198	58.4	4	1.2	8	2.4	0
	Modarapitiwala	195	53	27.2	142	72.8	3	1.5	140	71.8	2	1.0	3	1.5	4
	Siyabalagasvila Nort	175	62	35.4	113	64.6	3	1.7	110	62.9	1	0.6	1	0.6	0
	Wadiwewa	299	108	36.1	191	63.9	28	9.4	186	62.2	8	2.7	25	8.4	0
	Liyangastota	291	119	40.9	172	59.1	10	3.4	164	56.4	1	0.3	3	1.0	0
Sub-total		1,750	602	34.4	1,148	65.6	165	9.4	1,082	61.8	76	4.3	138	7.9	4
Total		6,018	2,342	38.9	3,676	61.1	2,144	33.4	1,631	23.0	200	0.4	256	4.3	286

Source: Census Survey Not J: Janasaviya FS: Food Stamps

Table A6.7-5 INCOME SOURCE OF JANASAVIYA AND FOOD STAMP BENEFICIARIES

Category	Gross Income	
	(Rs.)	(%)
Janasaviya Farmer		
1. Gross Agricultural Income		
1) Agro-products	8,700	30.9%
2) Livestock	750	2.7%
3) Tree crops	30	0.1%
2. Labour wage (part-time)	3,390	12.0%
3. Subsidy		44.4%
Janasaviya	12,520	6.6%
Others	1,870	6.6%
4. Others	910	3.2%
Total Gross Income	28,170	
	(13,780)*	1
Food Stamp Farmer		
1. Gross Agricultural Income		
1) Agro-products	4,580	34.5%
2) Livestock	230	1.7%
3) Tree crops	160	1.2%
2. Labour wage (part-time)	3,380	25.5%
3. Subsidy		
Food Stamp	2,870	10.9%
Others	1,450	10.9%
4. Others	600	4.5%
Total Gross Income	13,270	
	(8,950)*	1
Others		
1. Gross Agricultural Income		
1) Agro-products	18,090	54.5%
2) Livestock	6,220	18.7%
3) Tree crops	0	0.0%
2. Labour wage (part-time)	3,230	9.7%
3. Subsidy or Loan	4,530	13.7%
4. Others	1,110	3.3%
Total Gross Income	33,180	
	(28,650)*	1

*1: excluding subsidy

Table A6.7-6 SUMMARY OF PRESENT FARM BUDGET IN THE OLDAREA AND SUGAR AREA

Block	Value		Block	Value	
	(Rs./year)	(%)		(Rs./year)	(%)
Kiriibbanwewa Block			Sevanagala (Sugar area)		
Gross Income			Gross Income		
1 Agricultural Income	34,700	77%	1 Agricultural Income	42,400	78%
2 Others (labour wage etc.)	10,300	23%	2 Others (labour wage etc.)	11,800	22%
<u>Total</u>	<u>45,000</u>		<u>Total</u>	<u>54,200</u>	
Gross Outgo			Gross Outgo		
1 Production Costs	23,500		1 Production Costs	21,000	
2 Living Expences	20,700		2 Living Expences	26,600	
<u>Total</u>	<u>44,200</u>		<u>Total</u>	<u>47,600</u>	
<u>Net Reserve</u>	<u>800</u>		<u>Net Reserve</u>	<u>6,600</u>	
Suriyawewa Block					
Gross Income					
1 Agricultural Income	34,800	71%			
2 Others (labour wage etc.)	13,900	29%			
<u>Total</u>	<u>48,700</u>				
Gross Outgo					
1 Production Costs	20,400				
2 Living Expences	27,000				
<u>Total</u>	<u>47,400</u>				
<u>Net Reserve</u>	<u>1,300</u>				

Table A6.9-1 METEOROLOGICAL DATA 1985 - 1990

Agricultural Research Station
(A'pelessa)

Sugarcane Research Institute
(Sevenagala)

Month	10 Day Mean		Rainfall (mm)	Temp. (Deg. C)	Humidity (%)	Wind V. (km/h)	EVP (mm)	Sun Sh. (hr)
	1-10	11-20						
JAN	1-10	26	26	26	82	4	5	5
	11-20	34	26	26	83	4	4	6
	21-31	23	26	26	81	4	5	8
FEB	1-10	8	26	26	80	5	5	9
	11-20	12	26	26	79	4	6	10
	21-31	16	26	26	79	4	5	8
MAR	1-10	23	28	28	79	5	6	8
	11-20	38	27	27	81	4	6	7
	21-31	18	28	28	79	4	5	9
APR	1-10	27	28	28	79	3	5	8
	11-20	32	29	29	81	3	5	7
	21-31	42	28	28	82	3	5	7
MAY	1-10	22	29	29	79	4	5	8
	11-20	19	29	29	78	6	6	7
	21-31	17	28	28	78	6	5	8
JUN	1-10	33	29	29	79	7	6	8
	11-20	17	28	28	79	6	7	8
	21-31	32	28	28	78	6	5	8
JUL	1-10	3	28	28	78	4	6	8
	11-20	10	28	28	78	5	5	7
	21-31	12	28	28	76	5	6	8
AUG	1-10	29	28	28	77	5	5	7
	11-20	23	28	28	78	5	5	7
	21-31	5	28	28	77	5	6	8
SEP	1-10	16	28	28	79	5	5	8
	11-20	25	28	28	78	5	6	7
	21-31	51	28	28	79	4	5	7
OCT	1-10	29	28	28	77	4	5	8
	11-20	40	28	28	80	3	5	7
	21-31	59	27	27	82	3	4	6
NOV	1-10	67	27	27	84	3	4	8
	11-20	30	27	27	82	3	5	8
	21-31	43	27	27	81	3	4	8
DEC	1-10	48	27	27	83	4	4	7
	11-20	10	26	26	82	3	5	6
	21-31	12	27	27	81	5	5	6

Table A6.10-1 LABOUR BALANCE STUDY

Crop	Extent (ha)	Monthly Labour Requirement (preson)												Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1. Kiriibbanwewa Block														
Paddy	1,040	9,360	46,800	24,960	46,800	17,680	17,680	2,080	46,800	0	44,720	36,400	18,720	312,000
B. Onion	80	14,080	9,280	7,280	5,360	11,920	14,080	9,280	7,280	0	0	5,360	11,920	95,840
Vegetable	80	5,920	6,560	4,400	9,280	5,520	3,200	5,520	6,560	4,400	9,280	5,520	3,200	69,360
Banana														
Yr 1	40	400	360	240	240	960	320	200	200	1,560	3,240	280	880	8,880
Yr 2-5	160	6,400	3,680	3,520	6,400	3,680	3,680	6,240	3,520	3,520	6,240	3,360	3,360	53,600
Sugarcane														
Plant	20	816	596	48	48	28	132	292	1,024	1,252	1,264	608	408	6,516
Ratoon	60	454	1,286	1,646	1,054	926	1,500	1,629	2,117	2,349	2,349	1,406	1,063	17,777
Total	1,480 0	37,430	68,562	42,094	69,182	40,714	40,592	25,241	67,501	13,081	67,093	52,934	39,551	563,973
Av. Labour		74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000	74,000	888,000
Balance		36,570	5,438	31,906	4,818	33,286	33,408	48,759	6,499	60,919	6,907	21,066	34,449	324,027
2. Suriyawewa Block														
Paddy	1,180	10,620	53,100	28,320	53,100	20,060	20,060	2,360	53,100	0	50,740	41,300	21,240	354,000
B. Onion	160	28,160	18,560	14,560	10,720	23,840	28,160	18,560	14,560	480	0	10,720	23,840	192,160
Vegetable	180	13,320	14,760	9,900	20,880	12,420	7,200	12,420	14,760	9,900	20,880	12,420	7,200	156,060
Banana														
Yr 1	40	400	360	240	240	960	320	200	200	1,560	3,240	280	880	8,880
Yr 2-5	160	6,400	3,680	3,520	6,400	3,680	3,680	6,240	3,520	3,520	6,240	3,360	3,360	53,600
Sugarcane														
Plant	185	7,548	5,513	444	444	259	1,221	2,701	9,472	11,581	11,692	5,624	3,774	60,273
Ratoon	555	4,202	11,893	15,223	9,752	8,563	13,875	15,064	19,584	21,724	21,724	13,003	9,831	164,439
Total	2,460 0	70,650	107,866	72,207	101,536	69,782	74,516	57,545	115,196	48,765	114,516	86,707	70,125	989,412
Av. Labour		123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	1,476,000
Balance		52,350	15,134	50,793	21,464	53,218	48,484	65,455	7,804	74,235	8,484	36,293	52,875	486,588
3. Extension North Block														
Paddy	1,140	10,260	51,300	27,360	51,300	19,380	19,380	2,280	51,300	0	49,020	39,900	20,520	342,000
B. Onion	220	38,720	25,520	20,020	14,740	32,780	38,720	25,520	20,020	660	0	14,740	32,780	264,220
Vegetable	80	5,920	6,560	4,400	9,280	5,520	3,200	5,520	6,560	4,400	9,280	5,520	3,200	69,360
Banana														
Yr 1	22	220	198	132	132	528	176	110	110	858	1,782	154	484	4,884
Yr 2-5	88	3,520	2,024	1,936	3,520	2,024	2,024	3,432	1,936	1,936	3,432	1,848	1,848	29,480
Sugarcane														
Plant	330	13,464	9,834	792	792	462	2,178	4,818	16,896	20,658	20,856	10,032	6,732	107,514
Ratoon	1,000	7,571	21,429	27,429	17,571	15,429	25,000	27,143	35,286	39,143	39,143	23,429	17,714	296,286
Total	2,880 0	79,675	116,865	82,069	97,335	76,123	90,678	68,823	132,108	67,655	123,513	95,623	83,278	1,113,744
Av. Labour		144,000	144,000	144,000	144,000	144,000	144,000	144,000	144,000	144,000	144,000	144,000	144,000	1,728,000
Balance		64,325	27,135	61,931	46,665	67,877	53,322	75,177	11,892	76,345	20,487	48,377	60,722	614,256
4. Extension South Block														
Paddy	1,180	10,620	53,100	28,320	53,100	20,060	20,060	2,360	53,100	0	50,740	41,300	21,240	354,000
B. Onion	170	29,920	19,720	15,470	11,390	25,330	29,920	19,720	15,470	510	0	11,390	25,330	204,170
Vegetable	160	11,840	13,120	8,800	18,560	11,040	6,400	11,040	13,120	8,800	18,560	11,040	6,400	138,720
Banana														
Yr 1	20	200	180	120	120	480	160	100	100	780	1,620	140	440	4,440
Yr 2-5	80	3,200	1,840	1,760	3,200	1,840	1,840	3,120	1,760	1,760	3,120	1,680	1,680	26,800
Sugarcane														
Plant	210	8,568	6,258	504	504	294	1,386	3,066	10,752	13,146	13,272	6,384	4,284	68,418
Ratoon	640	4,846	13,714	17,554	11,246	9,874	16,000	17,371	22,583	25,051	25,051	14,994	11,337	189,623
Total	2,460 0	69,194	107,932	72,528	98,120	68,918	75,766	56,777	116,885	50,047	112,363	86,928	70,711	986,171
Av. Labour		123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	123,000	1,476,000
Balance		53,806	15,068	50,472	24,880	54,082	47,234	66,223	6,115	72,953	10,637	36,072	52,289	489,829

Table A6.10-2 LAND USE PLAN

(Unit: ha)

Block	Crops					Total
	Paddy	B. Onion	Vegetable	Banana	Sugarcane	
Old Area						
1. LMBC	490	80	80	170	80	900
2. Mahagama	550	0	0	30	0	580
3. L of BBC	420	60	80	100	150	810
4. R of BBC	320	20	20	100	150	610
5. E of BBC	440	80	80	0	440	1,040
Sub-Total	2,220	240	260	400	820	3,940
Extension Area						
6. Ext North	1,140	220	80	110	1,330	2,880
7. Ext South	1,180	170	160	100	850	2,460
Sub-Total	2,320	390	240	210	2,180	5,340
Total	4,540	630	500	610	3,000	9,280

Table A6.14-1 CROP BUDGET WITH PROJECT CONDITION (1/2)

Description	Unit	Paddy		Big Onion		Vegetable	
		Qt.	Value	Qt.	Value	Qt.	Value
Yield	t/h	5.5		12.0		25.0	
Price	Rs/t		8,000		15,000		4,000
Gross Revenue	Rs/h		44,000		180,000		100,000
INPUTS							
1. Seed Material	kg	100	800	8.5	15,000	3.6	2,760
2. Fertilizer							
Am. Sulphate	kg	25	157	200	1,260		
Urea	kg	180	1,854	50	515	310	3,193
TSP	kg	120	1,236	100	1,030	380	3,914
MP (K2O)	kg	71	675	50	475	175	1,662
Organic	kg			630	945	4000	6,000
3. Agrochemicals							
Insecticide	l/kg		1,500		3,500		2,000
Fungicides	l/kg	6	1,500		200		3,000
Weedicides	l/kg	10	1,900	5.5	4,200		800
4. Machinery							
2W. Tractor	md	3	3,660	3	3,660	2	2,440
Sprayer	md	5	900	4	720	4	720
Thresher	md	1	470				
Miscellaneous							2,000
5. Labour							
Land Prepn.	md	36		102		60	
Planting	md	5		90		10	
Fertilising	md	6		34		8	
P/D Control	md	10		18		40	
Weeding	md	17					
Earthing	md			166		60	
Irrigation	md	20		50		50	
Crop Watching	md	20		80		60	
Miscellaneous	md					30	
Harvesting	md	18		40		90	
Processing	md	20		25		25	
Total	md	152		605		433	
Hired Labour	md	66	5,940	317	28,530	171	15,390
Cost of Prod.	Rs/h		20,592		60,035		43,879
Net Revenue	Rs/h		23,409		119,965		56,121
(Rounded)			23,400		120,000		56,100

Table A6.14-1 CROP BUDGET WITH PROJECT CONDITION (2/2)

Description	Unit	Banana 1st		Banana 2 - 5		Sugarcane 1st		Sugarcane 2-4	
		Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value
Yield	t/h	5.0		20.0		140		105	
Price	Rs/t		10,000		10,000		900		900
Gross Revenue	Rs/h		50,000		200,000		126,000		94,500
INPUTS									
1. Seed Material	sukr	1000	4,500			7500	6,375	0.8	680
2. Fertilizer									
Am.Sulphate	kg								
Urea	kg	73	751	146	1,503	240	2,472	296	3,050
TSP	kg	73	751	146	1,503	95	978	95	978
MP	kg	104	988	208	1,976	100	950	100	950
Organic	kg	2000	3,000	2000	3,000				
3. Agrochemicals									
Insecticide	l/kg								
Fungicides	l/kg	2	625		1,500				
Weedicides	l/kg	4	660				2,800		
4. Machinery									
2W.Tractor	md	3	3,660				12,000		2500
Sprayer	md	2	300	2	300		180		
Thresher	md								
Miscellaneous									
5. Labour									
Land Prepn.	md	80				4			
Planting	md	12				16		8	
Fertilising	md	5		20		6		6	
P/D Control	md	10		15		4		4	
Weeding	md	20		25		105		105	
Earthing	md					25		25	
Irrigation	md	20		30		30		28	
Crop Watching	md	60		365					
Miscellaneous	md							12	
Harvesting	md	10		78		150		130	
Processing	md	5		26					
Total	md	222		559		340		318	
Hired Labour		100	9,000	78	7,020	210	18,900	175	15,750
Cost of Prod'n.	Rs/h		24,235		16,802		44,655		23,908
Net Revenue	Rs/h		25,765		183,198		81,345		70,592
(Rounded)			25,800		183,200		81,300		70,600
Average					151,720				73,275

Table A6.15-1 TYPICAL FARM SIZE AND FARM INCOME

Crops	Pattern - 1				Pattern - 2			
	Holding Size	Gross Farm Income	Production Cost	Net Farm Income	Holding Size	Gross Farm Income	Production Cost	Net Farm Income
1. LMBC								
Paddy	0.56	49,280	23,072	26,208	0.53	46,640	21,836	24,804
B. Onion	0.14	50,400	16,800	33,600	0.05	18,000	6,000	12,000
Vegetable	0.10	20,000	8,780	11,220	0.08	16,000	7,024	8,976
Banana	0.00	0	0	0	0.34	57,800	6,222	51,578
Sugarcane	0.20	20,480	5,820	14,660	0.00	0	0	0
Total	1.00	140,160	54,472	85,688	1.00	138,440	41,082	97,358
2. Mahagama								
Paddy	1.00	88,000	41,200	46,800	0.89	78,320	36,668	41,652
B. Onion	0.00	0	0	0	0.00	0	0	0
Vegetable	0.00	0	0	0	0.00	0	0	0
Banana	0.00	0	0	0	0.11	18,700	2,013	16,687
Sugarcane	0.00	0	0	0	0.00	0	0	0
Total	1.00	88,000	41,200	46,800	1.00	97,020	38,681	58,339
3. L of BBC								
Paddy	0.35	30,800	14,420	16,380	0.62	54,560	25,544	29,016
B. Onion	0.13	46,800	15,600	31,200	0.04	14,400	4,800	9,600
Vegetable	0.02	4,000	1,756	2,244	0.15	29,000	12,731	16,269
Banana	0.00	0	0	0	0.20	33,150	3,569	29,582
Sugarcane	0.50	51,200	14,550	36,650	0.00	0	0	0
Total	1.00	132,800	46,326	86,474	1.00	131,110	46,644	84,467
4. R of BBC								
Paddy	0.60	52,800	24,720	28,080	0.49	43,120	20,188	22,932
B. Onion	0.10	36,000	12,000	24,000	0.00	0	0	0
Vegetable	0.00	0	0	0	0.05	10,000	4,390	5,610
Banana	0.05	8,500	915	7,585	0.22	37,400	4,026	33,374
Sugarcane	0.25	25,600	7,275	18,325	0.24	24,576	6,984	17,592
Total	1.00	122,900	44,910	77,990	1.00	115,096	35,588	79,508
5. E of BBC								
Paddy	0.42	36,960	17,304	19,656	0.43	37,840	17,716	20,124
B. Onion	0.08	28,800	9,600	19,200	0.07	25,200	8,400	16,800
Vegetable	0.07	14,000	6,146	7,854	0.08	16,000	7,024	8,976
Banana	0.00	0	0	0	0.00	0	0	0
Sugarcane	0.43	44,032	12,513	31,519	0.42	43,008	12,222	30,786
Total	1.00	123,792	45,563	78,229	1.00	122,048	45,362	76,686
Average Net Farm Income of Farmers in the Old Area								
<u>79,000 Rs./year</u>								
6. Ext North								
Paddy	0.39	34,320	16,068	18,252	0.40	35,200	16,480	18,720
B. Onion	0.06	21,600	7,200	14,400	0.09	32,400	10,800	21,600
Vegetable	0.00	0	0	0	0.04	8,000	3,512	4,488
Banana	0.10	17,000	1,830	15,170	0.00	0	0	0
Sugarcane	0.45	46,080	13,095	32,985	0.47	48,128	13,677	34,451
Total	1.00	119,000	38,193	80,807	1.00	123,728	44,469	79,259
7. Ext South								
Paddy	0.45	39,186	18,346	20,840	0.61	53,680	25,132	28,548
B. Onion	0.09	32,400	10,800	21,600	0.00	0	0	0
Vegetable	0.00	0	0	0	0.35	70,000	30,730	39,270
Banana	0.04	6,800	732	6,068	0.04	6,800	732	6,068
Sugarcane	0.43	43,520	12,368	31,153	0.00	0	0	0
Total	1.00	121,906	42,246	79,661	1.00	130,480	56,594	73,886
Average Net Farm Income of Farmers in the Extension Area								
<u>78,800 Rs./year</u>								

Table A6.16-1

PACKAGE OF SETTLEMENT ASSISTANCE

Item	Q'ty	Amount (Rs.)
1. Settler Housing	1	4,250
2. Settler Well	1	1,000
3. Settler Latrine	1	405
4. Jungle Clearing High Land Allotment		375
5. On Farm Development Bund Making Subsidy		700
6. Initial Free Tillage of 2 and half acres		1,800
7. Free Issues of Planting Materials		200 (in kind)
Coconut Plants	10	(total)
Mango Plants	5	
Lime Plants		
Orange Plants and other Plants		
8. Seed Paddy (Bushels)	5 (225x5)	1,125 (in kind)
9. Free Issues of Agricultural Implements		500 (in kind)
Memoty	1	
Axe	1	
Katti	1	
Allawangu	1	
10. Wrld Food Asistance (period 18 months 5members of Family		
Rice (kg)	1,080	16,200
Pulses (kg)	81	3,888
Dried Fish (kg)	108	8,100
Allawangu (kg)	54	1,350

