

Appendix I Water Depth Measuring Scales Installed in Selected *Padavus*

Scale No	Gramapanchayath	Padavu
1.	Adat	Adat Ombathumuri Kole Padavu
2.	Adat	Chathankole Poopilakad Karshakasamajam
3.	Adat	Kurudan Akkatan
4.	Arimbur	Alappad Pullu
5.	Arimbur	Arumuri Kole Padavu
6.	Arimbur	Kodannur
7.	Arimbur	Rejamuttu
8.	Arimbur	Vilakkumadam Karshaka Samithi
9.	Arimbur	Vilakkumadam Karshaka Samithi
10.	Ayyanthole	Chettupuzha Purathy & West Kole Padavu
11.	Ayyanthole	Pullazhi Kole Padavu
12.	Chazhur	Pullu
13.	Chazhur	Pullu
14.	Chazhur	Anthikkad
15.	Chazhur	Anthikkad
16.	Chazhur	Jayanthi
17.	Chazhur	Purathur
18.	Chazhur	Inchamudi
19.	Chazhur	Jubily Thevar Padavu
20.	Chazhur	Chenamkari Puncta
21.	Manalur	Manalurthazham
22.	Mullassery	Mathookara Thekumpuram Kole Karshaka Sangham
23.	Mullassery	Penakam Kizhak
24.	Mullassery	Elavathur Kizhake Kole Karshaka Sangham
25.	Mullassery	Annakara Padam Vadak Group Farming Committe
26.	Mullassery	Peruvelur Kole
27.	Paralam	Jubilee Thevar Padavu Padashekharam
28.	Paralam	Pandaram Kole Padashekharam
29.	Tholur	Sangham Kole South Padav
30.	Tholur	Sangham Kole North Padav
31.	Tholur	Ponnorthazham
32.	Tholur	Valakulam
33.	Venkitangu	Padinjare Karimbadam
34.	Venkitangu	Ponnamutha Kolepadavu
35.	Venkitangu	Thekke Konjira
36.	Venkitangu	Wadakke Konjira

Appendix II Daily Rainfall Data of Enamakal Rain Gauge Station from 1991 to 2022

Year	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
1991	0.0	0.0	0.0	12.0	107.2	990.5	938.9	565.1	57.6	227.2	165.8	0.0	3064.3
1992	0.0	0.0	0.0	0.0	120.5	1126.5	808.5	460.5	354.7	438.4	379.4	0.0	3688.5
1993	0.0	0.0	0.0	0.0	153.8	750.2	678.6	227.9	62.6	564.8	84.9	0.6	2523.4
1994	16.2	2.0	17.0	128.7	128.6	1065.8	1033.0	588.9	352.4	610.0	99.0	0.0	4041.6
1995	0.0	0.0	8.2	180.5	559.9	549.9	844.0	615.0	333.5	180.5	166.0	0.0	3437.5
1996	0.0	0.0	0.0	134.0	30.0	517.3	684.3	261.0	384.1	191.0	14.0	94.0	2309.7
1997	0.0	0.0	0.0	8.0	96.3	873.5	913.1	630.3	347.0	192.5	213.0	4.0	3277.7
1998	0.0	0.0	10.0	16.0	245.0	769.3	647.0	409.2	508.4	504.0	105.0	22.5	3236.4
1999	0.0	6.0	0.0	58.7	340.3	489.0	772.0	264.0	46.0	528.0	7.0	0.0	2511
2000	0.0	0.0	2.0	3.0	120.0	545.0	321.0	529.0	126.9	174.0	40.8	20.0	1881.7
2001	0.0	18.0	0.0	194.0	170.5	756.2	388.1	294.3	137.0	191.0	90.0	0.0	2239.1
2002	0.0	0.0	16.0	94.9	315.0	644.0	333.1	535.0	92.0	503.0	16.0	0.0	2549
2003	0.0	82.0	81.0	114.0	15.0	545.0	543.5	351.5	171.5	301.0	48.0	0.0	2252.5
2004	0.0	0.0	24.0	89.0	501.0	857.0	298.0	389.0	129.0	499.0	72.0	0.0	2858
2005	0.0	0.0	0.0	174.0	74.0	633.0	692.0	305.0	383.0	112.0	36.0	0.0	2409
2006	0.0	0.0	55.0	60.0	632.0	580.0	542.5	620.0	489.1	313.0	192.0	0.0	3483.6
2007	0.0	0.0	0.0	87.0	188.5	904.0	1161.0	574.0	688.0	493.2	21.5	3.0	4120.2
2008	0.0	37.0	32.2	56.0	87.1	479.0	398.0	327.0	312.2	327.0	29.0	2.0	2366.5
2009	0.0	0.0	37.0	30.0	196.0	513.4	968.4	424.8	322.4	146.0	153.0	8.0	2799
2010	0.0	0.0	4.0	62.8	188.0	840.5	660.0	275.5	392.0	576.6	335.4	15.0	3349.8
2011	0.0	38.0	13.0	10.0	159.0	890.5	619.6	705.9	574.0	186.0	225.7	0.0	3421.7
2012	0.0	0.0	13.0	147.0	150.0	701.2	420.9	666.2	271.6	140.5	107.5	27.0	2644.9
2013	0.0	36.0	18.0	9.0	104.9	1167.6	882.4	323.2	330.5	573.6	46.5	0.0	3491.7
2014	0.0	0.0	4.0	54.0	358.0	641.6	741.2	769.8	396.2	329.6	75.0	16.0	3385.4
2015	0.0	0.0	49.8	69.2	236.8	654.2	457.2	389.4	413.8	269.8	142.8	67.8	2750.8
2016	0.0	0.0	33.6	90.8	380.5	732.2	375.3	144.4	80.6	127.2	11.0	41.0	2016.6
2017	0.0	0.0	64.6	13.8	191.6	741.0	330.0	385.2	331.0	258.8	42.2	16.8	2375.0
2018	0.0	5.2	33.2	28.9	483.6	730.1	793.2	928.0	29.0	393.0	66.6	0.0	3490.8
2019	0.0	0.0	0.0	76.4	48.8	324.4	654.4	977.5	419.0	418.4	205.1	4.4	3128.4
2020	0.0	0.0	33.4	44.7	59.6	427.2	563.0	607.7	587.6	310.3	56.1	7.7	2697.3
2021	45.7	0.0	31.8	72.4	550.5	473.0	626.9	409.1	291.7	593.3	364.2	19.2	3477.8
2022	0.0	0.0	1.7	84.3	422.0	391.8	628.8	563.7	167.5	69.6	75.4	91.7	2496.5
Average	1.9	7.0	27.0	68.8	231.7	697.0	647.4	484.9	299.4	335.7	115.2	14.4	2930.5

Appendix III Maximum Water Depth and Water Depth before Dewatering in Selected Padavus

