

Table H.4.4 (1/4) SUMMARY OF CASE IV STUDY

Condition of study

- (1) H.W.L. El. 195 m
- (2) L.W.L. El. 170 m
- (3) Firm power 6,000 kW
- (4) Installed capacity 26,000 kW
- (5) After Kotmale

Table H.4.4 (2/4) SUMMARY OF CASE IV STUDY

A MORAGAHAKANDA POWER STATION
 A MONTHLY MEAN POWER OUTPUT IN MW

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MEAN
1950	26.00	25.52	15.84	21.43	12.35	24.04	25.57	19.92	14.73	18.99	19.12	8.19	234.52	19.54
1951	12.41	20.10	18.19	8.59	15.19	25.20	28.00	22.29	18.51	21.02	6.00	26.00	213.70	17.81
1952	26.00	26.00	24.60	13.40	20.39	25.38	26.00	24.42	16.60	22.43	22.23	20.91	266.37	22.36
1953	19.50	21.27	18.39	8.00	13.29	8.00	8.00	7.88	8.00	15.74	18.33	15.32	153.51	12.79
1954	8.29	21.88	8.04	13.70	26.00	26.00	26.00	22.88	22.91	14.07	22.61	16.04	230.60	19.20
1955	26.00	26.00	26.00	26.00	26.00	18.85	26.00	19.56	7.18	21.01	25.39	26.00	237.18	23.10
1956	23.63	23.69	19.48	18.76	13.26	8.07	7.11	6.85	7.44	9.37	14.64	16.71	171.02	14.25
1957	18.57	15.65	19.57	18.64	14.04	15.55	16.05	16.32	6.00	12.70	6.23	22.63	169.54	14.13
1958	26.00	23.87	26.00	26.00	26.00	23.17	26.00	15.87	14.17	21.71	23.95	23.32	275.86	22.99
1959	25.17	26.00	23.76	22.08	22.26	20.92	21.09	21.08	18.51	6.00	6.91	26.00	242.79	20.23
1960	26.00	26.00	26.00	26.00	20.72	17.79	26.00	25.32	15.70	26.00	26.00	26.00	288.43	23.87
1961	26.00	25.48	17.75	11.22	21.95	25.68	26.00	24.43	24.50	8.85	14.79	26.00	252.66	21.06
1962	26.00	26.00	19.31	21.40	26.00	25.11	26.00	24.49	10.84	20.50	26.00	26.00	277.65	23.14
1963	26.00	26.00	25.53	26.00	21.37	26.00	26.00	24.02	12.31	20.82	6.00	26.00	266.06	22.17
1964	26.00	26.00	26.00	13.75	21.74	26.00	21.72	22.77	16.74	14.93	26.00	22.51	264.16	22.01
1965	24.18	19.04	21.79	19.98	8.00	24.79	26.00	19.20	15.23	6.00	24.30	26.00	232.72	19.39
1966	26.00	25.32	19.44	24.00	26.00	26.00	26.00	19.31	7.27	6.00	6.00	26.00	239.55	19.96
1967	26.00	26.00	25.58	18.23	26.00	26.00	22.61	21.70	20.39	6.00	6.00	26.00	250.32	20.86
1968	26.00	26.00	15.11	16.67	24.00	26.00	26.00	22.10	14.13	14.57	15.91	26.00	254.44	21.20
1969	26.00	24.49	25.12	17.54	26.00	26.00	26.00	15.80	8.17	6.00	21.53	26.00	248.65	20.70
1970	26.00	26.00	23.99	26.00	23.68	16.58	26.00	24.32	15.21	25.80	17.48	26.00	275.07	22.92
1971	26.00	26.00	24.51	26.00	24.20	18.63	26.00	22.34	17.91	26.00	26.00	26.00	289.58	24.15
1972	26.00	25.15	23.82	21.21	15.54	23.16	26.00	20.64	11.66	6.00	6.00	26.00	239.57	19.21
1973	25.31	26.00	25.99	23.61	20.43	16.10	6.35	8.91	6.00	6.00	9.43	15.00	189.32	15.75
1974	19.83	22.33	12.76	16.15	10.83	8.41	9.39	10.76	12.48	9.70	7.95	14.19	154.78	12.90
1975	12.25	6.00	6.00	6.00	8.50	9.19	9.06	10.84	10.58	11.97	15.52	17.63	121.55	10.11
1976	19.97	20.70	19.23	17.07	8.41	8.00	8.00	8.84	8.00	18.37	15.87	18.57	159.06	13.26
1977	23.22	23.05	20.15	18.77	18.43	20.57	21.70	22.81	18.11	6.00	26.00	26.00	246.80	20.57
TOTAL	648.54	657.56	575.79	529.17	538.27	561.02	585.66	516.27	374.68	401.53	460.38	627.01	6475.86	539.66
MEAN	23.16	23.48	20.56	18.90	19.22	20.04	20.92	18.44	13.30	14.34	16.44	22.39	231.28	19.27

A MORAGAHAKANDA POWER STATION
 A MONTHLY ENERGY OUTPUT IN 1000MWH

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MEAN
1950	19.34	17.15	11.84	17.59	9.19	17.33	19.02	14.82	10.61	14.43	15.77	6.09	170.67	14.22
1951	9.24	13.51	12.04	4.75	11.45	18.14	19.34	16.59	11.88	15.44	4.32	19.34	156.74	13.02
1952	19.34	17.47	18.30	9.65	15.17	18.28	19.34	18.17	11.95	16.89	16.01	15.56	195.93	16.35
1953	14.51	14.29	13.68	4.32	9.88	4.32	4.46	5.71	5.74	11.71	11.73	11.60	111.81	9.32
1954	6.17	14.70	5.98	11.31	19.34	18.72	19.34	17.01	16.50	10.47	16.28	11.93	167.75	13.98
1955	19.34	17.47	19.34	18.72	19.34	13.57	19.34	14.55	5.17	17.86	18.42	19.34	202.49	16.87
1956	17.58	15.92	14.49	13.50	11.56	5.81	5.29	5.09	5.76	6.97	10.54	12.43	124.36	10.34
1957	13.67	10.52	14.56	13.42	10.44	11.05	7.47	7.68	6.32	9.45	4.49	16.84	123.90	10.33
1958	19.34	16.04	19.34	18.72	19.34	16.68	19.34	11.66	10.20	16.15	17.24	17.35	201.43	16.79
1959	18.75	17.47	17.68	15.90	16.56	15.06	17.93	13.88	13.33	4.48	4.97	19.34	177.12	14.76
1960	19.34	17.47	19.34	18.72	15.04	12.81	19.34	18.84	10.87	19.34	18.72	19.34	209.20	17.43
1961	19.34	17.12	13.21	8.08	16.33	18.49	19.34	18.18	17.64	6.58	10.65	19.34	184.32	15.36
1962	19.34	17.47	14.34	15.41	19.34	18.08	19.34	19.22	7.80	15.25	18.72	19.34	202.70	16.89
1963	19.34	17.47	19.01	18.72	15.90	18.72	19.34	17.87	8.86	15.49	4.32	19.34	194.39	16.20
1964	19.34	17.47	19.34	9.90	16.18	18.72	16.16	16.94	12.05	11.15	18.72	16.75	192.68	16.04
1965	18.14	12.81	16.21	14.59	4.46	17.85	19.34	14.29	10.98	4.46	17.49	19.34	189.75	14.15
1966	19.34	17.02	14.61	18.72	19.34	18.72	19.34	14.37	5.24	4.46	4.32	19.34	174.83	14.57
1967	19.34	17.47	18.88	13.13	19.34	18.72	18.83	16.15	14.68	4.46	4.32	19.34	182.67	15.22
1968	19.34	17.47	11.24	11.97	19.34	18.72	19.34	16.45	10.17	10.84	11.46	19.34	185.69	15.47
1969	19.34	16.46	18.69	12.63	19.34	18.72	19.34	11.61	5.88	4.46	15.50	19.34	181.32	15.11
1970	19.34	17.47	17.85	18.72	17.62	11.94	19.34	18.10	10.97	17.71	12.58	19.34	200.98	16.75
1971	19.34	17.47	18.24	18.72	18.00	13.41	19.34	16.82	12.89	19.34	18.72	19.34	215.45	17.62
1972	19.34	16.90	17.72	15.27	11.56	16.67	19.34	14.91	8.39	4.46	4.32	19.34	168.25	14.02
1973	18.98	17.47	19.34	17.00	11.59	4.72	6.83	4.32	4.46	6.79	11.18	13.86	137.86	13.47
1974	14.75	15.00	9.50	11.61	8.06	6.06	6.99	8.00	8.98	7.21	5.72	10.56	112.47	9.37
1975	9.12	4.03	4.46	4.32	4.83	6.62	6.74	7.92	7.61	8.91	11.37	13.12	88.86	7.40
1976	14.84	13.91	14.32	12.29	4.77	4.32	4.46	5.09	4.32	12.18	11.43	13.82	115.77	9.65
1977	17.27	16.83	14.99	13.52	13.71	14.81	16.14	16.97	13.04	4.46	16.72	19.34	179.81	14.98
TOTAL	482.51	441.88	428.38	381.00	400.47	403.93	435.73	384.11	269.77	298.74	331.47	466.50	4726.49	393.71
MEAN	17.23	15.78	15.30	13.61	14.30	14.43	15.56	13.72	9.63	10.67	11.84	16.66	188.73	14.06

Table H.4.4 (3/4) SUMMARY OF CASE IV STUDY

* HORAGANAYANDA DAM
 * MONTHLY RELEASE IN MILLION CUBIC METERS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MEAN
1950	150.09	135.07	92.45	142.52	74.55	149.56	174.82	150.38	110.54	149.54	155.72	74.12	1566.57	130.53
1951	95.86	117.07	102.38	39.44	92.84	149.56	182.78	150.92	113.78	146.51	36.95	152.44	1379.41	114.98
1952	150.09	135.56	144.40	76.45	117.85	143.73	181.95	135.46	105.78	146.34	138.05	136.91	1432.95	130.08
1953	133.24	139.93	146.44	48.48	116.17	54.53	56.72	71.13	71.32	138.78	129.72	116.50	1222.98	101.91
1954	56.44	126.66	50.23	90.04	166.47	101.56	175.55	151.16	153.91	97.44	149.82	102.14	1481.42	123.45
1955	150.94	135.56	150.09	143.25	150.09	105.28	185.51	118.46	41.26	139.42	145.01	192.09	1658.97	138.25
1956	150.14	152.24	147.72	167.99	155.27	71.98	65.54	63.09	66.33	86.31	123.07	132.53	1348.21	112.35
1957	161.82	106.74	149.39	152.90	126.28	134.68	92.54	95.09	53.50	117.00	49.47	144.72	1166.13	113.84
1958	150.09	125.12	150.87	143.25	150.09	130.61	140.37	95.94	84.00	133.03	139.32	137.58	1622.30	135.19
1959	146.36	152.50	151.01	142.89	150.45	135.84	164.82	149.84	131.88	42.33	42.11	152.63	1562.65	130.22
1960	150.09	135.56	150.09	143.25	116.49	99.65	150.51	146.19	84.37	150.09	145.25	150.09	1623.43	135.32
1961	150.09	132.07	102.49	62.70	126.69	144.35	188.37	151.46	151.12	56.74	85.67	150.09	1504.61	125.38
1962	150.09	135.56	112.05	120.20	150.09	140.28	175.72	150.43	64.87	122.43	145.48	150.09	1617.49	134.79
1963	150.09	135.56	147.49	143.25	123.95	159.93	186.40	153.46	77.43	134.54	35.38	150.31	1599.99	133.33
1964	150.09	135.56	150.09	77.27	128.94	163.56	134.97	149.12	109.36	99.39	169.93	143.68	1617.97	134.83
1965	155.49	110.77	142.89	124.50	37.21	143.97	190.74	125.18	94.77	38.24	139.37	150.09	1459.72	121.60
1966	150.09	132.58	113.82	143.25	145.44	166.56	194.82	131.16	55.15	42.84	36.26	150.79	1506.78	125.54
1967	150.09	135.56	146.49	103.07	164.46	163.56	150.50	150.42	146.21	43.70	36.50	150.42	1541.19	128.43
1968	150.09	139.50	88.67	93.42	171.47	165.56	185.71	154.46	98.37	101.98	99.03	154.46	1602.93	133.58
1969	150.09	127.49	149.39	101.98	160.47	161.54	181.47	107.94	54.02	38.11	122.60	150.09	1505.61	125.47
1970	150.09	135.56	134.49	145.25	136.69	92.98	184.23	150.74	92.94	149.06	102.06	150.09	1660.52	138.36
1971	150.09	135.56	141.49	145.25	139.49	104.25	163.88	133.54	101.33	150.09	145.25	150.09	1640.52	138.36
1972	150.09	134.08	148.34	136.47	104.45	149.84	184.70	151.48	88.35	43.87	37.11	153.74	1482.01	123.50
1973	144.04	153.26	168.90	160.07	154.36	131.15	38.46	82.67	34.44	57.39	85.67	123.71	1383.94	115.29
1974	148.04	159.36	112.14	142.91	99.02	74.98	84.54	99.09	111.25	89.32	70.87	128.69	1322.22	110.18
1975	111.00	50.26	56.53	55.46	61.06	81.94	83.51	98.03	94.29	110.28	126.71	132.71	1041.89	88.49
1976	141.80	133.78	149.03	140.53	56.19	54.57	57.27	63.89	53.67	146.21	120.92	124.94	1244.81	103.73
1977	147.92	152.46	147.73	144.47	143.18	139.79	144.09	148.88	116.28	37.46	145.69	150.09	1618.07	134.84
TOTAL	3984.34	3702.84	3649.89	3324.51	3528.15	3581.78	4172.69	3569.24	2584.02	2804.50	2959.18	3958.82	41823.96	3485.33
MEAN	142.30	152.24	130.35	118.73	126.01	127.92	149.02	127.47	92.29	100.30	105.69	141.39	1493.71	124.48

* HORAGANAYANDA DAM
 * MONTHLY SPILL OUT IN MILLION CUBIC METERS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MEAN
1950	65.01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	65.01	5.42
1951	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	90.71	90.71	7.56
1952	255.01	51.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	306.32	25.53
1953	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1954	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1955	143.04	108.30	11.40	44.46	56.61	0.	0.	0.	0.	0.	0.	0.	383.81	31.98
1956	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1957	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1958	107.01	0.	63.41	22.46	63.61	0.	0.	0.	0.	0.	0.	0.	256.49	21.37
1959	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	71.65	71.65	5.97
1960	114.01	302.30	3.40	45.46	0.	0.	23.86	0.	0.	35.99	138.74	71.99	740.76	61.73
1961	39.01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	149.99	189.01	15.75
1962	118.01	22.30	0.	0.	54.61	0.	0.	0.	0.	0.	68.31	125.99	349.22	28.44
1963	227.01	91.30	0.	34.46	0.	0.	0.	0.	0.	0.	0.	211.65	564.42	47.03
1964	238.01	103.30	15.40	0.	0.	0.	0.	0.	0.	0.	0.	0.	356.72	29.73
1965	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	206.99	206.99	17.25
1966	72.01	0.	0.	11.46	0.	0.	0.	0.	0.	0.	0.	54.18	137.45	11.47
1967	73.01	70.30	0.	0.	0.	0.	0.	0.	0.	0.	0.	231.59	374.91	31.24
1968	73.01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	45.85	118.87	9.91
1969	57.01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	173.99	231.01	19.25
1970	190.01	228.30	0.	43.46	0.	0.	0.	0.	0.	0.	0.	120.03	581.81	48.48
1971	213.01	19.30	0.	58.46	0.	0.	0.	0.	0.	52.99	23.74	305.99	673.50	56.12
1972	21.01	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	134.84	155.86	12.99
1973	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1974	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1975	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1976	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
1977	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	213.85	276.99	490.84	40.90
TOTAL	2045.24	996.71	95.62	260.19	154.82	0.	23.86	0.	0.	88.98	444.63	2272.45	6385.53	532.13
MEAN	73.04	35.60	3.52	9.29	5.53	0.	0.85	0.	0.	3.18	15.88	81.16	228.05	19.00

Table H.4.4 (4/4) SUMMARY OF CASE IV STUDY

* MORAGHARANDA DAM
 * MONTHLY RESERVOIR WATER LEVEL IN METERS
 (AT THE END OF THE MONTH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MEAN
1950	195.00	192.85	194.07	191.10	191.15	187.64	182.91	180.47	180.66	179.59	175.42	174.20	2225.55	185.46
1951	187.85	190.48	189.81	192.83	192.59	191.06	188.50	184.79	184.49	186.38	193.28	195.00	2237.15	189.76
1952	195.00	195.00	192.87	194.84	195.00	193.52	190.93	188.67	187.59	189.58	189.24	187.58	2299.82	191.65
1953	185.15	181.72	177.83	177.95	174.20	172.84	173.82	174.20	174.20	177.31	179.62	183.46	2152.21	177.68
1954	189.32	189.41	192.14	195.00	192.88	190.29	188.74	187.10	184.14	187.32	185.19	194.37	2276.11	189.68
1955	195.00	195.00	195.00	195.00	195.00	195.00	192.42	192.58	194.50	194.85	193.58	189.80	2327.49	193.96
1956	186.10	182.90	180.51	178.96	174.20	174.20	174.20	174.20	174.20	174.20	178.44	181.25	2131.38	177.61
1957	186.66	183.11	179.72	174.74	175.32	174.20	174.20	174.20	174.19	174.20	182.78	195.00	2147.34	178.53
1958	195.00	194.42	195.00	191.00	195.00	194.01	191.16	192.44	191.12	192.43	193.14	194.44	2325.18	193.60
1959	194.74	191.66	188.14	186.62	187.11	187.53	185.28	183.80	182.18	187.57	193.15	195.00	2262.58	188.55
1960	195.00	195.00	195.00	195.00	195.00	194.69	195.00	195.00	195.00	195.00	195.00	195.00	2339.69	194.97
1961	195.00	195.00	195.00	195.00	195.00	194.54	191.99	190.55	187.84	191.05	195.00	195.00	2320.55	193.38
1962	195.00	195.00	194.41	195.00	195.00	195.00	192.14	190.94	191.62	194.67	195.00	195.00	2329.01	194.08
1963	195.00	195.00	195.00	195.00	194.45	192.17	190.55	188.71	188.80	189.29	194.83	195.00	2313.80	192.82
1964	195.00	195.00	195.00	194.30	192.75	189.70	189.42	187.34	184.48	188.75	188.54	190.79	2291.09	191.09
1965	184.83	189.92	186.74	188.43	193.65	192.11	185.04	189.21	187.13	192.69	195.00	195.00	2286.34	190.53
1966	195.00	194.54	195.00	195.00	191.66	187.32	184.67	179.09	181.55	182.09	194.48	195.00	2277.21	189.77
1967	195.00	195.00	195.00	191.68	190.64	188.66	186.57	184.68	180.72	186.14	194.75	195.00	2285.46	190.49
1968	195.00	195.46	194.74	194.54	192.05	189.49	186.28	184.16	183.62	186.85	191.71	195.00	2287.14	190.59
1969	195.00	194.44	191.88	193.75	191.91	189.51	185.82	183.74	186.91	192.89	195.00	195.00	2298.28	191.52
1970	195.00	195.00	195.00	195.00	195.00	194.54	191.94	190.41	190.17	191.10	194.05	195.00	2322.25	193.52
1971	195.00	195.00	195.00	195.00	195.00	194.78	192.60	193.58	195.00	195.00	195.00	195.00	2335.96	194.66
1972	195.00	192.55	189.12	186.00	188.27	186.51	183.03	180.68	180.03	186.50	192.71	195.00	2255.58	187.97
1973	194.40	191.39	187.34	183.05	178.52	174.20	174.20	174.20	174.20	172.94	172.93	174.20	2159.71	179.98
1974	182.38	177.59	174.20	174.74	174.20	174.20	174.20	174.20	174.20	174.20	174.20	175.33	2103.66	175.50
1975	174.20	173.72	173.17	172.82	174.20	174.20	174.20	174.20	174.20	174.20	180.61	183.44	2103.17	175.26
1976	185.73	182.73	178.95	175.26	174.20	172.80	173.20	174.20	173.94	174.43	183.67	190.52	2141.86	178.49
1977	189.01	185.01	181.29	178.17	183.21	186.94	184.49	188.45	186.87	194.66	195.00	195.00	2252.30	187.69
TOTAL	5358.39	5337.28	5296.92	5280.12	5266.77	5231.28	5182.02	5158.23	5144.52	5212.45	5292.58	5347.64	63103.19	5258.60
MEAN	191.37	190.64	189.18	188.58	188.10	186.83	185.07	184.22	183.73	186.16	189.02	190.99	2253.69	187.81

Table H.4.5 (1/29) DETAIL OUTPUT OF CASE II STUDY

Condition of study

- (1) H.W.L. El. 187 m
 - (2) L.W.L. El. 150 m
 - (3) Firm Power 0 kW
 - (4) Installed Capacity 0 kW
 - (5) Irrigation purpose only
Before Kotmale
-

All the computer outputs of Case II study are mentioned in this Table. Outputs concerning the existing tanks are also available for the other studies with Moragahakanda reservoir.