Source: MEA

FIGURES

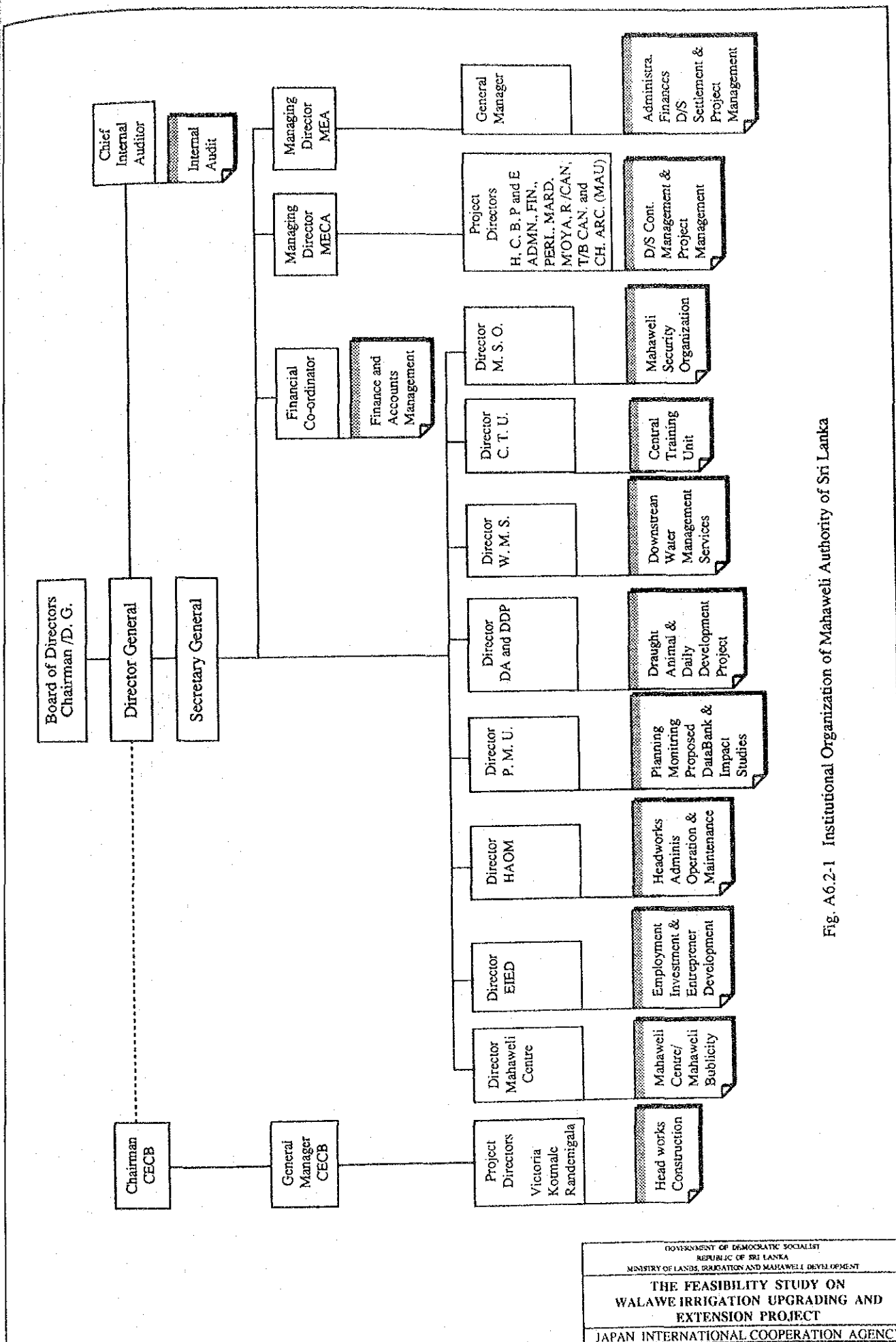


Fig. A6.2-1 Institutional Organization of Mahaweli Authority of Sri Lanka

GOVERNMENT OF DEMOCRATIC SOCIALIST
 REPUBLIC OF SRI LANKA
 MINISTRY OF LANDS, IRRIGATION AND MAHAWELI DEVELOPMENT
**THE FEASIBILITY STUDY ON
 WALAWE IRRIGATION UPGRADING AND
 EXTENSION PROJECT**
 JAPAN INTERNATIONAL COOPERATION AGENCY

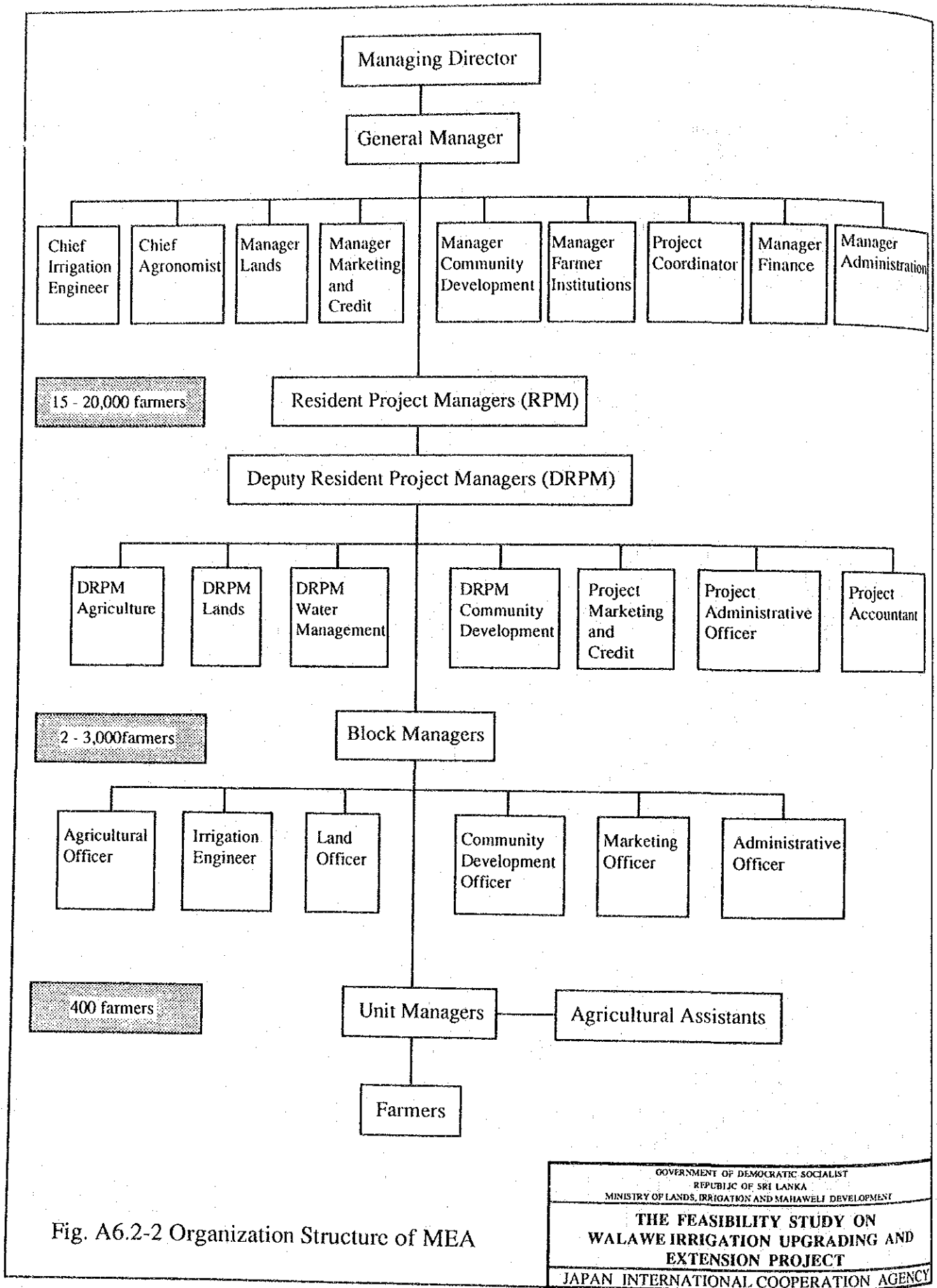


Fig. A6.2-2 Organization Structure of MEA

GOVERNMENT OF DEMOCRATIC SOCIALIST
 REPUBLIC OF SRI LANKA
 MINISTRY OF LANDS, IRRIGATION AND MAHAWELE DEVELOPMENT

**THE FEASIBILITY STUDY ON
 WALAWE IRRIGATION UPGRADING AND
 EXTENSION PROJECT**

JAPAN INTERNATIONAL COOPERATION AGENCY

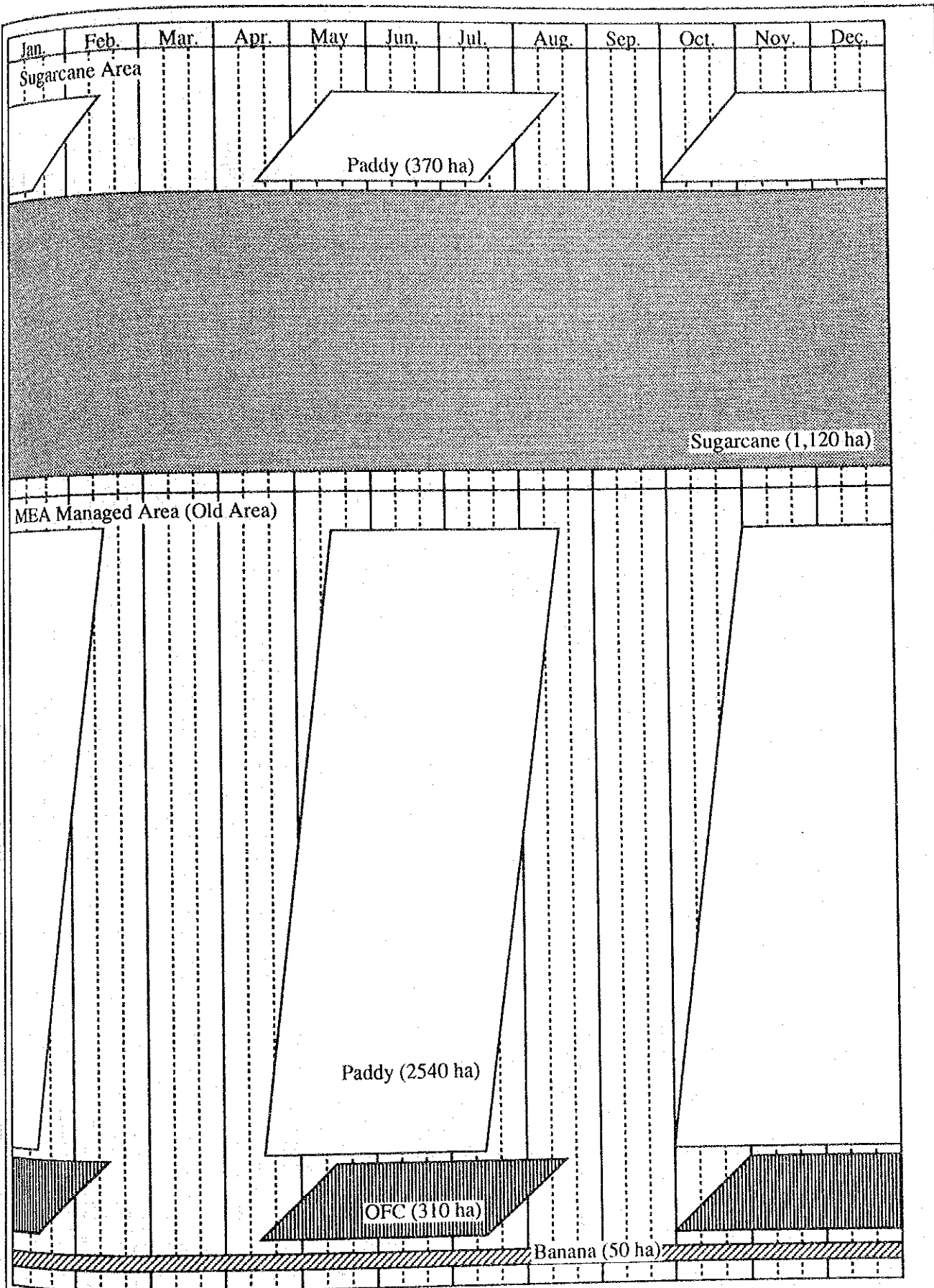


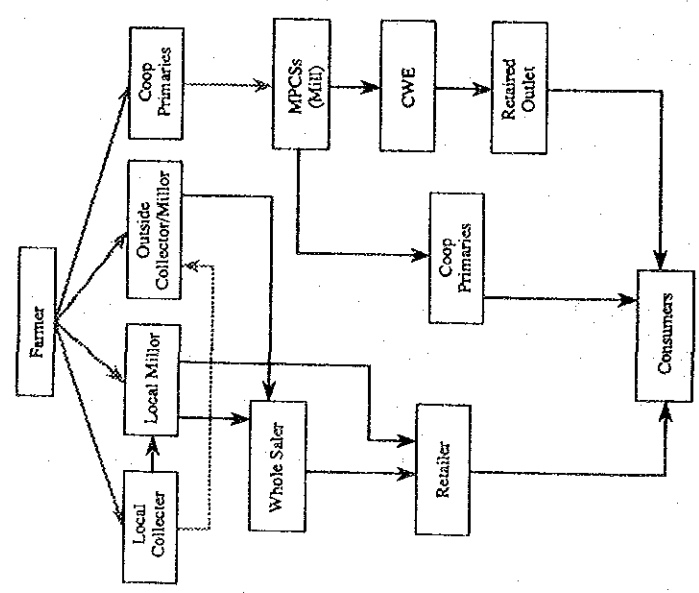
Fig. A6.3-1 Present Cropping Calendar in the Existing Irrigation Area

GOVERNMENT OF DEMOCRATIC SOCIALIST
 REPUBLIC OF SRI LANKA
 MINISTRY OF LANDS, IRRIGATION AND MAHWELI DEVELOPMENT

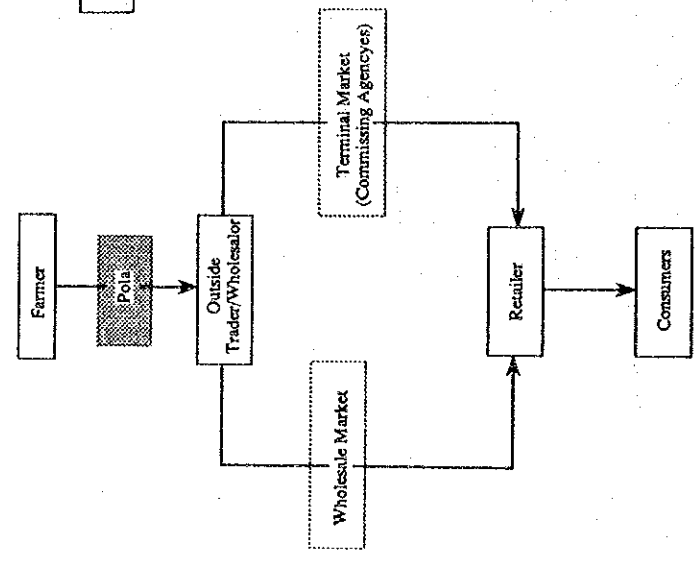
**THE FEASIBILITY STUDY ON
 WALAWE IRRIGATION UPGRADING AND
 EXTENSION PROJECT**

JAPAN INTERNATIONAL COOPERATION AGENCY

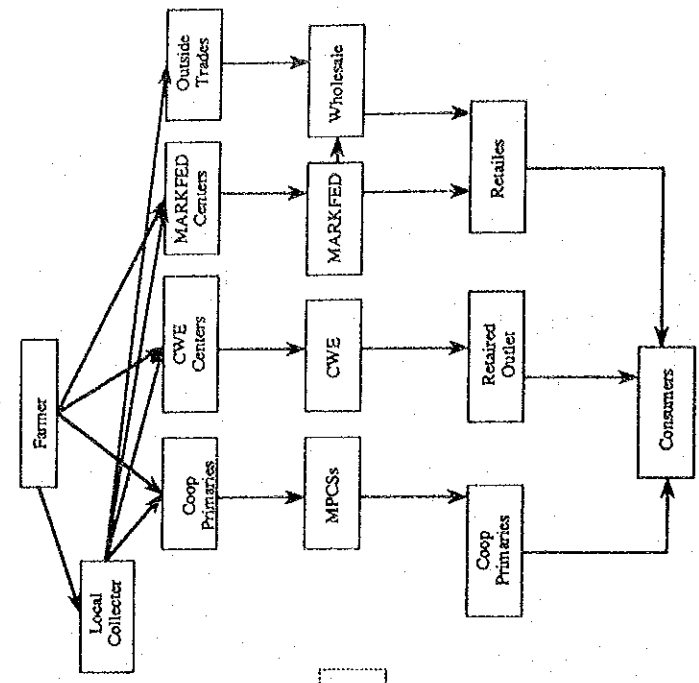
Marketing Flow of Rice



Marketing Flow of Vegetables and Fruits



Marketing Flow of Grain Legumes and Coarse Grains



↑ Paddy
↑ Rice

Fig A6.5-1 Marketing Flow of Agricultural Products

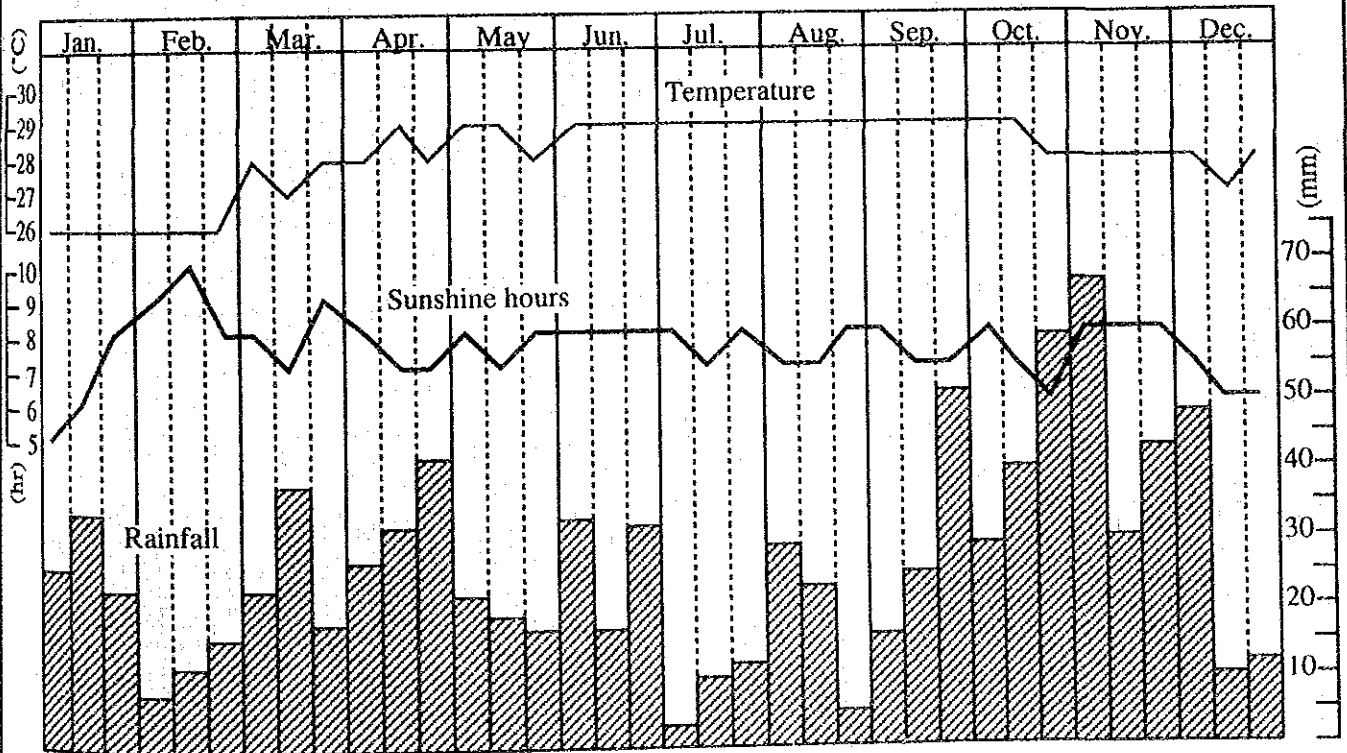
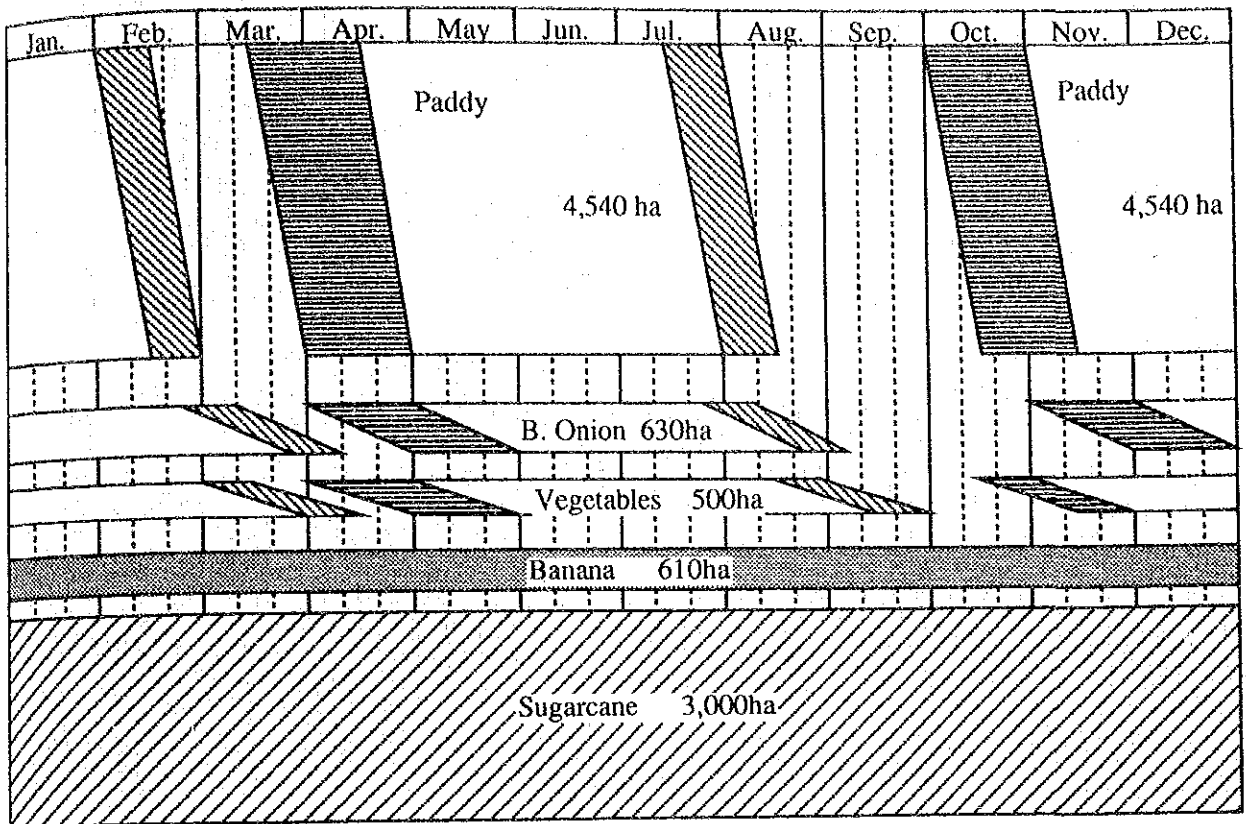