Scale No	<i>Padavus</i>	Maximum Depth (m)	Depth before Dewatering (m)
1	Adat Ombathumuri Kole Padavu	2.00	0.85
2	Alappad	2.10	0.65
3	Annakara Padam Vadak Group Farming Committe	0.40	0.00
4	Anthikkad	1.50	0.60
5	Anthikkad	1.40	0.60
6	Arumuri Kole Padavu	1.80	0.90
7	Chathankole Poopilakad Karshakasamajam	1.80	1.10
8	Chenamtharissu	1.50	1.10
9	Chettupuzha Purathy & East Kole Padavu	1.90	0.40
10	Elavathur Kizhake Kole Karshaka Sangham	1.95	0.30
11	Inchamudi	2.40	0.85
12	Jayanthi	1.90	0.40
13	Jubily Thevar Padavu	1.80	1.00
14	Jubilee Thevar Padavu Padashekham	1.60	0.85
15	Kodannur	1.70	0.65
16	Kurudan Akkatan	1.80	0.75
17	Manalurthazham	1.90	1.10
18	Mathookara Thekupuram Kole Karshaka Sangham	1.90	1.10
19	Padinjare Karimbadam	1.68	1.20
20	Pandaram Kole Padashekham	1.50	0.50
21	Penakam Kizhak	0.70	0.00
22	Peruvelur Kole	0.70	0.00
23	Ponnamutha Kolepadavu	1.68	1.20
24	Ponnorthazham	1.75	0.85
25	Pullazhi Kole Padavu	1.70	1.10
26	Pullu	2.00	1.25
27	Pullu	2.10	0.40
28	Purathur	1.80	0.40
29	Rejamuttu	1.80	1.10
30	Sangham South kole padavu	1.80	0.80
31	Sangham North kole padavu	1.85	1.00
32	Valakulam	1.15	0.40
33	Vilakkumadam Karshaka Samithi	1.85	0.85
34	Vilakkumadam Karshaka Samithi	1.90	0.90
35	Thekke Konjira	1.90	1.30
36	Wadakke Konjira	1.60	1.20

Appendix IV BSE and TSE for Surface Volume Calculation

Sl. No	<i>Padavu</i>	D1 (m)	BSE1(m)	TSE1(m)
1	Adat ombathumuri kole padavu	2.00	-4.55	-2.55
2	Akkarapatty karshaka samithy	1.65	-0.47	1.18
3	Alappad	2.10	-2.10	0.00
4	Alappad pullu	1.93	-2.46	-0.53
5	Anjumuri	1.98	-3.81	-1.83
6	Annakara padam vadak group farming committe	0.40	2.85	3.25
7	Anthikkad	1.50	-3.30	-1.80
8	Anthikkad	1.40	-4.20	-2.80
9	Arumuri kole padavu	1.80	-2.30	-0.50
10	Athichal	1.87	4.10	5.97
11	Chaladi pazham kole padavu	1.78	-3.03	-1.25
12	Chathankole poopilakad karshakasamajam	1.80	-1.70	0.10
13	Chathankulangara	1.87	-2.63	-0.76
14	Chenamkari puncha	1.89	0.31	2.20
15	Chenamtharissu	1.50	2.50	4.00
16	Cherukole	1.97	4.67	6.64
17	Chettupuzha east kole padavu	1.82	3.45	5.27
18	Chettupuzha Kizhakke kole padavu	1.73	-0.56	1.17
19	Chettupuzha purathy & east kole padavu	1.90	-0.20	1.70
20	Chevoor alukkapadavu	1.63	1.11	2.74
21	Chevoor thazham	1.74	4.87	6.61
22	Chirukandath kole	1.61	0.12	1.73
23	Chiyaram samajam	1.20	2.42	3.62
24	Choorakatukara padavu	1.74	-1.10	0.64
25	Elamutha kole padavu	1.78	-2.40	-0.62

Sl. No	<i>Padavu</i>	D1 (m)	BSE(m)	TSE(m)
26	Elavathur kizhake kole karshaka sangham	1.95	5.70	7.65
27	Elthuruth kole padavu	1.70	-2.84	-1.14
28	Eravu kaippilly akampadam	1.74	0.88	2.62
29	Erumakkuzhy - kootaalapaadam	1.61	6.04	7.65
30	Ettumana kole padavu	1.87	-1.50	0.37
31	Ettumana parupadam	1.84	7.41	9.25
32	Inchamudi	2.40	1.80	4.20
33	Jayanthi	1.90	-0.10	1.80
34	Jubily thevar padavu	1.80	5.80	7.60
35	Kadavil kole	1.55	-0.37	1.18
36	Kaipilly Veluthur Akam padam	1.77	-3.97	-2.20
37	Kanimangalam adhoc samithi subcommitte	1.63	-1.00	0.63
38	Kaniyamthurathu kole padavu	0.41	2.53	2.94
39	Kanjankole	1.72	-1.94	-0.22
40	Karotte kolepadavu	1.87	-2.75	-0.88
41	Karthani	1.71	-1.04	0.67
42	Karuthani-vally kole padavu	1.20	1.74	2.94
43	Kila kole padavu	1.99	4.72	6.71
44	Kizhakke karimbadam	1.73	-2.16	-0.43
45	Kizhakken kole pore kole	1.61	-0.83	0.78
46	Kodannur	1.70	-2.30	-0.60
47	Kodappully puncha	2.00	7.27	9.27
48	Kodayatti vazhikoran kole padavu	1.53	-3.42	-1.89
49	Kovilakam	1.92	-3.11	-1.19
50	Krishnankotta	1.57	-4.40	-2.83
51	Kurudan akkatan	1.80	-1.40	0.40

Sl. No	<i>Padavu</i>	D1 (m)	BSE(m)	TSE(m)
52	Kurumbilavu	2.30	8.58	10.88
53	Madammathope west	1.70	0.94	2.64
54	MAMBULLY vakkochira	1.94	-2.58	-0.64
55	Manakody- varyyam kole padavu	1.83	-3.28	-1.45
56	Manakody-veluthur ulppadam	1.80	-3.70	-1.90
57	Manalpuzha kannoth samyuktha kole padav committee	1.58	-0.60	0.98
58	Manalurthazham	1.90	-3.45	-1.55
59	Maninadan kole padavu	1.50	3.12	4.62
60	Marar Kole padavu	1.51	0.60	2.11
61	Maruthithazham	1.82	-3.21	-1.39
62	Mathookara thekupuram kole karshaka sangham	1.90	-2.60	-0.70
63	Mathukkara vadak kole karshaka sangham	1.87	4.34	6.21
64	Menchira padav	1.49	1.07	2.56
65	Moodakole	1.91	4.91	6.82
66	Moopadam	1.73	-3.81	-2.08
67	Mulanchery thazham	1.72	-2.68	-0.96
68	Mundurthazham kole padavu	1.70	-0.24	1.46
69	Naikankole Kalipadam	1.71	-2.17	-0.46
70	Nalmuri kole	1.75	-1.39	0.36
71	Narayanan kole padashekham	1.57	0.07	1.64
72	Nedupuzha karimpatta	1.68	2.60	4.28
73	Nelkathir madammathope	1.60	-0.86	0.74
74	Padinjare karimbadam	1.68	-2.03	-0.35
75	Palissery avinissery karshakasamajam padavu reg no	1.27	9.43	10.70
76	Pallipuram-akampadam padashekham	1.88	2.30	4.18
77	Pallipuram-alappad kole farming society	1.85	-3.12	-1.27