Table H.4.5 (2/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR HORAGANAKANDA IRRIGATION PROJECT (YEAR -- 1950)

I T E M S		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)		53.00	47.00	49.00	37.00	34.00	107.00	120.00	151.00	134.00	144.00	103.00	53.00
2. NATURAL RUNOFF AT HORAGANAKANDA DAM SITE (MCM)		144.00	60.00	87.00	26.00	28.00	24.00	25.00	22.00	40.00	36.00	38.00	52.00
3. DIVERTED FLOW TO DEVAHUYI (MCM)		3.30	1.30	0.70	0.80	3.30	3.40	3.20	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM W, IN AND MH (MCM)		1.00	61.00	42.00	83.00	83.00	83.00	82.00	74.00	76.00	60.00	76.00	50.00
-ACTUAL DIVERSION (MCM)		1.00	40.63	62.37	20.22	34.93	83.00	83.00	74.00	76.00	60.00	76.00	50.00
-ACCUMULATED DEFICIT (MCM)		0.	20.37	0.	62.78	110.85	110.85	102.85	0.	0.	0.	0.	0.
5. HORAGANAKANDA RESERVOIR (MCM)		193.70	44.07	71.93	40.98	42.77	43.60	57.30	94.90	97.20	116.50	62.70	52.60
-INFLOW TO RESERVOIR (MCM)		193.70	44.07	71.93	40.98	42.77	43.60	57.30	94.90	97.20	116.50	62.70	52.60
-RELEASE FOR POWER GENERATION (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)		141.09	135.67	92.85	142.52	78.35	149.58	128.52	150.38	110.55	149.54	72.49	52.23
-EVAPORATION (MCM)		2.98	3.09	3.52	3.09	3.04	2.96	2.45	1.65	1.25	0.80	0.47	0.37
-RESERVOIR WATER LEVEL (EL.M)		187.00	183.29	182.96	179.28	177.08	172.44	164.51	159.08	157.25	152.74	150.00	150.00
-STORAGE VOLUME (MCM)		631.00	538.31	511.87	407.24	370.42	261.50	137.53	80.39	65.80	31.96	21.70	21.70
-SPILL OUT (MCM)		49.63	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)		8.64	2.40	3.22	1.56	1.68	1.44	1.50	1.32	2.40	2.16	2.28	3.12
7. WATER REQUIREMENTS AT ELAHERA ANICUT (MCM)		149.73	130.32	98.07	144.08	76.86	146.81	150.81	151.70	112.94	151.70	143.95	150.40
-SYSTEM G AND D1 (MCM)		149.73	130.32	98.07	144.08	76.86	146.81	150.81	151.70	112.94	151.70	143.95	150.40
-SYSTEM D2 (MCM)		0.	7.75	0.	0.	1.37	4.19	29.51	0.	0.	0.	14.04	36.97
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT (MCM)		149.73	130.32	98.07	144.08	76.86	146.81	150.81	151.70	112.94	151.70	74.77	53.35
-TO SYSTEM G AND D1 (MCM)		149.73	130.32	98.07	144.08	76.86	146.81	150.81	151.70	112.94	151.70	74.77	53.35
-TO SYSTEM D2 (MCM)		49.63	7.75	0.	0.	1.37	4.19	29.51	0.	0.	0.	0.00	0.00
9. WATER REQUIREMENTS OF SYSTEM G (MCM)		15.00	11.00	15.00	27.00	28.00	23.00	19.00	27.00	27.00	22.00	14.00	12.00
10. GIRITALA TANK (MCM)		1.00	0.	1.00	0.	1.00	0.	0.	0.	0.	0.	1.00	1.00
-NATURAL INFLOW (MCM)		1.00	0.	1.00	0.	1.00	0.	0.	0.	0.	0.	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)		11.79	8.60	1.58	7.66	3.20	7.80	8.85	5.23	4.89	10.11	11.01	12.37
-WATER REQUIREMENTS (MCM)		10.00	11.00	3.00	5.00	7.00	15.00	15.00	10.00	3.00	5.00	6.00	8.00
-EVAPORATION (MCM)		0.29	0.30	0.38	0.34	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)		92.20	91.56	91.57	91.91	91.27	88.84	86.01	82.78	84.04	84.75	89.19	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)		25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	6.90	14.70	22.80
2. ACTUAL (MCM)		25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	6.90	14.70	22.80
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK (MCM)		8.00	6.00	10.00	2.00	8.00	0.	0.	6.00	3.00	6.00	13.00	10.00
-NATURAL INFLOW (MCM)		8.00	6.00	10.00	2.00	8.00	0.	0.	6.00	3.00	6.00	13.00	10.00
-SUPPLY FROM UPSTREAM (MCM)		112.07	101.23	74.45	99.15	39.89	105.68	112.07	108.64	73.09	108.68	44.60	21.00
-RELEASE TO KANTALAI TANK (MCM)		69.82	34.31	19.41	53.87	0.	31.64	51.70	15.87	30.03	52.92	41.21	7.90
-RELEASE TO KAUDULLA TANK (MCM)		59.18	40.39	10.24	29.35	22.62	37.29	46.28	26.92	21.59	50.30	56.55	8.31
-WATER REQUIREMENTS (MCM)		30.00	33.00	6.00	15.00	22.00	46.00	67.00	32.00	8.00	16.00	18.00	25.00
-EVAPORATION (MCM)		2.35	2.25	2.40	2.93	3.26	3.47	3.53	3.28	3.68	2.88	2.38	1.89
-TANK WATER LEVEL (EL.M)		91.82	91.69	93.70	93.70	93.70	93.13	91.43	93.55	93.70	93.36	90.41	89.90
-STORAGE VOLUME 1. RULE CURVE (MCM)		136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
2. ACTUAL (MCM)		95.63	92.90	136.90	136.90	136.90	123.98	87.54	124.11	136.90	129.27	68.54	59.50
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK (MCM)		2.00	1.00	2.00	0.	2.00	0.	0.	1.00	1.00	1.00	3.00	2.00
-NATURAL INFLOW (MCM)		2.00	1.00	2.00	0.	2.00	0.	0.	1.00	1.00	1.00	3.00	2.00
-SUPPLY FROM MINNERIYA TANK (MCM)		58.11	39.66	10.05	28.82	22.22	36.61	45.45	26.44	21.20	49.59	55.53	8.16
-WATER REQUIREMENTS (MCM)		46.00	52.00	12.00	15.00	35.00	72.00	74.00	50.00	13.00	25.00	28.00	39.00
-EVAPORATION (MCM)		2.51	2.66	2.95	2.82	3.12	2.81	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (EL.M)		73.20	72.58	72.45	72.95	72.33	70.41	68.33	65.82	66.82	68.97	70.78	68.83
-STORAGE VOLUME 1. RULE CURVE (MCM)		128.30	114.50	111.60	122.60	108.70	70.50	39.80	15.90	26.00	48.30	77.30	116.50
2. ACTUAL (MCM)		128.30	114.50	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK (MCM)		12.00	10.00	15.00	2.00	12.00	0.	0.	10.00	5.00	10.00	22.00	12.00
-NATURAL INFLOW (MCM)		12.00	10.00	15.00	2.00	12.00	0.	0.	10.00	5.00	10.00	22.00	12.00
-SUPPLY FROM MINNERIYA TANK (MCM)		63.12	31.02	17.55	48.70	0.	28.60	48.74	14.34	27.16	47.84	37.25	7.14
-WATER REQUIREMENTS (MCM)		53.00	50.00	43.00	39.00	23.00	77.00	83.00	51.00	33.00	29.00	13.00	24.00
-EVAPORATION (MCM)		2.92	2.72	3.25	3.00	3.29	3.01	2.24	1.16	0.34	0.74	1.43	2.04
-TANK WATER LEVEL (EL.M)		59.30	58.68	58.01	58.43	57.73	54.84	52.02	47.97	46.85	51.70	55.06	54.95
-STORAGE VOLUME 1. RULE CURVE (MCM)		160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
2. ACTUAL (MCM)		160.60	148.90	135.20	143.90	129.61	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGANADILLA (MCM)		167.99	38.35	72.78	21.44	24.69	26.75	51.01	17.68	31.60	11.84	12.72	18.88
15. PARAKRAMA SANDURA TANK (MCM)		2.00	1.00	2.00	0.	1.00	0.	0.	1.00	0.	2.00	2.00	2.00
-NATURAL INFLOW (MCM)		2.00	1.00	2.00	0.	1.00	0.	0.	1.00	0.	2.00	2.00	2.00
-SUPPLY FROM ANGANADILLA (MCM)		75.17	38.01	22.28	19.26	24.57	26.50	50.55	17.52	31.32	11.23	12.61	18.71
-WATER REQUIREMENTS (MCM)		39.00	49.00	10.00	17.00	39.00	61.00	63.00	45.00	16.00	26.00	26.00	31.00
-EVAPORATION (MCM)		2.07	2.41	2.98	2.96	3.17	2.90	2.55	1.76	1.41	1.34	1.38	1.43
-TANK WATER LEVEL (EL.M)		58.94	58.43	59.10	59.10	58.82	56.87	55.92	53.86	54.95	54.51	53.50	52.20
-STORAGE VOLUME 1. RULE CURVE (MCM)		120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
2. ACTUAL (MCM)		131.70	118.80	135.10	135.10	118.40	81.00	66.00	17.76	51.66	48.68	33.38	21.67
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGANADILLA (MCM)		92.14	0.00	45.28	1.30	0.00	0.	0.00	0.00	0.00	0.	0.	0.

Table H.4.5 (3/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR HORAGAHAYANDA IRRIGATION PROJECT (YEAR - 1951) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)												
	110.00	78.00	60.00	89.00	51.00	142.00	140.00	13.00	100.00	156.00	147.00	104.00
2. NATURAL RUNOFF AT HORAGAHAYANDA DAM SITE (MCM)												
	330.00	101.00	40.00	53.00	28.00	46.00	30.00	13.00	38.00	59.00	125.00	162.00
3. DIVERTED FLOW TO DEMAHUMA (MCM)												
	1.30	1.30	0.70	0.80	3.30	3.30	3.70	3.10	1.40	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM M-IR AND MH												
-DIVERSION REQUIREMENTS (MCM)	0.	3.00	47.00	31.00	39.00	83.00	64.00	73.00	61.00	2.00	0.	1.00
-ACTUAL DIVERSION (MCM)	0.	3.00	47.00	31.00	31.93	83.00	71.07	0.	83.00	53.00	0.	1.00
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	7.07	7.07	0.	73.00	51.00	0.	0.	0.
5. HORAGAHAYANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	635.70	173.70	51.30	109.20	42.77	105.60	94.25	21.90	52.20	158.50	269.70	262.40
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	106.40	123.20	141.69	71.86	92.84	142.58	187.76	147.42	51.58	166.51	86.85	132.17
-EVAPORATION (MCM)	2.02	2.20	2.82	2.40	2.72	2.62	2.38	1.52	0.62	0.50	0.72	1.62
-RESERVOIR WATER LEVEL (EL.M)	176.76	178.83	174.78	176.33	175.60	171.24	165.39	150.00	150.00	152.51	169.87	176.55
-STORAGE VOLUME (MCM)	348.98	397.28	304.07	339.02	286.23	239.65	148.74	21.70	21.70	33.19	215.32	344.12
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)												
	19.80	6.06	2.40	3.18	1.66	2.76	1.80	0.78	2.26	3.54	7.50	9.72
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM C AND D1 (MCM)	126.20	129.26	144.09	75.04	78.09	146.81	150.81	151.70	119.02	150.05	94.35	141.89
-SYSTEM D2 (MCM)	0.	0.	0.	0.	16.43	5.51	33.75	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM C AND D1 (MCM)	126.20	129.26	144.09	75.04	78.09	146.81	150.81	148.20	53.86	150.05	94.35	141.89
-TO SYSTEM D2 (MCM)	0.	0.	0.	0.	16.43	5.51	33.75	0.	0.	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)												
	1.00	10.00	16.00	21.00	22.00	23.00	19.00	24.00	21.00	17.00	3.00	4.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	2.00	0.	0.	1.00	1.00	0.	0.	0.	0.	0.	2.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	3.29	8.60	5.52	2.66	2.70	7.20	8.85	6.23	2.89	10.11	5.04	13.37
-WATER REQUIREMENTS (MCM)	3.00	11.00	6.00	1.00	6.00	15.00	15.00	13.00	1.00	5.00	1.00	6.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)	92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	81.04	86.75	89.19	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2. ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	34.00	6.00	2.00	8.00	10.00	0.	0.	2.00	5.00	5.00	29.00	11.00
-SUPPLY FROM UPSTREAM (MCM)	112.07	101.23	112.07	46.33	57.93	105.48	112.07	105.35	76.30	112.07	79.36	112.07
-RELEASE TO KANTALAI TANK (MCM)	39.93	27.68	24.94	4.09	18.13	37.80	40.64	50.16	2.37	62.88	0.28	77.92
-RELEASE TO KAUDULLA TANK (MCM)	21.21	39.37	30.60	15.09	17.53	37.29	46.28	40.16	13.45	50.50	29.03	77.54
-WATER REQUIREMENTS (MCM)	9.00	32.00	19.00	2.00	19.00	68.00	47.00	39.00	3.00	16.00	2.00	11.00
-EVAPORATION (MCM)	1.86	2.02	2.40	2.72	3.26	3.47	3.47	3.33	3.11	2.45	1.94	2.29
-TANK WATER LEVEL (EL.M)	90.13	90.47	92.34	93.70	93.70	92.86	91.67	90.33	90.86	90.03	93.70	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2. ACTUAL (MCM)	63.58	69.73	108.67	136.90	136.90	117.82	92.49	67.20	76.57	61.81	136.90	91.22
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	7.00	1.00	0.	2.00	2.00	0.	0.	0.	1.00	1.00	6.00	2.00
-SUPPLY FROM MINNERIYA TANK (MCM)	89.57	39.66	30.05	14.82	17.22	36.61	45.45	39.44	13.20	49.59	28.53	76.14
-WATER REQUIREMENTS (MCM)	13.00	51.00	30.00	3.00	30.00	72.00	74.00	62.00	5.00	25.00	4.00	37.00
-EVAPORATION (MCM)	1.78	2.44	2.95	2.82	3.12	2.81	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (EL.M)	73.20	72.58	72.45	72.95	72.33	70.41	68.33	65.82	66.82	68.97	70.78	72.67
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	114.50	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
-STORAGE VOLUME 2. ACTUAL (MCM)	128.30	114.50	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	56.00	10.00	5.00	15.00	15.00	0.	0.	2.00	10.00	10.00	51.00	20.00
-SUPPLY FROM MINNERIYA TANK (MCM)	36.09	25.02	22.55	3.70	16.39	34.17	36.74	45.34	2.14	56.84	0.25	70.44
-WATER REQUIREMENTS (MCM)	9.00	44.00	38.00	7.00	48.00	77.00	73.00	74.00	15.00	38.00	5.00	29.00
-EVAPORATION (MCM)	2.20	2.72	3.25	3.00	3.29	2.97	2.24	1.14	0.34	0.74	1.45	2.04
-TANK WATER LEVEL (EL.M)	57.30	58.68	58.91	58.43	57.45	54.84	52.62	47.97	46.85	51.70	55.60	58.29
-STORAGE VOLUME 1. RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	38.80	81.60	141.00
-STORAGE VOLUME 2. ACTUAL (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	38.80	81.60	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)												
	116.20	72.94	33.60	61.82	31.75	26.75	44.95	10.22	132.72	22.46	67.50	159.28
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	2.00	2.00	1.00	2.00	0.	0.	1.00	1.00	2.00	1.00	5.00	4.00
-SUPPLY FROM ANGAMADILLA (MCM)	75.17	67.90	33.30	12.54	31.67	28.30	44.55	10.13	30.62	22.26	66.89	32.91
-WATER REQUIREMENTS (MCM)	11.00	42.00	21.00	4.00	45.00	61.00	58.00	51.00	0.	24.00	3.00	21.00
-EVAPORATION (MCM)	1.46	2.17	2.94	2.90	3.17	2.90	2.55	1.76	1.18	1.39	1.35	2.03
-TANK WATER LEVEL (EL.M)	57.19	58.36	58.79	59.10	58.42	56.87	55.92	52.54	55.27	55.10	58.53	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	116.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2. ACTUAL (MCM)	91.38	117.10	127.46	135.10	118.40	81.00	66.00	24.37	55.81	53.68	121.22	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)												
	42.35	4.43	0.00	29.16	0.00	0.	0.00	0.	101.82	0.00	0.	126.07