Fig. A6.10-1 Proposed Cropping Pattern

GOVERNMENT OF DEMOCRATIC SOCIALIST
 REPUBLIC OF SRI LANKA
 MINISTRY OF LANDS, IRRIGATION AND MAHAWELE DEVELOPMENT

THE FEASIBILITY STUDY ON
 WALAWE IRRIGATION UPGRADING AND
 EXTENSION PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

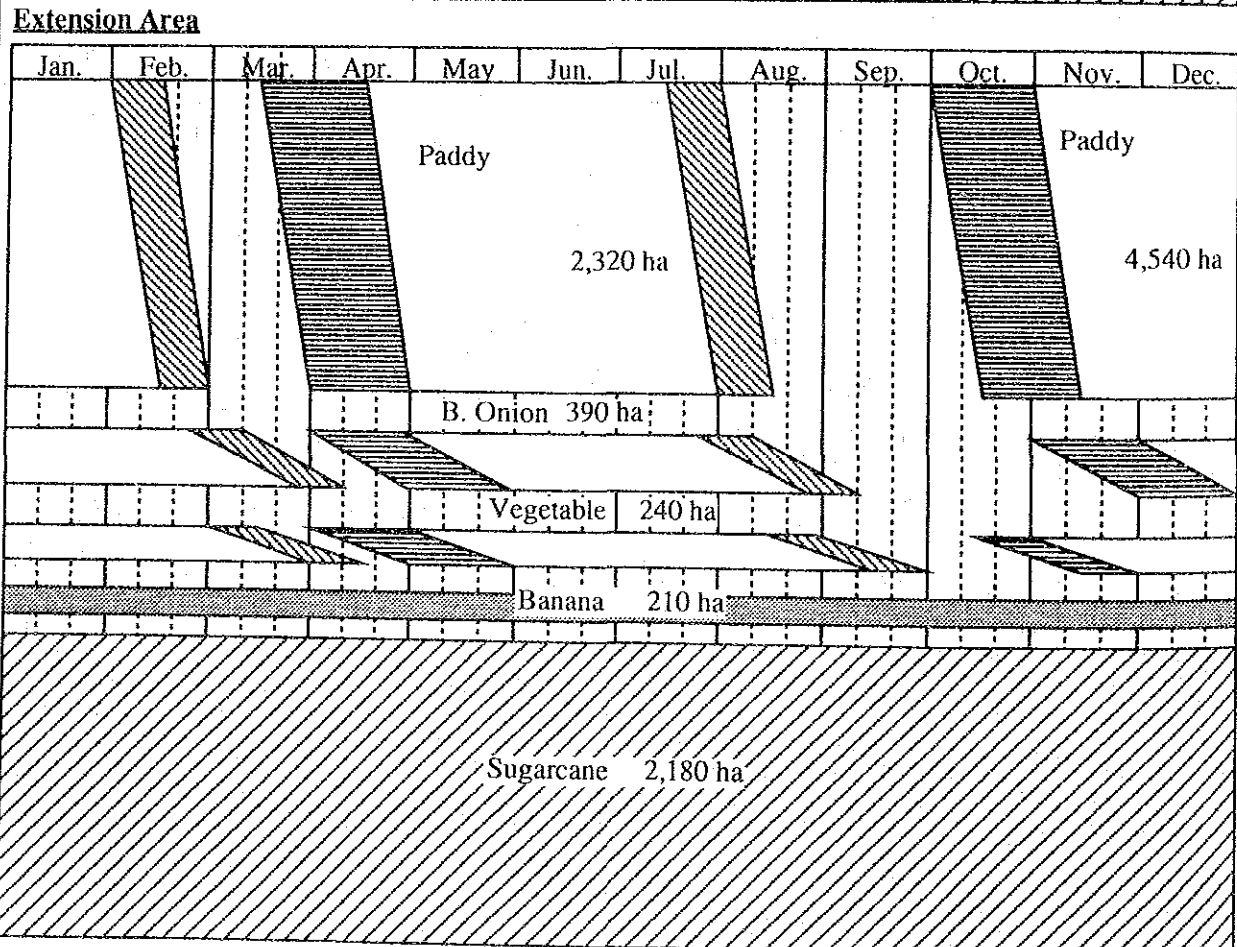
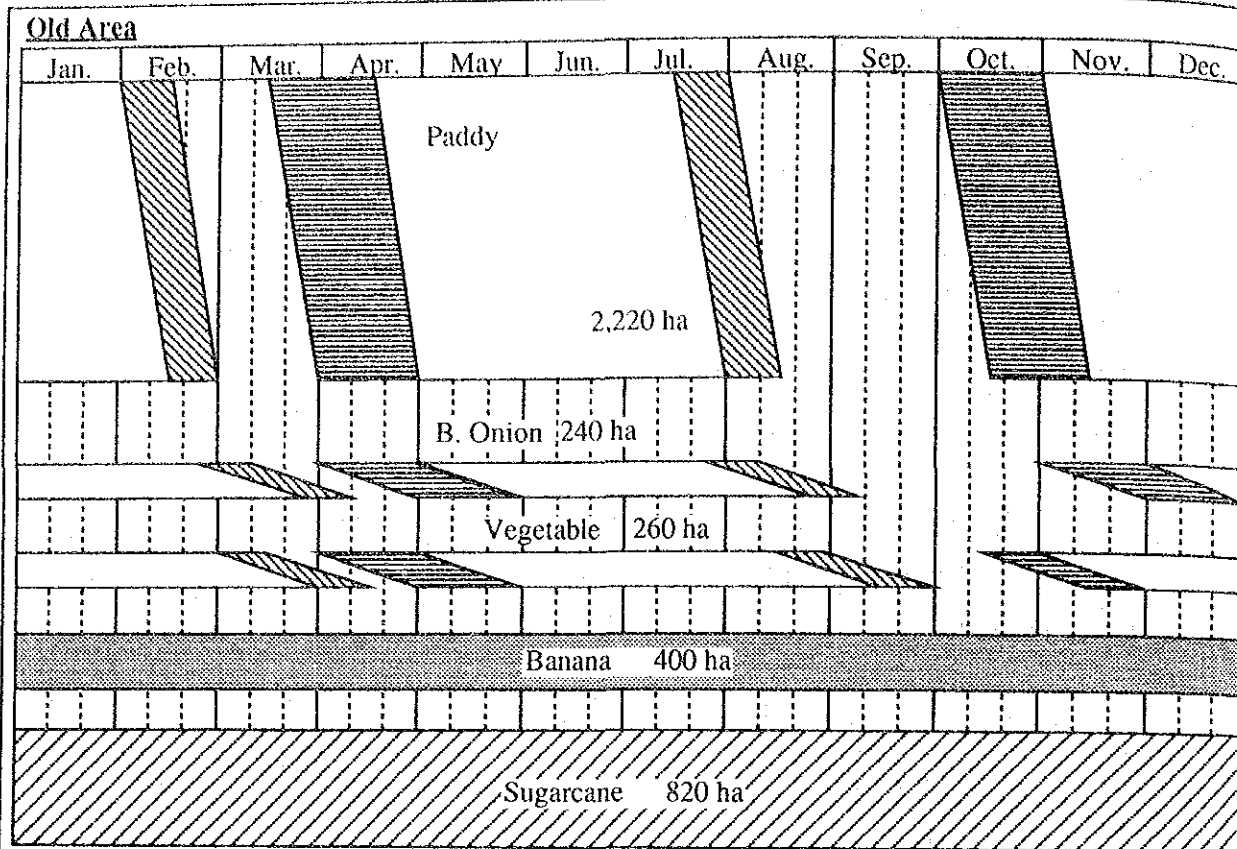


Fig. A6.10-2 Proposed Cropping Pattern for Old Area and Extension Area

GOVERNMENT OF DEMOCRATIC SOCIALIST
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**THE FEASIBILITY STUDY ON
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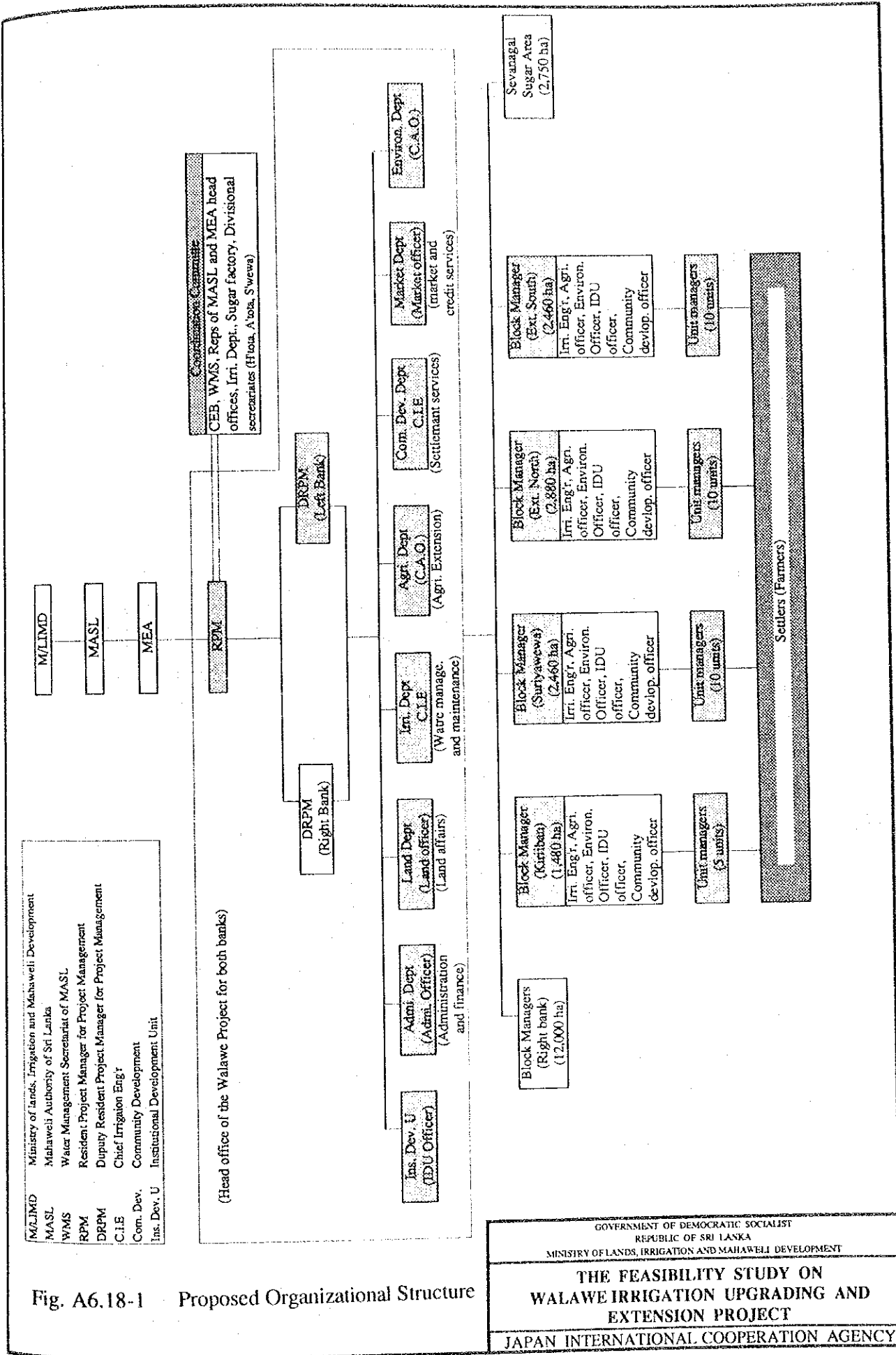


Fig. A6.18-1 Proposed Organizational Structure

ATTACHMENT

THE FEASIBILITY STUDY ON
WALAWE IRRIGATION UPGRADING AND
EXTENTION PROJECT

SOCIO-ECONOMIC SURVEY

QUESTIONNAIRE

SECTOIN 1 - GENERAL AND HOUSEHOLD INFORMATION

1.1 General

1. Name of Respondent: _____ 2. Age: _____
 3. When Settled in Area: _____ 4. Sex: M[] F[]
 5. Block: _____ 6. Unit/Village: _____

1.2 Household Information

No	Relatin. to Head of House code 1	Age yrs	Sex 1-M 2-F	Educa tion Level code2	Employ ment Status code 3	FarmEmpld Full Time	Part Time	Off-Farm Type code 4	Full Time	Part Time	Employed An. Inc
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
2)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
3)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
4)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
5)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
6)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
7)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
8)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
9)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
10)	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]

Code 1: 1. Head of household
 2. Husband/Wife
 3. Son/Daughter
 4. Sister/Brother
 5. Mother/Father
 6. G.Father/G.Mother
 7. Aunt/Uncle
 8. Other

Code 2: 1. No Schooling,cannot read and write
 2. No Schooling,can read and write
 3. Primary Gr. 1-5
 4. Secondary Gr. 6-12
 5. Tertiary Diploma/Degree
 6. Other -(specify)

Code 3: 1. Employed
 2. Unemployed
 3. Household worker
 4. Student
 5. Too young to work
 6. Retired/Disabled
 7. Other

Code 4: 1. Boutique keeper
 2. Mechanic
 3. Technician
 4. Public service
 5. Private sector
 6. Labourer
 7. Other

1.3 Special applitudes of family members that are not used professionally

	Code 1	Code 1
1. Sewing	[]	[]
2. Handicraft	[]	[]
3. Tecnical	[]	[]
4. Livestock	[]	[]
5. Other	[]	[]
6. Other	[]	[]
7. Other	[]	[]
8. Other	[]	[]

Code 1: Use membership number as given in 1.2.1 above.

- 1.4 Housing
1. Type of wall: (1) Brick [] (2) Mud []
2. Type of roof: (1) Cadjan [] (2) Straw [] (3) Tin []
 (4) Tile [] (5) Asbes [] (6) Other []
3. Type of floor: (1) Mud [] (2) Cement []
4. No. of rooms: (1) One [] (2) Two [] (3) Three []
5. Floor area SqFt: (1) <250 [] (2) <500 [] (3) <750 []
 (4) <1000 [] (5) >1000 []

- 1.5 Water, Toilet facilities and Energy use
1. Source of drinking water: (1) Dug well [] (2) Tube well []
 (3) Irri. canal [] (4) River [] (5) Tank []
 (6) Other []
2. Source of bathing water: (1) Dug well [] (2) Tube well []
 (3) Irri. canal [] (4) River [] (5) Tank []
 (6) Other []
3. Toilet facility available: (1) Pit [] (2) Bucket []
 (3) Water seal [] (4) None []
4. Energy for lighting: (1) Kerosine [] (2) Electric []
 (3) Bio-gas []
5. Energy for cooking: (1) Firewood [] (2) Kerosine []
 (3) Charcoal [] (4) LP Gas [] (5) Other []

- 1.6 Health Condition
1. Incidence of illness in the family during last one year
 (1) Malaria [] (2) Hepatitis [] (3) Dysentery []
 (4) Tuberculosis [] (5) Sore eyes [] (6) Filaria []
 (7) Dengue fever [] (8) Other []

2. Does frequent illness hinders your field work:
 (1) Yes [] (2) No []

3. Distance to the closest dispensary: [] km.

4. Place/Person family members go to for maternity treatment
- | | Hospital
(1) | Maternity Home
(2) | Health Worker
(3) | Mid-wife
(4) | Other
(5) |
|--|-----------------|-----------------------|----------------------|-----------------|--------------|
| | [] | [] | [] | [] | [] |
5. Distance from home [] [] [] [] []

- 1.7 Education
- | | Nursary
(1) | Primary
(2) | J.Secondary
(3) | S.Secondary
(4) |
|-----------------------|----------------|----------------|--------------------|--------------------|
| 1. Distance from home | [] | [] | [] | [] |
| 2. Condition (code) | [] | [] | [] | [] |
- Code: 1. Good, 2. Satisfactory, 3. Unsatisfactory
 If unsatisfactory, give reasons: []

- 1.8 Other Facilities
1. Distance from home to the closest provision store: [] km
2. Distance from home to the closest town: [] km

3. Condition of the access road from main road:

(1) Foot Path [] (2) Mud Road [] (3) Tar Road []

	Post Office (1)	Post Box (2)	None (3)
4. Postal Services	[]	[]	[]
5. Distance from home	[]	[]	[]

1.9 Farm Machinery and Equipment

1. 4 Wheel Tractor	[]	8. Water Pump	[]
2. 2 Wheel Tractor	[]	9. Hand Sprayer	[]
3. Rotovator	[]	10. Power Sprayer	[]
4. Tyne Tiller	[]	11. Transplanter	[]
5. Iron Plough	[]	12. Mammotty	[]
6. Wooden Plough	[]	13. Seikle	[]
7. Paddy Thresher	[]	14. Other (specify)	[]

1.10 Household Appliances

1. Television Set	[]	6. Petro-max Lamp	[]
2. Radio Set	[]	7. Bicycle	[]
3. Sewing Machine	[]	8. Motorcycle	[]
4. Wall Clock	[]	9. Refregirator	[]
5. Wrist Watch	[]	10. Other (specify)	[]

1.11 Household Expenditure (in Rs per Month)

1. Food	[]	11. Gift Items	[]
2. Non Alcoholic Drink	[]	12. Personal	[]
3. Alcoholic Drink	[]	13. Medical	[]
4. Clothing	[]	14. Land & House Rent	[]
5. Ferniture	[]	15. Debt Repayment	[]
6. Fuel & Lighting	[]	16. Other (specify)	[]
7. Transport	[]	17. ()	[]
8. Education	[]	18. ()	[]
9. Entertainment	[]	19. ()	[]
10. Functions	[]	20. ()	[]

SECTION 2 - FARM LAND AND CROP PRODUCTION

2.1 Farm Size and Land Tenure

No. (1)	Land Type (2)	Extent Ac. (3)	Dist.to Home km (4)	Tenurial Status Ac.				Land Use	
				Pvt. (5)	Grant (6)	Enchr (7)	Lease (8)	Irrig (9)	Non Ir (10)
1. Paddy									
	1)	[]	[]	[]	[]	[]	[]	[]	[]
	2)	[]	[]	[]	[]	[]	[]	[]	[]
	3)	[]	[]	[]	[]	[]	[]	[]	[]
2. Homestead									
	1)	[]	[]	[]	[]	[]	[]	[]	[]
	2)	[]	[]	[]	[]	[]	[]	[]	[]
3. Highlands									
	1)	[]	[]	[]	[]	[]	[]	[]	[]
	2)	[]	[]	[]	[]	[]	[]	[]	[]
	3)	[]	[]	[]	[]	[]	[]	[]	[]

2.2 Cropping Patern/Calender

No. (1)	Land Type (2)	Crop (3)	Maha 90/91			Yala 1991		
			Ext. Ac (4)	From (5)	To (6)	Ext. Ac (7)	From (8)	To (9)
1. Lowland								
	1)	Paddy	[]	[]	[]	[]	[]	[]
	2)	Chilli	[]	[]	[]	[]	[]	[]
	3)	B.Onion	[]	[]	[]	[]	[]	[]
	4)	R.Onion	[]	[]	[]	[]	[]	[]
	5)	Ghirkin	[]	[]	[]	[]	[]	[]
	6)	Maize	[]	[]	[]	[]	[]	[]
	7)	Pulses	[]	[]	[]	[]	[]	[]
	8)	G'nuts	[]	[]	[]	[]	[]	[]
	9)	Vegetable	[]	[]	[]	[]	[]	[]
2. Homestead								
	1)	[]	[]	[]	[]	[]	[]	[]
	2)	[]	[]	[]	[]	[]	[]	[]
	3)	[]	[]	[]	[]	[]	[]	[]
	4)	[]	[]	[]	[]	[]	[]	[]
	5)	[]	[]	[]	[]	[]	[]	[]
	6)	[]	[]	[]	[]	[]	[]	[]
3. Highland								
	1)	[]	[]	[]	[]	[]	[]	[]
	2)	[]	[]	[]	[]	[]	[]	[]
	3)	[]	[]	[]	[]	[]	[]	[]
	4)	[]	[]	[]	[]	[]	[]	[]
	5)	[]	[]	[]	[]	[]	[]	[]
	6)	[]	[]	[]	[]	[]	[]	[]