Sl. No	<i>Padavu</i>	D1 (m)	BSE(m)	TSE(m)
78	Pallipuram-paralam-kodannur-ther padashekham	1.60	6.01	7.61
79	Pandara kole	1.81	-2.40	-0.59
80	Pandaram kole padashekham	1.50	5.35	6.85
81	Pannikkara Kini Kole padavu	1.49	0.27	1.76
82	Parapadam kole karshaka samithy	1.64	-1.55	0.09
83	Parappadam vadakkumbhagam kole padav	1.47	-1.76	-0.29
84	Parappanchal	1.55	-3.05	-1.50
85	Pavudai puncha kole padav committee	0.66	6.07	6.73
86	Payi kole	1.80	-3.05	-1.25
87	Pazhuvil karenchara bund road	2.05	7.26	9.31
88	Penakam kizhak	0.70	6.10	6.80
89	Peramangalam thazham karuka Kole padavu	1.65	1.82	3.47
90	Perumkulam east padavu	1.85	2.26	4.11
91	Perumkulam padavu	1.89	-0.19	1.70
92	Peruvelur kole	0.70	13.50	14.20
93	Ponnamutha kolepadavu	1.68	-2.53	-0.85
94	Ponnorthazham	1.75	2.75	4.50
95	Pulipandi	1.68	-2.10	-0.42
96	Pullazhi kole padavu	1.70	-0.70	1.00
97	Pullu	2.00	-4.10	-2.10
98	Purathur	1.80	-2.30	-0.50
99	Puthan kole	1.77	-1.91	-0.14
100	Puthurkarikka kole	1.73	1.66	3.39
101	Rejamuttu	1.80	-4.35	-2.55
102	Sangham North kole padavu	1.85	-2.35	-0.50
103	Sangham South kole padavu	1.60	-1.50	0.10

Sl. No	<i>Padavu</i>	D1 (m)	BSE(m)	TSE(m)
104	Thannapadam	1.60	-4.08	-2.48
105	Thannerkayil	1.76	-2.62	-0.86
106	Tharisukarimpana	1.63	0.59	2.22
107	Thekke konjira	1.90	-1.95	-0.05
108	Themali puram	1.79	-0.06	1.73
109	Thiruthin thazham pandarakole	1.70	-1.77	-0.07
110	Thottupura	1.92	-2.03	-0.11
111	Thrippapallam	2.09	-1.90	0.19
112	Vadakeponnorthazham Padav	1.37	-1.14	0.23
113	Vadookkara olakkada	1.32	3.87	5.19
114	Valakulam	1.20	-0.11	1.09
115	Valoor thazham	1.54	-3.52	-1.98
116	Varyamkole	2.02	5.45	7.47
117	Vendarapadam	2.04	3.16	5.20
118	Vilakkumadam karshaka samithi	1.85	-4.45	-2.60
119	Wadakke konjira	1.60	4.10	5.70

D1- Maximum water depth measured in *padavu*, D2- water depth measured before dewatering in *padavu*,
Elevation of Scale at Maximum Water Depth and Water Depth before Dewatering
TSE1 and TSE2- Top Surface Elevation of Scale at Maximum Water Depth and Water Depth before Dewatering

Appendix V Maximum Accumulated Runoff Volume and Accumulated Volume Before Dewatering Estimated for all Padavus in the North Kole Lands

Sl No	<i>Padavu</i>	Maximum accumulated runoff volume (m³)	Accumulated runoff volume before dewatering (m³)
1	Adat ombathumuri kole padavu	147931.32	48056.23
2	Akkarapatty karshaka samithy	409387.61	231466.41
3	Alappad	743735.46	234415.91
4	Alappad pullu	1254035.00	39143.00
5	Anjumuri	102099.09	25849.41
6	Annakara padam vadak group farming committe	171995.09	0.00
7	Anthikkad	5020651.93	2952808.17
8	Arumuri kole padavu	1107369.71	562811.29
9	Athichal	195215.56	76168.45
10	Chaladi pazham kole padavu	2358153.76	1285822.43
11	Chathankole poopilakad karshakasamajam	102708.00	20131.75
12	Chathankulangara	265612.78	161678.38
13	Chenamkari puncha/ chennagiri	24684.96	11589.15
14	Chenamtharissu	8512552.99	7963290.85
15	Cherukole	184563.78	682153.94
16	Chettupuzha east kole padavu	732165.55	2612369.95
17	Chettupuzha kizhakke kole padavu	145341.30	46225.75
18	Chettupuzha purathy & west kole padavu	782776.27	674141.32
19	Chevoor alukkapadavu	112700.84	56700.00
20	Chevoor thazham	246400.04	1106123.00
21	Chirukandath kole	329419.14	219547.66
22	Chiyaram samajam	204000.00	80400.00
23	Choorakatukara padavu	130856.15	38746.57
24	Elamutha kole padavu	206860.00	137417.09
25	Elavathur kizhake kole karshaka sangham	996656.69	659609.80
26	Elthuruth kole padavu	55078.92	3327.16
27	Eravu kaippilly akampadam	398860.70	310709.82
28	Erumakkuzhy - kootaalapaadam	305900.00	153900.00
29	Ettumana kole padavu	29944.38	6221.48
30	Ettumana parupadam	299200.00	124800.65
31	Inchamudi	2745005.61	1877625.49
32	Jayanthi	223236.34	31905.78
33	Jubily thevar padavu	15840311.10	14441261.20
34	Kadavil kole	272378.83	240066.89
35	Kaipilly veluthur akam padam	957613.88	104689.18
36	Kanimangalam adhoc samithi subcommitte	506268.26	133415.68
37	Kaniyamthurathu kole padavu	519224.20	465928.08
38	Kanjankole	95758.28	20785.84
39	Karotte kolepadavu	138505.29	36032.34