Table H.4.5 (4/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR HORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1982) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	117.00	71.00	42.00	111.00	129.00	147.00	125.00	143.00	91.00	144.00	119.00	74.00
2. NATURAL RUNOFF AT HORAGAHAKANDA DAM SITE (MCM)	265.00	106.00	46.00	33.00	63.00	35.00	16.00	14.00	11.00	79.00	81.00	83.00
3. DIVERTED FLOW TO DEWAMUNA (MCM)	3.30	1.30	0.20	0.80	1.30	1.40	1.70	1.10	1.80	2.30	1.30	1.40
4. DIVERTED FLOW TO SYSTEM MAIN AND MH												
-DIVERSION REQUIREMENTS (MCM)	3.00	14.00	53.00	35.00	81.00	83.00	70.00	75.00	75.00	16.00	80.00	76.00
-ACTUAL DIVERSION (MCM)	3.00	14.00	36.87	51.13	81.00	83.00	70.00	75.00	63.77	27.23	80.00	76.00
-ACCUMULATED DEFICIT (MCM)	0.00	0.00	16.13	0.00	0.00	0.00	0.00	0.00	11.23	0.00	0.00	0.00
5. HORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	374.70	160.70	69.43	111.07	106.70	94.60	88.30	77.90	35.43	192.27	117.70	78.60
-RELEASE FOR POWER GENERATION (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-RELEASE FOR IRRIGATION (MCM)	39.12	122.91	148.80	76.65	106.21	184.71	181.95	159.46	116.03	146.34	138.05	134.91
-EVAPORATION (MCM)	2.71	3.15	3.87	3.33	3.82	3.97	3.78	3.31	2.94	1.98	1.77	1.55
-RESERVOIR WATER LEVEL (EL.M)	187.00	187.00	185.63	184.70	184.38	182.75	178.35	174.85	170.25	172.67	171.46	167.75
-STORAGE VOLUME (MCM)	631.00	631.00	531.76	503.05	559.73	505.64	386.21	305.35	221.82	263.77	243.05	185.78
-SPILL OUT (MCM)	45.99	34.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-POWER OUTPUT (MW)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-ENERGY OUTPUT (1000MWH)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	15.90	6.36	2.76	3.16	3.78	2.10	0.96	0.84	0.66	4.74	4.86	4.98
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	55.02	129.27	147.56	79.63	109.99	146.81	150.81	151.70	116.69	151.08	142.91	141.89
-SYSTEM D2 (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	32.10	4.59	0.00	0.00	0.00	0.00
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	55.02	132.19	147.56	79.63	109.99	146.81	150.81	151.70	116.69	151.08	142.91	141.89
-TO SYSTEM D2 (MCM)	45.99	31.69	0.00	0.00	0.00	0.00	32.10	4.59	0.00	0.00	0.00	0.00
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	4.00	9.00	22.00	16.00	24.00	23.00	19.00	27.00	20.00	20.00	12.00	4.00
10. GIRIFALE TANK												
-NATURAL INFLOW (MCM)	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	3.79	12.30	2.38	4.66	5.70	7.80	8.85	8.23	0.89	8.11	12.06	15.37
-WATER REQUIREMENTS (MCM)	3.00	12.00	6.00	2.00	8.00	15.00	15.00	13.00	0.00	4.00	7.00	8.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)	92.20	92.20	91.37	91.91	91.27	88.84	86.01	82.78	84.04	86.75	89.19	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2. ACTUAL (MCM)	25.30	25.30	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-DEFICIT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	24.00	3.00	2.00	6.00	5.00	0.00	2.00	0.00	8.00	8.00	10.00	11.00
-SUPPLY FROM UPSTREAM (MCM)	43.21	101.23	112.07	53.31	72.50	105.48	112.07	103.65	82.43	112.07	108.46	112.07
-RELEASE TO KANTALAI TANK (MCM)	0.00	32.01	40.43	8.31	22.54	37.40	39.54	57.90	17.88	72.84	53.38	91.91
-RELEASE TO SANDULLA TANK (MCM)	19.34	55.68	31.62	28.33	25.68	35.25	29.98	43.25	10.39	38.28	59.40	69.57
-WATER REQUIREMENTS (MCM)	9.00	37.00	20.00	6.00	26.00	46.00	46.00	41.00	0.00	12.00	21.00	23.00
-EVAPORATION (MCM)	2.09	2.50	2.89	2.83	3.26	3.47	3.49	3.52	3.18	2.88	2.39	2.16
-TANK WATER LEVEL (EL.M)	93.70	92.22	93.10	93.70	93.70	92.95	92.73	90.63	93.70	93.44	92.64	89.90
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
2. ACTUAL (MCM)	136.90	104.13	123.27	136.90	136.90	119.86	114.91	72.88	136.90	130.97	113.07	59.50
-SPILL OUT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-DEFICIT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12. SANDULLA TANK												
-NATURAL INFLOW (MCM)	15.87	1.00	0.00	1.00	1.00	0.00	0.00	0.00	2.00	2.00	2.00	2.00
-SUPPLY FROM MINNERIYA TANK (MCM)	10.25	44.66	31.05	27.82	25.22	34.61	29.45	44.44	10.20	37.59	58.53	68.32
-WATER REQUIREMENTS (MCM)	12.00	57.00	31.00	15.00	37.00	70.00	58.00	67.00	3.00	14.00	30.00	36.00
-EVAPORATION (MCM)	2.52	2.48	2.95	2.82	3.12	2.81	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (EL.M)	78.20	72.58	72.45	72.95	72.35	70.41	68.33	65.82	66.82	68.97	70.78	72.37
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.20	114.50	111.60	122.60	108.70	70.50	39.40	15.90	25.00	48.30	72.30	114.50
2. ACTUAL (MCM)	128.20	114.50	111.60	122.60	108.70	70.50	39.40	15.90	25.00	48.30	72.30	114.50
-SPILL OUT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-DEFICIT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	31.13	5.00	2.00	12.00	10.00	0.00	2.00	0.00	15.00	15.00	17.00	20.00
-SUPPLY FROM MINNERIYA TANK (MCM)	0.00	47.02	36.55	7.70	20.39	34.17	35.74	52.34	16.14	65.84	68.25	74.04
-WATER REQUIREMENTS (MCM)	9.00	61.00	49.00	8.00	47.00	77.00	74.00	79.00	34.00	52.00	19.00	40.00
-EVAPORATION (MCM)	2.53	2.72	3.25	3.00	3.29	2.97	2.74	1.14	0.34	0.74	1.45	2.04
-TANK WATER LEVEL (EL.M)	59.30	58.88	58.01	59.43	57.63	54.84	52.02	47.97	48.85	51.70	52.04	57.93
-STORAGE VOLUME 1. RULE CURVE (MCM)	180.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
2. ACTUAL (MCM)	180.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-SPILL OUT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-DEFICIT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14. NATURAL RUNOFF AT ANGMADILLA (MCM)	136.09	127.33	34.24	53.82	39.22	15.90	39.14	9.75	4.34	28.26	33.14	72.02
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	7.00	2.00	1.00	2.00	1.00	0.00	1.00	0.00	1.00	3.00	3.00	3.00
-SUPPLY FROM ANGMADILLA (MCM)	0.29	40.53	26.02	5.26	36.17	15.26	38.79	9.46	4.30	22.00	32.84	71.37
-WATER REQUIREMENTS (MCM)	11.00	40.00	24.00	5.00	34.00	61.00	58.00	34.00	3.00	11.00	25.00	26.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	3.04	2.60	1.76	1.08	0.95	1.23	1.59
-TANK WATER LEVEL (EL.M)	59.10	59.10	59.10	59.10	59.10	56.96	55.92	51.98	52.13	54.14	54.88	57.49
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	68.00	19.90	20.40	27.70	47.30	95.10
2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	135.10	86.82	68.00	19.90	21.12	41.17	50.78	97.56
-SPILL OUT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-DEFICIT (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16. SPILL OUT AT ANGMADILLA (MCM)	129.75	86.54	7.93	67.81	2.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table H.4.5 (5/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR MORAGANAKANDA IRRIGATION PROJECT (YEAR -- 1953) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL												
(MCM)	50.00	33.00	36.00	78.00	72.00	63.00	127.00	124.00	107.00	132.00	118.00	100.00
2. NATURAL RUNOFF AT MORAGANAKANDA DAM SITE												
(MCM)	61.00	36.00	32.00	52.00	9.00	3.00	14.00	9.00	5.00	62.00	40.00	103.00
3. DIVERTED FLOW TO DEWAMUVA												
(MCM)	3.30	1.30	0.70	0.80	3.30	3.40	3.20	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM MAIN AND MH												
-DIVERSION REQUIREMENTS (MCM)	75.00	82.00	76.00	34.00	83.00	83.00	82.00	75.00	75.00	0.	19.00	6.00
-ACTUAL DIVERSION (MCM)	51.72	24.11	22.05	77.00	40.98	29.13	83.00	75.00	75.00	0.	19.00	6.00
-ACCUMULATED DEFICIT (MCM)	23.28	81.17	135.12	97.52	135.58	182.43	186.43	0.	0.	0.	0.	0.
5. MORAGANAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	54.98	42.59	44.25	50.40	35.74	32.47	53.30	53.90	34.20	190.50	156.70	194.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	133.25	123.52	43.24	50.33	35.21	31.91	42.71	53.29	33.58	138.28	129.22	129.22
-EVAPORATION (MCM)	2.00	0.83	0.51	0.48	0.53	0.56	0.59	0.61	0.62	0.58	0.81	0.97
-RESERVOIR WATER LEVEL (CEL.M)	161.42	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
-STORAGE VOLUME (MCM)	103.46	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	72.84	99.01	163.43
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAMERA ANICUT												
(MCM)	3.66	2.16	1.92	3.12	0.54	0.18	0.84	0.54	0.30	3.72	3.60	6.18
7. WATER REQUIREMENTS AT ELAMERA ANICUT												
-SYSTEM G AND D1 (MCM)	136.90	133.53	148.36	126.37	151.70	146.81	146.36	151.17	146.81	142.50	133.32	135.40
-SYSTEM D2 (MCM)	0.	0.56	1.82	0.	27.30	46.94	63.99	44.45	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAMERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	136.90	125.68	45.66	53.25	35.75	32.09	53.55	53.83	33.88	142.50	133.32	135.40
-TO SYSTEM D2 (MCM)	0.	0.00	0.	0.00	0.00	0.	0.	0.00	0.	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G												
(MCM)	7.00	13.00	19.00	7.00	29.00	23.00	18.00	22.00	23.00	16.00	4.00	3.00
10. STRAITALE TANK												
-NATURAL INFLOW (MCM)	1.00	0.	0.	1.00	0.	0.	1.00	0.	0.	1.00	1.00	2.00
-SUPPLY FROM UPSTREAM (MCM)	7.29	9.80	6.58	1.66	4.53	7.08	5.71	6.23	7.87	4.11	11.04	8.37
-WATER REQUIREMENTS (MCM)	6.00	12.00	7.00	0.	11.00	12.00	8.00	11.00	2.00	0.	6.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.39	0.31	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (CEL.M)	92.20	91.56	91.37	91.91	90.05	86.75	86.01	82.78	84.04	86.75	89.19	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2. ACTUAL (MCM)	25.30	22.60	21.80	24.10	17.24	6.90	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	14.00	3.00	2.00	16.00	0.	0.	14.00	5.00	5.00	18.00	11.00	27.00
-SUPPLY FROM UPSTREAM (MCM)	112.07	93.96	16.28	40.75	0.	0.	26.14	21.95	2.86	112.07	108.48	112.07
-RELEASE TO KANTALAI TANK (MCM)	27.09	41.56	0.	5.86	0.	0.	0.	0.	0.	30.35	52.71	43.14
-RELEASE TO KAUDULLA TANK (MCM)	49.79	43.52	0.	65.07	0.	0.	0.	0.	0.	41.03	47.01	53.42
-WATER REQUIREMENTS (MCM)	20.00	37.00	20.00	0.	34.00	46.00	25.00	35.00	6.00	0.	18.00	7.00
-EVAPORATION (MCM)	1.86	2.20	2.49	2.31	2.59	2.39	1.88	2.36	2.11	1.59	1.92	1.82
-TANK WATER LEVEL (CEL.M)	91.40	89.90	89.67	89.90	87.10	82.10	85.76	83.67	85.61	89.91	89.90	91.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	116.90	134.90	134.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2. ACTUAL (MCM)	86.82	59.50	59.99	59.50	22.91	0.	13.26	2.85	2.80	59.69	59.50	93.19
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	25.48	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	3.00	1.00	0.	3.00	0.	0.	3.00	1.00	1.00	4.00	3.00	6.00
-SUPPLY FROM MINNERIYA TANK (MCM)	48.90	42.74	0.	44.26	0.	0.	0.	0.	0.	40.29	46.17	52.42
-WATER REQUIREMENTS (MCM)	31.00	59.00	32.00	0.	60.00	70.00	0.	49.00	15.00	0.	26.00	10.00
-EVAPORATION (MCM)	2.27	2.46	2.92	2.52	3.10	2.26	1.13	0.77	0.91	0.99	1.53	1.89
-TANK WATER LEVEL (CEL.M)	73.20	72.41	70.49	72.85	69.59	64.00	64.33	64.00	64.00	68.97	70.38	72.67
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	116.50	111.60	122.60	108.20	70.50	32.80	15.90	26.00	68.30	77.30	116.50
-STORAGE VOLUME 2. ACTUAL (MCM)	128.30	110.57	75.66	120.40	57.30	5.00	6.87	5.00	5.00	48.30	69.94	116.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	19.95	0.	46.90	14.91	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	25.00	5.00	2.00	27.00	0.	0.	25.00	7.00	7.00	32.00	20.00	49.00
-SUPPLY FROM MINNERIYA TANK (MCM)	24.49	37.57	0.	5.30	0.	0.	0.	0.	0.	27.44	47.65	39.00
-WATER REQUIREMENTS (MCM)	20.00	55.00	30.00	0.	63.00	75.00	22.00	74.00	44.00	22.00	29.00	19.00
-EVAPORATION (MCM)	2.50	2.72	3.22	2.89	3.29	2.57	0.89	0.29	0.14	0.64	1.45	2.00
-TANK WATER LEVEL (CEL.M)	52.30	58.21	58.20	58.42	58.78	42.80	43.78	42.80	42.80	51.70	54.55	58.29
-STORAGE VOLUME 1. RULE CURVE (MCM)	160.80	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-STORAGE VOLUME 2. ACTUAL (MCM)	160.80	143.45	114.22	143.84	77.35	0.	2.11	0.	0.	36.80	74.00	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.23	0.	65.18	37.14	0.	0.	0.
14. NATURAL RUNOFF AT ANGANADILLA												
(MCM)	96.34	21.84	34.06	24.88	3.46	0.82	9.16	9.46	3.70	50.28	49.40	86.82
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	3.00	1.00	1.00	3.00	0.	0.	1.00	2.00	1.00	2.00	4.00	6.00
-SUPPLY FROM ANGANADILLA (MCM)	84.82	21.64	33.77	13.77	5.61	0.81	9.08	9.37	3.67	62.83	48.96	33.64
-WATER REQUIREMENTS (MCM)	28.00	45.00	21.00	0.	46.00	56.00	41.00	52.00	0.	2.00	18.00	9.00
-EVAPORATION (MCM)	2.08	2.43	2.89	2.86	3.17	2.67	1.98	1.02	1.05	0.98	1.50	1.95
-TANK WATER LEVEL (CEL.M)	59.10	58.08	58.53	59.10	57.18	53.59	51.80	51.80	52.38	56.32	57.92	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2. ACTUAL (MCM)	135.10	110.31	121.19	135.10	91.34	34.48	18.50	18.50	23.12	73.96	106.41	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	15.92	42.65	0.	0.	0.	0.
16. SPILL OUT AT ANGANADILLA												
(MCM)	31.14	0.00	0.00	10.99	0.00	0.	0.	0.	0.00	0.	0.	52.88

Table H.4.5 (6/29) DETAIL OUTPUT OF CASE II STUDY

 ***** RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR = 1954) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)												
	91.00	54.00	72.00	118.00	127.00	137.00	141.00	152.00	144.00	142.00	135.00	150.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE (MCM)												
	173.00	97.00	61.00	56.00	20.00	12.00	12.00	9.00	5.00	54.00	46.00	260.00
3. DIVERTED FLOW TO DEHAHUYA (MCM)												
	1.30	1.30	0.20	0.80	3.30	3.40	3.70	3.10	1.00	2.30	1.30	1.60
4. DIVERTED FLOW TO SYSTEM H/II AND MH												
-DIVERSION REQUIREMENTS (MCM)	0.	28.00	15.00	2.00	73.00	83.00	27.00	49.00	77.00	8.00	77.00	0.
-ACTUAL DIVERSION (MCM)	0.	28.00	15.00	2.00	73.00	83.00	27.00	49.00	77.00	8.00	77.00	0.
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	259.70	120.70	116.30	170.20	69.70	61.00	121.30	107.90	69.20	184.50	101.70	407.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	105.38	128.66	30.22	23.42	168.42	161.56	125.35	131.16	153.91	123.85	159.82	102.14
-EVAPORATION (MCM)	2.30	2.05	2.02	2.74	3.47	3.19	2.90	2.63	2.25	1.38	1.34	1.38
-RESERVOIR WATER LEVEL (EL.M)	175.41	175.04	177.78	183.12	179.65	175.23	172.15	169.53	163.22	167.68	164.13	180.43
-STORAGE VOLUME (MCM)	317.45	309.43	372.89	516.71	416.47	313.32	256.17	210.28	123.31	182.79	133.33	437.41
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELANERA ANICUT (MCM)												
	10.38	5.82	3.66	3.36	1.20	0.72	0.72	0.54	0.30	3.24	2.76	15.60
7. WATER REQUIREMENTS AT ELANERA ANICUT												
-SYSTEM G AND D1 (MCM)	113.76	132.48	53.89	26.98	151.70	146.81	148.65	151.70	146.81	126.88	145.03	117.74
-SYSTEM D2 (MCM)	0.	0.	0.	0.	15.96	15.47	27.62	0.	7.40	0.	7.55	0.
8. ACTUAL DIVERTED FLOW AT ELANERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	113.76	132.48	53.89	26.98	151.70	146.81	148.65	151.70	146.81	126.88	145.03	117.74
-TO SYSTEM D2 (MCM)	0.	0.	0.	0.	15.96	15.47	27.62	0.	7.40	0.	7.55	0.
9. WATER REQUIREMENTS OF SYSTEM G												
(MCM)	4.00	11.00	6.00	16.00	29.00	23.00	19.00	24.00	27.00	14.00	14.00	4.00
10. STRITALA TANK												
-NATURAL INFLOW (MCM)	1.00	0.	1.00	1.00	0.	0.	0.	0.	0.	1.00	1.00	2.00
-SUPPLY FROM UPSTREAM (MCM)	7.79	10.40	0.58	1.46	8.20	7.80	8.85	8.25	3.82	8.11	12.04	8.37
-WATER REQUIREMENTS (MCM)	6.00	13.00	2.00	0.	11.00	15.00	13.00	13.00	4.00	2.00	7.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)	92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	84.04	84.75	89.19	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.80	21.80	24.10	24.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2. ACTUAL (MCM)	25.30	22.80	21.80	24.10	24.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	16.00	2.00	10.00	11.00	0.	0.	5.00	2.00	0.	11.00	10.00	24.00
-SUPPLY FROM UPSTREAM (MCM)	93.80	101.23	13.40	7.56	103.20	105.48	112.07	108.59	103.65	97.58	108.66	96.71
-RELEASE TO KANTALAI TANK (MCM)	9.00	46.44	0.	3.59	49.11	37.80	25.16	29.14	35.87	27.48	69.97	27.04
-RELEASE TO KAUDULLA TANK (MCM)	37.80	49.56	9.22	12.04	44.01	37.29	57.49	39.14	28.72	36.25	81.84	48.01
-WATER REQUIREMENTS (MCM)	17.00	39.00	7.00	0.	34.00	46.00	40.00	39.00	12.00	8.00	21.00	7.00
-EVAPORATION (MCM)	2.10	2.50	2.87	2.93	3.26	3.24	3.24	3.23	3.30	2.64	2.42	2.09
-TANK WATER LEVEL (EL.M)	93.70	92.15	93.70	93.70	92.48	91.59	91.47	91.47	92.15	93.70	92.04	93.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	102.59	136.90	136.90	109.72	90.87	82.00	82.14	102.69	136.90	100.33	136.90
2. ACTUAL (MCM)	136.90	102.59	136.90	136.90	109.72	90.87	82.00	82.14	102.69	136.90	100.33	136.90
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	4.00	0.	2.00	2.00	0.	0.	1.00	0.	0.	2.00	2.00	5.00
-SUPPLY FROM MINNERIYA TANK (MCM)	37.12	48.66	9.05	11.82	43.22	36.61	56.45	38.44	20.20	35.59	60.53	47.14
-WATER REQUIREMENTS (MCM)	27.00	60.00	11.00	0.	54.00	72.00	86.00	61.00	19.00	12.00	32.00	11.00
-EVAPORATION (MCM)	2.32	2.46	2.95	2.82	3.12	2.81	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (EL.M)	73.20	72.58	72.45	72.95	72.33	70.41	68.33	65.82	66.82	68.97	70.78	72.67
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	114.50	111.80	122.60	108.70	70.50	39.80	15.90	26.00	48.30	77.30	116.50
2. ACTUAL (MCM)	128.30	114.50	111.80	122.60	108.70	70.50	39.80	15.90	26.00	48.30	77.30	116.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	27.00	5.00	17.00	20.00	0.	0.	10.00	1.00	0.	20.00	17.00	44.00
-SUPPLY FROM MINNERIYA TANK (MCM)	8.13	42.02	0.	3.25	44.39	34.17	22.74	24.34	35.14	24.84	63.25	24.44
-WATER REQUIREMENTS (MCM)	15.00	56.00	17.00	12.00	61.00	77.00	69.00	55.00	38.00	18.00	34.00	7.00
-EVAPORATION (MCM)	2.53	2.72	3.25	3.00	3.29	2.97	2.24	1.14	0.34	0.74	1.45	2.04
-TANK WATER LEVEL (EL.M)	59.10	58.68	58.95	58.43	57.45	54.84	52.02	47.97	46.85	51.20	55.06	58.29
-STORAGE VOLUME 1. RULE CURVE (MCM)	140.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	38.80	81.60	141.00
2. ACTUAL (MCM)	140.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	38.80	81.60	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)												
	142.62	78.18	51.34	58.64	32.76	26.75	38.90	8.46	11.10	25.76	32.79	197.60
15. PARAKRAMA SAMDURA TANK												
-NATURAL INFLOW (MCM)	4.00	1.00	3.00	2.00	0.	0.	1.00	1.00	0.	3.00	3.00	8.00
-SUPPLY FROM ANGAMADILLA (MCM)	18.77	43.63	5.07	8.98	32.47	28.30	33.33	8.38	11.00	23.53	32.49	75.17
-WATER REQUIREMENTS (MCM)	20.00	44.00	3.00	8.00	46.00	61.00	52.00	47.00	16.00	8.00	25.00	9.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	2.90	2.55	1.76	1.22	0.94	1.20	1.56
-TANK WATER LEVEL (EL.M)	59.10	59.10	59.10	59.10	58.42	56.67	55.92	52.80	52.04	53.88	54.81	58.48
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	116.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	118.40	81.00	66.00	26.62	20.40	38.01	47.30	119.91
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)												
	124.17	32.34	46.22	39.60	0.	0.	0.	0.00	0.00	0.	0.	121.55