SECTION 3 - FARMING PRACTICES

3.1 Paddy Cultivation

	Maha90/91 Unit Days	Yala 1991 Unit Days	Maha90/91 Unit Days	Yala 1991 Unit Days
1. Land Clear				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
2. Nurs. Prepn.				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
3. 1st Plough.				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
4) 4-Wh. Trac	[] []	[] []	[] []	[] []
5) 2-Wh. Trac	[] []	[] []	[] []	[] []
6) Buffalo	[] []	[] []	[] []	[] []
4. 2nd Plough.				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. La.	[] []	[] []	[] []	[] []
4) 4-Wh. Trac	[] []	[] []	[] []	[] []
5) 2-Wh. Trac	[] []	[] []	[] []	[] []
6) Buffalo	[] []	[] []	[] []	[] []
5. Levelling				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
4) 4-Wh. Trac	[] []	[] []	[] []	[] []
5) 2-Wh. Trac	[] []	[] []	[] []	[] []
6) Buffalo	[] []	[] []	[] []	[] []
6. Sowing				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
7. Transplant.				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
4) Tr'plantr	[] []	[] []	[] []	[] []
8. Water Mangt.				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
9. Weeding				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
4) Weeder	[] []	[] []	[] []	[] []
10. Fertilize				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
11. Chem. Appln.				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
4) Hand Spr.	[] []	[] []	[] []	[] []
5) Power Spr	[] []	[] []	[] []	[] []
12. Harvesting				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
13. Threshing				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
4) Thesher	[] []	[] []	[] []	[] []
5) Tractor	[] []	[] []	[] []	[] []
6) Buffalo	[] []	[] []	[] []	[] []
14. Bagging				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
15. Transport				
1) Fam. Lab.	[] []	[] []	[] []	[] []
2) Hire Lab.	[] []	[] []	[] []	[] []
3) Exch. Lab.	[] []	[] []	[] []	[] []
4) 4-Wh. Trac	[] []	[] []	[] []	[] []
5) 2-Wh. Trac	[] []	[] []	[] []	[] []
6) Truck	[] []	[] []	[] []	[] []
7) Cart	[] []	[] []	[] []	[] []

3.2 Varieties Used:

	Variety (1)	Extent cultivated (acres)	
		Maha 90/91 (2)	YALA 1991 (3)
1.	[]	[]	[]
2.	[]	[]	[]
3.	[]	[]	[]

3.3 Cost of seed paddy

		Maha 90/91		
(1)	(2)	(3)	(4)	(5)
Self	Qty kg	Perch.	Qty kg	Rs/kg
[]	[]	[]	[]	[]

		Yala 1991		
(1)	(2)	(3)	(4)	(5)
Self	Qty kg	Perch.	Qty kg	Rs/kg
[]	[]	[]	[]	[]

3.4 Cost of Fertilizers

	Maha 90/91		Yala 1991	
	Qty kg/Ac (1)	Cost Rs/Ac (2)	Qty kg/Ac (3)	Cost Rs/Ac (4)
1. V.Mixture	[]	[]	[]	[]
2. Urea	[]	[]	[]	[]
3. T.D.M.	[]	[]	[]	[]
4. S.Phosphate	[]	[]	[]	[]
5. M.of Potash	[]	[]	[]	[]
6. Other	[]	[]	[]	[]

3.5 Cost of Agro-chemicals

	Maha 90/91		Yala 1991	
	Qty kg/Ac (1)	Cost Rs/Ac (2)	Qty kg/Ac (3)	Cost Rs/Ac (4)
1. Insecticide	[]	[]	[]	[]
2. Fungicide	[]	[]	[]	[]
3. Weedicide	[]	[]	[]	[]

3.6 Cost of Farm Labour

	Maha 90/91 Rs/Unit (1)	Yala 1991 Rs/Unit (2)
1. Hired Labour	[]	[]
2. Exchange Labour	[]	[]

3.7 Cost of Farm Power and Equipment

	Maha 90/91			Yala 1991		
	(1) Own	(2) Hired	(3) Rs/Day	(1) Own	(2) Hired	(3) Rs/Day
1. 4-Wheel Tractor	[]	[]	[]	[]	[]	[]
2. 2-Wheel Tractor	[]	[]	[]	[]	[]	[]
3. Transplanter	[]	[]	[]	[]	[]	[]
4. Hand Sprayer	[]	[]	[]	[]	[]	[]
5. Power Sprayer	[]	[]	[]	[]	[]	[]
6. Thresher	[]	[]	[]	[]	[]	[]
7. Weder	[]	[]	[]	[]	[]	[]
8. Truck	[]	[]	[]	[]	[]	[]
9. Pair of Buffalo	[]	[]	[]	[]	[]	[]
10. Cart	[]	[]	[]	[]	[]	[]

3.8 Other Expenses (Rs.)
(specify)

	Maha 90/91 (1)	Yala 1991 (2)
1. []	[]	[]
2. []	[]	[]
3. []	[]	[]

3.9 Production

	Maha 90/91 (1)	Yala 1991 (2)
1. Total Production (Bushels/kg)	[]	[]
2. Home Consumption (Bushels/kg)	[]	[]
3. Kept for Seed Paddy (Bushels/kg)	[]	[]
4. To Repay Loans (Bushels/kg)	[]	[]
5. Amount Sold (Bushels/kg)	[]	[]

3.10 Other Field Crop (OFC) Production For Yala 1991

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Crop	Chilli	B'Onion	R'Onion				
2. Land Ext.Ac	[]	[]	[]	[]	[]	[]	[]
3. Soil Type (a)	[]	[]	[]	[]	[]	[]	[]
4. Plant.Mtd.(b)	[]	[]	[]	[]	[]	[]	[]
5. Irri. Mtd.(c)	[]	[]	[]	[]	[]	[]	[]
Cost of Inputs (Rs)							
6. Plantg Mtls	[]	[]	[]	[]	[]	[]	[]
7. Fertilizer	[]	[]	[]	[]	[]	[]	[]
8. Ag. Chemicals	[]	[]	[]	[]	[]	[]	[]
9. Other	[]	[]	[]	[]	[]	[]	[]
Cost of Farm Power (Rs)							
10. 4-Wh.Tractor	[]	[]	[]	[]	[]	[]	[]
11. 2-Wh.Tractor	[]	[]	[]	[]	[]	[]	[]
12. Buffalos	[]	[]	[]	[]	[]	[]	[]
13. Hand Sprayer	[]	[]	[]	[]	[]	[]	[]
14. Power Sprayer	[]	[]	[]	[]	[]	[]	[]
Labour Use and Cost							
15. Family (Units)	[]	[]	[]	[]	[]	[]	[]
16. Hired (Units)	[]	[]	[]	[]	[]	[]	[]
17. Hired Cost (Rs.)	[]	[]	[]	[]	[]	[]	[]
18. Exchange (Unit)	[]	[]	[]	[]	[]	[]	[]
Production							
19. Total Prod kg	[]	[]	[]	[]	[]	[]	[]
20. Consumptn kg	[]	[]	[]	[]	[]	[]	[]
21. Amt. Sold kg	[]	[]	[]	[]	[]	[]	[]
22. Unit Price Rs	[]	[]	[]	[]	[]	[]	[]
23. Income Rs	[]	[]	[]	[]	[]	[]	[]

Code: (a) 1.Reddish Brown Earths, 2.Low Humic Gley Soil
(b) 1.In Raised Beds, 2.In The Flat
(c) 1.Basin Irrigation, 2.Furrow Irrigation

3.11 What are the main problems that you encounter in the cultivation of above crops?

3.12 What are the main reasons for your selection of the above crops?

3.13 If sufficient water is available, will you change over to paddy cultivation during the Yala season?

(1) Yes []

(2) No []

3.14 If yes, why?

3.15 Permanent Crop Production (Homestead and other lands)

	(1)	(2)	(3)	(4)	(5)
1. Crop					
2. Extent in Acres	[]	[]	[]	[]	[]
3. No of Trees	[]	[]	[]	[]	[]
Labour Units (Annual)					
4. Family Labour	[]	[]	[]	[]	[]
5. Hired Labour	[]	[]	[]	[]	[]
Production Cost Rs					
6. Hired Labour	[]	[]	[]	[]	[]
7. Other	[]	[]	[]	[]	[]
8. Inputs	[]	[]	[]	[]	[]
Production					
9. Annual Output	[]	[]	[]	[]	[]
10. Production Unit	[]	[]	[]	[]	[]
11. Amount Consumed	[]	[]	[]	[]	[]
12. Amount Sold	[]	[]	[]	[]	[]
13. Unit Rate	[]	[]	[]	[]	[]
14. Income	[]	[]	[]	[]	[]

3.16 Highland Cultivation

	(1)	(2)	(3)	(4)	(5)
1. Crop					
2. Extent in Acres	[]	[]	[]	[]	[]
Labour Units					
3. Family Labour	[]	[]	[]	[]	[]
4. Hired Labour	[]	[]	[]	[]	[]
Production Cost Rs					
5. Hired Labour	[]	[]	[]	[]	[]
6. Other	[]	[]	[]	[]	[]
7. Inputs	[]	[]	[]	[]	[]
Production					
8. Output	[]	[]	[]	[]	[]
9. Amount Consumed	[]	[]	[]	[]	[]
10. Amount Sold	[]	[]	[]	[]	[]
11. Unit Rate	[]	[]	[]	[]	[]
12. Income	[]	[]	[]	[]	[]

SECTION 4 - LIVE-STOCK AND INLAND FISHERY PRODUCTION

4.1 Live-stock Production

	(1)	(2)	(3)	(4)	(5)	(6)
1. Type	Cattle	Buffalo	Poultry	Goat	Pig	Other
2. Number	[]	[]	[]	[]	[]	[]
3. Feeding System	[]	[]	[]	[]	[]	[]
Annual Labour Units						
4. Family	[]	[]	[]	[]	[]	[]
5. Hired	[]	[]	[]	[]	[]	[]
Annual Expenditure						
6. Hired Labour	[]	[]	[]	[]	[]	[]
7. Feeds	[]	[]	[]	[]	[]	[]
8. Other	[]	[]	[]	[]	[]	[]
Production						
9. Annual Out-put	[]	[]	[]	[]	[]	[]
10. Consumption	[]	[]	[]	[]	[]	[]
11. Amount Sold	[]	[]	[]	[]	[]	[]
12. Unit Rate	[]	[]	[]	[]	[]	[]
13. Income Rs	[]	[]	[]	[]	[]	[]

4.1.1 Do you like live-stock rearing ?

(1) Yes [] (2) No []

4.1.2 If yes, what is your preference :

(1) Cattle [] (2) Buffalo [] (3) Poultry [] (4) Goat [] (5) Pig []

4.1.3 What are the main problems you face in livestock farming?

- | | | | |
|-------------------------------|-----|----------|-----|
| 1. Lack of Grazing Land | [] | 5. Other | [] |
| 2. Non Availability of Feeds | [] | 6. | [] |
| 3. Lack of Veterinary Service | [] | 7. | [] |
| 4. Lack of Upgraded Animals | [] | | |

4.2 Inland Fishery Production

4.2.1 Do you rear inland fish ? (1) Yes [] (2) No []

4.2.2 Do you like inland fish rearing ? (1) Yes [] (2) No []

4.2.3 For inland fishery production:

(1) Annual Expenditure Rs [] (2) Annual Income Rs []

SECTION 5 - AGRICULTURAL SUPPORT SERVICES

5.1 Agricultural Credit

5.1.1 Do you obtain credit facilities for crop production?
 (1) Yes [] (2) No []

5.1.2 If yes - source of credit :

	Maha 90/91		Yala 1991	
	Source (1)	Amount Rs (2)	Source (3)	Amount Rs (4)
1. Co-operative	[]	[]	[]	[]
2. Peoples Bank	[]	[]	[]	[]
3. Bank of Ceylon	[]	[]	[]	[]
4. Friends	[]	[]	[]	[]
5. Relatives	[]	[]	[]	[]
6. Traders	[]	[]	[]	[]
7. Money Lender	[]	[]	[]	[]

5.1.3 For what crops do you obtain agricultural credit :

Crop	Maha 91/91 (2)	Yala 1991 (3)	Crop	Maha 90/91 (2)	Yala 1991 (3)
	1. Paddy	[]		[]	4. B.Onion
2. Chilli	[]	[]	5. R.Onion	[]	[]
3. Sugarcane	[]	[]	6. Pulses	[]	[]

5.1.4 Are there difficulties in obtaining credit ?

- | | |
|-----------------------------------|--|
| 1. Repayment in default [] | 4. Credit not granted for required crops [] |
| 2. No guarentors [] | 5. Other (specify) |
| 3. Cumbersome procedure [] | |

5.1.5 Amounts outstanding against cultivation loans obtained :

- | | |
|---|-----------------------------|
| 1. Defaulted [] | 4. Other(specify) [] |
| 2. Balance against current loan [] | 5. [] |
| 3. Annual interest rate [] | |

5.2 Crop Insurance

5.2.1 Did you obtain a crop insurance cover during -

- | | | |
|---------------|-------------------|------------------|
| 1. Maha 90/91 | (1) Yes [] | (2) No [] |
| 2. Yala 1991 | (1) Yes [] | (2) No [] |

5.2.2 If not, why ?

- | | |
|----------|----------|
| 1. _____ | 4. _____ |
| 2. _____ | 5. _____ |
| 3. _____ | 6. _____ |

5.3 Marketing

Crop (1)	Sales Outlet							Maha 90/91		Yala 1991	
	Coop (2)	PMC (3)	MEA (4)	der (5)	Trad (6)	Pola (7)	Oth. (8)	Qty (9)	Rs/Un (10)	Qty (11)	Rs/Un (12)
1. Paddy	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
Oth.Crops	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
2.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
3.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
4.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
5.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
Perm.Crops	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
6.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
7.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
8.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
9.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
10.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
Livestock	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
11.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
12.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
13.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
14.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]
15.	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]	[]

5.3.1 What are the main problems in marketing ?

- | | |
|------------------------------|------------------------------------|
| 1. Low prices paid [] | 4. Problems of product quality [] |
| 2. Lack of transport [] | 5. Lack of packing materials [] |
| 3. Lack of storage space [] | 6. Other (specify) [] |

5.4 Agricultural Input Supply

Input (1)	Source (code 1) (2)	Problems (code 2) (3)
1. Seed Paddy	[]	[]
2. Seeds of OFC	[]	[]
3. Weedicides	[]	[]
4. Insecticides	[]	[]
5. Fungicides	[]	[]
6. Fertilizers	[]	[]
7. Other (specify)	[]	[]

Code 1: 1. Agric service centre

2. Co-operative store

3. Mahaweli Economic Agency

4. Town shop

5. Village trader

6. Other (specify)

Code 2: 1. Non availability

2. Not available when needed

3. Not available in small quantities

4. High cost

5. Appliances not available

6. Transport problems

7. Lack of finance

5.5 Agricultural Extension Services

5.5.1 Do you receive agricultural advice? (1) Yes [] (2) No []

5.5.2 Who provides you the agricultural extension ?

- | | |
|------------------------|--------------------------------|
| 1. Turn-out Leader [] | 5. Agricultural Instructor [] |
| 2. Farmer Leader [] | 6. K.V.S. [] |
| 3. Field Assistant [] | 7. Cultivation Officer [] |
| 4. Unit Manager [] | 8. Other (specify) [] |

5.5.3 What type of information is received :

- | | | | |
|--------------------|-----|---------------------|-----|
| 1. Paddy | [] | 4. Live-stock | [] |
| 2. OFC | [] | 5. Water Management | [] |
| 3. Permanant Crops | [] | 6. Other (specify) | [] |

5.5.4 How useful do you think is the advice received ?

- | | | | | | |
|---------|-----|-------------|-----|-----------|-----|
| 1. Very | [] | 2. Somewhat | [] | 3. No use | [] |
|---------|-----|-------------|-----|-----------|-----|

SECTION 6 - SETTLER ORGANISATIONS

6.1 What are the community organisations that exist in your village/unit ?

Organisation		Family Membership
1. Community Development Society	[]	[]
2. Death Donations Society	[]	[]
3. Youth Society	[]	[]
4. Womens Society	[]	[]
5. Cooperative Society	[]	[]
6. Other	[]	[]

6.2 What are the farmer organisations that exist in your village/unit ?

Organisation		Family Membership
1. Turn-out Group	[]	[]
2. Extension Group	[]	[]
3. Other (specify)	[]	[]
4.	[]	[]
5.	[]	[]

6.3 How useful are these organisations to you ?

1. Community Organisations:
(1) Very [] (2) Somewhat [] (3) No Use []
2. Farmer Organisations:
(1) Very [] (2) Somewhat [] (3) No Use []

6.4 What is the total subscription for family membership ? Rs _____

6.5 What are your suggestions for improvement of the work efficiency of organisations ?

SECTION 7 - WATER MANAGEMENT

7.1 Location of the irrigable farm allotment on the canal:
 (1) Head [] (2) Middle [] (3) Tail []

7.2 Do you participate in maintaining the irrigation system ?
 1. Main canal (1) Yes [] (2) No []
 2. Distributory canal (1) Yes [] (2) No []
 3. Field canal (1) Yes [] (2) No []

7.3 Your participation is: (1) Voluntary [] (2) For payment []

7.4 Do you get sufficient water for the following growth stages

Growth Stage (1)	Maha 90/91 (2)		Yala 1991 (3)	
	(1) Yes	(2) No	(1) Yes	(2) No
1. Land Preparation	[]	[]	[]	[]
2. Seedlings	[]	[]	[]	[]
3. Tillering	[]	[]	[]	[]
4. Flowering	[]	[]	[]	[]
5. Up to Harvesting	[]	[]	[]	[]

7.5 Who makes the decisions with regard to distribution of water within your turn-out ?

1. Engineering Assistant	[]	4. Turn-out Leader	[]
2. Water Labourer	[]	5. Farmers	[]
3. At will	[]	6. Other (specify)	[]

7.6 What are the problems in obtaining water ?

1. Lack of water	[]	6. Defects in the ststem	[]
2. Shortage of water	[]	7. Other (specify)	[]
3. Unreliable supply	[]	8.	[]
4. Too much water	[]	9.	[]
5. Farm inlet located below the land level []		10.	[]

7.7 How can the present water management level be improved ?

7.8 Do you pay a fee for the use of irrigation water ?
 (1) Yes [] (2) No []

7.9 If yes,how much do pay per year ? Rs _____

7.10 If not,are you prepared to pay a fee for use of irrigation water ?
 (1) Yes [] (2) No []

7.11 If not, why ?

SECTION 8 - FARMER RESPONSE TO CROP DIVERSIFICATION

8.1 What are the crops that you like to grow most and crops that you think most profitable to grow ?

(Please indicate the order of preference)

Crop (1)	You Like To Grow		You Think Profitable	
	Maha (2)	Yala (3)	(4)	
1. Paddy				
2. Chilli	[]	[]	[]	[]
3. Onion	[]	[]	[]	[]
4. Maize	[]	[]	[]	[]
5. Sugarcane	[]	[]	[]	[]
6. Pulses	[]	[]	[]	[]
7. Groundnuts	[]	[]	[]	[]
8. Vegetable U.Country	[]	[]	[]	[]
9. Vegetable L.Country	[]	[]	[]	[]
10. Gherkin	[]	[]	[]	[]
11. Bananas	[]	[]	[]	[]
12.	[]	[]	[]	[]
13.	[]	[]	[]	[]

8.2 What are the reasons for selecting the crops you cultivate ?

(Please use code)

Crop	Code	Code:
1. Paddy	[]	1. High profitability
2. Chilli	[]	2. High markatability
3. B.Onions	[]	3. Easy farming practice
4. R.Onions	[]	4. For consumption
5. Maize	[]	5. Lack of know-how to grow alternate crops
6. Sugarcane	[]	6. Non perishable
7. Pulses	[]	7. Other (specify)
8. Groundnuts	[]	
9.	[]	
10.	[]	
11.	[]	

8.3 Do you like to use your irrigable allotment for live-stock rearing ?

(1) Yes [] (2) No []

8.4 Do you like to use your irrigable allotment for sugarcane cultivation ?

(1) Yes [] (2) No []

8.5 Are you prepared to grow crops that cannot be consumed directly but are more profitable ?

(1) Yes [] (2) No []

8.6 Do you like to grow crops in highlands under lift irrigation

(1) Yes [] (2) No []

8.7 If not, why ?

1. High water rate	[]	4. Other (specify)	[]
2. No know-how	[]	5	[]
3. Not profitable	[]	6.	[]

Annex - VII

Irrigation, Drainage and Rural Infrastructure

ANNEX VII IRRIGATION, DRAINAGE AND RURAL INFRASTRUCTURE

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ANNEX 7-1 PRESENT IRRIGATION AND DRAINAGE CONDITION

7.1.1 Existing irrigation and drainage system

(1) Walawe irrigation system

The Walawe irrigation area extending over both banks of the Walawe river draws water from the Uda Walawe reservoir on the Walawe river. Downstream of the Uda Walawe dam, two main canals serve the left and right banks of the lower Walawe basin through mini-hydro-power generation station. The right and left bank main canals flow through several smaller tanks on tributaries of the Walawe river such as Chandrika and Kiriiban. The irrigation area of both banks of the Walawe river in last 5 years is estimated at 12,900 ha in total, comprising right bank area of 8,800 ha and left bank of 4,100 ha as shown in Table A7.1-1. The area of 12,400 ha is the commanding area of the Uda Walawe reservoir and about 580 ha is fed by the Mau river. The main crop irrigated in the system is paddy of 11,200 ha (87%). The other crops irrigated are sugar cane, banana and other upland field crops. Detail of irrigation area by crops is presented in Annex 7-2.