Sl No	<i>Padavu</i>	Maximum accumulated runoff volume (m³)	Accumulated runoff volume before dewatering (m³)
40	Karthani	507513.61	306956.78
41	Karuthani-vally kole padavu	1867368.90	1569876.27
42	Kila kole padavu	351126.30	144149.00
43	Kizhakke karimbadam	1634247.30	1056327.35
44	Kizhakken kole pore kole	272000.00	112000.00
45	Kodannur	875280.53	479256.67
46	Kodappully puncha	41630.00	9890.00
47	Kodayatti vazhikoran kole padavu	715309.55	398512.20
48	Kovilakam	1028356.19	126345.10
49	Krishnankotta	897902.03	575729.94
50	Kurudan akkatan	2380655.27	1436786.94
51	Kurumbilavu	319200.00	114800.00
52	Madammathope west	185045.98	98314.33
53	Mambully vakkochira	234008.85	96000.12
54	Manakody- variyam kole padavu	389113.20	141579.53
55	Manakody-veluthur ulppadam	142146.40	96845.58
56	Manalpuzha kannoth samyuktha kole padav committee	359165.00	132611.07
57	Manalurthazham	8091848.95	7236150.57
58	Maninadan kole padavu	394156.58	131569.75
59	Marar kole padavu	220486.61	120567.96
60	Maruthithazham	526402.81	10246.32
61	Mathookara thekupuram kole karshaka sangham	1041374.29	551124.26
62	Mathukkara	4854675.25	3869718.38
63	Menchira padav	247413.73	208009.17
64	Moodakole/ bhagavathi kole	337500.00	121500.00
65	Moopadam	211249.00	84685.00
66	Mulanchery thazham	204000.00	109200.00
67	Mundurthazham kole padavu	536000.00	156125.00
68	Naikankole kalipadam	216356.70	138651.22
69	Nalmuri kole	1826930.72	1026493.31
70	Narayanan kole padashekharam	31502.36	10206.01
71	Nedupuzha karimpatta	425681.16	110592.54
72	Nelkhathir madammathope	255123.34	105000.95
73	Padinjare karimbadam	1444543.24	1079084.13
74	Palissery avinissery karshakasamajam padavu	444891.20	141452.09
75	Pallipuram-akampadam padashekharam	230632.80	97998.64
76	Pallipuram-alappad kole farming society	1444010.21	317121.29
77	Pallipuram-paralam-kodannur-ther padashekharam	504951.07	104367.60
78	Pallipuram kodannur-ther padashekharam	256346.23	235646.12
79	Pandara kole	126947.99	79594.30

Sl No	<i>Padavu</i>	Maximum accumulated runoff volume (m³)	Accumulated runoff volume before dewatering (m³)
80	Pandaram kole padashekham	20715.26	6458.35
81	Pannikkara kini kole padavu	146826.67	76031.77
82	Parapadam kole karshaka samithy	98400.00	43200.00
83	Parappadam vadakkumbhagam kole padav	176400.00	74400.00
84	Parappanchal	213612.00	84000.00
85	Pavudai puncha kole padav committee	19269.04	7868.31
86	Payi kole	726912.27	310032.33
87	Pazhuvil karenchara bund road	270400.00	93600.00
88	Penakam kizhak	148523.77	102495.69
89	Peramangalam thazham karuka kole padavu	274908.70	223930.59
90	Perumkulam east padavu	175126.00	81298.00
91	Perumkulam padavu	308940.02	188049.64
92	Peruvelur kole	1020513.79	906321.64
93	Ponnamutha kole padavu	492524.47	394474.47
94	Ponnorthazham	1530833.19	1064294.02
95	Pulipandi	84112.89	59500.20
96	Pullazhi kole padavu	6460761.11	5313617.07
97	Pullu	5496407.41	5073938.16
98	Purathur	748025.38	205983.41
99	Puthan kole	1338884.05	737213.56
100	Puthurkarikka kole	428192.73	118607.76
101	Rejamuttu	517233.43	100875.12
102	Sangham north kole padavu	109622.63	39858.89
103	Sangham south kole padavu	9354178.09	7675443.15
104	Thannapadam	566714.31	226954.09
105	Thannerkayil	510322.85	293424.35
106	Tharisukarimpana	369684.21	195368.01
107	Thekke konjira	1368985.19	1101576.09
108	Themalipuram	40940.00	23460.00
109	Thiruthin thazham pandarakole	159857.58	53669.01
110	Thottupura	190094.36	63362.18
111	Thrikkapallam	103200.12	37440.98
112	Vadakeponnorthazham padav	149114.29	67200.06
113	Vadookkara olakkada	317975.37	127190.00
114	Valakulam	252000.36	84000.47
115	Valoor thazham	162900.07	61200.00
116	Varyamkole	396897.20	182429.41
117	Vendarapadam	827895.49	284000.29
118	Vilakkumadam karshaka samithi	966668.26	324069.60
119	Wadakke konjira	3865058.25	3637833.31

Appendix VI Water Level of Enamakal Regulator during the Year 2022

Sl No	Decade Interval	Water level (m)
1	1 st Jan	0.92
2	2 nd Jan	0.94
3	3 rd Jan	0.46
4	1 st Feb	0.54
5	2 nd Feb	0.81
6	3 rd Feb	0.67
7	1 st Mar	0.73
8	2 nd Mar	0.84
9	3 rd Mar	0.91
10	1 st Apr	0.93
11	2 nd Apr	0.97
12	3 rd Apr	0.82
13	1 st May	0.61
14	2 nd May	1.03
15	3 rd May	0.51
16	1 st Jun	0.40
17	2 nd Jun	0.47
18	3 rd Jun	0.74
19	1 st Jul	0.71
20	2 nd Jul	0.46
21	3 rd Jul	0.34
22	1 st Aug	0.55
23	2 nd Aug	0.38
24	3 rd Aug	0.23
25	1 st Sep	0.44
26	2 nd Sep	0.52
27	3 rd Sep	0.71
28	1 st Oct	0.66
29	2 nd Oct	0.75
30	3 rd Oct	0.61
31	1 st Nov	0.78
32	2 nd Nov	0.68
33	3 rd Nov	0.63
34	1 st Dec	0.85
35	2 nd Dec	0.83
36	3 rd Dec	0.55

Appendix VII Canal Storage Calculations for First Decade of January M

Sl no	Canal	L (m)	WL(m)	D1(m)	D2(m)	D3(m)	BW(m)	Side Slope (%)	A1(m ²)
1	Enamakal phase Canal	1600	0.92	1.92	1.84	1.76	100.00	1:1.50	197.53
2	Kotta Chal	4523	0.92	2.08	1.85	1.63	100.00	1:1.50	214.35
3	Puzhakkalthodu	6103	0.92	1.48	1.17	0.87	70.00	1:1.50	106.79
4	Perumpuzha Thodu	8200	0.92	1.95	1.54	1.13	20.00	1:1.50	44.79
5	Left Chemmen Chal	4670	0.92	1.62	1.62	1.62	12.00	1:1.50	23.38
6	Right Chemmen Chal	2913	0.92	1.82	1.82	1.82	15.00	1:1.50	32.27
7	Chathankole Kottachal Link Canal	3687	0.92	1.62	1.44	1.26	10.00	1:1.50	20.20
8	Ponnathu Chal	935	0.92	1.57	1.57	1.57	8.50	1:1.50	17.04
9	PullazhiThodu	3840	0.92	1.52	1.52	1.52	10.00	1:1.50	18.67
10	Chathen Kole Branch Canal	1492	0.92	1.37	1.30	1.22	10.00	1:1.50	16.52
11	Kandanthodu Right	2752	0.92	1.62	1.62	1.62	10.00	1:1.50	20.14
12	Kadanthodu Left	2160	0.92	1.57	1.57	1.57	10.00	1:1.50	19.40
13	Mullassery Canal - I st reach	1600	0.92	2.07	2.05	2.04	30.00	1:1.50	68.53
14	Mullassery Canal - II nd reach	1520	0.92	2.12	2.10	2.09	58.00	1:1.50	129.70
15	Mullassery Canal - III rd reach	3143	0.92	2.38	2.35	2.32	90.00	1:1.50	222.89
16	Peramangalam Thodu I st reach	1812	0.92	0.92	0.92	0.92	6.00	1:1.50	6.79
17	Peramangalam Thodu II nd reach	550	0.92	1.07	1.07	1.07	15.00	1:1.50	17.77
18	Peramangalam Thodu III rd reach	1120	0.92	1.12	1.12	1.12	22.00	1:1.50	26.52
19	Peramangalamthodu IV th reach	2358	0.92	1.41	1.17	0.94	25.00	1:1.50	38.23
20	Chettupuzha Canal	5019	0.92	1.90	1.65	1.40	45.00	1:1.50	90.86
21	O K canal	6627	0.92	1.96	1.63	1.30	18.00	1:1.50	41.15
22	Kokkalathodu	3886	0.92	1.37	1.18	0.98	18.00	1:1.50	27.55
23	Puthenthodu	10370	0.92	2.25	1.89	1.52	20.00	1:1.50	52.56
24	Herbert Canal -	7845	0.92	2.00	1.89	1.78	15.00	1:1.50	36.08
25	Chenam Chal	686	0.92	1.77	1.73	1.70	15.00	1:1.50	31.22
	Total	89411							