Table H.4.5 (7/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1955)

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)												
	141.00	103.00	88.00	104.00	136.00	147.00	152.00	139.00	117.00	135.00	142.00	108.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE (MCM)												
	214.00	119.00	48.00	62.00	60.00	37.00	17.00	11.00	30.00	26.00	30.00	40.00
3. DIVERTED FLOW TO DEVAHUMA (MCM)												
	3.30	1.30	0.20	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM MAIN AND MH												
-DIVERSION REQUIREMENTS (MCM)	0.	0.	6.00	13.00	15.00	69.00	67.00	36.00	49.00	17.00	73.00	76.00
-ACTUAL DIVERSION (MCM)	0.	0.	6.00	13.00	15.00	69.00	67.00	36.00	49.00	17.00	73.00	76.00
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	350.70	219.70	128.30	151.20	178.70	110.60	97.30	109.90	95.20	140.50	96.70	69.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	54.87	96.50	81.82	13.30	100.59	102.57	184.60	118.46	41.26	139.62	163.01	192.09
-EVAPORATION (MCM)	2.81	3.18	3.99	3.73	4.15	4.41	4.51	4.21	4.31	3.42	2.83	2.44
-RESERVOIR WATER LEVEL (F.L.M)	187.00	187.00	187.00	187.00	187.00	187.00	183.89	183.45	185.14	185.06	183.37	178.84
-STORAGE VOLUME (MCM)	631.00	631.00	631.00	631.00	631.00	631.00	539.19	526.42	576.06	573.70	522.58	397.64
-SPILL OUT (MCM)	99.43	120.03	42.50	134.17	73.96	3.62	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)												
	12.84	7.14	2.88	3.72	3.60	2.22	1.02	0.66	1.80	1.56	1.80	2.40
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	67.71	103.64	84.70	17.02	104.19	104.79	148.28	119.12	43.06	140.98	146.81	151.47
-SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	0.	37.34	0.	0.	0.	0.	43.02
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	67.71	131.08	127.19	17.02	151.70	108.41	148.28	119.12	43.06	140.98	146.81	151.47
-TO SYSTEM D2 (MCM)	99.43	92.59	0.	134.17	26.45	0.	37.34	0.	0.	0.	0.	43.02
9. WATER REQUIREMENTS OF SYSTEM G (MCM)												
	4.00	11.00	20.00	16.00	28.00	23.00	19.00	27.00	21.00	24.00	17.00	13.00
10. GIRITALLE TANK												
-NATURAL INFLOW (MCM)	1.00	1.00	0.	1.00	0.	0.	0.	0.	0.	0.	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	7.79	9.30	6.38	0.	10.40	7.26	6.51	6.23	2.89	11.11	12.05	15.37
-WATER REQUIREMENTS (MCM)	6.00	10.00	6.00	0.	10.00	15.00	18.00	11.00	1.00	6.00	7.00	8.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.41	0.36	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (F.L.M)	92.20	92.20	92.20	92.20	92.20	90.02	88.01	82.78	84.04	86.75	89.19	91.61
-STORAGE VOLUME 1.RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2.ACTUAL (MCM)	25.30	25.30	25.30	25.30	25.30	17.15	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.64	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	16.00	8.00	3.00	11.00	3.00	0.	0.	5.00	6.00	5.00	10.00	11.00
-SUPPLY FROM UPSTREAM (MCM)	50.96	101.23	91.69	0.	102.49	70.46	112.07	72.47	16.30	93.78	102.15	112.07
-RELEASE TO KANTALAI TANK (MCM)	6.78	17.72	24.09	0.	0.	5.52	49.49	0.	0.	30.42	86.35	64.80
-RELEASE TO KAUBULLA TANK (MCM)	39.81	35.30	13.61	0.	31.13	15.48	36.10	20.81	16.50	49.48	59.60	59.42
-WATER REQUIREMENTS (MCM)	18.00	31.00	18.00	0.	31.00	46.00	48.00	33.00	2.00	18.00	21.00	24.00
-EVAPORATION (MCM)	2.35	2.50	3.14	2.93	3.26	3.47	3.65	3.49	3.80	2.88	2.42	2.02
-TANK WATER LEVEL (F.L.M)	93.70	93.70	93.70	93.70	93.70	93.70	92.58	93.70	93.70	93.70	91.59	89.90
-STORAGE VOLUME 1.RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
2.ACTUAL (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	111.73	136.90	136.90	136.90	136.90	136.90
-SPILL OUT (MCM)	0.	0.	0.	8.07	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUBULLA TANK												
-NATURAL INFLOW (MCM)	3.00	2.00	1.00	10.53	1.00	0.	0.	1.00	1.00	1.00	2.00	2.00
-SUPPLY FROM MINNERIYA TANK (MCM)	39.12	48.46	30.07	0.	50.17	15.20	35.45	20.44	16.20	48.59	58.53	58.53
-WATER REQUIREMENTS (MCM)	28.00	48.00	28.00	0.	48.00	70.00	64.00	44.00	8.00	24.00	30.00	37.00
-EVAPORATION (MCM)	2.32	2.46	3.07	2.96	3.17	3.00	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (F.L.M)	73.20	73.20	73.20	73.20	73.20	70.41	68.33	65.82	66.82	68.97	70.78	71.88
-STORAGE VOLUME 1.RULE CURVE (MCM)	128.30	116.50	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
2.ACTUAL (MCM)	128.30	128.30	128.30	128.30	128.30	70.50	39.80	15.90	24.00	48.30	77.30	98.71
-SPILL OUT (MCM)	0.	0.	0.	7.57	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	27.00	12.00	5.00	11.47	5.00	0.	0.	10.00	10.00	7.00	17.00	17.00
-SUPPLY FROM MINNERIYA TANK (MCM)	6.33	23.84	38.81	0.	18.20	4.99	44.74	0.	0.	27.50	76.25	58.58
-WATER REQUIREMENTS (MCM)	11.00	37.00	45.00	0.	27.00	77.00	81.00	10.00	13.00	31.00	47.00	32.00
-EVAPORATION (MCM)	2.53	2.72	3.30	3.10	3.42	3.17	2.24	1.14	1.02	1.24	1.45	2.04
-TANK WATER LEVEL (F.L.M)	59.30	59.07	58.84	59.30	58.90	56.81	52.02	51.90	51.85	51.70	55.06	57.41
-STORAGE VOLUME 1.RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
2.ACTUAL (MCM)	160.60	156.72	152.23	160.60	153.38	78.20	39.70	38.56	34.54	36.80	81.60	123.14
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)												
	286.59	184.45	50.12	182.45	57.85	16.78	44.32	4.34	9.20	21.44	27.20	74.62
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	4.00	1.00	0.	2.00	1.00	0.	0.	2.00	2.00	2.00	1.00	2.00
-SUPPLY FROM ANGAMADILLA (MCM)	32.39	44.51	29.07	5.26	43.12	16.63	43.92	5.30	9.12	21.25	28.26	73.95
-WATER REQUIREMENTS (MCM)	24.00	43.00	26.00	3.00	41.00	61.00	63.00	32.00	0.	12.00	34.00	30.00
-EVAPORATION (MCM)	2.20	2.43	3.07	2.96	3.17	3.04	2.61	1.76	1.62	1.30	1.59	1.59
-TANK WATER LEVEL (F.L.M)	59.10	59.10	59.10	59.10	59.10	57.00	55.92	53.92	54.68	55.45	54.87	53.37
-STORAGE VOLUME 1.RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
2.ACTUAL (MCM)	133.10	135.10	135.10	135.10	135.10	87.69	66.00	38.54	48.23	58.18	50.74	95.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)												
	248.86	139.61	20.78	176.44	14.29	0.	0.00	0.	0.00	0.	0.	0.

Table H.4.5 (8/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR MORAGANAKANDA IRRIGATION PROJECT (YEAR -- 1956)

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	83.00	48.00	62.00	53.00	88.00	129.00	143.00	143.00	144.00	131.00	147.00	144.00
2. NATURAL RUNOFF AT MORAGANAKANDA DAM SITE (MCM)	32.00	54.00	51.00	49.00	30.00	15.00	5.00	3.00	2.00	10.00	99.00	102.00
3. DIVERTED FLOW TO DEMAHUMA (MCM)	3.30	1.50	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM MAIN AND MH												
-DIVERSION REQUIREMENTS (MCM)	80.00	82.00	78.00	83.00	83.00	83.00	83.00	77.00	77.00	69.00	24.00	43.00
-ACTUAL DIVERSION (MCM)	46.45	50.45	60.02	50.71	70.19	83.00	83.00	77.00	77.00	69.00	24.00	43.00
-ACCUMULATED DEFICIT (MCM)	33.55	65.30	83.08	115.37	128.18	128.18	128.18	0.	0.	0.	0.	0.
5. MORAGANAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	44.25	49.25	51.28	49.49	43.51	58.00	60.30	64.80	66.70	88.50	219.70	200.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	156.14	152.24	162.72	107.36	42.98	28.04	52.71	64.29	65.58	88.03	123.07	132.51
-EVAPORATION (MCM)	2.49	1.81	1.80	0.84	0.53	0.56	0.59	0.61	0.62	0.47	0.54	1.07
-RESERVOIR WATER LEVEL (EL.M)	173.64	167.39	159.08	150.00	150.00	150.00	150.00	150.00	150.00	150.00	162.72	167.82
-STORAGE VOLUME (MCM)	283.26	178.46	80.42	21.70	21.70	21.70	21.70	21.70	21.70	21.70	117.79	184.78
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELANERA ANICUT (MCM)	1.92	3.24	3.06	2.94	1.80	0.90	0.30	0.18	0.12	0.60	5.94	6.12
7. WATER REQUIREMENTS AT ELANERA ANICUT												
-SYSTEM G AND D1 (MCM)	147.59	135.66	147.30	146.81	151.70	146.81	151.70	151.70	146.81	151.03	129.01	138.65
-SYSTEM D2 (MCM)	10.47	19.82	3.48	4.12	23.65	26.98	72.15	50.06	15.23	3.63	0.	0.
8. ACTUAL DIVERTED FLOW AT ELANERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	147.59	135.66	147.30	110.30	44.78	56.94	60.01	64.47	65.70	82.63	129.01	138.65
-TO SYSTEM D2 (MCM)	10.47	19.82	3.48	0.00	0.	0.	0.	0.	0.00	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	14.00	15.00	18.00	23.00	29.00	23.00	19.00	27.00	27.00	23.00	3.00	4.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	1.00	0.	0.	0.	0.	0.	0.	0.	0.	1.00	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	10.79	9.60	6.58	5.46	8.70	5.80	8.25	8.23	5.89	5.11	8.40	12.37
-WATER REQUIREMENTS (MCM)	9.00	12.00	7.00	3.00	11.00	13.00	16.00	13.00	4.00	1.00	3.00	5.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)	92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	84.04	80.75	85.16	91.61
-STORAGE VOLUME 1, RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	7.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2, ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	10.00	3.00	2.00	5.00	0.	5.00	0.	2.00	0.	14.00	16.00	16.00
-SUPPLY FROM UPSTREAM (MCM)	112.07	101.23	112.02	73.81	4.20	25.26	27.00	25.87	28.55	54.30	108.46	112.07
-RELEASE TO KANTALAI TANK (MCM)	43.93	32.04	48.17	33.14	0.	0.	0.	0.	0.	4.40	32.73	63.61
-RELEASE TO KAUBULLA TANK (MCM)	49.28	33.20	43.41	33.35	0.	0.	0.	0.	0.	13.93	75.14	51.25
-WATER REQUIREMENTS (MCM)	27.00	37.00	20.00	10.00	34.00	40.00	48.00	40.00	12.00	3.00	10.00	16.00
-EVAPORATION (MCM)	1.86	1.98	2.49	2.33	2.59	2.46	2.37	1.92	1.96	1.84	1.92	1.87
-TANK WATER LEVEL (EL.M)	89.90	89.90	89.90	89.90	87.55	85.86	82.10	82.10	85.94	89.90	90.27	89.90
-STORAGE VOLUME 1, RULE CURVE (MCM)	114.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90
-STORAGE VOLUME 2, ACTUAL (MCM)	59.50	59.50	59.50	59.50	27.11	13.90	0.	0.	14.39	59.50	66.14	59.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	9.42	15.05	0.	0.	0.	0.
12. KAUBULLA TANK												
-NATURAL INFLOW (MCM)	2.00	1.00	0.	1.00	0.	1.00	0.	0.	0.	3.00	4.00	3.00
-SUPPLY FROM MINNERIYA TANK (MCM)	48.39	32.40	49.63	32.75	0.	0.	0.	0.	0.	13.70	72.78	52.29
-WATER REQUIREMENTS (MCM)	42.00	59.00	31.00	15.00	54.00	72.00	75.00	62.00	18.00	5.00	15.00	25.00
-EVAPORATION (MCM)	2.20	2.31	2.62	2.61	2.94	2.03	1.13	0.74	0.91	0.99	1.19	1.94
-TANK WATER LEVEL (EL.M)	72.16	70.77	71.26	72.04	68.77	64.00	64.00	64.00	64.00	65.79	70.78	72.19
-STORAGE VOLUME 1, RULE CURVE (MCM)	128.30	116.50	113.60	122.60	108.70	78.50	39.80	15.90	26.00	48.50	77.30	116.50
-STORAGE VOLUME 2, ACTUAL (MCM)	104.90	77.20	66.21	102.34	45.40	5.00	5.00	5.00	5.00	15.70	77.30	105.65
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	32.68	76.13	62.74	18.91	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	17.00	5.00	2.00	7.00	0.	7.00	0.	2.00	0.	25.00	29.00	27.00
-SUPPLY FROM MINNERIYA TANK (MCM)	39.71	28.97	43.55	29.94	0.	0.	0.	0.	0.	3.98	29.59	57.51
-WATER REQUIREMENTS (MCM)	36.00	57.00	49.00	18.00	62.00	59.00	67.00	62.00	21.00	1.00	3.00	35.00
-EVAPORATION (MCM)	2.45	2.81	3.05	2.84	3.18	2.42	0.96	0.26	0.14	0.64	1.33	2.04
-TANK WATER LEVEL (EL.M)	58.21	57.04	58.67	57.52	53.61	45.47	42.80	42.80	42.80	50.80	55.08	57.70
-STORAGE VOLUME 1, RULE CURVE (MCM)	100.00	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	38.80	81.60	141.00
-STORAGE VOLUME 2, ACTUAL (MCM)	141.40	115.76	109.28	125.37	60.19	5.77	0.	0.	27.34	81.60	129.07	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	62.19	60.26	21.14	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)	65.55	48.58	29.42	19.06	13.20	10.10	3.70	0.82	2.88	9.40	86.06	87.88
15. PARAKRAMA SAMDURA TANK												
-NATURAL INFLOW (MCM)	2.00	1.00	1.00	1.00	0.	2.00	0.	1.00	0.	3.00	4.00	4.00
-SUPPLY FROM ANGAMADILLA (MCM)	65.26	68.16	29.36	18.89	13.08	10.01	3.67	0.81	2.85	9.32	72.75	60.35
-WATER REQUIREMENTS (MCM)	40.00	48.00	25.00	9.00	46.00	50.00	62.00	49.00	15.00	6.00	10.00	17.00
-EVAPORATION (MCM)	2.06	2.34	2.96	2.87	3.14	2.71	2.26	1.02	1.05	0.91	1.04	1.85
-TANK WATER LEVEL (EL.M)	58.48	58.43	58.60	58.93	57.36	55.15	51.80	51.80	51.80	52.68	57.10	59.10
-STORAGE VOLUME 1, RULE CURVE (MCM)	120.00	118.80	125.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2, ACTUAL (MCM)	120.00	118.80	125.00	131.02	94.96	54.26	18.50	18.50	18.50	23.91	80.41	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	24.84	48.21	13.19	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.	0.	0.	12.63	26.99