Due to the larger population on the right bank and because of the existence of the Chandrika Wewa project, which was incorporated into the Walawe Project, the development of the right bank infrastructure proceeded that of the left bank. Irrigation infrastructure to serve the right bank area are the Uda Walawe reservoir (total capacity of 269 MCM and effective storage capacity of 240 MCM), Chandrika tank (total capacity of 27 MCM) and downstream irrigation canals system, including main canals(RBMC) of 40 km and seven branch canals of 65 km in total, to deliver water to 12,000 ha of agricultural lands.

The Walawe Irrigation Improvement Project for the Right bank area was started in January 1986 with fund by the Asian Development Bank (ADB). The Improvement project aims to upgrade and improve the extent and reliability of irrigation supplies through rehabilitation of the physical infrastructure works and the introduction of improved systematic operation procedures. The project area covers some 12,000 ha. It is expected that the project work will be completed by the end of 1992.

(2) Irrigation system in the Study area (the left bank area)

Old Area

The existing irrigation infrastructure in the Old Area serving for about 4,400 ha comprises two gravity irrigation systems; about 3,800 ha irrigated by the Uda Walawe reservoir and 580 ha commanded by the Mahagama tank. The water resource of the Mahagama tank is the Mau river, a tributary of the Walawe river, and return flow from the upstream irrigation area which is fed by the Uda Walawe reservoir.

Irrigation area is broadly divided into three irrigation blocks; Sevanagala sugar corporation area (1,500 net ha in 1991), and two irrigation management blocks of MEA/ MASL; Kiriibanwewa block (1,500 net) and Suriyawewa block (1,400 net ha). Main crops irrigated are paddy of about 3,200 ha and sugar cane of 850 ha.

Existing irrigation network presently serving the Old Area consists of following:

- (i) Left Bank Main Canal (LBMC) of 31 km long routed along the upper boundary of irrigation area; the design drawing prepared by RVDB in 1960's shows that the design capacity of the canal is about $28 \text{ m}^3/\text{s}$ (1,000-1,400 cusec) in the full stretch of

31 km. According to the Appraisal Report of Walawe Development Project of ADB in 1969, the entire irrigation development area was planned as some 19,000 ha on the left bank area. The main crops planned were paddy (6,300 ha), sugar cane (6,900 ha) and cotton and other crops (5,800 ha).

There are two major tanks on the canal; from the upstream, Habaralu tank (1.5 MCM in total capacity) and Kiriiban tank (16 MCM). Water sources of these two tanks are tributaries of the Mau river.

- (ii) One branch canal with a length of about 6 km diverting off the water at the end of the LBMC; commanding area of the canal is about 1,200 ha in Suriyawewa block area. On the other hand, the Mahagama Yoda Ela canal of 16 km long with commanding area of about 580 ha in Kiriibanwewa block is the main stem of the irrigation network of the Mahagama irrigation system.
- (iii) About 43 km of distributary and sub-distributary canals in MEA area receiving water from LBMC and the branch canals.
- (iv) A number of field canals issuing water from the distributary canals to individual farm plots of 0.8 to 1.2 ha in an average.

The tanks on LBMC functions as (i) buffer pond for changes of water supply from the upstream, (ii) level crossing of large streams, and (iii) emergency supply of water in the severe drought. Inflows from the tributaries into the tanks have not been taken into consideration in the daily operation, since inflows are not reliable and few, particularly in the dry months.

The principal features of the existing irrigation area are tabulated in Table A7.1-2 and shown Fig. A7.1-1.

Extension Area

There is no systematic and large scale irrigation system since irrigation water from the Uda Walawe reservoir has not reached yet to the area. However, many small-scale village tanks (minor-scale tanks) are scattered in the area, of which only 16 tanks are now in working condition. Irrigation command area of these tanks ranges from 10 ha to 70 ha and is estimated at about 300 ha in total. These tanks are located on small streams as a cascade system for storing the flood water in Maha season to supply supplemental irrigation water for the downstream area. Most of them were constructed in ancient times and rehabilitated recently by the Irrigation Department or local government of Hambantota District of Southern Province. Irrigation canals have been constructed but these condition are poor due to less water supply from the tanks and less maintenance work. Irrigation condition in the commanding area of the tanks are similar to the rainfed condition with no agricultural activities in Yala season due to dry-up of stream flow. The actual functions of most of the tanks are water storage for a source of drinking water of people and animals, and supply of ground water source. It is noted that most of inhabitants in the area are located just near the tanks though water supply from the tanks is not reliable and small amount. Principal features and locations of the village tanks are given in Table A7.1-3 and Fig. A7.1-2.

7.1.2 Water resources and irrigation condition

(1) Irrigation water resources

The Uda Walawe reservoir constitutes the major source of water supply for the Uda Walawe irrigation system extending on both banks. Total catchment area at the Uda Walawe reservoir is about 1,150 km². Uda Walawe reservoir has a live storage capacity of 240 MCM, and

average annual inflow is estimated at 900 MCM. Average annual water released for the both right and left bank areas from the Uda Walawe reservoir in last 20 years, including domestic and industrial supply, is estimated at about 630 MCM in total comprising 470 MCM for the right bank and 160 MCM for the left bank areas as shown in Table A7.1-4, and monthly water issue for recent 5 years is shown in Table A7.1-5. Water issue for the domestic and industrial purposes in 1991 is shown in Table A7.1-6.

The left bank area receives some additional supplies from the Mau river and its tributaries with a catchment area of 360 sq.km. The river flow is caught by the tanks of Habararu, Kiriiban and Mahagama. The average annual inflow from the Mau river to Mahagama and other tanks totals 41 MCM. The river, however, has practically no discharge during the dry months from June to September. The water of the Mau river is only used for the water source of the Mahagama irrigation system.

(2) Irrigation water demand

Overall irrigation water demand estimated by ADB Appraisal Report in 1984 for the on-going rehabilitation work on the right bank area (Walawe Irrigation Improvement Project) was considered by MEA/MASL as the basic estimate of the irrigation water demand of the Walawe irrigation area. The estimate of ADB was made based on the conventional method for estimating the diversion irrigation water requirement by employing the potential evapotranspiration, crop factors proposed by FAO, deep percolation rate of 3 mm/day for paddy, and overall irrigation efficiency of 52% for both paddy and upland crops. The unit and total diversion requirement of both banks estimated by ADB are shown in Annex 7-5. According to the estimate, total annual irrigation demand for the right bank area of about 12,000 ha (10,900 ha of paddy and 1,000 ha of upland crops) is 405 MCM and left bank area of about 5,900 ha is 185 MCM. In addition, the industrial and domestic water supply of 30 MCM/year for the right bank area were also estimated.

On the other hand, the daily water management has been practiced based on a traditional and empirical estimate. The unit water consumption at the head of field canal is estimated at 7 inches per week (25 mm/day) for the first week of land preparation period, 5 inches (18 mm/day) for the 2nd to 4th week and 4 inches (14 mm/day) after 5th week. The irrigation efficiency between head of field channel and diversion point is taken at 72-76%.

According to the information of MEA, the diversion water consumption rates in 1990/91 Maha season by irrigation block were estimated at 2.86 m/crop-season for Embilipitiya block, 2.49 m for Chandrikawewa block, 1.96 m for Binkama block, 1.66 m for Murawasihena block, 2.21 m for Angunukolapellessa block, 2.43 m for Kiriibanwewa block and 1.53 m for Suriyawewa block. It is considered that the high consumption rate of Embilipitiya block is caused by the permeable soil, which is not so suitable for paddy cultivation. The figures shows that the blocks located in the upper reach of the main canal such as Embilipitiya on the right bank and Kiriibanwewa on the left bank consume more water than that of the lower reach blocks.

Amount of water issue to Sevanagala sugar area from LBMC in 1991 is estimated at about 45 MCM/year for 1,500 ha of irrigated sugar cane and paddy as well as factory requirement. The entire water requirements of the area comprising irrigation water, factory requirement and other use for the full development scale of 2,750 ha is estimated at 61 MCM/year as shown in Annex 7-5.

(3) Irrigation condition

As seen in Table A7.1-4, water issues from the Uda Walawe reservoir has not been in relation with the irrigation commanding area. It is considered that the present water usage especially in the right bank area was exceeded the level that estimated by ADB in the the Appraisal.

Although such excessive amounts of water has been supplied to the existing irrigation area, there is water shortage problem in the tail-end area of the canals. Main causes of the water shortage considered are: (i) less flow capacity of canals for present paddy cultivation since some canals were designed and constructed for upland crops, (ii) improper water distribution due to excess water use in upstream area of canals, (iii) lack of water control structure and mal-design of related structures such as turnout and regulators, and (iv) lack of co-operation of farmers on water management and maintenance.

7.1.3 Assessment of existing irrigation and drainage facilities in the Old Area

(1) General

Existing irrigation canals in the old area are counted at 460 km in total comprising the left bank main canal of 31 km, branch, distributary and field canals of 430 km as shown in Tables A7.1-7 and A7.1-8. Almost all irrigation canals in the sugar cane area are lined by thin concrete lining but canals in other two block areas managed by MEA are earth canals.

Related structures on the irrigation canals are some 6,100 nos. consisting of turnouts and farm outlets of 1,400, drops of some 4,500 and culverts of 60, etc. Most structures are constructed by reinforced concrete and some were constructed by stone masonry. About half of water control structures are equipped with wooden gates. On-farm facilities of some 4,500 ha of land has been constructed; comprising 1,500 ha in the sugar area, 1,500 ha in the Kiriibanwewa block and 1,500 ha in Suriyawewa block.

Distribution system in the area consists of distributary and field irrigation canals; distributary canals issuing water from main and branch canals, and field canals distributing water from distributary canals to the individual farmers' plots of about 1 ha. Commanding area of distributary canals varies from 6 ha to 500 ha. In case of the canals have large extent of commanding area, several sub-branch canals are provided.

Drainage canals of about 160 km long in total are defined. Natural streams such as Mau and Mahaweligoda river are utilized fully as main drains of the area. Smaller natural drains are also utilized as drainage canals. Related structures on the drainage canals are bridges and culverts.

Irrigation and drainage facilities in the Sevanagala sugar cane corporation area has been constructed and managed by himself since 1986. It is considered that the area is one of the industrial water consumer of the Uda Walawe reservoir, and no rehabilitation and improvement works is required at present since most of the irrigation canals were constructed recently with concrete lining and are well maintained by them.

(2) Conditions of the existing facilities

Through the field investigation, following constraints are recognized:

- canal banks have been eroded at several locations due to inappropriate side slope, high flow velocity of about 1 m/s in LBMC for the earth canals and lack of bank protection at the critical points such as sharp bends especially outer side, downstream of control structures, and at the points of human and cattle crossing.
- About two-third of concrete structures such as drops and turnouts, have collapsed and ceased to function. Water management structures such as regulators and measuring devices are practically non-existent in the entire canal network.

Based on the inventory list of the facilities prepared by MEA, present conditions of the existing irrigation facilities under the management of MEA are classified into following four categories:

- Mode-A No repair and rehabilitation works is required.
- Mode-B Work to be done by the routine maintenance works such as grading of road surface, desilting of sediments on the canal bed, grass clearing.
- Mode-C Repair work is required: such as replacement and/or repair of gate, supply of riprap materials at eroded portion. Mode-B is included in this item.
- Mode-D Replacement of the existing facilities is required such as canals and structures deteriorated seriously, supply of pavement materials on the road.

The classification results of the present condition of the structures are summarized as below and its details are tabulated in Table A7.1-9.

Canal	(Unit; nos)			
	Mode-A (No repair)	Mode-B&C (Repair)	Mode-D (Replace)	Total
LBMC	16	26	24	66
B-canals	25	60	2	87
D-canals	118	205	110	433
F-canals	581	450	626	1,657
Total	740	741	762	2,243

(3) Examination of flow capacity of the existing major canals

Flow capacity of the existing LBMC (Left Bank Main Canal) and BBC (Beddewewa Branch Canal) is examined based on the topographic survey data. Findings and constraints obtained through the examination are summarized as follow and details are presented in Annex 7-4 :

- flow capacity of the aqueduct on the LBMC for crossing over the Mau river (about 80 m long), with internal dimension of 5.5 m wide and 2.1 m high, is estimated at about 15 m³/s without taking freeboard though the canal capacity of up- and downstream canals have a capacity of about 30 m³/s (1,070 cusec). Main cause of the flow capacity is less dimension of the flow section, especially wall height of the aqueduct.
- bank height of some sections of LBMC are not sufficient for the flow of more than 15 m³/s taking into account the free board of 1.5 m. Total length of less bank height is estimated at about 8 km and maximum and average required additional banking height are 1.7 m and 0.4 m, when discharge is set at 20 m³/s, which is the estimated monthly peak diversion water requirement of LBMC.
- BBC of about 6 km in total length has a bank full flow capacity of about 5 m³/s for the full stretch of the canal except last stretch of 1.3 km. Some sections especially at the first stretch of about 1.5 km, however, are required for some heightening work of banks to flow a discharge of 5 m³/s and obtaining the proper freeboard of the canals section.

7.1.4 Water management and its organization

(1) General

The River Valleys Development Board (RVDB) was responsible for the system operation of the Walawe Development Scheme from 1968 to 1981 and the Mahaweli Authority of Sri Lanka (MASL) has taken over the responsibility since 1982. Day-to-day water management for both right and left bank area has been made by MEA's project office. The headwork management unit of MASL looks after the reservoir operation. The head sluice of the Uda Walawe reservoir is operated according to the instruction given by MEA. The irrigation water is released to the right and left bank main canals after hydro-power generation through turbine. There are two power houses at the beginning of both main canals. Actual operation of the head sluice has been done by Ceylon Electricity Board (CEB) who is managing the power houses.

(2) Water management organization and procedure

Organization structure

The MEA project office is responsible for the operation and maintenance of the Walawe irrigation system including canals and tanks. The Project Irrigation Engineer (PIE) of the project office has direct responsibility for the water management and day-to-day operation of the system. The PIE is assisted by Irrigation Engineers (IE) for water management, maintenance and flow monitoring, and Block irrigation Engineers as shown in Fig. A7.1-3.

MEA's management area of about 12,000 ha is divided into seven irrigation management blocks. Block level O&M staff are responsible for the distribution of water below the head sluice of branch canal. All direct off-take of the main canals are controlled and operated directly by the project head office.

Although farmers' organization for active participation in water management have been instituted by the project office of MEA, substantial activities of organizations have not manifested as yet.

Procedure of irrigation plan formulation

Under the leadership of the Resident Project Manager (RPM) of the project office, a joint meeting is organized between the Agricultural Division and Irrigation Engineering Division (O&M) as an initial step of the pre-seasonal activities. At this meeting, a tentative agricultural program is presented by the Agriculturalist. The water availability and other irrigation engineering matters are discussed and the advance program for the cultivation season is prepared.

This planning process is finalized in the cultivation meeting ('Kanna Meeting'). This is held at block level and all the heads of the division in project office attend to brief the farmers on the agricultural and irrigation tentative work program for the season. After this process, the final decision is given by the RPM on dates of water issues and stoppage for the season based on an agreed crop calendar.

During the cultivation season there are meetings organized when occasion arises to discuss any water distribution problems. If any changes are needed in the quantity of water released at the Branch and Distribution canal, it must be taken up with the project operation and maintenance division (O&M).

(3) Constraints and problems faced in the water management

Through field survey and discussion with the water management staff of the project office of MEA, following findings were obtained :

- (i) Since there is no discharge measurement device on the main and branch canals nor on major turnouts, discharge control has been made by reading of water level gauges installed on the canals. The water distribution is being made based on previous experiences and assumption that maintaining a certain water level at the head of parent canal would ensure the water delivery to the tail end fields, even though some excess off-take is made in the upstream reaches. The adequacy of day to day supply has been judged by the reaction of farmers and by the general observation and assessment of field operation staff.
- (ii) Due to mal-design of turnouts and lack of cross regulators on the parent canals such as main and branch canals, excess water usually supplied in canals to maintain the intake water level of turnouts. Most of the turnouts on LBMC is submerged due to excess flow in the canals and mal-design of the formation level of turnouts. Some regulators constructed by farmers are found to check up the water level, even on LBMC.
- (iii) Inflows of the tributaries to the tanks on the LBMC have not been taken into account in the irrigation plan and, therefore, not utilized fully, because of the negligible inflows in the dry (Yala) season. Water levels of tanks on the main canals are adjusted to avoid over flow from the spillways. No operation has been executed based on the volume of discharge between inflow from the tributaries and supply from the main canal. Since some tanks are not equipped with outlet control gate(s), any excess water flows over to the downstream canal.
- (iv) Due to inadequate numbers and incorrect locations of turnouts on the canals, some unauthorized turnouts exist.
- (v) In most of the control gates on turnouts, the wooden leaves have collapsed or were lost.
- (vi) Most of drop structures on branch, distribution and field canals are damaged seriously.
- (vii) Due to high flow velocity of LBMC, about 1 m/sec, bank slopes at the outer bend portion of earth canal and up-and down-stream sides of structures have been seriously eroded.
- (viii) Farmers community for adequate irrigation water use is not matured yet, though water users organizations were administratively organized by the project office. This is one of the main causes of inequitable water distribution.
- (ix) Farmer's preference is to grow paddy whenever water is available. After the project was started, the project area was extensively reclaimed to paddy fields irrespective of the soil type and the original land use plan. The project area consists of the Low Humic Gley Soils which are suitable for paddy fields and the Reddish Brown Earths which are highly permeable and therefore suitable for uplands. If paddy fields on RBE are irrigated, the water requirements are enormous. The original project plan did not expect such extensive development of paddy fields. And the existing irrigation facilities were not designed to accommodate such large water requirements. This is the fundamental factor causing the current water management problems.

- (x) To overcome the water management problem, rotational irrigation has been practiced. However, this has created other problems by overloading some canals thus causing erosion and damage to canal banks and structures. The current method of water distribution has been developed to overcome the lack of control and regulation structures in the system.

7.1.5 Water management in drought

(1) General

Due to the drought condition in the drainage area of the Walawe river from last Maha season, the Walawe irrigation area is facing severe drought in Yala 1992. At the middle of March 1992, storage volume of the Uda Walawe reservoir was observed at only about 12,000 ac-ft (15 MCM, about 6 % of the live storage volume of 240 MCM). In this circumstance, cultivation meetings (Kanna meeting) for Yala season crop in 1992 were held at seven block offices in March 1992. The meeting of Suriyawewa and Kiriibanwewa blocks were held with participants of about 300 and 260 farmers.

At the end of April 1992, just before commencement of the Yala in 1992, irrigation (water issue) plan was finally decided based on the results of the cultivation meetings held in March and storage volume of the Uda Walawe reservoir (refer to Table A7.1-10) by project office of MEA as follow:

- Objective crops of irrigation is upland crops only. No issue for paddy cultivation is made. Recommendable crops are chilly, red onion, pulses and vegetables.
- Release of water from the reservoir will be made on two consecutive days a week.
- Maximum irrigation area per farmer should be less than one acre (0.4 ha).
- Illicit intake and wastage of water should be avoided.

(2) Water management activities

Water issues from the Uda Walawe reservoir was made for two consecutive days a week as scheduled. According to the data prepared by Agricultural Division of MEA's office in the site, irrigated area except Sevanagala sugar area at the end of June in 1992 was as below and its details are shown in Annex 7-2.

(Unit: ha)

Crop	Right bank	Left bank	Total (%)
Paddy	746 (26)	563 (48)	1,309 (32)
Chilly	213 (8)	102 (9)	315 (8)
Vegetables	283 (10)	90 (8)	373 (9)
Banana	1,177 (41)	277 (23)	1,454 (36)
Others	430 (15)	151 (11)	581 (15)
Total	2,862 (100)	1,194 (100)	4,056 (100)

Irrigated area in this season of about 4,100 ha in total is about 35 % of the irrigated area in season of 11,500 ha. In case of the Left bank area, the ratio is about 39 %. As seen in the

above, paddy is still dominant irrigated crop on the Left bank area even in severe drought, but cultivation area of paddy in the season is only 20 % of the past average.

Some findings on the water management in this Yala season obtained in the field are as follow:

- Irrigated area is concentrated at upper part of D-canals, and most of tail end area of canals are remained as fallow.
- Most of the paddy cultivations were made in the low land or valley bottom area where irrigation canals are closely located. It is considered that percolation losses in the areas are low, mostly LHG soils.
- A crop diversification from paddy to other field crops will be realized through strict control of water issue and training of farmers by initiative of the project office.
- Upland crops are cultivated in the paddy field by furrow irrigation method. Locations of these cultivation are just downstream part of the paddy cultivation area and among the paddy area.
- Some drainage canals have water which were wasted in the irrigated area.
- In contrast to the Walawe irrigation scheme area under management of MEA, the irrigation area under Liyangastota anicut enjoyed irrigated paddy cultivation though the area is located in the downstream of the scheme area.

(3) Drought condition in the Extension area

In the Extension area, drought condition was more severe than that in the existing irrigation area since there is no perennial river and water supply from the Uda Walawe reservoir has not been reached yet. Most of the small scale tanks scattered in the area have been dried up and ground water level of shallow aquifer went down. Most of people in the area have suffered lack of drinking water. Project office provided drinking water through distribution of water by water tanker.