L- Length of canal, WL- Enamakal water level, D1, D2, D3- Depth at starting, middle and ending location of canal, BW- Bottom width at starting and ending location of canal.

Appendix VIII Inflow to Regulator for Period 2022

Sl No	Decade	Inflow (Mm³)	Sl No	Decade	Inflow (Mm³)
1.	1 st Jan	16.33	19	1 st Jul	36.53
2.	2 nd Jan	11.55	20	2 nd Jul	59.44
3.	3 rd Jan	9.91	21	3 rd Jul	65.18
4.	1 st Feb	7.53	22	1 st Aug	71.24
5.	2 nd Feb	5.02	23	2 nd Aug	73.22
6.	3 rd Feb	4.18	24	3 rd Aug	70.85
7.	1 st Mar	3.00	25	1 st Sep	63.32
8.	2 nd Mar	1.72	26	2 nd Sep	36.19
9.	3 rd Mar	1.33	27	3 rd Sep	28.77
10.	1 st Apr	0.78	28	1 st Oct	20.11
11.	2 nd Apr	0.12	29	2 nd Oct	14.16
12.	3 rd Apr	0.81	30	3 rd Oct	12.59
13.	1 st May	4.93	31	1 st Nov	10.23
14.	2 nd May	17.84	32	2 nd Nov	7.13
15.	3 rd May	22.64	33	3 rd Nov	6.58
16.	1 st Jun	27.43	34	1 st Dec	6.51
17.	2 nd Jun	28.71	35	2 nd Dec	8.86
18.	3 rd Jun	29.99	36	3 rd Dec	10.00

Appendix IX Water Balance Components at Enamakkal Regulator (Mm³)

Sl No	Decade	Inflow (I)	Outflow (O)	Canal storage (S)
1.	1 st Jan	16.33	0.00	47.30
2	2 nd Jan	11.55	0.00	48.20
3	3 rd Jan	9.91	0.00	33.90
4	1 st Feb	7.53	0.00	35.40
5	2 nd Feb	5.02	0.00	43.90
6	3 rd Feb	4.18	0.00	40.10
7	1 st Mar	3.00	0.00	42.10
8	2 nd Mar	1.72	0.00	45.10
9	3 rd Mar	1.33	0.00	47.50
10	1 st Apr	0.78	0.00	48.20
11	2 nd Apr	0.12	0.00	49.40
12	3 rd Apr	0.81	0.00	45.10
13	1 st May	4.93	0.00	38.30
14	2 nd May	17.84	0.00	51.60
15	3 rd May	22.64	0.00	35.30
16	1 st Jun	27.43	0.00	32.10
17	2 nd Jun	28.71	0.00	34.20
18	3 rd Jun	29.99	0.00	42.20
19	1 st Jul	36.53	0.00	41.50
20	2 nd Jul	59.44	25.54	33.90
21	3 rd Jul	65.18	35.28	29.90
22	1 st Aug	71.24	34.84	36.40
23	2 nd Aug	73.22	41.72	31.50
24	3 rd Aug	70.85	43.55	27.30
25	1 st Sep	63.32	30.02	33.30
26	2 nd Sep	36.19	0.39	35.80
27	3 rd Sep	28.77	0.00	41.50
28	1 st Oct	20.11	0.00	39.90
29	2 nd Oct	14.16	0.00	42.80
30	3 rd Oct	12.59	0.00	38.30
31	1 st Nov	10.23	0.00	43.50
32	2 nd Nov	7.13	0.00	40.50
33	3 rd Nov	6.58	0.00	39.30
34	1 st Dec	6.51	0.00	45.80
35	2 nd Dec	8.86	0.00	44.70
36	3 rd Dec	10.00	0.00	36.60

Appendix X Distribution of Pumps Across Various Padavus in the Thrissur

North Kole Lands

Sl no	Block Panchayath	Grama Panchayath	<i>Padavu</i>	PPP hp (Nos)	VSP hp (Nos)	VPP hp (Nos)
1	Anthikkad	Anthikkad	Anthikkad padashekhara samithy			
2			Parappanchal			
3			Valoorthazham	50(5), 40(1)	50(2)	30(1)
4		Arimpur	Alappad pullu padavu	50(3)	50(1)	
5			Anjumuri	50(1)		
6			Arumuri Kole padavu		50(2)	
7			Chaladipazham Kole padavu	50(4)		
8			Chettupuzha east Kole padavu		50(2)	
9			Chettupuzha west	60(1), 20(1)		
10			Eravu kaippally akampadam	50(2)	50(1)	
11			Kaippally veluthur akampadam	50(2)		50(1)
12			Karotte Kole padavu	50(3)		
13			Kodannur	60(1)		
14			Kodiyatti vazhikkoran Kole padavu	50(1)		
15			Krishnankotta	50(1)	50(1)	
16			Manakkody-variyaam Kole padavu		50(1)	
17			Manakkody-veluthur ulpadam	50(1)	50(1)	
18			Rejamuttu		50(2)	
19			Themalipuram			
20			Thuttupara	50(1)		

Sl no	Block Panchayath	Grama Panchayath	Padavu	PPP hp (Nos)	VSP hp (Nos)	VPP hp (Nos)	
21			Vilakkumadam karshaka samithy	50(1)	50(2)		
22			Villukulam karshaka samithy			50(1)	
23		Chazhur	Alappad padavu	50(1)	50(1)		
24			Anthikkad padashekharasamithy	50(6), 40(1)	50(2)	30(1)	
25			Athichal	30(1)			
26			Chenam kari puncha				
27			Chenamkari puncha	50(1)			
28			Cherukole	30(1), 25(1)			
29			Inchamudi	50(1)		50(1)	
30			Jayanthi	50(2), 30(1)		30(1)	
31			Jubily thevar padavu	30(1)			
32			Kila Kole padavu	50(1)			
33			Kodapully puncha				
34			Kurumbilavu	50(1)			
35			Mambully vakkochira	50(1)			
36			Mooda kole	50(1)			
37			Pallipuram alappattu	30(1)			
38			Pazhuvil arenchira	50(1)			
39			Pullu	50(2)	50(1)		
40			Purathur	50(1)	50(1)		
41			Thrikkapallam				
42			Varyam kole	50(1)			
43			Vendarapadam	50(1)			
44			Manalur	Chathankulangara	50(1)		
45				Kanjankole	50(2)		
46				Manaloorthazham	50(2)	50(3)	30(1)
47				Maruthithazham	50(1)		