Table H.4.5 (9/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR HORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1957) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOILLA TUNNEL (MCM)	99.00	78.00	54.00	89.00	70.00	117.00	132.00	131.00	121.00	119.00	147.00	152.00
2. NATURAL RUNOFF AT HORAGAHAKANDA DAM SITE (MCM)	79.00	90.00	36.00	9.00	22.00	32.00	17.00	7.00	4.00	66.00	119.00	398.00
3. DIVERTED FLOW TO BEVAHUMA (MCM)	1.30	1.30	0.70	0.80	3.30	3.60	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM N+M AND MM												
-DIVERSION REQUIREMENTS (MCM)	79.00	25.00	78.00	74.00	6.00	59.00	88.00	56.00	74.00	0.	0.	0.
-ACTUAL DIVERSION (MCM)	79.00	25.00	42.57	41.51	47.15	83.00	70.77	56.00	74.00	0.	0.	0.
-ACCUMULATED DEFICIT (MCM)	0.	0.	35.43	67.92	26.77	2.77	0.	0.	0.	0.	0.	0.
5. POPAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	94.70	160.70	45.73	34.69	40.55	91.60	95.53	77.90	48.20	178.50	263.70	547.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	161.82	109.75	162.39	75.34	69.07	91.04	92.94	72.29	47.58	130.07	38.47	0.
-EVAPORATION (MCM)	2.11	1.23	1.50	0.74	0.53	0.56	0.59	0.61	0.62	0.57	1.02	2.05
-RESERVOIR WATER LEVEL (CEL.M)	164.33	166.70	156.91	150.00	150.00	150.00	150.00	150.00	150.00	157.72	174.33	187.00
-STORAGE VOLUME (MCM)	135.55	168.28	63.11	21.70	21.70	21.70	21.70	21.70	21.70	69.56	295.78	631.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	210.33
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000WH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	4.74	3.40	2.18	0.54	1.32	1.92	1.02	0.42	0.24	5.96	7.14	23.88
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	146.56	112.14	151.55	146.81	151.70	146.81	149.73	151.70	146.81	134.03	43.61	10.05
-SYSTEM D2 (MCM)	0.	0.	0.	6.63	5.51	6.13	34.00	39.69	16.35	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	146.56	112.14	151.55	75.88	41.34	92.96	93.96	77.71	47.82	134.03	43.61	12.75
-TO SYSTEM D2 (MCM)	0.	0.	0.	0.00	0.	0.	0.	0.	0.00	0.	0.	207.63
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	11.00	0.	22.00	27.00	27.00	23.00	19.00	27.00	24.00	6.00	3.00	4.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	0.	1.00	0.	0.	0.	0.	0.	0.	0.	1.00	2.00	5.00
-SUPPLY FROM UPSTREAM (MCM)	12.79	2.60	6.58	6.66	5.70	7.80	7.25	8.23	6.89	6.11	2.06	2.87
-WATER REQUIREMENTS (MCM)	10.00	6.00	7.00	4.00	8.00	15.00	14.00	13.00	3.00	2.00	1.00	2.00
-EVAPORATION (MCM)	0.79	0.30	0.38	0.36	0.40	0.40	0.33	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (CEL.M)	92.20	91.56	91.57	91.91	91.27	88.84	86.01	82.78	84.04	86.75	89.19	92.20
-STORAGE VOLUME 1.RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2.ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	6.00	16.00	0.	3.00	6.00	0.	5.00	2.00	3.00	11.00	35.00	80.00
-SUPPLY FROM UPSTREAM (MCM)	112.07	101.23	112.07	37.01	5.98	55.61	60.43	37.13	15.75	112.07	32.38	0.00
-RELEASE TO KANTALAI TANK (MCM)	46.82	32.05	42.64	35.11	0.	0.	6.40	0.	2.57	19.29	0.	0.
-RELEASE TO KAUDULLA TANK (MCM)	43.39	47.60	31.82	22.02	0.	0.	6.55	0.	2.37	53.25	27.02	0.
-WATER REQUIREMENTS (MCM)	32.00	19.00	20.00	12.00	24.00	46.00	42.00	39.00	8.00	7.00	2.00	7.00
-EVAPORATION (MCM)	1.86	1.98	2.66	2.61	2.59	2.65	2.84	2.95	2.99	2.29	2.21	2.29
-TANK WATER LEVEL (CEL.M)	89.90	90.83	91.61	89.90	88.95	89.40	89.90	89.72	89.90	92.06	93.70	93.70
-STORAGE VOLUME 1.RULE CURVE (MCM)	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90
2.ACTUAL (MCM)	59.50	76.09	91.23	59.50	44.89	51.85	59.50	56.68	59.50	100.74	136.90	136.90
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	70.70
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	1.00	3.00	0.	1.00	1.00	0.	1.00	0.	1.00	3.00	8.00	77.64
-SUPPLY FROM MINNERIYA TANK (MCM)	42.61	46.75	31.05	21.63	0.	0.	6.44	0.	2.33	52.29	26.53	0.
-WATER REQUIREMENTS (MCM)	10.00	30.00	31.00	19.00	40.00	72.00	66.00	65.00	13.00	11.00	4.00	11.00
-EVAPORATION (MCM)	2.25	2.25	2.95	2.82	3.03	2.46	1.13	0.74	0.91	0.99	1.53	1.94
-TANK WATER LEVEL (CEL.M)	71.80	72.52	72.45	72.49	70.56	64.00	64.00	64.00	64.00	68.97	70.78	73.20
-STORAGE VOLUME 1.RULE CURVE (MCM)	128.30	116.50	111.60	122.40	108.70	70.30	32.80	15.90	24.00	48.30	77.30	116.50
2.ACTUAL (MCM)	97.01	116.50	111.60	112.40	73.38	5.00	5.00	5.00	5.00	48.30	77.30	128.30
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	13.70
-DEFICIT (MCM)	0.	0.	0.	0.	0.	6.08	59.69	65.74	10.58	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	12.00	27.00	0.	5.00	17.00	0.	7.00	5.00	5.00	20.00	61.00	76.36
-SUPPLY FROM MINNERIYA TANK (MCM)	36.90	28.98	38.55	31.74	0.	0.	5.78	0.	2.32	17.44	0.	0.
-WATER REQUIREMENTS (MCM)	42.00	34.00	49.00	40.00	48.00	76.00	68.00	75.00	28.00	0.	3.00	7.00
-EVAPORATION (MCM)	2.48	2.57	3.25	3.00	3.20	2.88	1.08	0.78	0.14	0.64	1.45	2.11
-TANK WATER LEVEL (CEL.M)	57.92	58.88	58.01	57.20	55.34	47.77	47.80	42.80	42.80	51.70	55.76	59.30
-STORAGE VOLUME 1.RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	93.35	160.60
2.ACTUAL (MCM)	133.19	148.90	135.20	128.94	89.74	11.07	0.	0.	0.	36.80	93.35	160.60
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	45.23	70.26	20.82	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)	62.26	73.00	29.84	8.46	16.08	26.08	11.98	2.58	1.76	51.04	99.86	533.75
15. PARAKRAMA SAMOURA TANK												
-NATURAL INFLOW (MCM)	2.00	4.00	0.	1.00	2.00	0.	1.00	0.	0.	2.00	9.00	17.00
-SUPPLY FROM ANGAMADILLA (MCM)	61.29	16.53	29.07	8.38	16.53	22.83	11.87	2.56	1.74	50.58	71.31	0.
-WATER REQUIREMENTS (MCM)	61.00	18.00	26.00	13.00	31.00	61.00	53.00	53.00	15.00	11.00	3.00	9.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.12	2.86	2.49	1.29	1.05	0.91	1.40	2.10
-TANK WATER LEVEL (CEL.M)	59.10	59.10	59.10	58.83	58.19	58.37	53.41	51.80	51.80	55.53	59.10	59.10
-STORAGE VOLUME 1.RULE CURVE (MCM)	120.00	118.60	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
2.ACTUAL (MCM)	135.10	135.10	135.10	128.53	112.94	74.92	32.30	18.50	18.50	59.17	135.10	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.90
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	37.93	14.30	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)	20.60	57.02	0.50	0.00	0.	0.	0.	0.	0.00	0.	27.88	533.75

Table H.4.5 (10/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1958)

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)												
	156.00	67.00	105.00	93.00	143.00	126.00	152.00	152.00	108.00	135.00	147.00	116.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE (MCM)												
	114.00	49.00	104.00	88.00	92.00	24.00	18.00	32.00	8.00	51.00	77.00	107.00
3. DIVERTED FLOW TO DEVAHUMA (MCM)												
	3.30	1.30	0.70	0.80	3.30	3.60	3.70	3.10	1.80	2.50	3.30	1.60
4. DIVERTED FLOW TO SYSTEM N/11 AND M/11												
-DIVERSION REQUIREMENTS (MCM)	0.	45.00	13.00	59.00	26.00	67.00	83.00	30.00	76.00	13.00	53.00	67.00
-ACTUAL DIVERSION (MCM)	0.	45.00	13.00	59.00	26.00	67.00	83.00	30.00	76.00	13.00	53.00	67.00
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	215.70	68.70	194.30	120.20	204.70	78.60	82.30	149.90	37.20	149.50	168.70	153.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	87.69	125.12	32.96	48.99	119.53	130.61	100.37	95.86	84.00	133.03	132.32	132.58
-EVAPORATION (MCM)	2.98	3.12	3.78	3.73	4.15	4.33	4.19	3.93	4.15	3.02	2.03	2.59
-RESERVOIR WATER LEVEL (CEL.M)	187.00	184.98	187.00	187.00	187.00	185.09	181.62	183.32	181.59	182.72	183.63	184.09
-STORAGE VOLUME (MCM)	631.00	571.46	631.00	631.00	631.00	574.85	472.39	522.40	471.46	304.91	531.64	545.07
-SPILL OUT (MCM)	155.03	0.	92.99	67.48	90.00	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)												
	6.84	2.94	6.24	5.28	5.52	1.44	1.08	1.92	0.68	3.06	4.62	6.42
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	94.53	128.06	44.23	54.27	116.07	132.05	150.81	97.88	84.48	136.09	143.94	144.00
-SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	0.	30.64	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	94.53	128.06	43.29	78.75	151.70	132.05	150.81	97.88	84.48	136.09	143.94	144.00
-TO SYSTEM D2 (MCM)	155.03	0.	43.43	45.00	54.37	0.	30.64	0.	0.	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)												
	15.00	12.00	10.00	23.00	25.00	23.00	19.00	27.00	27.00	23.00	15.00	7.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	1.00	0.	0.	0.	0.	0.	0.	1.00	0.	1.00	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	6.29	7.60	7.08	6.36	8.40	3.91	8.89	2.23	4.89	8.11	10.04	14.57
-WATER REQUIREMENTS (MCM)	7.00	10.00	4.00	4.00	9.00	15.00	15.00	8.00	3.00	4.00	5.00	7.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.41	0.35	0.25	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (CEL.M)	92.20	91.56	92.20	92.20	92.20	88.84	86.01	82.78	84.04	80.75	89.19	91.81
-STORAGE VOLUME 1. RULE CURVE (MCM)	23.30	22.00	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.70	14.70	22.80
-STORAGE VOLUME 2. ACTUAL (MCM)	23.30	22.60	23.30	25.50	25.30	13.80	7.30	2.30	4.00	8.70	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	14.00	6.00	6.00	3.00	5.00	0.	0.	10.00	3.00	8.00	13.00	13.00
-SUPPLY FROM UPSTREAM (MCM)	86.68	99.13	65.71	45.90	106.44	95.70	112.07	61.81	46.24	93.24	108.68	112.07
-RELEASE TO KANTALAI TANK (MCM)	26.15	34.31	0.	0.	23.03	28.72	41.73	0.	16.35	43.97	66.45	82.35
-RELEASE TO KAUDULLA TANK (MCM)	31.97	37.34	18.58	15.50	27.05	17.51	46.28	15.72	21.59	44.39	53.49	72.45
-WATER REQUIREMENTS (MCM)	20.00	37.00	12.00	11.00	29.00	46.00	47.00	26.00	8.00	13.00	16.00	21.00
-EVAPORATION (MCM)	2.35	2.50	3.14	2.93	3.26	3.47	3.65	3.48	3.80	2.88	2.42	2.20
-TANK WATER LEVEL (CEL.M)	93.70	93.70	93.70	93.70	93.70	93.70	92.51	93.70	93.70	93.70	92.94	90.31
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2. ACTUAL (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	110.29	136.90	136.90	136.90	119.79	66.88
-SPILL OUT (MCM)	0.	0.	0.00	0.00	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	3.00	1.00	1.00	1.00	1.00	0.	0.	2.00	1.00	2.00	3.00	3.00
-SUPPLY FROM MINNERIYA TANK (MCM)	31.97	36.66	36.75	18.96	46.17	17.20	45.45	15.44	21.20	43.59	52.53	71.16
-WATER REQUIREMENTS (MCM)	32.00	59.00	19.00	17.00	64.00	72.00	74.00	40.00	13.00	20.00	25.00	33.00
-EVAPORATION (MCM)	2.39	2.48	2.95	2.98	3.17	3.00	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (CEL.M)	75.20	74.58	75.20	75.20	73.20	73.20	70.41	68.33	65.82	66.97	70.70	74.67
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	114.50	114.50	122.30	108.70	70.50	39.80	15.90	25.00	48.30	72.30	116.50
-STORAGE VOLUME 2. ACTUAL (MCM)	128.30	114.50	128.30	128.30	128.30	70.50	39.80	15.90	24.00	48.30	72.30	116.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	25.00	12.00	12.00	7.00	7.00	0.	0.	17.00	5.00	12.00	22.00	22.00
-SUPPLY FROM MINNERIYA TANK (MCM)	23.64	31.02	22.95	14.16	29.08	25.98	37.74	0.	14.78	38.84	60.25	74.44
-WATER REQUIREMENTS (MCM)	46.00	52.00	20.00	18.00	61.00	77.00	74.00	35.00	31.00	22.00	30.00	35.00
-EVAPORATION (MCM)	2.84	2.72	3.25	3.18	3.42	3.02	2.24	1.14	0.63	0.74	1.45	2.04
-TANK WATER LEVEL (CEL.M)	59.30	58.63	59.30	59.30	57.86	54.84	52.02	49.63	46.85	51.70	55.06	58.29
-STORAGE VOLUME 1. RULE CURVE (MCM)	160.60	148.90	133.20	143.90	124.00	78.20	39.70	11.90	6.70	38.80	81.60	141.00
-STORAGE VOLUME 2. ACTUAL (MCM)	160.60	148.90	160.60	160.60	152.26	78.20	39.70	20.56	8.70	38.80	81.60	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)												
	252.19	39.06	129.19	117.72	126.83	18.56	42.56	26.08	9.52	40.94	61.38	86.58
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	3.00	1.00	1.00	1.00	1.00	0.	0.	2.00	0.	3.00	3.00	6.00
-SUPPLY FROM ANGAMADILLA (MCM)	31.29	38.71	23.75	13.96	41.17	18.39	42.18	25.85	9.43	40.32	60.83	9.93
-WATER REQUIREMENTS (MCM)	32.00	44.00	17.00	12.00	39.00	61.00	63.00	33.00	14.00	7.00	20.00	9.00
-EVAPORATION (MCM)	2.29	2.43	3.03	2.96	3.17	3.04	2.63	1.76	1.75	1.35	1.59	2.08
-TANK WATER LEVEL (CEL.M)	59.10	58.82	59.10	59.10	59.10	57.09	55.92	55.32	55.03	57.02	58.90	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	129.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2. ACTUAL (MCM)	135.10	128.38	135.10	135.10	135.10	89.43	66.00	59.08	52.79	88.00	130.24	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)												
	220.62	0.	103.21	103.64	85.31	0.00	0.00	0.	0.	0.00	0.	76.55

Table H.4.5 (11/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR HORAGAHAYANDA IRRIGATION PROJECT (YEAR -- 1959) *****

I T E M S	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	80.00	62.00	57.00	84.00	118.00	142.00	152.00	140.00	136.00	150.00	146.00	109.00
2. NATURAL RUNOFF AT HORAGAHAYANDA DAM SITE (MCM)	89.00	78.00	9.00	27.00	37.00	26.00	43.00	31.00	19.00	57.00	92.00	155.00
3. DIVERTED FLOW TO DEHAHWA (MCM)	3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM H, I, M AND PH												
-DIVERSION REQUIREMENTS (MCM)	31.00	83.00	77.00	55.00	6.00	72.00	80.00	67.00	75.00	1.00	2.00	0.
-ACTUAL DIVERSION (MCM)	31.00	48.07	28.56	67.85	74.52	22.00	80.00	67.00	75.00	1.00	2.00	0.
-ACCUMULATED DEFICIT (MCM)	0.	34.93	83.37	66.32	0.	0.	0.	0.	0.	0.	0.	0.
5. HORAGAHAYANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	133.70	39.63	35.74	41.35	76.18	141.60	110.30	99.90	77.20	202.50	233.70	261.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	146.36	152.50	131.21	162.89	150.45	135.86	106.82	143.60	76.58	105.02	42.53	129.35
-EVAPORATION (MCM)	2.82	2.69	2.86	2.19	1.82	1.69	1.45	0.98	0.62	0.64	1.28	1.96
-RESERVOIR WATER LEVEL (EL. M)	183.56	179.55	174.33	168.31	162.52	162.95	157.07	150.00	150.00	162.79	175.02	180.48
-STORAGE VOLUME (MCM)	529.56	414.03	295.89	192.17	116.08	120.35	64.38	21.70	21.70	118.54	308.53	438.81
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	5.34	1.68	0.54	1.62	2.22	1.56	2.58	1.86	1.14	3.42	5.52	9.30
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	151.70	137.02	151.55	144.51	151.70	133.10	150.81	151.70	141.19	108.44	47.95	138.65
-SYSTEM D2 (MCM)	0.	17.16	0.	0.	0.96	4.30	16.59	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	151.70	137.02	151.55	144.51	151.70	133.10	150.81	143.46	77.72	108.44	47.95	138.65
-TO SYSTEM D2 (MCM)	0.	17.16	0.	0.	0.96	4.30	16.59	0.	0.	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	70.00	18.00	22.00	21.00	23.00	20.00	19.00	27.00	27.00	16.00	3.00	4.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	1.00	0.	0.	0.	0.	0.	0.	0.	0.	1.00	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	9.29	10.60	6.58	4.66	5.70	6.80	8.85	8.23	4.89	4.11	7.04	12.37
-WATER REQUIREMENTS (MCM)	8.00	13.00	7.00	2.00	8.00	14.00	15.00	13.00	3.00	0.	2.00	3.00
-EVAPORATION (MCM)	0.29	0.30	0.34	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL. M)	92.20	91.56	91.37	91.91	91.77	88.84	86.01	82.78	84.04	86.75	89.19	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2. ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	10.00	0.	0.	6.00	6.00	3.00	0.	0.	3.00	16.00	21.00	16.00
-SUPPLY FROM UPSTREAM (MCM)	110.27	98.54	113.07	108.66	110.14	96.74	112.07	98.01	40.48	80.53	35.40	112.07
-RELEASE TO KANTALAI TANK (MCM)	61.08	34.23	49.79	38.82	35.83	0.	43.12	16.97	35.56	15.31	16.87	56.90
-RELEASE TO KAUDULLA TANK (MCM)	53.07	29.55	39.72	35.80	25.68	36.27	46.28	42.20	21.59	21.99	32.11	64.30
-WATER REQUIREMENTS (MCM)	24.00	39.00	20.00	6.00	24.00	42.00	47.00	41.00	8.00	0.	6.00	16.00
-EVAPORATION (MCM)	1.92	2.04	2.49	2.33	2.90	3.31	3.65	3.17	3.49	2.47	2.42	2.29
-TANK WATER LEVEL (EL. M)	90.25	89.90	89.90	91.40	92.90	93.70	92.45	92.18	90.95	93.70	95.70	93.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
2. ACTUAL (MCM)	65.78	59.50	59.50	91.02	118.74	136.90	108.92	103.29	78.14	136.90	136.90	125.47
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	2.00	0.	0.	1.00	1.00	1.00	0.	0.	1.00	4.00	5.00	3.00
-SUPPLY FROM MINNERIYA TANK (MCM)	52.12	29.02	39.08	35.15	25.22	35.81	45.45	41.44	21.20	21.59	31.93	83.14
-WATER REQUIREMENTS (MCM)	40.00	62.00	31.00	9.00	37.00	72.00	74.00	64.00	13.00	0.	6.00	25.00
-EVAPORATION (MCM)	2.52	2.46	2.77	2.72	3.12	2.81	2.55	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (EL. M)	73.20	71.82	71.85	72.95	72.33	70.41	68.33	65.82	66.82	68.97	70.78	72.67
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	116.50	111.60	122.60	105.70	70.50	39.80	15.90	24.00	48.30	72.30	116.50
2. ACTUAL (MCM)	128.30	92.86	98.17	132.80	108.70	70.50	39.80	15.90	24.00	48.30	72.30	116.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	17.00	0.	0.	12.00	12.00	3.00	0.	2.00	5.00	29.00	37.00	27.00
-SUPPLY FROM MINNERIYA TANK (MCM)	37.13	30.94	45.01	35.09	32.39	0.	38.98	15.34	32.14	13.84	15.25	51.44
-WATER REQUIREMENTS (MCM)	32.00	63.00	48.00	20.00	41.00	40.00	83.00	44.00	40.00	14.00	6.00	17.00
-EVAPORATION (MCM)	2.53	2.72	3.10	2.92	3.29	2.97	2.31	1.14	0.34	0.74	1.45	2.04
-TANK WATER LEVEL (EL. M)	59.30	57.54	57.26	58.43	57.45	55.33	52.02	47.97	46.85	51.70	55.06	58.29
-STORAGE VOLUME 1. RULE CURVE (MCM)	100.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
2. ACTUAL (MCM)	100.60	125.82	119.73	143.90	124.00	86.03	39.70	11.90	8.70	36.80	81.60	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGHADILLA (MCM)	73.66	38.48	156.46	27.38	30.74	25.74	51.01	26.14	12.86	47.58	72.48	126.70
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	4.00	0.	0.	1.00	0.	0.	0.	0.	0.	5.00	5.00	4.00
-SUPPLY FROM ANGHADILLA (MCM)	21.29	38.13	55.26	11.96	30.47	25.50	50.55	25.20	12.74	42.15	33.20	20.10
-WATER REQUIREMENTS (MCM)	25.00	52.00	26.00	10.00	44.00	60.00	63.00	52.00	15.00	0.	7.00	22.00
-EVAPORATION (MCM)	2.29	2.43	2.96	2.96	3.17	2.90	2.55	1.76	1.47	1.14	1.57	2.10
-TANK WATER LEVEL (EL. M)	59.10	58.43	59.10	59.10	58.42	56.67	55.92	53.89	53.59	56.89	59.10	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.60	27.70	47.30	95.10
2. ACTUAL (MCM)	135.10	118.80	135.10	135.10	118.40	81.00	66.00	38.14	34.67	85.48	135.10	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGHADILLA (MCM)	52.18	0.00	112.79	10.32	0.	0.00	0.00	0.	0.00	0.00	18.80	106.42