TABLES

Table A7.1 - I SUMMARY OF IRRIGATION AREA OF WALAWE IRRIGATION AREA

(Unit:ha in net)

Crop and season	MEA Manage Area			Sevanagala sugar area (Left bank)	Total area		
	Right Bank	Left Bank	Total		Right Bank	Left Bank	Total
1 Paddy							
(1) Maha season	8,020	2,880	10,900	280	8,020	3,160	11,180
(2) Yala season	7,780	2,880	10,660	280	7,780	3,160	10,940
2 Sugarcane							
(1) Maha season	20	0	20	850	20	850	870
(2) Yala season	40	0	40	850	40	850	890
3 Banana							
(1) Maha season	430	60	490	0	430	60	490
(2) Yala season	370	60	430	0	370	60	430
4 Other crops							
(1) Maha season	350	40	390	0	350	40	390
(2) Yala season	240	100	340	0	240	100	340
Total							
(1) Maha season	8,820	2,980	11,800	1,130	8,820	4,110	12,930
(2) Yala season	8,430	3,040	11,470	1,130	8,430	4,170	12,600

Note:

- (1) Average area from 1985 to 1990
- (2) Areas of drainage issue are included.

Source:

- (1) Office files of Project Office of Walawe Special Area, MEA of MASL
- (2) Sugarcane Harvesting Report, Plantation and Settlement & Extension Division, Sevanagala Sugar Industries Ltd., 1990

Table A7.1 - 2 PRINCIPAL FEATURES OF EXISTING IRRIGATION AREA IN THE STUDY AREA

No.	Item	Management Block			Total of Left Bank Area (Old area only)
		Kiriibanwewa Block	Suriyawewa Block	Sevanagala Sugar Area	
1	Management agency/firm	MEA of MASL	= do as left =	Sevanagala sugar industries Ltd.	
2	Irrigation area in 1990/91 (in ha)				
	a. Total gross area of scheme	5,700	5,000 *	3,300	14,000
	b. Total net irrigable area	1,480	1,420	1,470	4,370
	c. Net irri. area in Maha-90/91	1,480	1,420	1,470	4,370
	d. Net irri. area in Yala-90	1,410	1,420	1,470	4,300
3	Condition of beneficiaries				
	a. Numbers of beneficiaries (1991)	2,849	5,187	1,894	9,930
	b. Ave. land holding size in ha	1.2	0.8	1.0	
4	Irrigation water source	LBMC and Mau Area (575 ha)	LBMC	LBMC	
5	Irrigation canals and related structures				
	a. Length of canals (km)	85	38	257	410 *
	b. Related structures	1,509	668	3,685	5,928 *
	c. Year construction completed	in 1967	in 1968	in 1987	
6	Drainage canals and related structures				
	a. Length of canals (km)	35	49	80	164
	b. Related structures (nos.)		16	32	48
7	Farm roads				
	a. Main farm roads (km)	10	82	18	110
	b. Secondary roads (km)	135	172	34	341
	c. Tertiary roads (km)		146	260	406
	Total	160	400	312	872
8	On-farm development (in 1991)				
	a. Area already developed (ha)	1,060	1,420	1,470	3,950
	b. Area under development (ha)	420	100	580	1,100
	c. Area under design/planning (ha)	0	0	700	700
	Total	1,480	1,520	2,750	5,750

Note:

Area in old area only

*: Total includes figure of main canal (LBMC) of 30 km and 66 nos.

Source: Questionnaire survey conducted by the Team in October 1991

Table A7.1 - 3 MAIN FEATURES OF THE EXISTING VILLAGE TANKS IN THE EXTENSION AREA

CODE	NAME OF TANK	CATCH AREA (sqkm)	PURPOSE	YEAR OF CONST.	SUPER-INTEN.	COMMAN. AREA (ha)	Nos. OF FARMERS	RECORD OF REPAIR		STORAGE		STORAGE COND.		BUND		SPILLWAY		INTAKE	FINDINGS	EVALUATION					
								MAHA	YALA	VOLUME (1000cum)	TYPE	HEIGHT (m)	LENGTH (m)	TOP	WT. (m)	BASE	WT. (m)				TYPE	NO.	DEPTH (m)	TYPE	NO.
1	Belhinda	1.9	I,L	Ancient	ASC	7.2	18	1973	Full	71.6	Few	E.F	2.9	250	2.3	22.3	C.W	1	30	0.25	Gate	1	175mm	UT	A
2	Bellagas	3.8	I,L	Ancient	ASC	18.8	26	-	Not Full	123.4	Dry up	E.F	2.2	472	2.0	20.2	C.W	1	40	0.75	Gate	1	300mm	BR, IR	D
5	Pitawala	1.2	I,L	Not old	ASC	4.4	11	1989	Full	30.9	Dry up	E.F	2.5	383	2.0	22.5	C.W	1	23	0.75	Tower	2	150mm	BR	C
6	Medi	4.8	I,L	-	ASC	40.0	50	1991	Full	345.5	Dry up	E.F	2.5	451	2.0	15.7	C.W	1	58	1.20	Gate	1	-	BR	B
9	Hondawelpokuna	2.8	I,L	Not old	ASC	9.6	21	1987	Full	55.5	Dry up	E.F	2.0	683	2.0	14.4	C.W	1	38	1.35	Gate	2	300mm	BR, IR	B
10	Kattana	3.6	I,L	1962	ASC	20.8	42	1970	Full	148.1	Few	E.F	3.3	516	2.5	27.8	C.W	1	24	0.70	Tower	1	250mm	UT	A
11	Andiyangama	4.8	I,L	Not old	ASC	44.4	45	1975	Full	346	Dry up	E.F	3.2	230	3.2	19.1	C.W	2	51	1.26	Gate	2	300mm	BR	C
12	Katu	5.8	I,L	Ancient	ASC	72.0	82	82/88/90	Full	970.2	Few	E.F	3.3	416	3.0	35.5	C.W	1	62	1.40	Gate	1	300mm	BR	B
12-1	Hondawelpokuna Divul	2.8	I,L	-	ASC	9.6	21	-	-	-	Dry up	E.F	1.7	250	1.5	5.5	NA.	-	-	-	-	-	-	BR, IR, SR	D
12-2	Negara	-	I,L	1977	ASC	-	-	-	-	-	Dry up	E.F	2.3	300	1.5	19.0	C.W	1	62	1.00	Gate	2	150mm	BR	B
12-3	Maha Divul	1.5	L	-	ASC	-	-	-	-	45.0	Full	E.F	1.8	347	1.8	16.3	C.W	1	39	0.90	-	-	-	UT	A
13	Prabokka	2.9	I,L	Ancient	ASC	18.8	14	-	-	175.2	Dry up	E.F	3.2	287	2.7	29.2	C.W	1	65	1.00	Gate	1	250mm	BR, VU	B
13-2	Not clear	1.2	I,L	-	ASC	-	-	-	-	-	Dry up	E.F	2.7	382	2.8	16.7	C.W	1	28	1.00	Tower	2	250mm	SR, VU	C
13-3	Hongarange	1.5	I,L	-	ASC	-	-	1987	-	-	Not Full	E.F	1.9	260	2.8	14.6	C.W	1	18	0.50	Gate	1	250mm	UT	R
15	Samarakoom	2.1	I,L	Ancient	ASC	13.2	32	-	-	123.4	Dry up	E.F	2.4	242	1.5	8.5	C.W	1	42	0.50	Gate	1	500mm	BR, VU	C
16	Andara	2.1	I,L	Not old	ASC	20.0	24	1973	Full	86.4	Few	E.F	4.0	486	3.1	22.5	C.W	1	35	1.20	Tower	2	300mm	BR	B
16-1	Swodagama	-	I,L	Not old	ASC	-	-	1986	Full	55.5	Few	E.F	1.6	295	2.4	9.9	C.W	1	6	0.90	Gate	1	225mm	BR	B
17	Bedigantota	-	I,L	Ancient	ASC	10.0	-	-	-	-	Dry up	E.F	1.0	335	2.5	7.0	NA.	-	-	-	-	-	-	BR, SR	C
S-1	Kudawara	-	-	1890	ASC	-	-	-	-	-	Dry up	E.F	-	-	-	-	NA.	-	-	-	-	-	-	BR, IR, SR	D

Note: I,L: for Irrigation and Livestock BR: Required Bund Repairing A: Utilized as a farm-pond without repair
 L: for Livestock only IR: Required Intake Facilities Replace B: In need of minor repair
 ASC: Agrarian Service Center, H' SR: Required Spillway facilities Replace C: In need of repair or replace
 E.F: Earth Fill UT: Utilized as a farm-pond without repair D: In need of heavy repair or reconstruction
 C.W: Concrete wall VU: Very Useful for water storage pocket
 NA.: Natural wall

Table A7.1 - 4 WATER ISSUE AND IRRIGATION AREA OF THE UDA WAWALE RESERVOIR

Year (Oct-Sep)	Annual Water Issue (MCM)*			Irrigation Area (ha)**		
	Right bank canal	Left Bank canal	Total	Right bank canal	Left Bank***	Total
1968-69	438.5	245.1	683.6	-	-	-
1969-70	488.3	45.5	533.8	-	-	-
1970-71	342.0	67.5	409.5	-	-	-
1971-72	410.5	61.7	472.2	-	-	-
1972-73	449.6	114.0	563.6	-	-	-
1973-74	512.5	97.3	609.8	-	-	-
1974-75	549.5	116.6	666.1	4,538	950	5,488
1975-76	508.9	210.2	719.1	5,578	1,089	6,667
1976-77	470.5	142.8	613.3	3,661	898	4,559
1977-78	522.9	186.0	708.9	5,371	1,195	6,566
1978-79	523.1	211.1	734.2	5,354	753	6,107
1979-80	537.5	217.6	755.1	5,888	1,101	6,989
1980-81	491.2	158.2	649.4	6,234	1,428	7,662
1981-82	422.4	225.2	647.6	6,987	2,038	9,025
1982-83	418.1	175.9	594.0	7,920	2,568	10,488
1983-84	-	-	-	-	-	-
1984-85	448.5	185.7	634.2	-	-	-
1985-86	420.0	166.5	586.5	8,675	2,736	11,411
1986-87	465.7	166.1	631.8	8,620	2,804	11,424
1987-88	496.7	140.7	637.4	8,135	3,138	11,273
1988-89	524.3	175.1	699.4	8,403	3,248	11,651
Average	472.0	155.4	627.5			

Note: Data of water issue during 1968/69 to 1982/83 and of irrigation area during 1975 to 1983 : Final Report on Walawe Irrigation Rehabilitation and Improvement Project, Vol-II; Annex, MASL, 1984

*: The amount includes industrial and domestic supply amount during off season of irrigation season of irrigation.

** : Average irrigation area of Maha and Yala seasons reported by Agricultural division of MISA Uda Walawe Special Project Area office, but the area of Sevenagala area is not included.

***: Commanding area of Mahagama tank of 575 ha is excluded.

****: According to the irrigation division of the Uda Walawe office of MEA, the actual extent of irrigation area on Right bank is as follow (information was given in March 1992):

Year	Average irrigation extent in Maha and Yala (ha)	Water supply for irrigation purpose (MCM/year)	Water supply for indust. & domestic (MCM/year)	Total water issue for Right bank (MCM/year)
1982/83	9,392	315.9	42.2	358.1
1983/84	9,702	294.7	-	-
1984/85	9,961	374.4	74.1	448.5
1985/86	10,134	398.4	21.6	420.0
1986/87	9,389	385.0	80.7	465.7
1987/88	8,971	451.3	45.4	496.7
1988/89	8,951	477.3	47.0	524.3
1989/90	9,123	503.0	-	-
Average	9,453	400.0	51.8	452.2

Table A7.1 - 5 MONTHLY WATER ISSUE OF UDA WALAWE RESERVOIR

(Unit: MCM)

Year		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Total
1 Right bank main canal														
1984/85		18.7	42.7	46.1	45.2	30.8	2.7	46.4	49.3	37.6	44.3	39.2	45.5	448.5
1985/86		50.9	39.9	35.2	31.6	27.2	2.7	29.3	45.2	51.0	53.9	33.4	19.9	420.0
1986/87		51.3	51.5	46.0	44.9	35.1	2.7	32.9	47.8	48.7	47.2	39.5	18.2	465.7
1987/88		18.2	50.8	45.4	52.5	48.2	2.7	14.3	60.5	53.9	60.4	58.5	31.2	496.7
1988/89		54.5	42.4	42.5	56.6	42.9	2.7	41.7	56.5	48.9	51.4	53.1	31.2	524.3
1989/90														
Average	(MCM)	38.7	45.5	43.0	46.2	36.8	2.7	32.9	51.9	48.0	51.4	44.7	29.2	471.0
(84/85-88/89)	(m3/s)	14.5	17.5	16.1	17.2	15.2	1.0	12.7	19.4	18.5	19.2	16.7	11.3	
Max.	(MCM)	54.5	51.5	46.1	56.6	48.2	2.7	46.4	60.5	53.9	60.4	58.5	45.5	585.0
Min.	(MCM)	18.2	39.9	35.2	31.6	27.2	2.7	14.3	45.2	37.6	44.3	33.4	18.2	347.7
2 Left bank main canal														
1984/85		8.2	7.5	15.3	15.8	12.6	2.7	23.9	17.7	15.6	21.5	14.2	30.7	185.7
1985/86		22.3	14.7	14.3	15.4	12.2	2.7	8.2	17.5	18.1	20.5	12.1	8.6	166.5
1986/87		8.6	19.2	20.3	20.4	15.8	2.7	14.1	15.8	15.8	13.5	16.8	3.2	166.1
1987/88		3.2	15.8	10.8	19.5	14.9	2.7	5.8	15.6	16.1	18.5	15.4	2.4	140.7
1988/89		20.1	6.3	16.7	19.6	10.3	2.7	18.4	22.0	17.4	17.3	21.9	2.4	175.1
1989/90														
Average	(MCM)	12.5	12.7	15.5	18.1	13.1	2.7	14.1	17.7	16.6	18.3	16.1	9.5	166.8
(84/85-88/89)	(m3/s)	4.7	4.9	5.8	6.8	5.4	1.0	5.4	6.6	6.4	6.8	6.0	3.6	
Max.	(MCM)	22.3	19.2	20.3	20.4	15.8	2.7	23.9	22.0	18.1	21.5	21.9	30.7	238.7
Min.	(MCM)	3.2	6.3	10.8	15.4	10.3	2.7	5.8	15.6	15.6	13.5	12.1	2.4	113.7

Source : Daily Operation Report, Uda Walawe Reservoir. MEA-Uda Walawe, MASL

*: Data is not available; According to the O&M office at the site, March is the closing period of the canals for the maintenance works. Water of about 1.0 m³/s has been issued for the industrial and domestic purposes.

Table A7.1 - 6 WATER ISSUES OF INDUSTRIAL AND DOMESTIC PURPOSES BY
UDA WALAWE RESERVOIR

(Unit: m3/day)

User	Right bank	Left bank	Total
A Industry purpose			
1 National paper corporation	13,543		13,543
2 Sugar research station	2,450		2,450
3 Brick and tile factory	54		54
4 Rice mill (Kachchigala)	82		82
5 Rice mill (Morakatiya)	90		90
6 Inland fishery	1,225		1,225
7 A'pelessa (NYSC, Research agri. training center)	25,000		25,000
8 C'wewa (Army camp, coconut nursery)	11,250		11,250
9 Sevanagala sugar factory		148,565	148,565
10 Other department	5,000		5,000
Sub-total (A)	58,694	148,565	207,259
Monthly (MCM)	1.76	4.46	6.22
Discharge (m3/s)	0.68	1.72	2.40
B Domestic purpose			
1 Embilipitiya town	4,000		4,000
2 A'pelessa town	2,000		2,000
3 Uda Walawe town	2,500		2,500
4 Suriyawewa town	2,000		2,000
5 Domestic supply for farmers (total 14,000 farmers)	9,500	3,175	12,675
Sub-total (B)	20,000	3,175	23,175
Monthly (MCM)	0.60	0.10	0.70
Discharge (m3/s)	0.23	0.04	0.27
C TOTAL	78,694	151,740	230,434
Monthly (MCM)	2.36	4.55	6.91
Discharge (m3/s)	0.91	1.76	2.67

Source: Seasonal Discharge Summary-Yala 1991, O&M Division of Walawe
Special Area, MEA-MASL, 1991

Table A7.1 - 7 LIST OF EXISTING STRUCTURES ON IRRIGATION CANALS IN THE STUDY AREA

Canal/ Block	Length in total (km)	Structure (nos)													Total
		T/O	RG	C/R	SP	A/D	CV	DP	TK	S/W	BR	FBR	B/S	C/D	
1 LBMC (Left Bank Main Canal)	30	29	1	3	1	1	0	0	4	3	13	4	0	7	66
2 Branch canals	20	56	0	1	0	0	3	1	0	1	6	2	9	8	87
3 D-canals	43	247	0	0	0	0	19	148	0	0	0	3	1	15	433
4 F-canals	59	737	0	0	0	0	15	880	0	1	2	1	2	19	1,657
Sub-total	152	1,069	1	4	1	1	37	1,029	4	5	21	10	12	49	2,243
Total of MEA area	202	1,154	2	8	2	2	40	1,030	8	9	40	16	21		2,396
4 Sugar area	257	220	0	10	0	4	22	3,415	0	14	0	-	-		3,685
Total	459	1,374	2	18	2	6	62	4,445	8	23	40	2	9		6,081

Note:

D-canal ; Distribution canal

F-canal ; Field canal

T/O ; Turnout including farm outlet on distributary and field canals

RG ; Control gate at the outlet of Tank on the Main canal

C/R ; Cross regulator

SP ; Siphon

A/D ; Aqueduct (elevated flume)

CV ; Culvert

DP ; Drop or fall

TK ; Tank on the canal

S/W ; Spillway

BR ; Bridge (accessible for vehicle)

FBR ; Footpath bridge

B/S ; Bathing steps

C/D Cross drain

* : Branch canals consist of Beddewewa and Edo Yala canals

Source:

1 Inventory lists prepared by block offices of MEA in October 1991 for MEA area and

2 Answer to questionnaire for the Sevanagala sugar industries.

Table A7.1 - 8

LIST OF MAJOR CANALS MANAGED BY MEA ON THE LEFT BANK

Block	Parent canal	Canal Name	Length (km)	Commanding area			Design capacity at the canal head (lit/sec)
				Potential area (ha)	Irrigation area (ha)	Drainage* issue (ha)	
Left bank	LBMC		30.88		4,779	0	28,000
Kiriibanwewa							
	1 LBMC	D1	0.30	37	37	0	150
	2 LBMC	D2	0.21	12	12	0	150
	3 LBMC	D3	0.24	6	6	0	150
	4 LBMC	D4	1.81	61	61	0	200
	5 LBMC	D5	1.81	60	60	0	200
	6 LBMC	D6	0.03	13	13	0	150
	7 LBMC	D7	0.40	10	10	0	150
	8 LBMC	D8	0.83	45	45	0	150
	9 LBMC	D9	0.15	12	12	0	150
	10 LBMC	D10	0.65	39	39	0	150
	11 LBMC	D11	0.99	37	37	0	150
	12 LBMC	D12	0.82	32	32	0	150
	13 LBMC	D13	5.84	92	92	0	280
	14 LBMC	K'wewa RB	4.08	169	169	0	300
	15 LBMC	K'wewa LB	6.11	145	145	0	300
	16 LBMC	D14	0.33	30	24	0	150
	17 LBMC	D15	1.12	72	60	0	280
	18 LBMC	D16	0.96	368	50	0	280
	19 M-WEWA	Yoda Ela	16.19	575	575	0	400
	Sub-total		42.88	1815	1479	0	
Suriyawewa							
	1 LBMC	BBC	5.66	2,073	1,230		
	2 LBMC	D17	0.50	29	35	6	NA
	3 LBMC	D18	0.22	27	42	15	NA
	4 LBMC	D19		51	51	0	NA
	5 LBMC	D20	0.51	61	62	1	NA
	6 BBC	D1	1.20	36	36	0	NA
	7 BBC	D3	1.87	60	65	5	NA
	8 BBC	D5	1.17	152	141	0	280
	9 BBC	D6	1.22	106	117	11	224
	10 BBC	D2	1.32	109	210	101	196
	11 BBC	D4	4.88	460	403	0	812
	12 BBC	D7	0.31	70	92	22	168
	13 BBC	D8	0.99	79	102	23	168
	14 BBC	D9		160	60	0	252
	15 BBC	D11	0.00	325	0	0	588
	16 BBC	D10	0.00	516	0	0	840
	Sub-total		19.83	2,241	1,416	184	

Note:

1 Major canals include main, branch and distributary canals

- 2
- LBMC; Left Bank Main Canal
 - BBC; Beddewewa Branch canal
 - D12; Distribution canal No.12
 - M-WEWA ; Mahagama tank (Mau river)

*: Irrigation water taken from the drainage canals

**: Design capacity of canals in the Kiriiban block are estimated one by the Block office.

Source:

Block Offices of Kiriiban and Suriyawewa, MEA of MASL

Table A7.1 - 9

CONDITIONS OF EXISTING STRUCTURES ON IRRIGATION CANALS (1/3)

(Unit : Nos)