Sl no	Block Panchayath	Grama Panchayath	Padavu	PPP hp (Nos)	VSP hp (Nos)	VPP hp (Nos)
48			Thannapadam	50(1)		
49		Thanniyam	Vendarapadam	50(1), 30(1), 20 (1)		
50			Pallisheru avanisseri karshakasamajam			30(1)
51			Chenam tharishu	80(1),6 0(2)		
52			Chevoorthazham padavu	50(1)		
53			Ettumunna parupadam			
54			Etumunna Kole padavu	50(1)		
55		Avinissery	Jubily thevar padavu	100(1), 80(1), 60(2), 50(2), 30(1), 20(6)	50(1)	50(1)
56			Kila Kole padavu	40(1)		
57	Cherpu		Perumkulam east	50(1)		
58			Perumkulam padavu	50(2)		
59			Akkarapatty karshaka samithy			
60			Chiyyaram samajam			
61			Kanimangalam adhoc samithi subcommitte	50(5)	50(1)	30(1),5 0(1)
62		Koorkkanchery	Kizhakken Kole pore Kole			
63			Kodannur Kole farming society	60(1)		
64			Madammathope west		50(1)	
65			Moopadam			
66			Nedupuzha karimpatta	50(1)	50(1)	

Sl no	Block Panchayath	Grama Panchayath	Padavu	PPP hp (Nos)	VSP hp (Nos)	VPP hp (Nos)		
67			Nelkathir madammathope	50(1)				
68			Vadookkara olakkada					
69		Paralam	Alappad-pullu cooperative society	50(2)				
70			Chenam tharishu padavu	50(1)				
71			Chevoorthazham padavu	50(1)				
72			Erumakkuzhi-koottalappadam			50(1)		
73			Jubily thevar padavu	50(1)	50(1)	30(1)		
74			Kodannoor Kole farming society	50(7)				
75			Narayana kole			50(1)		
76			Pallipuram akampadam padasekharam	50(1)				
77			Pallipuram-alappad Kole farming society	50(3),60(1),40(1)	50(2)			
78			Pallipuram-paralam-kodannur padasekharam	50(1)				
79			Pandaram kole	50(1)				
80			Mullassery	Elavally	Kaniyam thuruth Kole padavu	50(1)		
81				Mullassery	Annakkara padam vadakk group farming committee	30(1)		
82	Elavathur kizhakke Kole karshaka sangham				50(1)			
83	Manalpuzha kannoth samyuktha Kole padav committee	50(1)				30(1)		
84	Mathookara thekkupuram Kole karshaka sangham	50(3)			50(1)			

Sl no	Block Panchayath	Grama Panchayath	Padavu	PPP hp (Nos)	VSP hp (Nos)	VPP hp (Nos)
85			Mathookkara vadakk Kole karshaka sangham		50(2)	
86			Mulanchery thazham	50(1)	50(1)	
87			Parapadam kizhakke Kole			
88			Parapadam Kole karshaka samithy			30(1)
89			Parapadam vadaukkumbhagam			
90			Pavudai puncha Kole padav committee	30(1)		
91			Penakkam kizhakk		50(1)	
92			Peruvelur kole	50(1)	50(1)	
93		Venkitangu	Elamutha Kole padav	50(2)	50(1)	30(1)
94			Kizhakke karimbadam	50(2)	50(1)	30(1)
95			Padinjare karimbadam	50(1)	50(1)	
96			Ponnamutha Kole padav	50(2)		30(1)
97			Pulipandi			
98			Thanneerkayal	50(2)		
99			Thekke konjira	50(2)		
100			Wadake konchira	50(2)		
101		Adat	Chathan Kole pooppilakkad	60(1),50(3)	50(1)	
102			Chirukandath kole	50(2)		
103			Choorakkattukara	50(2),40(1),30(1),20(1)		
104			Kadavil kole	50(1)		
105			Karthani	50(3)		
106			Kurudan akattan	50(2)		

Sl no	Block Panchayath	Grama Panchayath	Padavu	PPP hp (Nos)	VSP hp (Nos)	VPP hp (Nos)
107			Nalumuri padavu	60(1),4 0(1)	50(1)	
108			Ombathumuri Kole padavu	50(1)		
109			Pandara kole	50(1)		
110			Payikole	60(2)		
111			Puthankole	50(2)		
112			Puthurkarikka kole	50(1)		
113			Thiruthin thazham	50(1)		
114			Chettupuzha kizhakke Kole padavu	50(2)		
115			Chettupuzha purathi west Kole	60(1),2 0(1)		
116			Elthuruth padavu	50(1),4 0(2)		
117		Ayyanthole	Karotte Kole padavu	50(1)		
118			Karuthani valley padavu	50(2)		
119			Maninadan Kole padavu	50(2)		
120			Marar Kole padavu			
121			Pannikkara kini Kole padavu	50(1)		
122			Pullazhi Kole padavu	50(4)		
123		Kaiparamba	Mundurthazham Kole padavu		50(1)	
124			Peramangalam Kole padavu	50(1)	50(1)	
125			Menchira padavu	50(2)	50(1)	
126			Naikan kole	50(1),2 0(1)		
127		Tholur	Ponnoorthazham	50(3)	50(1)	
128			Sangham Kole north padavu	50(1)		

Sl no	Block Panchayath	Grama Panchayath	<i>Padavu</i>	PPP hp (Nos)	VSP hp (Nos)	VPP hp (Nos)
129			Sangham Kole south padavu	50(1),60(1)		
130			Tharisukarimpana	50(1)		
131			Vadakke ponnnoorthazham	50(1)		
132			Valakulam	50(1)	50(1)	
PPP- Petty and Para Pump, VSP – Vertical Submersible Pump, VPP – Vertical Propeller Pump						