Table H.4.5 (12/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR - 1960)

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL												
(MCM)	98.00	113.00	71.00	104.00	131.00	146.00	152.00	144.00	137.00	152.00	147.00	118.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE												
(MCM)	144.00	302.00	73.00	58.00	34.00	23.00	45.00	17.00	12.00	46.00	143.00	99.00
3. DIVERTED FLOW TO DENAHUWA												
(MCM)	3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM H, I, M AND N												
-DIVERSION REQUIREMENTS (MCM)	0.	0.	4.00	8.00	59.00	72.00	0.	12.00	71.00	3.00	0.	6.00
-ACTUAL DIVERSION (MCM)	0.	0.	4.00	8.00	59.00	72.00	0.	12.00	71.00	3.00	0.	6.00
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	237.70	412.70	138.30	152.20	101.70	92.60	192.30	144.90	80.20	191.50	287.70	208.00
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	80.00	0.	69.98	3.97	40.68	104.91	89.98	115.82	43.83	70.09	0.	103.22
-EVAPORATION (MCM)	2.78	3.07	3.99	3.73	4.15	4.39	4.57	4.73	4.85	3.88	3.08	2.92
-RESERVOIR WATER LEVEL (CEL.M)	185.74	187.00	187.00	187.00	187.00	186.43	187.00	187.00	187.00	187.00	187.00	187.00
-STORAGE VOLUME (MCM)	593.73	631.00	631.00	631.00	631.00	614.30	631.00	631.00	631.00	631.00	631.00	631.00
-SPILL OUT (MCM)	0.	372.36	64.33	144.51	56.87	0.	81.06	26.35	31.72	117.74	204.62	102.46
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (10000WH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT												
(MCM)	8.64	18.12	4.38	3.48	2.04	1.38	2.70	1.02	1.02	2.76	8.58	5.94
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	88.64	0.	74.36	7.45	42.72	105.47	80.15	114.84	44.67	71.19	3.19	109.16
-SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	0.83	12.53	0.	0.	1.66	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	88.64	1.41	126.86	7.45	99.59	105.47	151.70	141.19	76.39	145.88	115.62	145.98
-TO SYSTEM D2 (MCM)	0.	370.95	11.84	144.51	0.	0.83	22.03	0.	0.	44.72	172.19	65.65
9. WATER REQUIREMENTS OF SYSTEM G												
(MCM)	8.00	0.	22.00	7.00	29.00	23.00	17.00	27.00	27.00	21.00	3.00	11.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	1.00	2.00	0.	1.00	1.00	0.	1.00	0.	1.00	1.00	2.00	0.
-SUPPLY FROM UPSTREAM (MCM)	6.79	1.39	6.58	0.	3.58	3.91	20.83	13.31	0.	2.31	0.	10.28
-WATER REQUIREMENTS (MCM)	5.00	3.00	6.00	0.	6.00	15.00	10.00	13.00	0.	3.00	1.00	10.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.48	0.41	0.55	0.31	0.34	0.31	0.29	0.28
-TANK WATER LEVEL (CEL.M)	92.20	92.70	92.70	92.70	92.70	88.84	92.20	92.20	92.20	92.20	92.20	92.20
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	25.30	21.80	24.10	21.40	13.80	7.30	2.30	1.00	8.90	14.70	22.80
-STORAGE VOLUME 2. ACTUAL (MCM)	25.30	25.30	25.30	25.30	25.30	13.80	25.30	25.30	25.30	25.30	25.30	25.30
-SPILL OUT (MCM)	0.	0.	0.	0.64	0.	0.	0.	0.	0.66	0.	0.71	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	16.00	26.00	3.00	13.00	13.00	0.	10.00	2.00	8.00	11.00	29.00	6.00
-SUPPLY FROM UPSTREAM (MCM)	67.40	0.	89.41	0.	60.25	71.09	102.97	90.82	44.16	112.07	104.10	112.07
-RELEASE TO KANTALAI TANK (MCM)	18.95	0.	17.63	0.	0.	4.11	0.	38.01	18.96	41.86	0.28	24.18
-RELEASE TO KAUDULLA TANK (MCM)	34.74	0.	9.54	0.	8.73	17.51	28.97	0.	0.	3.49	0.	30.81
-WATER REQUIREMENTS (MCM)	16.00	9.00	17.00	0.	12.00	46.00	32.00	40.00	0.	8.00	2.00	30.00
-EVAPORATION (MCM)	2.28	2.50	3.14	2.93	3.26	3.47	3.85	3.72	3.80	2.88	2.42	2.29
-TANK WATER LEVEL (CEL.M)	93.70	93.70	93.70	93.70	93.70	93.70	93.70	93.70	93.70	93.70	93.70	93.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2. ACTUAL (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-SPILL OUT (MCM)	0.00	14.30	0.	10.07	0.	0.	0.	0.	0.	0.	24.30	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	3.00	29.28	1.00	13.98	3.00	0.	2.00	0.	2.00	2.00	6.00	1.00
-SUPPLY FROM MINNERIYA TANK (MCM)	54.12	0.	26.07	0.	26.17	17.20	75.85	10.89	28.85	69.06	16.41	41.27
-WATER REQUIREMENTS (MCM)	23.00	18.00	24.00	3.00	28.00	72.00	59.00	64.00	4.00	11.00	6.00	40.00
-EVAPORATION (MCM)	2.32	2.48	3.07	2.96	3.17	3.00	2.15	1.98	1.42	1.64	2.05	2.27
-TANK WATER LEVEL (CEL.M)	73.20	73.20	73.20	73.20	73.20	70.41	71.31	67.62	69.47	72.56	73.20	73.20
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	116.50	111.80	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
-STORAGE VOLUME 2. ACTUAL (MCM)	128.30	128.30	128.30	128.30	128.30	70.50	87.18	32.09	55.51	113.94	128.30	128.30
-SPILL OUT (MCM)	0.	8.87	0.	10.02	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	27.00	19.72	7.00	9.02	22.00	0.	17.00	2.00	15.00	20.00	49.00	10.00
-SUPPLY FROM MINNERIYA TANK (MCM)	17.13	0.	41.33	0.	26.49	3.71	0.	16.36	17.14	37.84	79.25	39.55
-WATER REQUIREMENTS (MCM)	22.00	17.00	45.00	0.	51.00	77.00	37.00	79.00	35.00	29.00	3.00	49.00
-EVAPORATION (MCM)	2.53	2.72	3.33	3.16	3.42	3.18	2.24	1.42	0.34	0.74	1.45	2.46
-TANK WATER LEVEL (CEL.M)	59.30	59.30	59.30	59.30	58.98	54.84	53.33	47.97	46.85	51.70	59.30	59.19
-STORAGE VOLUME 1. RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-STORAGE VOLUME 2. ACTUAL (MCM)	160.60	160.60	160.60	160.60	156.67	78.20	55.96	11.90	8.70	36.80	160.60	158.62
-SPILL OUT (MCM)	0.	0.	0.	3.84	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA												
(MCM)	151.36	471.83	45.46	176.03	22.96	12.45	40.33	9.98	10.98	61.96	230.61	136.71
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	4.00	6.00	1.00	4.00	2.00	0.	2.00	0.	1.00	1.00	4.00	2.00
-SUPPLY FROM ANGAMADILLA (MCM)	20.29	8.53	22.07	0.	22.25	12.33	32.97	9.89	10.88	81.10	72.74	41.35
-WATER REQUIREMENTS (MCM)	22.00	12.00	20.00	0.	24.00	81.00	45.00	33.00	12.00	20.00	15.00	37.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	3.02	2.45	1.86	1.29	1.07	1.48	2.08
-TANK WATER LEVEL (CEL.M)	59.00	59.10	59.10	59.10	59.00	56.67	56.40	53.23	53.07	56.14	58.92	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	64.00	19.90	20.40	27.70	67.30	95.10
-STORAGE VOLUME 2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	132.69	81.00	75.42	30.45	29.04	76.37	130.64	155.10
-SPILL OUT (MCM)	0.	0.	0.	1.04	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA												
(MCM)	130.89	403.33	23.18	176.03	0.	0.	0.	0.	0.	0.	157.21	94.79

Table H.4.5 (13/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1961) *****

ITEMS	MONTHS											
	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)												
	68.00	53.00	43.00	53.00	119.00	157.00	126.00	151.00	144.00	126.00	145.00	129.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE (MCM)												
	112.00	65.00	51.00	30.00	43.00	25.00	24.00	26.00	12.00	18.00	99.00	155.00
3. DIVERTED FLOW TO REMAHUNA (MCM)												
	3.30	1.30	0.70	0.80	3.30	3.40	3.70	5.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM H/2H AND H/1												
-DIVERSION REQUIREMENTS (MCM)	9.00	2.00	26.00	53.00	58.00	42.00	63.00	76.00	77.00	1.00	9.00	0.
-ACTUAL DIVERSION (MCM)	9.00	2.00	26.00	38.74	72.26	42.00	63.00	76.00	77.00	1.00	9.00	0.
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	14.26	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	166.70	153.70	66.30	42.46	85.44	95.60	82.30	98.90	76.20	139.50	232.70	281.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	2.32	60.02	3.87	31.82	132.55	162.31	188.37	151.46	157.54	59.56	64.84	50.51
-EVAPORATION (MCM)	2.98	3.18	3.99	3.73	4.08	4.05	3.89	3.45	3.19	2.23	2.21	2.81
-RESERVOIR WATER LEVEL (CEL.M)	187.00	187.00	187.00	187.00	185.09	183.27	179.42	176.93	172.83	176.64	182.99	187.00
-STORAGE VOLUME (MCM)	631.00	631.00	631.00	631.00	574.81	521.05	411.09	353.08	268.55	366.26	512.71	631.00
-SPILL OUT (MCM)	158.40	50.31	52.45	7.12	0.	0.	0.	0.	0.	0.	0.	104.19
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000KWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)												
	6.72	3.90	3.06	1.80	2.58	1.50	1.44	1.56	0.72	1.08	5.94	9.30
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	12.04	63.92	12.93	33.42	140.13	146.81	150.81	151.70	146.81	49.13	69.98	65.81
-SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	0.	39.00	1.31	11.45	11.51	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	12.04	95.99	52.69	40.54	140.13	146.81	150.81	151.70	146.81	49.13	69.98	104.91
-TO SYSTEM D2 (MCM)	158.40	18.43	12.69	0.	0.	0.	39.00	1.31	11.45	11.51	0.	65.09
9. WATER REQUIREMENTS OF SYSTEM G (MCM)												
	10.00	8.00	11.00	23.00	29.00	23.00	19.00	27.00	27.00	17.00	3.00	4.00
10. GIRIFALE TANK												
-NATURAL INFLOW (MCM)	2.00	1.00	1.00	1.00	0.	0.	0.	0.	0.	1.00	1.00	2.00
-SUPPLY FROM UPSTREAM (MCM)	1.29	6.30	2.38	0.30	8.50	7.80	8.85	8.23	4.89	5.11	8.04	10.82
-WATER REQUIREMENTS (MCM)	3.00	7.00	3.00	1.00	10.00	15.00	15.00	13.00	3.00	1.00	3.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (CEL.M)	92.20	92.20	92.20	92.20	91.27	88.84	86.01	82.78	84.04	86.75	89.19	92.20
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.40	21.90	24.10	21.40	15.80	7.30	2.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2. ACTUAL (MCM)	25.30	25.30	25.30	25.30	21.40	15.80	7.30	2.30	4.00	8.90	14.70	25.30
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	27.00	13.00	10.00	8.00	3.00	0.	0.	0.	2.00	14.00	18.00	39.00
-SUPPLY FROM UPSTREAM (MCM)	0.00	74.82	35.37	18.32	94.48	105.46	112.07	103.64	108.15	23.83	33.80	82.33
-RELEASE TO KANTALAI TANK (MCM)	0.	11.08	0.	6.04	34.31	36.69	48.19	57.90	20.07	2.04	19.08	19.29
-RELEASE TO KAUDULLA TANK (MCM)	0.	25.12	0.	3.32	30.11	37.29	47.30	7.57	19.56	28.10	42.29	50.64
-WATER REQUIREMENTS (MCM)	9.00	22.00	8.00	4.00	30.00	46.00	47.00	41.00	10.00	2.00	8.00	7.00
-EVAPORATION (MCM)	2.35	2.50	3.14	2.93	3.25	3.47	3.48	3.26	3.28	2.88	2.42	2.29
-TANK WATER LEVEL (CEL.M)	93.70	93.70	93.70	93.70	93.70	92.91	91.30	91.09	93.58	93.70	93.70	93.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2. ACTUAL (MCM)	136.90	136.90	136.90	136.90	136.90	118.93	84.83	60.73	134.27	136.90	136.90	136.90
-SPILL OUT (MCM)	15.45	0.00	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	33.73	3.00	2.00	2.00	1.00	0.	0.	0.	0.	3.00	4.00	7.00
-SUPPLY FROM MINNERIYA TANK (MCM)	0.	38.46	10.07	8.96	29.57	36.61	46.45	7.44	19.20	27.59	41.53	60.94
-WATER REQUIREMENTS (MCM)	18.00	59.00	15.00	8.00	47.00	72.00	75.00	30.00	10.00	5.00	15.00	15.00
-EVAPORATION (MCM)	2.39	2.48	3.07	2.98	3.17	2.81	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (CEL.M)	73.20	73.20	73.20	73.20	72.33	70.41	68.33	65.82	66.82	68.97	70.78	73.20
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.39	128.39	128.39	128.39	108.70	70.30	39.80	15.90	25.00	48.30	77.30	119.50
-STORAGE VOLUME 2. ACTUAL (MCM)	128.39	128.39	128.39	128.39	108.70	70.30	39.80	15.90	24.00	48.30	77.30	128.30
-SPILL OUT (MCM)	14.34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	19.27	22.00	17.00	12.00	7.00	0.	0.	0.	2.00	27.00	32.00	51.00
-SUPPLY FROM MINNERIYA TANK (MCM)	0.	21.72	16.33	5.84	31.01	33.17	43.74	52.34	18.14	1.84	17.25	37.04
-WATER REQUIREMENTS (MCM)	9.00	41.00	30.00	31.00	55.00	76.00	80.00	79.00	23.00	0.	3.00	7.00
-EVAPORATION (MCM)	2.62	2.72	3.33	3.16	3.30	2.97	2.24	1.14	0.34	0.74	1.45	2.04
-TANK WATER LEVEL (CEL.M)	59.30	59.30	59.30	58.53	57.45	56.84	52.02	47.97	46.85	51.70	55.08	59.30
-STORAGE VOLUME 1. RULE CURVE (MCM)	100.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-STORAGE VOLUME 2. ACTUAL (MCM)	100.60	160.60	160.60	144.28	124.00	78.20	39.70	11.90	8.70	36.80	81.60	160.60
-SPILL OUT (MCM)	5.74	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)												
	280.68	83.53	53.63	36.20	29.42	12.50	47.56	9.75	16.73	21.43	91.06	225.79
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	6.00	4.00	1.00	2.00	2.00	0.	0.	0.	0.	2.00	5.00	7.00
-SUPPLY FROM ANGAMADILLA (MCM)	7.29	22.43	19.02	2.94	28.17	32.39	47.13	9.66	16.58	21.24	72.74	59.65
-WATER REQUIREMENTS (MCM)	11.00	24.00	17.00	7.00	27.00	40.00	63.00	54.00	15.00	15.00	5.00	9.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	3.04	2.58	1.76	1.04	0.94	1.09	1.91
-TANK WATER LEVEL (CEL.M)	59.10	59.10	59.10	59.10	59.10	56.84	55.92	51.98	52.04	52.92	57.58	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	170.00	118.80	123.00	133.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	93.10
-STORAGE VOLUME 2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	135.10	84.45	66.00	19.90	20.40	27.70	99.35	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)												
	273.33	60.90	36.38	28.17	1.00	0.00	0.	0.	0.00	0.	17.65	185.78