Canal/ Structure	Mode of condition				Sub-total (Nos.exist)	E (New. const.)	Total
	A (No repair)	B (R.maint)	C (Repair)	D (Replace)			
(Proposed by MEA-Uda Walawe)							
1 LBMC							
(1) Bathing step			0		0	0	0
(2) Bridge	13		0		13	0	13
(3) Cross drain	3		2	2	7	0	7
(4) Culvert			0		0	0	0
(5) Drop			0		0	0	0
(6) Branch canal turnout			0	1	1	0	1
(7) Distributary turnout			8	20	28	0	28
(8) Field turnout			0		0	0	0
(9) Farm turnout			0		0	0	0
(10) Foot bridge			4		4	0	4
(11) Cross regulator			3		3	0	3
(12) Spillway			3		3	0	3
(13) Control gate of tank			1		1	0	1
(14) Siphon			1		1	0	1
(15) Aqueduct				1	1	0	1
(16) Tank			4		4	0	4
Total	16	0	26	24	66	0	66
(Kiribanwewa block)							
1 B-canal (Yodo Ela canal)							
(1) Bathing step					7		7
(2) Bridge	3		2		5		5
(3) Cross drain	4		1		5		5
(4) Culvert	1			2	3	1	4
(5) Drop					0		0
(6) Field turnout	1		31		32		32
(7) Farm turnout	5		6		11		11
(8) Foot bridge	1				1	2	3
(9) Distributary turnout	1		1		2		2
(10) Spillway	1				1		1
Sub-total	24	0	41	2	67	3	70
2 D-Canals							
(1) Bathing step					0	1	1
(2) Bridge					0	1	1
(3) Cross drain	10		2	2	14	4	18
(4) Culvert	9			2	11	5	16
(5) Drop	6		14	39	59	2	61
(6) Field turnout	4		45	24	73	6	79
(7) Farm turnout	36		71	40	147	3	150
(8) Foot bridge					0		0
(9) Distributary turnout					0		0
(10) Spillway					0		0
Sub-total	65	0	132	107	304	22	326

Table A7.1 - 9

CONDITIONS OF EXISTING STRUCTURES ON IRRIGATION CANALS (2/3)

(Unit : Nos)

Canal/ Structure	Mode of condition					Sub-total (Nos.exist)	E (New. const.)	Total
	A (No repair)	B (R.maint)	C (Repair)	D (Replace)				
3 F-canals								
(1) Bathing step	2					2		2
(2) Bridge						0		0
(3) Cross drain	9		6	4		19	3	22
(4) Culvert	12		1			13	5	18
(5) Drop	170		103	268		541		541
(6) Field turnout	6		10	19		35		35
(7) Farm turnout	224		26	276		526	58	584
(8) Foot bridge	1					1	2	3
(9) Distributary turnout						0		0
(10) Spillway				1		1		1
Sub-total	424	0	146	568		1138	68	1206
4 Total of Kiriiban block								
(1) Bathing step	9	0	0	0		9	1	10
(2) Bridge	3	0	2	0		5	1	6
(3) Cross drain	23	0	9	6		38	7	45
(4) Culvert	22	0	1	4		27	11	38
(5) Drop	176	0	117	307		600	2	602
(6) Field turnout	11	0	86	43		140	6	146
(7) Farm turnout	265	0	103	316		684	61	745
(8) Foot bridge	2	0	0	0		2	4	6
(9) Distributary turnout	1	0	1	0		2	0	2
(10) Spillway	1	0	0	1		2	0	2
Total	513	0	319	677		1509	93	1602
(Suriyawewa block)								
1 B-canal (Baddewewa canal)								
(1) Bathing step	1		1			2		2
(2) Bridge			1			1		1
(3) Cross drain			3			3		3
(4) Culvert						0		0
(5) Drop			1			1		1
(6) Field turnout						0		0
(7) Farm turnout						0		0
(8) Foot bridge			1			1		1
(9) Distributary turnout			11			11		11
(10) Spillway						0		0
(11) Regulator with drop			1			1		1
Sub-total	0	0	18	0		18	0	18
2 D-Canals								
(1) Bathing step	1					1		1
(2) Bridge						0		0
(3) Cross drain			1			1	1	2
(4) Culvert	3		4	1		8		8
(5) Drop	42		47			89		89
(6) Field turnout	3		21	2		26	6	32
(7) Farm turnout	1					1	23	24
(8) Foot bridge	3					3		3
(9) Distributary turnout						0		0
(10) Spillway						0		0
Sub-total	53	0	73	3		129	30	159

Table A7.1 - 9

CONDITIONS OF EXISTING STRUCTURES ON IRRIGATION CANALS (3/3)

(Unit : Nos)

Canal/ Structure	Mode of condition				Sub-total (Nos.exist)	E (New. const.)	Total
	A (No repair)	B (R.maint)	C (Repair)	D (Replace)			
3 F-canals							
(1) Bathing step					0		0
(2) Bridge	1		1		2		2
(3) Cross drain					0		0
(4) Culvert			2		2		2
(5) Drop	78		261		339		339
(6) Field turnout	1		19	1	21	1	22
(7) Farm turnout	77		21	57	155	63	218
(8) Foot bridge					0		0
(9) Distributary turnout					0		0
(10) Spillway					0		0
Sub-total	157	0	304	58	519	64	583
4 Total of Suriyawewa block							
(1) Bathing step	2	0	1	0	3	0	3
(2) Bridge	1	0	2	0	3	0	3
(3) Cross drain	0	0	4	0	4	1	5
(4) Culvert	3	0	6	1	10	0	10
(5) Drop	120	0	309	0	429	0	429
(6) Field turnout	4	0	40	3	47	7	54
(7) Farm turnout	78	0	21	57	156	86	242
(8) Foot bridge	3	0	1	0	4	0	4
(9) Distributary turnout	0	0	11	0	11	6	17
(10) Spillway	0	0	0	0	0	0	0
(11) Regulator with drop	0	0	1	0	1	0	1
Total	211	0	396	61	668	100	768
(Total of Branch/Distributary and Field Canals in MEA's Area)							
(1) Bathing step	11	0	1	0	12	1	13
(2) Bridge	4	0	4	0	8	1	9
(3) Cross drain	23	0	13	6	42	8	50
(4) Culvert	25	0	7	5	37	11	48
(5) Drop	296	0	426	307	1029	2	1031
(6) Field turnout	15	0	126	46	187	13	200
(7) Farm turnout	343	0	124	373	840	147	987
(8) Foot bridge	5	0	1	0	6	4	10
(9) Distributary turnout	1	0	12	0	13	6	19
(10) Spillway	1	0	0	1	2	0	2
(11) Regulator with drop	0	0	1	0	1	0	1
Total	724	0	715	738	2177	193	2370

Note: The list is prepared based on the "inventory List" prepared by Block offices of MEA-Walawe, without modification. Nos of mode-E should be modified, especially nos. of farm turnout.

Mode E indicated is only data prepared by MEA

Table A7.1-10 STORAGE VOLUME RECORD OF UDA WALAWE RESERVOIR
(At the begining of Month)

(Unit: MCM)

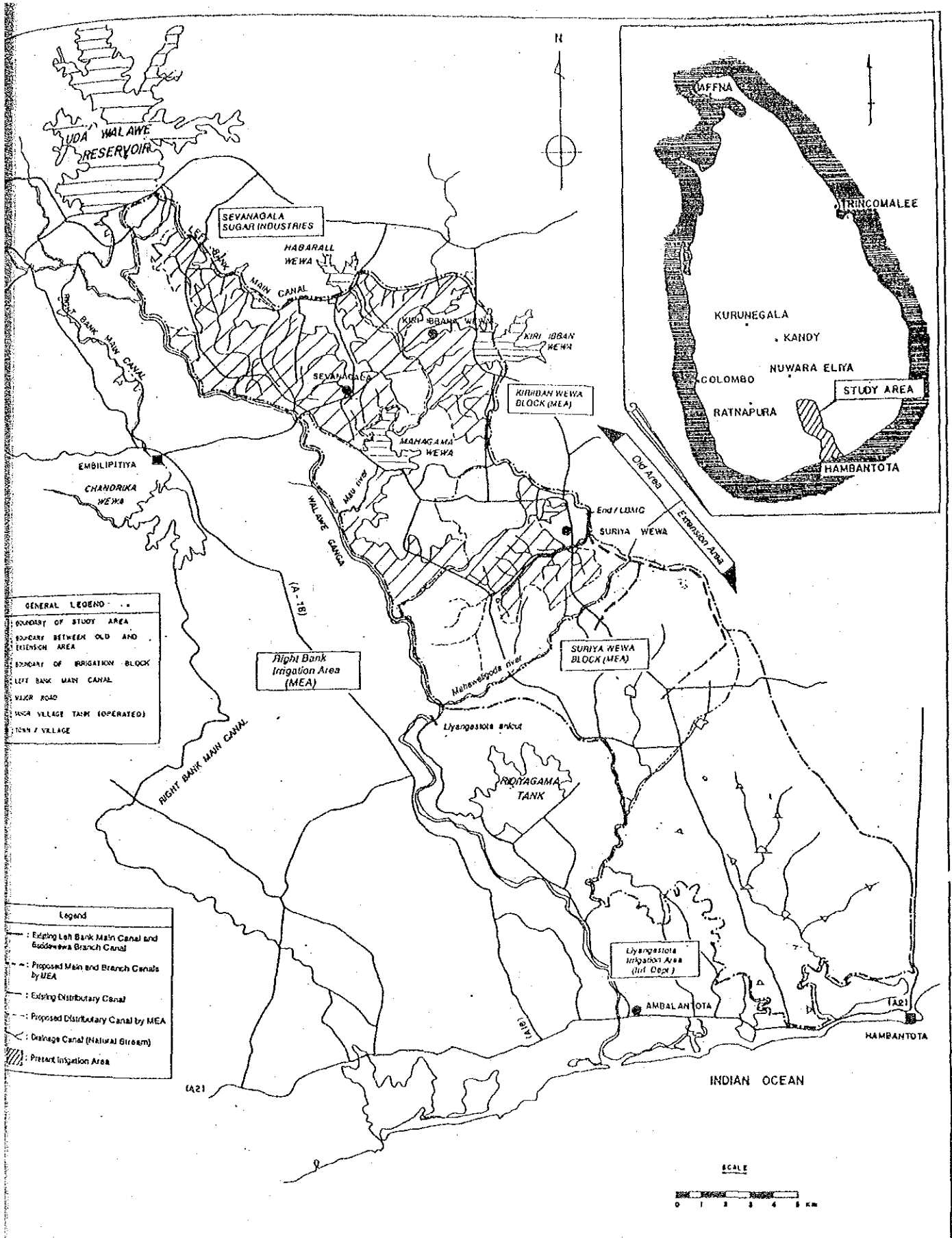
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
1982	143.2	101.5	61.7	84.7	161.2	264.2	264.8	228.3	202.0	180.5	262.0	275.3	185.8
1983	278.1	237.0	194.2	192.1	173.8	172.3	128.0	75.4	35.7	34.8	63.5	172.7	146.5
1984	280.9	280.9	282.0	278.7	280.7	277.3	262.3	247.2	197.0	177.1	176.6	259.0	250.0
1985	268.7	269.0	278.3	285.9	270.9	280.2	270.9	252.3	221.7	191.5	253.3	267.9	259.2
1986	270.9	279.8	284.2	276.4	281.7	248.7	206.3	150.9	132.4	142.0	180.6	160.4	217.9
1987	146.8	111.4	78.0	91.5	142.2	166.0	128.5	77.7	53.8	53.7	194.7	282.8	127.3
1988	252.0	212.0	203.9	249.7	255.7	257.6	217.6	180.6	142.7	162.1	115.0	242.3	207.6
1989	244.9	201.3	157.5	165.6	133.9	117.5	113.4	117.2	85.8	86.6	87.9	184.3	141.3
1990	158.9	133.9	108.9	198.7	242.6	238.3	210.0	160.0	96.9	76.6	146.7	252.0	168.6
1991	242.7	243.8	196.1	221.1	239.3	239.3	244.8		141.2	118.9	81.3	143.9	192.0
1992	119.7	67.3	25.7	12.8	37.6	56.9	31.6						50.2
Average	218.8	194.3	170.0	187.0	201.8	210.8	188.9	165.5	130.9	122.4	156.2	224.1	176.9
Max	280.9	280.9	284.2	285.9	281.7	280.2	270.9	252.3	221.7	191.5	262.0	282.8	259.2
Min	119.7	67.3	25.7	12.8	37.6	56.9	31.6	75.4	35.7	34.8	63.5	143.9	50.2

Note: Table shows the storage volume at the first day of wach month.

Conversion ratio 1.0 ac-ft = 1,233.5 cu-m 1 MCM = 810.68 ac-ft

Source: Water management section of Walawe Special Area of MEA/MASL

FIGURES



GENERAL LEGEND

- BOUNDARY OF STUDY AREA
- - - BOUNDARY BETWEEN OLD AND EXTENSION AREA
- BOUNDARY OF IRRIGATION BLOCK
- LEFT BANK MAIN CANAL
- VALVE ROAD
- INGA VILLAGE TANK (OPERATED)
- TOWN / VILLAGE

Legend

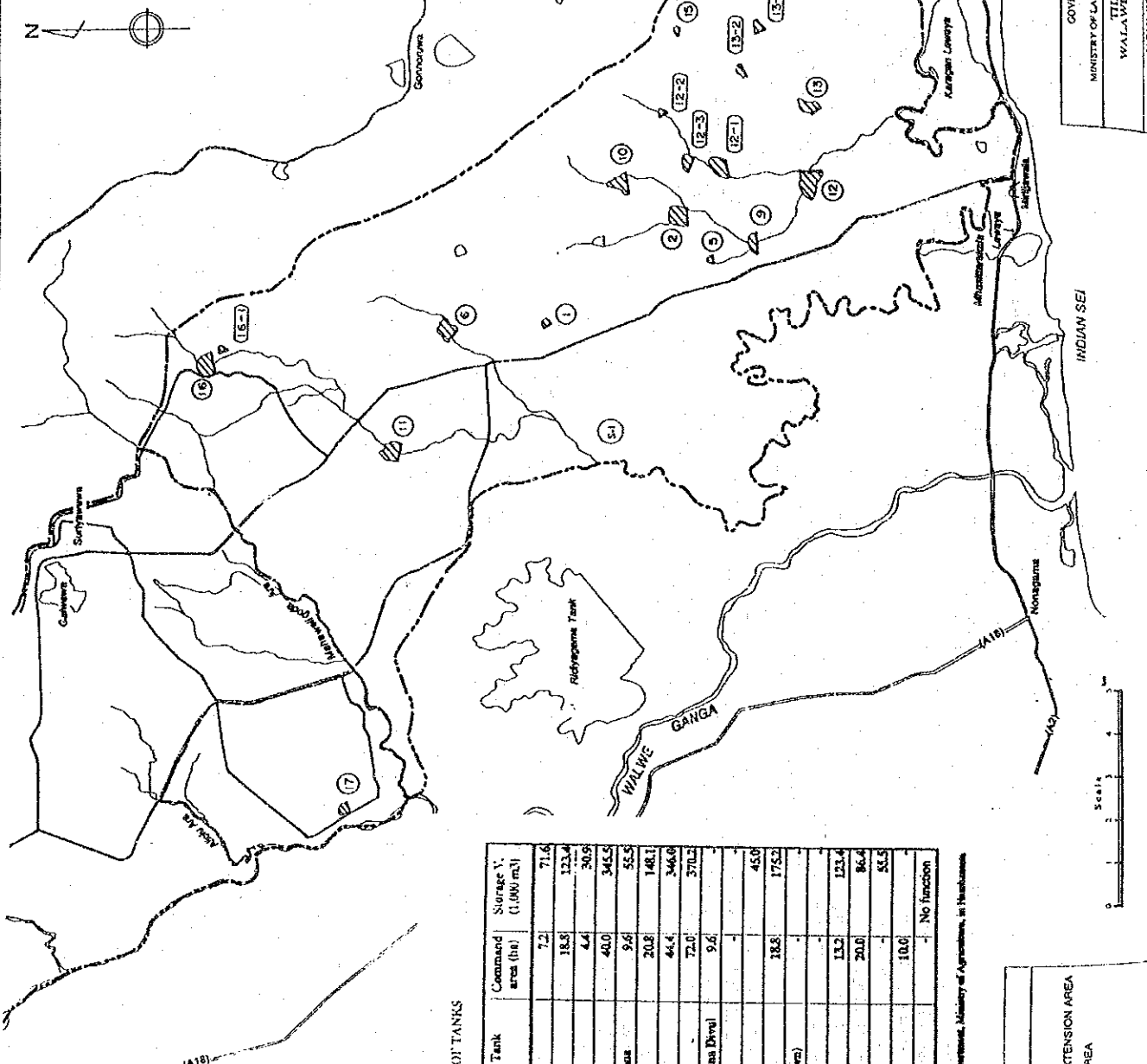
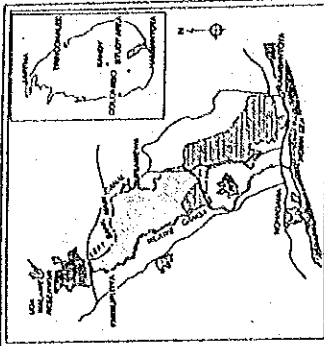
- - - Existing Left Bank Main Canal and Buddewewa Branch Canal
- - - Proposed Main and Branch Canals by MEA
- - - Existing Distributary Canal
- - - Proposed Distributary Canal by MEA
- - - Drainage Canal (Natural Stream)
- /// Present Irrigation Area

GOVERNMENT OF DEMOCRATIC SOCIALISTS
 REPUBLIC OF SRI LANKA
 MINISTRY OF LANDS, IRRIGATION AND MAHAWELEI DEVELOPMENT

THE FEASIBILITY STUDY ON WALAWE IRRIGATION UPGRADING AND EXTENSION PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

A7.1 - 1 EXISTING IRRIGATION AND DRAINAGE NETWORKS ON LEFT BANK



LIST OF TANKS

Code No.	Name of Tank	Command area (ha)	Storage V. (1,000 m ³)
1	Bolihoda	7.2	71.6
2	Bellepasa	18.5	123.4
5	Piluvala	4.4	30.9
6	Weddi	40.0	343.5
9	Madawelipokuna	9.6	55.5
10	Kattana	20.8	148.1
11	Andiyanigama	44.4	346.9
12	Kalu	72.0	370.2
12-1	Heridwepokuna Divul	9.6	-
12-2	Negara	-	-
12-3	Maha Divul	-	45.9
13	Arabhokke	18.8	175.2
13-2	— (Not known)	-	-
13-3	Rengamanga	-	-
15	Samarakoon	13.2	123.4
16	Andara	20.0	86.4
16-1	Swediyagama	-	55.5
17	Potiyagama	10.0	-
5-1	Kudawana	-	No function

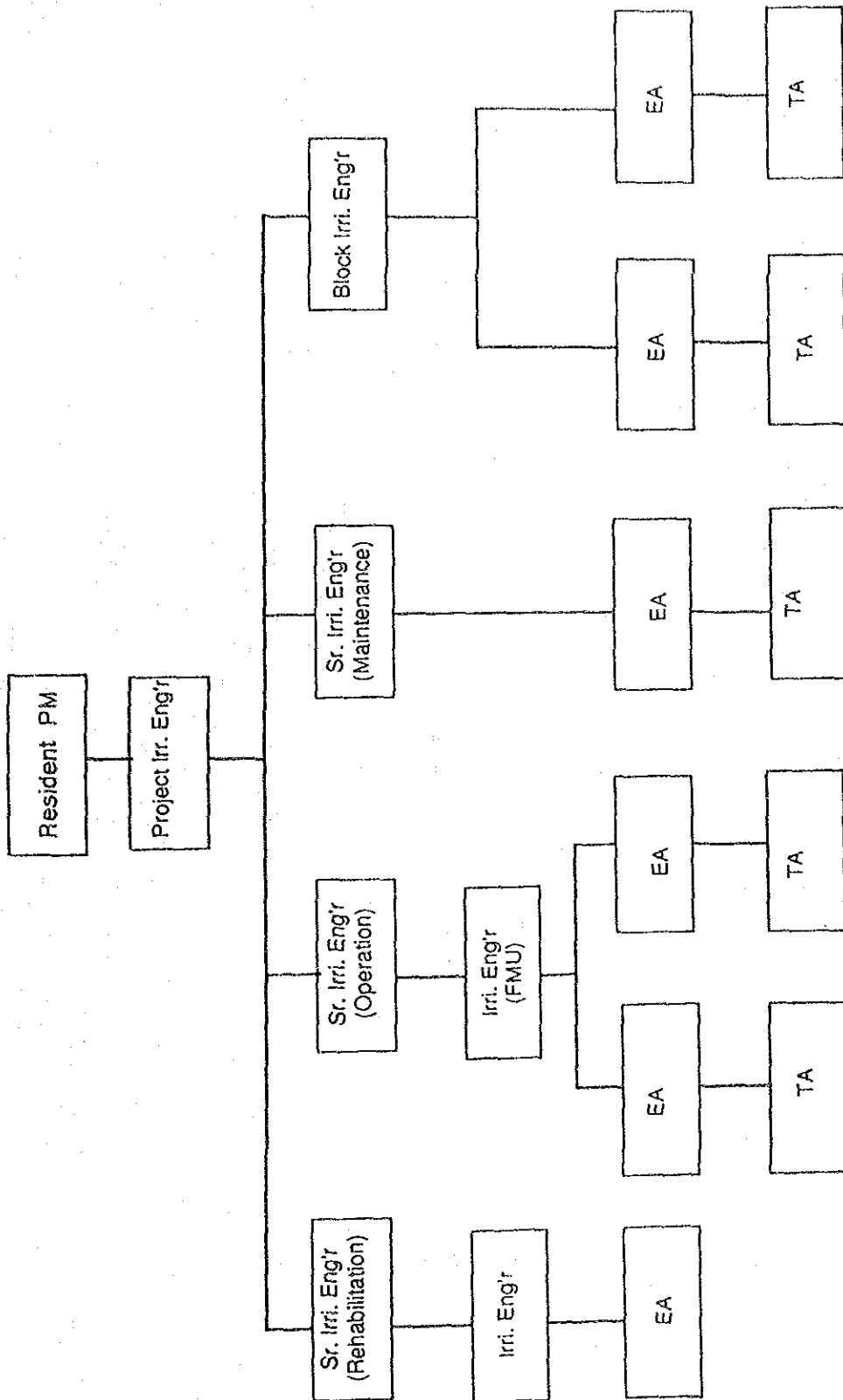
Source: Agrarian Services Department, Ministry of Agriculture, in Hambantota