Appendix XI List of *Padavus* Without Pumps and nearest *Padavus*

Sl no	<i>Padavus</i> without pumps	Nearest <i>padavu</i>	Storage (m³)
1.	i. Valoor thazham	Anthikkad	3258290.17
	ii. Parappanchal		
	iii. Kovilakam		
2.	Moodakole	Inchumudi	1999125.49
3.	i. Perumkulam east <i>padavu</i>	Perumkulam <i>padavu</i>	379960.64
	ii. Chevoor thazham		
4.	Ettumana kole <i>padavu</i>	Ettumana parupadam	131022.13
5.	Pazhuvil karenchara bund road	Vendarapadam	377600.29
6.	Thrikkapallam	Kurumbilavu	152240.98
7.	Alappad pullu	Pullu	5113081.16
8.	i. Chathankulangara	Manalurthazham	7624783.04
	ii. Thannapadam		
9.	Thottupura	Kodayatti vazhikorankole <i>padavu</i>	461874.37
10.	Maruthithazham	Kanjankole	31032.16
11.	i. Ponnammutha Kole <i>padavu</i>	Kizhakke karimbadam	1744226.17
	ii. Thannerkayil		
12.	Themali puram	Rejamuttu	124335.12
13.	Pulipandi	Padinjare karimbadam	1138584.33
14.	Madammathope west	Akkarapatty karshaka samithy	329780.74
15.	i. Nedupuzha karimpatta	Kanimangalam adhoc samithi subcommitte	560884.17
	ii. Nelkathir madammathope		
	iii. Moopadam		
	iv. Vadookkara olakkada		
16.	Karotte kole <i>padavu</i>	Chettupuzha east kole <i>padavu</i>	297302.29
17.	i. Karthani	Karuthani-vally kole <i>padavu</i>	2979358.12
	ii. Pannikkara Kini Kole <i>padavu</i>		
	iii. Nalumury <i>padav</i>		
18.	i. Kadavil kole	Kurudan akkatan	1756448.13
	ii. Pandara kole		
19.	i. Mulanchery thazham	Manalpuzha kannoth samyuktha kole <i>padav</i> committee	359411.07
	ii. Parapadam kole karshaka samithy		
	iii. Parappadam vadakkumbhagam kole <i>padav</i>		
20.	i. Marar Kole <i>padavu</i>	Maninadan kole <i>padavu</i>	255464.87
	ii. Elthuruth Kole <i>Padavu</i>		

Sl no	<i>Padavus without pumps</i>	nearest padavu	storage (m³)
21.	Athichal	Kila kole padavu	220317.45
22.	Kodappully puncha	Chenamkari puncha/ chennagiri	21479.15
23.	Chettupuzha west kole padavu	Chettupuzha Purathy & west Kole Padavu	720367.07

Appendix XII Water Demand for Different Crop Calendars (Mm³)

Sl no	10- days Interval	Crop calendar	
		CC-I	CC-II
1	1 st Jan	7.84	18.94
2	2 nd Jan	8.34	11.40
3	3 rd Jan	8.11	11.23
4	1 st Feb	8.24	8.95
5	2 nd Feb	8.80	10.62
6	3 rd Feb	6.79	7.62
7	1 st Mar	8.56	9.11
8	2 nd Mar	7.30	14.51
9	3 rd Mar	5.15	8.12
10	1 st Apr	2.03	8.89
11	2 nd Apr	0.33	1.36
12	3 rd Apr	0.00	0.00
13	1 st May	0.00	0.00
14	2 nd May	0.00	0.00
15	3 rd May	0.00	0.00
16	1 st Jun	0.00	0.00
17	2 nd Jun	0.00	0.00
18	3 rd Jun	0.00	0.00
19	1 st Jul	0.00	0.00
20	2 nd Jul	0.00	0.00
21	3 rd Jul	0.00	0.00
22	1 st Aug	4.72	0.00
23	2 nd Aug	0.47	0.00
24	3 rd Aug	0.82	0.00
25	1 st Sep	5.65	6.28
26	2 nd Sep	1.90	5.60
27	3 rd Sep	1.91	0.98
28	1 st Oct	1.70	0.82
29	2 nd Oct	1.66	0.77
30	3 rd Oct	2.61	10.59
31	1 st Nov	6.29	2.99
32	2 nd Nov	4.51	3.56
33	3 rd Nov	4.99	4.55
34	1 st Dec	6.51	5.71
35	2 nd Dec	10.76	5.45
36	3 rd Dec	9.66	17.23
	Total	135.67	175.27

Appendix XIII Evaporation Loss from Canals

Sl No	10- days Interval	Evaporation loss (m ³)	Sl No	10- days Interval	Evaporation loss (m ³)
1	1 st Jan	149161.38	19	1 st Jul	76975.97
2	2 nd Jan	111427.83	20	2 nd Jul	77742.38
3	3 rd Jan	77742.38	21	3 rd Jul	115377.55
4	1 st Feb	173709.75	22	1 st Aug	100399.24
5	2 nd Feb	155282.38	23	2 nd Aug	77193.04
6	3 rd Feb	44541.22	24	3 rd Aug	42841.70
7	1 st Mar	74621.63	25	1 st Sep	80030.20
8	2 nd Mar	112994.64	26	2 nd Sep	61058.11
9	3 rd Mar	85884.45	27	3 rd Sep	76975.97
10	1 st Apr	86030.37	28	1 st Oct	76643.36
11	2 nd Apr	86322.20	29	2 nd Oct	64783.66
12	3 rd Apr	50134.01	30	3 rd Oct	88618.94
13	1 st May	88618.94	31	1 st Nov	92430.33
14	2 nd May	51035.27	32	2 nd Nov	76776.41
15	3 rd May	90286.61	33	3 rd Nov	49318.58
16	1 st Jun	79746.94	34	1 st Dec	75394.14
17	2 nd Jun	75379.45	35	2 nd Dec	130460.00
18	3 rd Jun	97091.81	36	3 rd Dec	71014.10
				Total	3124044.94

Appendix XIV Seepage Loss from Canals

Sl no	10- days Interval	Seepage loss (m ³)	Sl no	10- days Interval	Seepage loss (m ³)
1	1 st Jan	172368.91	19	1 st Jul	156668.09
2	2 nd Jan	175828.64	20	2 nd Jul	141494.49
3	3 rd Jan	141494.49	21	3 rd Jul	137719.63
4	1 st Feb	146518.85	22	1 st Aug	147420.51
5	2 nd Feb	164620.01	23	2 nd Aug	138839.93
6	3 rd Feb	154448.82	24	3 rd Aug	136633.87
7	1 st Mar	157461.02	25	1 st Sep	140502.7
8	2 nd Mar	167935.46	26	2 nd Sep	145439.57
9	3 rd Mar	174136.97	27	3 rd Sep	156668.09
10	1 st Apr	174324.15	28	1 st Oct	153592.75
11	2 nd Apr	180774.16	29	2 nd Oct	160089.97
12	3 rd Apr	165762.78	30	3 rd Oct	149213.65
13	1 st May	149213.65	31	1 st Nov	163016.65
14	2 nd May	182325.14	32	2 nd Nov	155545.44
15	3 rd May	144712.85	33	3 rd Nov	150291.26
16	1 st Jun	139515.43	34	1 st Dec	170244.18
17	2 nd Jun	142541.36	35	2 nd Dec	165979.49
18	3 rd Jun	158755.93	36	3 rd Dec	147420.51
				Total	5609519.41