Table H.4.5 (15/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR MORAGAKANDA IRRIGATION PROJECT (YEAR -- 1963) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLIGOLLA TUNNEL (MCM)												
	108.00	61.00	52.00	91.00	108.00	110.00	149.00	146.00	141.00	148.00	145.00	151.00
2. NATURAL RUNOFF AT MORAGAKANDA DAM SITE (MCM)												
	257.00	151.00	61.00	69.00	44.00	22.00	19.00	20.00	14.00	33.00	95.00	223.00
3. DIVERTED FLOW TO DEVAHUMA (MCM)												
	3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	3.40
4. DIVERTED FLOW TO SYSTEM H/H AND MH												
- DIVERSION REQUIREMENTS (MCM)	0.	0.	0.	6.00	56.00	83.00	33.00	68.00	73.00	27.00	2.00	0.
- ACTUAL DIVERSION (MCM)	0.	0.	0.	6.00	56.00	83.00	33.00	68.00	73.00	27.00	2.00	0.
- ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAKANDA RESERVOIR												
- INFLOW TO RESERVOIR (MCM)	358.70	209.70	111.30	152.20	89.70	44.60	130.30	93.90	79.20	150.50	235.70	371.60
- RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- RELEASE FOR IRRIGATION (MCM)	18.73	47.67	16.55	4.97	123.95	159.93	186.60	151.46	77.43	136.54	2.94	30.26
- EVAPORATION (MCM)	2.98	3.18	3.99	3.73	4.10	4.08	3.70	3.46	3.29	2.51	2.32	2.82
- RESERVOIR WATER LEVEL (EL.M)	187.00	187.00	187.00	187.00	185.70	181.65	179.51	178.81	176.75	177.32	185.70	187.00
- STORAGE VOLUME (MCM)	631.00	631.00	631.00	631.00	592.65	473.26	413.28	350.25	348.72	362.17	592.62	631.00
- SPILL OUT (MCM)	338.98	159.01	90.76	143.51	0.	0.	0.	0.	0.	0.	0.	300.15
- POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)												
	15.42	9.06	3.66	4.14	2.64	1.32	1.14	1.20	0.84	1.98	5.70	13.38
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
- SYSTEM G AND D1 (MCM)	36.15	56.53	20.21	9.11	126.59	146.81	148.65	151.70	78.27	136.52	8.64	43.64
- SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	14.44	39.09	2.95	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
- TO SYSTEM G AND D1 (MCM)	36.15	56.53	20.21	9.11	126.59	146.81	148.65	151.70	78.27	136.52	8.64	43.64
- TO SYSTEM D2 (MCM)	336.98	126.98	64.66	135.94	0.	14.44	39.09	2.95	0.	0.	0.	261.05
9. WATER REQUIREMENTS OF SYSTEM G (MCM)												
	4.00	6.00	19.00	7.00	29.00	23.00	19.00	27.00	27.00	19.00	3.00	4.00
10. GIRITALLE TANK												
- NATURAL INFLOW (MCM)	2.00	1.00	1.00	1.00	0.	0.	0.	0.	1.00	1.00	2.00	2.00
- SUPPLY FROM UPSTREAM (MCM)	1.29	7.30	1.28	1.36	7.50	2.80	6.85	8.23	0.82	8.11	5.04	10.82
- WATER REQUIREMENTS (MCM)	3.00	8.00	2.00	2.00	11.00	15.00	13.00	13.00	0.	4.00	1.00	2.00
- EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
- TANK WATER LEVEL (EL.M)	92.20	92.20	92.20	92.20	91.27	88.84	86.01	82.78	86.04	86.75	89.19	92.20
- STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
- STORAGE VOLUME 2. ACTUAL (MCM)	25.30	25.30	25.30	25.30	21.40	13.80	7.30	2.30	4.00	8.90	14.70	25.30
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERITA TANK												
- NATURAL INFLOW (MCM)	27.00	11.00	11.00	8.00	2.00	0.	5.00	2.00	8.00	8.00	35.00	30.00
- SUPPLY FROM UPSTREAM (MCM)	26.39	68.43	22.79	7.18	81.15	105.48	112.07	105.64	45.99	99.58	0.	61.79
- RELEASE TO KANTALAI TANK (MCM)	0.	2.23	0.	0.	8.65	37.80	27.37	50.16	7.90	48.29	0.	6.37
- RELEASE TO KAUDULLA TANK (MCM)	5.35	24.10	0.	1.44	37.24	37.29	34.07	41.18	7.34	45.61	27.02	42.43
- WATER REQUIREMENTS (MCM)	9.00	24.00	8.00	5.00	34.00	46.00	40.00	40.00	0.	13.00	2.00	7.00
- EVAPORATION (MCM)	2.14	2.50	3.14	2.93	3.26	3.47	3.57	3.66	3.48	2.88	2.42	2.29
- TANK WATER LEVEL (EL.M)	93.70	93.70	93.70	93.70	93.70	92.86	93.39	92.15	93.70	93.70	93.70	93.70
- STORAGE VOLUME 1. RULE CURVE (MCM)	136.20	136.90	136.20	136.20	126.20	136.20	136.20	136.20	136.90	136.20	136.20	136.20
- STORAGE VOLUME 2. ACTUAL (MCM)	136.90	136.90	136.90	136.90	136.90	117.82	129.99	102.63	136.90	136.90	136.90	136.90
- SPILL OUT (MCM)	0.	0.00	1.88	0.00	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
- NATURAL INFLOW (MCM)	21.87	3.00	2.00	3.84	0.	0.	1.00	0.	2.00	2.00	8.00	7.00
- SUPPLY FROM MINNERITA TANK (MCM)	5.25	37.46	10.07	7.12	36.57	36.61	33.45	40.44	7.20	44.59	30.03	53.47
- WATER REQUIREMENTS (MCM)	13.00	38.00	9.00	8.00	53.00	72.00	63.00	63.00	0.	21.00	4.00	11.00
- EVAPORATION (MCM)	2.32	2.46	3.07	2.96	3.17	2.81	2.15	1.34	1.10	1.29	1.53	1.97
- TANK WATER LEVEL (EL.M)	73.20	73.20	73.20	73.20	72.33	70.41	68.33	65.82	66.82	68.97	70.96	73.20
- STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	114.50	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.50	77.30	118.50
- STORAGE VOLUME 2. ACTUAL (MCM)	128.30	128.30	128.30	128.30	108.70	70.50	39.80	15.90	24.00	48.50	80.80	128.30
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
- NATURAL INFLOW (MCM)	31.13	20.00	20.00	10.16	2.00	0.	10.00	2.00	15.00	12.00	61.00	51.00
- SUPPLY FROM MINNERITA TANK (MCM)	0.	13.72	11.33	0.	7.82	34.17	24.24	45.34	7.14	41.84	0.	25.36
- WATER REQUIREMENTS (MCM)	9.00	31.00	28.00	7.00	63.00	77.00	71.00	74.00	25.00	25.00	3.00	7.00
- EVAPORATION (MCM)	2.53	2.72	3.33	3.16	3.42	2.97	2.24	1.14	0.34	0.74	1.45	2.11
- TANK WATER LEVEL (EL.M)	59.30	59.30	59.30	59.30	57.65	54.86	52.02	47.97	46.85	51.20	55.26	59.30
- STORAGE VOLUME 1. RULE CURVE (MCM)	100.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
- STORAGE VOLUME 2. ACTUAL (MCM)	100.60	100.60	100.60	100.60	124.00	78.20	39.70	11.90	8.70	36.80	93.55	100.60
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)												
	584.56	255.92	115.00	186.80	29.38	25.12	44.95	9.75	8.16	14.02	63.30	448.67
15. PARAKRAMA SANDURA TANK												
- NATURAL INFLOW (MCM)	7.00	4.00	1.00	3.00	1.00	0.	1.00	0.	2.00	3.00	7.00	6.00
- SUPPLY FROM ANGAMADILLA (MCM)	6.28	21.63	12.07	0.	29.10	28.89	44.55	9.66	6.10	12.82	62.73	41.64
- WATER REQUIREMENTS (MCM)	11.00	25.00	17.00	0.	42.00	61.00	58.00	54.00	0.	10.00	1.00	9.00
- EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	2.97	2.55	1.66	1.08	1.04	1.15	1.90
- TANK WATER LEVEL (EL.M)	59.10	59.10	59.10	59.10	59.10	58.48	56.67	55.92	51.98	52.83	57.53	59.10
- STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	116.80	125.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
- STORAGE VOLUME 2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	120.03	81.00	66.00	19.90	26.93	32.78	98.36	135.10
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)												
	578.22	232.28	95.75	186.80	0.	0.	0.00	0.	0.	0.00	0.00	406.65

Table H.4.5 (18/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR HORAGANAKANDA IRRIGATION PROJECT (YEAR -- 1988)

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	76.00	30.00	44.00	90.00	69.00	56.00	95.00	98.00	143.00	132.00	150.00	108.00
2. NATURAL RUNOFF AT HORAGANAKANDA DAM SITE (MCM)	134.00	74.00	66.00	46.00	22.00	14.00	11.00	9.00	25.00	60.00	147.00	103.00
3. DIVERTED FLOW TO DEVAHUNA (MCM)	3.30	1.30	0.70	0.80	3.30	3.60	3.70	3.10	1.80	2.30	1.30	1.40
4. DIVERTED FLOW TO SYSTEM N/11 AND N/11												
-DIVERSION REQUIREMENTS (MCM)	0.	22.00	14.00	5.00	83.00	82.00	69.00	42.00	44.00	0.	0.	0.
-ACTUAL DIVERSION (MCM)	0.	22.00	14.00	5.00	20.15	29.06	64.82	42.00	44.00	0.	0.	0.
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	36.85	109.79	113.97	0.	0.	0.	0.	0.
5. HORAGANAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	205.70	79.70	94.30	129.20	60.55	36.54	36.48	60.90	121.20	208.50	294.70	208.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	75.07	132.58	80.38	66.39	163.66	188.36	198.82	151.15	55.15	2.21	6.52	129.89
-EVAPORATION (MCM)	2.98	3.12	3.74	3.58	3.99	3.35	3.02	2.13	1.72	1.89	2.39	2.92
-RESERVOIR WATER LEVEL (EL.M)	187.00	185.10	185.45	187.00	182.63	177.60	169.19	162.27	167.30	177.94	187.00	187.00
-STORAGE VOLUME (MCM)	631.00	574.99	585.37	631.00	502.10	358.55	205.17	112.76	177.09	376.49	631.00	631.00
-SPILL OUT (MCM)	127.65	0.	0.	33.40	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (10000WH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	8.04	4.44	3.96	2.70	1.32	0.84	0.66	0.54	1.50	3.60	6.82	6.18
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	83.11	137.02	84.14	49.35	151.70	146.81	150.81	151.70	56.65	10.81	13.34	136.07
-SYSTEM D2 (MCM)	0.	0.	0.	0.	15.07	20.59	46.67	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	83.11	137.02	84.14	76.87	151.70	146.81	150.81	151.70	56.65	10.81	66.62	139.53
-TO SYSTEM D2 (MCM)	127.65	0.	0.	5.88	15.07	20.59	46.67	0.	0.	0.	0.	72.33
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	4.00	18.00	15.00	22.00	29.00	25.00	19.00	27.00	25.00	7.00	7.00	11.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	1.00	0.	1.00	1.00	0.	0.	0.	0.	1.00	2.00	2.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	7.29	10.60	1.58	3.86	7.30	7.30	8.85	7.23	0.89	5.13	15.65	6.29
-WATER REQUIREMENTS (MCM)	8.00	13.00	3.00	1.00	11.00	15.00	15.00	12.00	0.	0.	1.00	7.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.28
-TANK WATER LEVEL (EL.M)	92.20	91.58	91.37	92.20	91.27	88.84	86.01	82.78	84.04	86.75	92.20	92.20
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	15.70	22.80
2. ACTUAL (MCM)	25.30	22.60	21.80	25.30	21.40	13.80	7.30	2.30	4.00	8.90	25.30	25.30
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	10.00	2.00	10.00	8.00	0.	0.	0.	3.00	10.00	32.00	24.00	13.00
-SUPPLY FROM UPSTREAM (MCM)	63.71	90.26	81.55	45.64	104.40	105.62	112.07	108.84	26.24	0.	20.63	112.07
-RELEASE TO KAUDULLA TANK (MCM)	6.23	50.91	5.03	6.30	32.98	37.80	50.60	0.	0.	0.	0.	49.72
-RELEASE TO KANTALAI TANK (MCM)	61.13	31.59	11.25	17.13	38.26	57.29	46.28	37.10	7.34	18.93	19.98	51.35
-WATER REQUIREMENTS (MCM)	26.00	39.00	9.00	3.00	34.00	46.00	47.00	37.00	0.	0.	2.00	21.00
-EVAPORATION (MCM)	2.55	2.50	2.81	2.93	3.24	3.43	3.44	3.19	3.55	2.88	2.42	2.29
-TANK WATER LEVEL (EL.M)	93.70	91.75	93.70	93.70	93.52	92.67	90.97	92.54	93.70	93.70	93.70	93.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
2. ACTUAL (MCM)	136.90	93.44	136.90	136.90	132.80	113.75	78.50	110.85	136.90	136.90	136.90	136.90
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	2.00	0.	2.00	2.00	0.	0.	0.	1.00	2.00	7.00	5.00	3.00
-SUPPLY FROM MINNERIYA TANK (MCM)	60.59	50.66	11.05	22.52	32.57	38.61	43.45	38.44	7.20	28.59	33.68	51.32
-WATER REQUIREMENTS (MCM)	40.00	62.00	13.00	5.00	54.00	72.00	74.00	60.00	0.	0.	4.00	32.00
-EVAPORATION (MCM)	2.39	2.46	2.95	2.82	3.17	2.81	2.15	1.34	1.10	1.29	1.65	2.08
-TANK WATER LEVEL (EL.M)	73.20	72.58	72.65	73.20	72.33	70.61	68.33	65.82	66.82	69.66	71.81	72.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	114.50	111.60	128.30	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.30
2. ACTUAL (MCM)	128.30	114.50	111.60	128.30	108.70	70.50	39.80	15.90	24.00	58.30	97.15	117.19
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	17.00	2.00	17.00	15.00	0.	0.	0.	5.00	17.00	54.00	42.00	22.00
-SUPPLY FROM MINNERIYA TANK (MCM)	5.64	46.02	4.55	22.40	29.82	34.17	45.74	0.	0.	0.	0.	44.95
-WATER REQUIREMENTS (MCM)	20.00	57.00	32.00	9.00	63.00	77.00	82.00	23.00	21.00	0.	3.00	30.00
-EVAPORATION (MCM)	2.64	2.72	3.25	3.00	3.42	2.97	2.74	1.14	0.63	0.91	1.77	2.19
-TANK WATER LEVEL (EL.M)	59.30	58.65	58.01	59.30	57.45	54.84	52.02	49.68	48.82	54.21	56.50	58.29
-STORAGE VOLUME 1. RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
2. ACTUAL (MCM)	160.60	148.90	135.20	160.60	124.00	78.20	39.70	20.56	15.92	69.01	108.25	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)	251.61	72.56	70.04	45.12	31.75	26.75	51.01	4.46	9.50	30.40	94.18	146.15
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	3.00	0.	2.00	3.00	0.	0.	0.	2.00	1.00	6.00	1.00	4.00
-SUPPLY FROM ANGAMADILLA (MCM)	25.29	56.63	12.07	0.	31.47	26.50	50.55	4.42	9.61	30.13	72.76	20.12
-WATER REQUIREMENTS (MCM)	26.00	52.00	11.00	0.	65.00	61.00	63.00	39.00	10.00	0.	3.00	22.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	2.90	2.55	1.70	1.32	1.10	1.45	2.10
-TANK WATER LEVEL (EL.M)	59.10	59.10	59.10	59.10	58.62	56.67	55.92	53.36	53.26	55.90	59.10	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.60	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	67.30	95.10
2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	118.40	81.00	66.00	31.66	30.76	65.78	135.08	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)	228.10	17.64	52.86	45.12	0.00	0.	0.00	0.00	0.	0.00	70.77	125.85

Table H.4.5 (21/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR MORAGAHAXANDA IRRIGATION PROJECT (YEAR -- 1969) *****