GENERAL LEGEND

- BOUNDARY OF STUDY AREA
- - - BOUNDARY BETWEEN OLD AND EXTENSION AREA
- BOUNDARY OF OLD EXTENSION AREA
- ~ RIVER/STREAM
- == MAJOR ROAD
- TANK

GOVERNMENT OF DEMOCRATIC SOCIALIST
REPUBLIC OF SRI LANKA
MINISTRY OF LANDS, IRRIGATION AND MARSHLAND DEVELOPMENT
THE FEASIBILITY STUDY ON
WALAWE IRRIGATION MODERNISING AND
EXTENSION PROJECT

Fig. A7.1-2 LOCATION OF EXISTING WORKING TANKS IN THE EXTENSION AREA



FMU: Flow Monitoring Unit
 EA: Engineer Assistant, TO: Technical Officer

Fig. A7.1-3 ORGANIZATION CHART FOR OPERATION AND MAINTENANCE OF MEA

GOVERNMENT OF DEMOCRATIC SOCIALIST
 REPUBLIC OF SRI LANKA
 MINISTRY OF LANDS, IRRIGATION AND MAJAWELLI DEVELOPMENT

THE FEASIBILITY STUDY ON
 WALAWE IRRIGATION UPGRADING AND
 EXTENSION PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

ANNEX 7-2 RECORD OF IRRIGATION AREA BY CROP

List of Tables

- Table A7.2-1 Annual Average Irrigation Area by Crop
- Table A7.2-2 Irrigation Area on Left and Right Banks under Management of MEA (1/2-2/2)
- Table A7.2-3 Irrigation Area of Subsidiary Crops under Management of MEA (1/4-4/4)
- Table A7.2-4 Irrigation Area in Sevanagala Sugar Area on Left Bank
- Table A7.2-5 Irrigation Area in Yala 1992 under Management of MEA (severe drought year)
- Table A7.2-6 Yearly Crop Area under Rainfed Condition

TABLES

Table A7.2 - 1 ANNUAL AVERAGE IRRIGATION AREA BY CROP

Crop	Season	Block Name					Sub-total Right bank	Block Name		Sub-total Left bank	Total
		EMB	CW	MW	BKM	AKP		KIW	SW		
Paddy	Maha	1,608	2,293	850	1,964	1,304	8,019	1,172	1,711	2,882	10,901
	Yala	1,570	2,208	821	1,938	1,241	7,778	1,137	1,738	2,875	10,653
Banana	Maha	45	50	197	41	93	426	37	19	56	481
	Yala	40	41	175	36	83	374	25	29	55	428
Sugarcane	Maha	19	0	0	0	7	21	1	0	1	22
	Yala	17	0	0	2	19	38	1	0	1	39
Other crops (OFC)	Maha	30	68	87	77	84	346	17	26	43	389
	Yala	42	45	60	36	61	244	26	75	102	345
Total of OFC	Maha	91	118	284	118	182	793	54	45	99	892
	Yala	99	86	235	73	163	656	52	105	157	812
Total of Irrigation Area	Maha	1,699	2,411	1,134	2,082	1,486	8,812	1,226	1,756	2,981	11,793
	Yala	1,701	2,314	1,039	2,017	1,397	8,468	1,171	1,919	3,090	11,558

Block Name:

EMB	Embilipitiya	AKP	Angunkolapellessa
CW	Chandrikawewa	KW	Kiriibanwewa
MWH	Murawasihena	SW	Suriyawewa
BKM	Binkama		
AKP	Angunkolapellessa		

Note: Average area from 1985 to 1991

Source: Agricultural Division

Table A7.2 - 2 IRRIGATION AREA ON LEFT AND RIGHT BANKS UNDER MANAGEMENT OF MEA (1/2)

Crop	Year	Season	Block Name					Sub-total Right bank	Block Name		Sub-total Left bank	Total
			EMB	CW	MW	BKM	AKP		KIW	SW		
			(Unit: ha)									
Paddy	1985	Yala	1,691	2,339	614	2,023	1,191	7,858	1,204	2,093	3,297	11,155
	1985/86	Maha	1,663	2,427	872	2,000	1,353	8,315	1,110	2,012	3,122	11,437
	1986	Yala	1,645	2,413	802	2,024	1,265	8,149	1,153	2,163	3,316	11,465
	1986/87	Maha	1,673	2,415	841	1,927	1,230	8,086	1,216	2,165	3,381	11,467
	1987	Yala	1,594	2,120	725	1,802	1,197	7,438	1,033	2,115	3,148	10,586
	1987/88	Maha	1,612	2,210	543	1,965	1,286	7,616	1,058	1,687	2,745	10,361
	1988	Yala	1,594	2,125	849	1,963	1,240	7,771	1,034	1,577	2,611	10,382
	1988/89	Maha	1,603	2,230	775	1,966	1,280	7,854	1,053	1,677	2,730	10,584
	1989	Yala	1,593	2,181	860	1,932	1,232	7,798	1,023	1,577	2,600	10,398
	1989/90	Maha	1,596	2,231	1,013	1,962	1,334	8,136	1,309	1,399	2,708	10,844
	1990	Yala	1,492	2,193	976	1,923	1,277	7,861	1,264	1,362	2,626	10,487
	1990/91	Maha	1,502	2,242	1,056	1,964	1,341	8,105	1,283	1,325	2,608	10,713
	1991	Yala	1,384	2,084	919	1,899	1,285	7,571	1,250	1,278	2,528	10,099
	Average	Maha	1,608	2,293	850	1,964	1,304	8,019	1,172	1,711	2,882	10,901
		Yala	1,570	2,208	821	1,938	1,241	7,778	1,137	1,738	2,875	10,653
Banana	1985	Yala	10	11	105	0	42	168	0	67	67	235
	1985/86	Maha	25	7	10	20	58	120	7	0	7	127
	1986	Yala	26	18	123	26	58	251	0	0	0	251
	1986/87	Maha	29	20	136	26	68	279	0	0	0	279
	1987	Yala	40	29	137	28	71	305	0	0	0	305
	1987/88	Maha	46	29	153	31	99	358	0	0	0	358
	1988	Yala	46	38	153	33	103	373	22	16	38	411
	1988/89	Maha	40	38	168	38	103	387	32	16	48	435
	1989	Yala	41	55	176	41	110	423	35	19	54	477
	1989/90	Maha	43	63	277	44	114	541	39	21	60	601
	1990	Yala	76	95	355	85	111	722	95	74	169	891
	1990/91	Maha	87	144	440	84	113	868	142	77	219	1,087
	1991	Yala										
	Average	Maha	45	50	197	41	93	426	37	19	56	481
		Yala	40	41	175	36	83	374	25	29	55	428
Sugar cane	1985	Yala	5	0	0	10	106	121	0	0	0	121
	1985/86	Maha	6	0	0	0	12	18	0	0	0	18
	1986	Yala	6	0	0	0	0	6	0	0	0	6
	1986/87	Maha	5	0	0	0	13	18	0	0	0	18
	1987	Yala	8	0	0	0	10	18	0	0	0	18
	1987/88	Maha	12	0	0	0	8	20	0	0	0	20
	1988	Yala	12	0	0	0	0	12	2	0	2	14
	1988/89	Maha	8	0	0	0	0	8	2	0	2	10
	1989	Yala	7	0	0	0	0	7	2	0	2	9
	1989/90	Maha	64	0	0	0	0	64	2	0	2	66
	1990	Yala	64	0	0	0	0	64	0	0	0	64
	1990/91	Maha										
	1991	Yala										
	Average	Maha	19	0	0	0	7	21	1	0	1	22
		Yala	17	0	0	2	19	38	1	0	1	39
Other crops (OFC)	1985	Yala	27	70	65	13	100	275	8	111	119	394
	1985/86	Maha	11	22	145	106	191	475	10	0	10	485
	1986	Yala	31	20	126	17	53	247	13	38	51	298
	1986/87	Maha	8	38	78	47	32	203	4	6	10	213
	1987	Yala	43	44	46	33	70	236	31	51	82	318
	1987/88	Maha	46	23	63	69	77	278	8	8	16	294
	1988	Yala	57	58	31	41	29	216	28	52	80	296
	1988/89	Maha	33	0	34	20	97	184	12	29	41	225
	1989	Yala	65	51	30	64	41	251	35	113	148	399
	1989/90	Maha	16	199	58	151	51	475	30	96	126	601
	1990	Yala	31	26	63	45	73	238	42	87	129	367
	1990/91	Maha	65	127	144	70	57	463	37	15	52	515
	1991	Yala										
	Average	Maha	30	68	87	77	84	346	17	26	43	389
		Yala	42	45	60	36	61	244	26	75	102	345

Note: According to the data above, banana cultivation under the irrigation condition has been increased recently. However, collective cultivation of banana was found only on Right bank area but not on Left bank area during field survey. It is considered that the banana cultivation on the left bank is made sparsely in the irrigated paddy field. The area of banana cultivation land is to be counted as paddy field in the planning, though this matter shall be confirmed in the field in Phase II study.

Table A7.2 - 2 IRRIGATION AREA ON LEFT AND RIGHT BANKS UNDER MANAGEMENT OF MEA (2/2)

(Unit: ha)

Crop	Year	Season	Block Name					Sub-total Righ bank	Block Name		Sub-total Left bank	Total
			EMB	CW	MW	BKM	AKP		KIW	SW		
Total of OFC	1985	Yala	42	81	170	23	248	564	8	178	186	750
	1985/86	Maha	42	29	155	126	261	613	17	0	17	630
	1986	Yala	63	38	249	43	111	504	13	38	51	555
	1986/87	Maha	42	58	214	73	113	500	4	6	10	510
	1987	Yala	91	73	183	61	151	559	31	51	82	641
	1987/88	Maha	104	52	216	100	184	656	8	8	16	672
	1988	Yala	115	96	184	74	132	601	52	68	120	721
	1988/89	Maha	81	38	202	58	200	579	46	45	91	670
	1989	Yala	113	106	206	105	151	681	72	132	204	885
	1989/90	Maha	123	262	335	195	165	1,080	71	117	188	1,268
	1990	Yala	171	121	418	130	184	1,024	137	161	298	1,322
1990/91	Maha	152	271	584	154	170	1,331	179	92	271	1,602	
1991	Yala											
	Average	Maha	91	118	284	118	182	793	54	45	99	892
		Yala	99	86	235	73	163	656	52	105	157	812
Total of irrigation area	1985	Yala	1,733	2,420	784	2,046	1,439	8,422	1,212	2,271	3,483	11,905
	1985/86	Maha	1,705	2,456	1,027	2,126	1,614	8,928	1,127	2,012	3,139	12,067
	1986	Yala	1,708	2,451	1,051	2,067	1,376	8,653	1,166	2,201	3,367	12,020
	1986/87	Maha	1,715	2,473	1,055	2,000	1,343	8,586	1,220	2,171	3,391	11,977
	1987	Yala	1,685	2,193	908	1,863	1,348	7,997	1,064	2,166	3,230	11,227
	1987/88	Maha	1,716	2,262	759	2,065	1,470	8,272	1,066	1,695	2,761	11,033
	1988	Yala	1,709	2,221	1,033	2,037	1,372	8,372	1,086	1,645	2,731	11,103
	1988/89	Maha	1,684	2,268	977	2,024	1,480	8,433	1,099	1,722	2,821	11,254
	1989	Yala	1,706	2,287	1,066	2,037	1,383	8,479	1,095	1,709	2,804	11,283
	1989/90	Maha	1,719	2,493	1,348	2,157	1,499	9,216	1,380	1,516	2,896	12,112
	1990	Yala	1,663	2,314	1,394	2,053	1,461	8,885	1,401	1,523	2,924	11,809
1990/91	Maha	1,654	2,513	1,640	2,118	1,511	9,436	1,462	1,417	2,879	12,315	
1991	Yala											
	Average	Maha	1,699	2,411	1,134	2,082	1,486	8,812	1,226	1,756	2,981	11,793
		Yala	1,701	2,314	1,039	2,017	1,397	8,468	1,171	1,919	3,090	11,558

Block Name:

EMB	Embilipitiya	AKP	Angunukolapellessa
CW	Chandrikawewa	KW	Kiribanwewa
MWH	Murawasihena	SW	Suriyawewa
BKM	Binkama		
AKP	Angunukolapellessa		

Note: Irrigation area of Mahagama tank area in KW block of about 530 ha is included.

Source: Agricultural Division, MEA-Walawe Special Project Office

Table A7.2 - IRRIGATION AREA OF SUBSIDIARY CROPS UNDER MANAGEMENT OF MEA (1/4)

Crop	Year	Season	EMB	CW	MW	BKM	AKP	Sub-total		KIW	SW	Sub-total	(Unit: ha) Total
								Righ bank	Left bank				
Maize	1985	Yala	0	0	0	0	0	0	0	0	0	0	0
	1985/86	Maha	0	0	8	13	2	23	0	0	0	0	23
	1986	Yala	0	0	3	0	0	3	0	0	0	0	3
	1986/87	Maha	0	0	0	2	0	2	0	0	0	0	2
	1987	Yala	0	0	0	0	0	0	0	0	0	0	0
	1987/88	Maha	0	0	3	6	0	9	0	0	0	0	9
	1988	Yala	0	0	0	1	0	1	0	0	0	0	1
	1988/89	Maha	0	0	2	0	12	14	0	0	0	0	14
	1989	Yala	0	0	0	0	0	0	0	0	0	0	0
	1989/90	Maha	0	0	2	0	0	2	0	0	0	0	2
	1990	Yala	0	0	1	0	0	1	0	0	0	0	1
	1990/91	Maha	0	6	9	0	0	15	1	0	0	1	16
	1991	Yala											
Average	Maha	0	1	4	4	2	11	0	0	0	0	11	
	Yala	0	0	1	0	0	1	0	0	0	0	1	
Kurakkan	1985	Yala	0	0	0	0	0	0	0	0	0	0	0
	1985/86	Maha	0	0	2	11	12	25	0	0	0	0	25
	1986	Yala	0	0	2	0	0	2	0	0	0	0	2
	1986/87	Maha	0	0	0	0	0	0	0	0	0	0	0
	1987	Yala	0	0	0	0	0	0	0	0	0	0	0
	1987/88	Maha	0	0	7	1	0	8	0	0	0	0	8
	1988	Yala	0	0	0	0	0	0	0	0	0	0	0
	1988/89	Maha	0	0	0	0	13	13	0	0	0	0	13
	1989	Yala	0	0	0	2	0	2	0	0	0	0	2
	1989/90	Maha	0	0	2	26	0	28	0	0	0	0	28
	1990	Yala	0	0	0	0	0	0	0	0	0	0	0
	1990/91	Maha	0	0	9	16	0	25	0	0	0	0	25
	1991	Yala											
Average	Maha	0	0	3	9	4	17	0	0	0	0	17	
	Yala	0	0	0	0	0	1	0	0	0	0	1	
Green gram	1985	Yala	0	0	4	2	8	14	0	0	0	0	14
	1985/86	Maha	1	0	24	18	70	113	5	0	5	118	
	1986	Yala	0	1	33	0	9	43	0	8	8	51	
	1986/87	Maha	0	8	18	11	6	43	0	0	0	43	
	1987	Yala	5	2	6	4	8	25	0	0	0	25	
	1987/88	Maha	0	5	9	16	15	45	0	0	0	45	
	1988	Yala	1	7	4	4	0	16	0	0	0	16	
	1988/89	Maha	1	0	4	2	13	20	0	0	0	20	
	1989	Yala	5	1	2	5	4	17	0	5	5	22	
	1989/90	Maha	2	10	10	40	6	68	0	31	31	99	
	1990	Yala	2	1	5	3	3	14	0	0	0	14	
	1990/91	Maha	6	26	39	7	24	102	0	0	0	102	
	1991	Yala											
Average	Maha	2	8	17	16	22	65	1	5	6	71		
	Yala	2	2	9	3	5	22	0	2	2	24		
Cowpea	1985	Yala	0	3	2	0	8	13	0	0	0	13	
	1985/86	Maha	0	0	7	7	9	23	0	0	0	23	
	1986	Yala	0	0	3	0	4	7	0	2	2	9	
	1986/87	Maha	0	0	8	4	0	12	0	0	0	12	
	1987	Yala	0	0	3	2	4	9	0	0	0	9	
	1987/88	Maha	3	1	1	7	3	15	0	0	0	15	
	1988	Yala	0	2	0	1	0	3	0	0	0	3	
	1988/89	Maha	0	0	2	2	4	8	0	0	0	8	
	1989	Yala	1	0	1	1	1	4	0	2	2	6	
	1989/90	Maha	0	2	2	15	4	23	0	15	15	38	
	1990	Yala	0	0	0	0	0	0	0	0	0	0	
	1990/91	Maha	0	7	5	2	9	23	0	0	0	23	
	1991	Yala											
Average	Maha	1	2	4	6	5	17	0	3	3	20		
	Yala	0	1	2	1	3	6	0	1	1	7		

Table A7.2 - IRRIGATION AREA OF SUBSIDIARY CROPS UNDER MANAGEMENT OF MEA (2/4)

Crop	Year	Season	FMB	CW	MW	BKM	AKP	Sub-total		KIW	SW	Sub-total		(Unit: ha) Total
								Righ bank				Left bank		
Lanka Paripppo (dhal)	1985	Yala	0	7	0	0	1	8	0	0	0	0	8	
	1985/86	Maha	0	0	3	5	10	18	0	0	0	0	18	
	1986	Yala	0	0	0	0	0	0	0	2	2	0	2	
	1986/87	Maha	0	0	0	0	0	0	0	0	0	0	0	
	1987	Yala	0	0	0	0	3	3	0	0	0	0	3	
	1987/88	Maha	0	0	1	0	1	2	0	0	0	0	2	
	1988	Yala	0	0	0	0	0	0	0	0	0	0	0	
	1988/89	Maha	0	0	0	2	3	5	0	0	0	0	5	
	1989	Yala	0	0	0	0	0	0	0	0	0	0	0	
	1989/90	Maha	0	0	0	15	0	15	0	2	2	0	17	
	1990	Yala	0	0	0	0	0	0	0	0	0	0	0	
	1990/91	Maha	0	0	2	1	2	5	0	0	0	0	5	
1991	Yala													
Average	Maha	0	0	1	4	3	8	0	0	0	0	8		
	Yala	0	1	0	0	1	2	0	0	0	0	2		
Soya beans	1985	Yala						0				0	0	
	1985/86	Maha						0				0	0	
	1986	Yala						0				0	0	
	1986/87	Maha						0				0	0	
	1987	Yala						0				0	0	
	1987/88	Maha						0				0	0	
	1988	Yala						0				0	0	
	1988/89	Maha						0				0	0	
	1989	Yala	0	0	0	2	0	2	0	0	0	0	2	
	1989/90	Maha	0	0	0	0	0	0	0	0	0	0	0	
	1990	Yala	0	0	0	0	0	0	0	0	0	0	0	
	1990/91	Maha	0	1	1	1	0	3	0	0	0	0	3	
1991	Yala													
Average	Maha	0	1	1	1	0	2	0	0	0	0	2		
	Yala	0	0	0	1	0	1	0	0	0	0	1		
Chillies	1985	Yala	12	20	13	5	48	98	5	15	20	118		
	1985/86	Maha	3	11	21	22	42	99	0	0	0	99		
	1986	Yala	18	7	39	14	14	92	8	10	18	110		
	1986/87	Maha	1	6	23	11	7	48	1	0	1	49		
	1987	Yala	12	17	12	15	29	85	22	43	65	150		
	1987/88	Maha	11	8	15	13	11	58	4	5	9	67		
	1988	Yala	17	9	16	18	7	67	16	9	25	92		
	1988/89	Maha	8	0	15	6	17	46	6	4	10	56		
	1989	Yala	28	25	14	41	15	123	18	45	63	186		
	1989/90	Maha	4	22	16	46	18	106	7	16	23	129		
	1990	Yala	11	11	23	21	29	95	25	32	57	152		
	1990/91	Maha	6	33	27	30	9	105	17	7	24	129		
1991	Yala													
Average	Maha	6	13	20	21	17	77	6	5	11	88			
	Yala	16	15	20	19	24	93	16	26	41	135			
Red onion	1985	Yala	1	5	1	0	0	7	1	0	1	8		
	1985/86	Maha	2	2	0	2	0	6	0	0	0	6		
	1986	Yala	4	0	3	1	1	9	2	4	6	15		
	1986/87	Maha	3	0	5	2	2	12	2	0	2	14		
	1987	Yala	3	2	2	2	7	16	4	4	8	24		
	1987/88	Maha	1	1	0	2	1	5	1	1	2	7		
	1988	Yala	4	1	3	2	3	13	3	15	18	31		
	1988/89	Maha	2	0	1	1	1	5	1	13	14	19		
	1989	Yala	2	2	3	5	2	14	7	42	49	63		
	1989/90	Maha	3	4	2	1	2	12	8	17	25	37		
	1990	Yala	1	0	2	10	5	18	7	18	25	43		
	1990/91	Maha						0			0	0		
1991	Yala													
Average	Maha	2	1	1	1	1	7	2	5	7	14			
	Yala	3	2	2	3	3	11	6	15	18	31			