Appendix XV Gross Canal Storage in North Kole Lands

Sl no	10-days Interval	Canal storage (Mm³)	Evaporation Loss (Mm³)	Seepage loss (Mm³)	Gross Canal Storage (Mm³)
1	1 st Jan	50.34	1.31	0.17	47.32
2	2 nd Jan	50.98	0.97	0.18	48.25
3	3 rd Jan	35.98	0.68	0.14	33.88
4	1 st Feb	38.43	1.52	0.15	35.45
5	2 nd Feb	46.86	1.36	0.16	43.85
6	3 rd Feb	42.46	0.79	0.15	40.13
7	1 st Mar	44.34	0.65	0.16	42.11
8	2 nd Mar	47.80	0.99	0.17	45.14
9	3 rd Mar	50.03	0.75	0.17	47.53
10	1 st Apr	50.66	0.75	0.17	48.17
11	2 nd Apr	51.94	0.76	0.18	49.38
12	3 rd Apr	47.17	0.44	0.17	45.08
13	1 st May	40.60	0.78	0.15	38.33
14	2 nd May	53.86	0.45	0.18	51.59
15	3 rd May	37.51	0.79	0.14	35.27
16	1 st Jun	34.14	0.70	0.14	32.05
17	2 nd Jun	36.28	0.66	0.14	34.20
18	3 rd Jun	44.65	0.85	0.16	42.22
19	1 st Jul	43.71	0.67	0.16	41.47
20	2 nd Jul	35.98	0.68	0.14	33.88
21	3 rd Jul	32.32	1.01	0.14	29.93
22	1 st Aug	38.74	0.88	0.15	36.39
23	2 nd Aug	33.53	0.68	0.14	31.47
24	3 rd Aug	29.00	0.37	0.14	27.26
25	1 st Sep	35.36	0.70	0.14	33.26
26	2 nd Sep	37.82	0.53	0.15	35.83
27	3 rd Sep	43.71	0.67	0.16	41.47
28	1 st Oct	42.15	0.67	0.15	39.95
29	2 nd Oct	44.97	0.57	0.16	42.80
30	3 rd Oct	40.60	0.78	0.15	38.33
31	1 st Nov	45.91	0.81	0.16	43.47
32	2 nd Nov	42.78	0.67	0.16	40.55
33	3 rd Nov	41.22	0.43	0.15	39.28
34	1 st Dec	48.12	0.66	0.17	45.76
35	2 nd Dec	47.49	1.14	0.17	44.69
36	3 rd Dec	38.74	0.62	0.15	36.65

**Appendix XVI Canal Storage Before and After Optimization for
Different Crop Calendars**

Sl no	10- days Interval	CC-I		CC-II	
		Canal Storage - S (Mm ³)	New Canal Storage - NS (Mm ³)	Canal Storage - S (Mm ³)	Canal Storage -NS (Mm ³)
1	1 st Jan	47.30	51.89	47.30	56.79
2	2 nd Jan	48.20	55.10	48.20	56.94
3	3 rd Jan	33.90	56.90	33.90	55.62
4	1 st Feb	35.40	56.18	35.40	54.20
5	2 nd Feb	43.90	52.40	43.90	48.60
6	3 rd Feb	40.10	49.79	40.10	45.16
7	1 st Mar	42.10	44.24	42.10	43.40
8	2 nd Mar	45.10	43.40	45.10	43.40
9	3 rd Mar	47.50	43.40	47.50	43.40
10	1 st Apr	48.20	43.40	48.20	43.40
11	2 nd Apr	49.40	43.40	49.40	43.40
12	3 rd Apr	45.10	44.21	45.10	44.21
13	1 st May	38.30	49.14	38.30	49.14
14	2 nd May	51.60	59.40	51.60	59.40
15	3 rd May	35.30	59.40	35.30	59.40
16	1 st Jun	32.10	59.40	32.10	59.40
17	2 nd Jun	34.20	59.40	34.20	59.40
18	3 rd Jun	42.20	59.40	42.20	59.40
19	1 st Jul	41.50	59.40	41.50	59.40
20	2 nd Jul	33.90	59.40	33.90	59.40
21	3 rd Jul	29.90	59.40	29.90	59.40
22	1 st Aug	36.40	59.40	36.40	59.40
23	2 nd Aug	31.50	59.40	31.50	59.40
24	3 rd Aug	27.30	59.40	27.30	59.40
25	1 st Sep	33.30	59.40	33.30	59.40
26	2 nd Sep	35.80	59.40	35.80	59.40
27	3 rd Sep	41.50	59.40	41.50	59.40
28	1 st Oct	39.90	59.40	39.90	59.40
29	2 nd Oct	42.80	59.40	42.80	59.40
30	3 rd Oct	38.30	59.40	38.30	59.40
31	1 st Nov	43.50	59.40	43.50	59.40
32	2 nd Nov	40.50	59.40	40.50	59.40
33	3 rd Nov	39.30	59.40	39.30	59.40
34	1 st Dec	45.80	59.40	45.80	59.40
35	2 nd Dec	44.70	57.49	44.70	59.40
36	3 rd Dec	36.60	43.40	36.60	56.96

**Appendix XVII Water Deficit Before and After Optimization for
Different Crop Calendars**

Sl no	Decade	CC-I		CC-II	
		Deficit-D (Mm ³)	New Deficit- ND(Mm ³)	Deficit- D(Mm ³)	New Deficit- ND(Mm ³)
1	1 st Jan	0.00	0.00	2.61	0.00
2	2 nd Jan	0.00	0.00	0.00	0.00
3	3 rd Jan	0.00	0.00	1.32	0.00
4	1 st Feb	0.71	0.00	1.42	0.00
5	2 nd Feb	3.78	0.00	5.60	0.00
6	3 rd Feb	2.61	0.00	3.44	0.00
7	1 st Mar	5.56	0.00	6.11	4.35
8	2 nd Mar	5.58	4.56	12.79	12.79
9	3 rd Mar	3.82	3.82	6.79	6.79
10	1 st Apr	1.25	1.25	8.11	8.11
11	2 nd Apr	0.21	0.21	1.24	1.24
12	3 rd Apr	0.00	0.00	0.00	0.00
13	1 st May	0.00	0.00	0.00	0.00
14	2 nd May	0.00	0.00	0.00	0.00
15	3 rd May	0.00	0.00	0.00	0.00
16	1 st Jun	0.00	0.00	0.00	0.00
17	2 nd Jun	0.00	0.00	0.00	0.00
18	3 rd Jun	0.00	0.00	0.00	0.00
19	1 st Jul	0.00	0.00	0.00	0.00
20	2 nd Jul	0.00	0.00	0.00	0.00
21	3 rd Jul	0.00	0.00	0.00	0.00
22	1 st Aug	0.00	0.00	0.00	0.00
23	2 nd Aug	0.00	0.00	0.00	0.00
24	3 rd Aug	0.00	0.00	0.00	0.00
25	1 st Sep	0.00	0.00	0.00	0.00
26	2 nd Sep	0.00	0.00	0.00	0.00
27	3 rd Sep	0.00	0.00	0.00	0.00
28	1 st Oct	0.00	0.00	0.00	0.00
29	2 nd Oct	0.00	0.00	0.00	0.00
30	3 rd Oct	0.00	0.00	0.00	0.00
31	1 st Nov	0.00	0.00	0.00	0.00
32	2 nd Nov	0.00	0.00	0.00	0.00
33	3 rd Nov	0.00	0.00	0.00	0.00
34	1 st Dec	0.00	0.00	0.00	0.00
35	2 nd Dec	0.00	0.00	0.00	0.00
36	3 rd Dec	0.00	0.00	2.44	0.00
	Total	23.52	9.84	51.86	33.27