I T E M S	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	85.00	44.00	32.00	101.00	119.00	147.00	142.00	112.00	131.00	143.00	131.00	121.00
2. NATURAL RUNOFF AT MORAGAHAXANDA DAM SITE (MCM)	134.00	94.00	36.00	60.00	31.00	22.00	13.00	29.00	24.00	93.00	63.00	179.00
3. DIVERTED FLOW TO DEVAHUMA (MCM)	3.30	1.30	0.70	0.80	3.30	3.60	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM MAIN AND MH												
-DIVERSION REQUIREMENTS (MCM)	44.00	57.00	71.00	29.00	80.00	83.00	83.00	46.00	75.00	0.	4.00	0.
-ACTUAL DIVERSION (MCM)	44.00	57.00	20.57	79.43	80.00	83.00	83.00	46.00	75.00	0.	4.00	0.
-ACCUMULATED DEFICIT (MCM)	0.	0.	30.63	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAXANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	170.70	78.70	45.73	79.77	65.70	81.60	67.30	90.90	77.20	232.50	187.70	297.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	160.66	127.89	159.39	101.98	169.47	161.56	181.47	107.94	54.02	17.97	99.61	1.68
-EVAPORATION (MCM)	2.76	2.72	3.10	2.56	2.65	2.27	1.61	0.83	0.72	1.01	1.85	2.19
-RESERVOIR WATER LEVEL (E.L.M)	183.24	181.48	177.29	176.23	171.22	165.95	154.16	150.37	154.74	172.32	176.66	187.00
-STORAGE VOLUME (MCM)	520.13	468.22	361.46	336.69	239.27	157.04	41.26	23.39	45.85	259.37	346.60	631.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	9.34
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	8.04	5.64	2.16	3.60	1.86	1.32	0.78	1.74	1.44	5.58	3.78	10.74
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	148.70	133.53	151.55	105.58	151.70	146.81	147.57	109.68	55.46	23.55	102.39	12.42
-SYSTEM D2 (MCM)	0.	0.	0.	0.	10.62	16.07	34.68	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	148.70	133.53	151.55	105.58	151.70	146.81	147.57	109.68	55.46	23.55	102.39	21.76
-TO SYSTEM D2 (MCM)	0.	0.	0.	0.	10.62	16.07	34.68	0.	0.	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	12.00	13.00	22.00	20.00	29.00	23.00	19.00	18.00	27.00	12.00	15.00	4.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	0.	0.	0.	1.00	0.	0.	0.	0.	1.00	1.00	1.00	3.00
-SUPPLY FROM UPSTREAM (MCM)	17.79	9.60	6.58	1.66	8.20	7.80	5.85	2.23	0.89	4.11	3.04	9.87
-WATER REQUIREMENTS (MCM)	11.00	12.00	7.00	0.	11.00	15.00	12.00	12.00	0.	0.	3.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (E.L.M)	92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	84.04	86.75	89.19	92.20
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2. ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	25.30
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	5.00	3.00	0.	10.00	2.00	0.	6.00	3.00	10.00	19.00	16.00	51.00
-SUPPLY FROM UPSTREAM (MCM)	112.07	103.23	112.07	76.40	103.20	105.48	112.07	76.60	23.87	5.87	71.99	6.34
-RELEASE TO KANTALAI TANK (MCM)	59.88	26.57	42.64	9.62	44.68	37.80	12.99	0.	22.73	0.	32.26	0.
-RELEASE TO KAUDULLA TANK (MCM)	67.33	44.47	31.62	13.06	42.99	37.29	31.01	34.05	7.34	21.99	43.31	41.90
-WATER REQUIREMENTS (MCM)	34.00	36.00	20.00	1.00	34.00	46.00	38.00	36.00	0.	0.	10.00	7.00
-EVAPORATION (MCM)	2.20	2.04	2.51	2.49	3.25	3.39	3.31	3.67	3.80	2.88	2.42	2.29
-TANK WATER LEVEL (E.L.M)	90.28	90.00	90.86	93.70	92.83	91.94	93.44	93.70	93.70	93.70	93.70	93.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90
2. ACTUAL (MCM)	66.22	61.37	76.67	134.90	117.16	98.23	131.02	134.90	134.90	134.90	134.90	134.90
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	1.00	1.00	0.	2.00	0.	0.	1.00	1.00	2.00	4.00	4.00	11.00
-SUPPLY FROM MINNERIYA TANK (MCM)	66.12	43.66	31.05	12.82	42.22	36.61	30.43	33.44	7.20	21.59	42.53	47.18
-WATER REQUIREMENTS (MCM)	53.00	56.00	31.00	1.00	53.00	72.00	60.00	57.00	0.	0.	16.00	11.00
-EVAPORATION (MCM)	2.32	2.48	2.95	2.82	3.12	2.81	2.13	1.34	1.40	1.29	1.53	1.94
-TANK WATER LEVEL (E.L.M)	73.20	72.58	72.45	72.95	72.33	70.41	68.33	65.82	66.82	68.97	70.78	72.94
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	114.30	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
2. ACTUAL (MCM)	128.30	114.30	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	122.54
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	10.00	7.00	0.	17.00	2.00	0.	10.00	7.00	17.00	34.00	29.00	88.00
-SUPPLY FROM MINNERIYA TANK (MCM)	54.13	24.02	38.55	8.70	40.39	34.17	11.74	0.	20.55	0.	29.16	0.
-WATER REQUIREMENTS (MCM)	42.00	40.00	49.00	14.00	59.00	77.00	58.00	32.00	42.00	0.	17.00	7.00
-EVAPORATION (MCM)	2.53	2.72	3.25	3.00	3.29	2.97	2.24	1.14	0.41	0.74	1.52	2.04
-TANK WATER LEVEL (E.L.M)	59.30	58.68	57.01	58.63	57.65	54.84	52.02	48.35	46.85	52.21	55.06	59.30
-STORAGE VOLUME 1. RULE CURVE (MCM)	100.60	147.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
2. ACTUAL (MCM)	100.60	146.90	135.20	143.90	124.00	78.20	39.70	13.56	8.70	41.96	81.60	160.56
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)	131.96	84.36	26.84	37.40	32.76	26.75	38.90	13.26	8.56	36.42	29.22	169.26
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	2.00	1.00	4.00	4.00	0.	0.	1.00	1.00	4.00	2.00	10.00	0.
-SUPPLY FROM ANGAMADILLA (MCM)	42.29	51.43	25.07	0.	37.47	26.50	38.55	13.14	8.48	36.09	28.98	72.78
-WATER REQUIREMENTS (MCM)	42.00	50.00	26.00	0.	46.00	61.00	52.00	44.00	13.00	1.00	34.00	9.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	2.90	2.55	1.76	1.36	1.08	1.46	1.69
-TANK WATER LEVEL (E.L.M)	59.10	59.10	59.10	59.10	58.42	56.67	55.92	53.58	53.12	55.99	55.76	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	118.40	81.00	66.00	34.38	29.50	67.52	63.01	135.10
-SPILL OUT (MCM)	0.	0.	0.	1.99	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)	89.29	32.46	1.54	37.40	0.	0.	0.	0.00	0.00	0.00	0.	95.82

Table H.4.5 (22/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1970)

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	121.00	94.00	51.00	111.00	129.00	143.00	134.00	152.00	128.00	144.00	146.00	152.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE (MCM)	216.00	246.00	65.00	73.00	46.00	22.00	19.00	16.00	20.00	44.00	72.00	161.00
3. DIVERTED FLOW TO DEMAHUVA (MCM)	3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM H-1H AND H-1H												
-DIVERSION REQUIREMENTS (MCM)	0.	0.	0.	21.00	51.00	83.00	71.00	63.00	75.00	4.00	3.00	0.
-ACTUAL DIVERSION (MCM)	0.	0.	0.	21.00	51.00	83.00	71.00	63.00	75.00	4.00	3.00	0.
-ACCUMULATED DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	332.70	337.70	112.30	161.20	119.70	77.60	77.30	100.90	70.20	180.50	212.70	310.40
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	113.85	23.18	62.59	17.96	88.33	113.98	186.73	150.74	92.94	162.06	102.08	122.75
-EVAPORATION (MCM)	2.92	3.18	3.99	3.73	4.15	4.35	4.26	3.82	3.64	2.71	2.45	2.67
-RESERVOIR WATER LEVEL (CEL.M)	187.00	187.00	187.00	187.00	187.00	185.62	181.85	180.03	178.90	180.11	183.78	187.00
-STORAGE VOLUME (MCM)	631.00	631.00	631.00	631.00	631.00	590.26	479.07	425.41	399.02	427.75	535.94	631.00
-SPILL OUT (MCM)	217.87	311.35	45.72	139.51	27.22	0.	0.	0.	0.	0.	0.	85.12
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	12.96	14.76	3.78	4.38	2.76	1.52	1.14	0.96	1.20	2.64	4.32	9.66
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	124.81	37.94	66.37	22.34	91.09	115.30	151.70	151.70	94.14	151.70	106.38	137.41
-TO SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	0.	33.66	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	124.81	67.65	112.09	22.34	118.31	115.30	151.70	151.70	94.14	151.70	106.38	141.32
-TO SYSTEM D2 (MCM)	217.87	281.64	0.	139.51	0.	0.	33.66	0.	0.	0.	0.	81.21
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	4.00	0.	17.00	21.00	29.00	23.00	19.00	27.00	25.00	19.00	7.00	6.00
10. GIRITALLE TANK												
-NATURAL INFLOW (MCM)	1.00	1.00	0.	1.00	0.	0.	0.	0.	0.	0.	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	9.29	8.30	8.38	0.	2.40	2.91	9.85	5.23	4.89	11.11	8.01	12.87
-WATER REQUIREMENTS (MCM)	10.00	7.00	8.00	0.	9.00	14.00	16.00	10.00	3.00	6.00	3.00	3.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.	0.40	0.41	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (CEL.M)	92.20	92.20	92.20	92.20	92.20	88.84	86.01	82.78	84.04	88.75	89.19	92.20
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2. ACTUAL (MCM)	25.30	25.30	25.30	25.30	25.30	13.80	7.30	2.30	4.00	8.90	14.70	25.30
-SPILL OUT (MCM)	0.	0.	0.	0.64	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	8.00	13.00	3.00	11.00	3.00	3.00	0.	6.00	3.00	3.00	18.00	19.00
-SUPPLY FROM UPSTREAM (MCM)	102.33	56.33	80.66	0.	71.58	81.20	111.90	108.64	52.66	110.64	83.56	112.07
-RELEASE TO KANTALAI TANK (MCM)	22.87	0.	12.09	0.	0.	26.32	51.70	26.93	20.07	61.77	22.60	65.54
-RELEASE TO KAUDULLA TANK (MCM)	55.11	20.03	12.60	0.	25.02	11.40	47.30	22.85	21.59	54.58	42.79	54.12
-WATER REQUIREMENTS (MCM)	30.00	22.00	17.00	0.	27.00	43.00	48.00	30.00	8.00	19.00	10.00	10.00
-EVAPORATION (MCM)	2.35	2.50	3.14	2.93	3.26	3.47	3.65	3.37	3.73	2.88	2.27	2.29
-TANK WATER LEVEL (CEL.M)	93.70	93.70	93.70	93.70	93.70	93.70	91.93	93.38	93.70	92.61	93.70	93.70
-STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2. ACTUAL (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	98.15	129.64	136.90	112.31	136.90	136.90
-SPILL OUT (MCM)	0.	0.	0.	8.02	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	2.00	3.00	1.00	3.22	1.00	1.00	0.	2.00	1.00	1.00	4.00	4.00
-SUPPLY FROM MINNERIYA TANK (MCM)	54.12	33.46	29.07	0.	44.17	11.20	46.45	22.44	21.20	53.39	41.53	54.24
-WATER REQUIREMENTS (MCM)	48.00	34.00	27.00	0.	42.00	67.00	75.00	47.00	13.00	29.00	15.00	16.00
-EVAPORATION (MCM)	2.36	2.46	3.07	2.96	3.17	3.00	2.15	1.34	1.10	1.29	1.53	1.94
-TANK WATER LEVEL (CEL.M)	73.20	73.20	73.20	73.20	73.20	70.41	68.33	65.82	66.82	68.97	70.78	72.72
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	116.50	111.60	122.60	108.70	70.50	39.80	15.90	26.00	48.30	77.30	116.50
-STORAGE VOLUME 2. ACTUAL (MCM)	128.30	128.30	128.30	128.30	128.30	70.50	39.50	15.90	24.00	48.30	77.30	117.60
-SPILL OUT (MCM)	0.	0.	0.	0.26	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	12.00	22.00	5.00	18.78	10.00	5.00	0.	12.00	5.00	7.00	29.00	34.00
-SUPPLY FROM MINNERIYA TANK (MCM)	20.68	9.72	30.67	0.	1.21	23.80	46.74	24.34	18.14	53.84	20.25	57.44
-WATER REQUIREMENTS (MCM)	30.00	29.00	38.00	10.00	41.00	75.00	83.00	63.00	26.00	34.00	3.00	30.00
-EVAPORATION (MCM)	2.64	2.72	3.33	3.12	3.42	2.99	2.74	1.14	0.34	0.74	1.45	2.04
-TANK WATER LEVEL (CEL.M)	59.30	59.30	58.97	59.30	52.62	56.84	52.02	47.97	46.85	51.70	53.08	58.29
-STORAGE VOLUME 1. RULE CURVE (MCM)	160.60	148.90	153.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-STORAGE VOLUME 2. ACTUAL (MCM)	160.60	160.60	154.93	160.60	127.40	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)	389.91	473.88	44.22	186.13	27.24	10.68	39.52	9.04	9.80	24.36	46.68	244.55
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	3.00	4.00	0.	3.00	2.00	1.00	0.	1.00	1.00	3.00	7.00	5.00
-SUPPLY FROM ANGAMADILLA (MCM)	32.72	18.43	29.07	0.	26.92	10.58	39.17	8.96	9.71	24.14	60.24	48.38
-WATER REQUIREMENTS (MCM)	33.00	20.00	26.00	0.	28.00	49.00	63.00	42.00	13.00	4.00	3.00	14.00
-EVAPORATION (MCM)	2.29	2.43	3.07	2.96	3.17	3.02	2.66	1.76	1.32	1.07	1.30	1.90
-TANK WATER LEVEL (CEL.M)	59.10	59.10	59.10	59.10	59.01	57.24	55.92	53.40	53.02	54.71	52.49	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	125.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2. ACTUAL (MCM)	135.10	135.10	135.10	135.10	132.93	92.49	66.00	32.20	28.58	48.66	97.61	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.04	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)	357.35	455.28	14.88	186.13	0.00	0.	0.00	0.	0.	0.	0.00	195.73

Table H.4.5 (23/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1971) *****

I I E M S		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL	(MCM)	131.00	65.00	58.00	105.00	125.00	130.00	152.00	147.00	140.00	151.00	131.00	136.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE	(MCM)	210.00	65.00	50.00	66.00	69.00	42.00	26.00	50.00	68.00	69.00	61.00	311.00
3. DIVERTED FLOW TO DEMAHUWA	(MCM)	3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM H-1 AND H-2													
-DIVERSION REQUIREMENTS	(MCM)	0.	2.00	2.00	5.00	71.00	83.00	83.00	22.00	53.00	0.	33.00	0.
-ACTUAL DIVERSION	(MCM)	0.	2.00	2.00	5.00	71.00	83.00	83.00	22.00	53.00	0.	33.00	0.
-ACCUMULATED DEFICIT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR													
-INFLOW TO RESERVOIR	(MCM)	356.70	125.70	104.50	106.20	118.70	81.60	90.30	170.90	152.20	207.50	156.70	444.60
-RELEASE FOR POWER GENERATION	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION	(MCM)	99.33	123.23	124.26	40.49	82.12	129.22	163.88	133.56	90.54	168.10	143.13	70.61
-EVAPORATION	(MCM)	2.98	3.18	3.96	3.65	4.15	4.34	4.76	4.08	4.38	3.55	3.08	2.92
-RESERVOIR WATER LEVEL	(EL.M)	187.00	186.98	186.17	187.00	187.00	185.34	182.70	183.83	185.77	187.00	187.00	187.00
-STORAGE VOLUME	(MCM)	631.00	630.29	606.38	631.00	631.00	582.04	504.19	557.47	594.75	631.00	631.00	631.00
-SPILL OUT	(MCM)	234.39	0.	0.	97.45	32.44	0.	0.	0.	0.	19.60	10.47	371.07
-POWER OUTPUT	(MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT	(1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT	(MCM)	12.60	3.90	3.00	4.08	4.14	2.52	1.56	3.00	4.08	3.60	3.66	18.66
7. WATER REQUIREMENTS AT ELAHERA ANICUT													
-SYSTEM G AND D1	(MCM)	111.93	127.93	127.26	44.57	86.26	131.74	150.81	136.54	94.62	151.70	146.81	89.27
-SYSTEM D2	(MCM)	0.	0.	0.	0.	0.	0.	14.64	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT													
-TO SYSTEM G AND D1	(MCM)	111.93	127.13	127.26	72.09	118.69	131.74	150.81	136.54	94.62	151.70	146.81	128.36
-TO SYSTEM D2	(MCM)	234.39	0.	0.	69.93	0.	0.	14.64	0.	0.	19.60	10.47	331.98
9. WATER REQUIREMENTS OF SYSTEM G	(MCM)	10.00	8.00	16.00	16.00	29.00	23.00	19.00	19.00	27.00	22.00	15.00	0.
10. GIRITALA TANK													
-NATURAL INFLOW	(MCM)	1.00	0.	0.	1.00	0.	0.	0.	0.	0.	0.	1.00	2.00
-SUPPLY FROM UPSTREAM	(MCM)	8.22	8.60	5.58	2.88	8.40	3.91	8.85	7.23	5.89	10.11	13.04	10.87
-WATER REQUIREMENTS	(MCM)	7.00	11.00	6.00	0.	8.00	15.00	15.00	12.00	4.00	5.00	8.00	2.00
-EVAPORATION	(MCM)	0.29	0.30	0.32	0.36	0.40	0.41	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL	(EL.M)	92.20	91.56	91.37	92.20	92.20	88.84	86.01	82.78	84.04	86.75	89.19	92.20
-STORAGE VOLUME 1.RULE CURVE	(MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2.ACTUAL	(MCM)	25.30	22.60	21.80	25.30	25.30	13.80	7.30	2.30	4.00	8.90	14.70	25.30
-SPILL OUT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK													
-NATURAL INFLOW	(MCM)	13.00	5.00	3.00	13.00	6.00	0.	2.00	3.00	2.00	5.00	8.00	38.00
-SUPPLY FROM UPSTREAM	(MCM)	87.59	101.23	98.49	48.13	72.94	95.42	112.07	100.48	55.13	108.68	108.12	107.99
-RELEASE TO KANTALAI TANK	(MCM)	33.33	49.40	30.47	22.89	8.65	29.45	29.58	21.40	15.64	58.45	65.54	2.70
-RELEASE TO KAUDULLA TANK	(MCM)	43.81	40.39	28.57	11.02	17.89	16.50	43.23	34.05	28.68	50.50	66.73	44.95
-WATER REQUIREMENTS	(MCM)	21.00	33.00	18.00	0.	23.00	46.00	46.00	36.00	11.00	16.00	23.00	7.00
-EVAPORATION	(MCM)	2.35	2.50	2.98	2.93	3.26	3.47	3.65	3.64	3.80	2.88	2.34	1.99
-TANK WATER LEVEL	(EL.M)	93.70	92.84	93.70	93.70	93.70	93.70	93.33	93.70	93.70	93.70	91.12	93.70
-STORAGE VOLUME 1.RULE CURVE	(MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
2.ACTUAL	(MCM)	136.90	117.44	136.90	136.90	136.90	136.90	128.51	136.90	136.90	128.74	81.25	136.90
-SPILL OUT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK													
-NATURAL INFLOW	(MCM)	3.00	1.00	1.00	3.00	2.00	0.	0.	1.00	0.	1.00	2.00	8.00
-SUPPLY FROM MINNERIYA TANK	(MCM)	43.02	39.66	28.05	16.52	37.17	16.20	42.45	33.44	26.20	49.59	65.53	55.96
-WATER REQUIREMENTS	(MCM)	33.00	52.00	29.00	0.	36.00	71.00	71.00	57.00	17.00	25.00	37.00	11.00
-EVAPORATION	(MCM)	2.32	2.46	2.95	2.82	3.17	3.00	2.15	1.34	1.10	1.29	1.55	1.91
-TANK WATER LEVEL	(EL.M)	73.20	72.58	72.45	73.20	73.20	70.41	68.33	65.82	66.82	68.97	70.78	73.20
-STORAGE VOLUME 1.RULE CURVE	(MCM)	128.30	114.50	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
2.ACTUAL	(MCM)	128.30	114.50	111.60	128.30	128.30	70.50	39.80	15.90	24.00	48.30	77.30	128.30
-SPILL OUT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK													
-NATURAL INFLOW	(MCM)	22.00	10.00	5.00	22.00	12.00	2.00	5.00	5.00	2.00	10.00	15.00	66.00
-SUPPLY FROM MINNERIYA TANK	(MCM)	30.13	45.07	27.55	37.40	13.40	26.82	26.74	19.34	14.14	52.84	59.25	22.04
-WATER REQUIREMENTS	(MCM)	30.00	64.00	43.00	0.	53.00	77.00	68.00	51.00	19.00	34.00	28.00	7.00
-EVAPORATION	(MCM)	2.53	2.72	3.25	3.00	3.42	3.01	2.24	1.14	0.34	0.74	1.45	2.04
-TANK WATER LEVEL	(EL.M)	59.30	58.88	58.01	59.30	57.73	54.84	52.02	47.97	46.85	51.70	55.06	59.30
-STORAGE VOLUME 1.RULE CURVE	(MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	38.80	81.60	141.00
2.ACTUAL	(MCM)	160.60	148.90	135.20	160.60	129.58	78.20	39.70	11.90	8.70	38.80	81.60	160.60
-SPILL OUT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA	(MCM)	401.79	51.10	43.00	111.85	40.86	19.48	27.08	13.00	30.92	45.00	60.81	717.32
15. PARAKRAMA SANDURA TANK													
-NATURAL INFLOW	(MCM)	2.00	1.00	2.00	2.00	0.	0.	2.00	4.00	0.	3.00	3.00	11.00
-SUPPLY FROM ANGAMADILLA	(MCM)	36.29	45.63	17.07	1.96	40.49	19.30	26.83	12.86	30.64	44.39	45.81	0.30
-WATER REQUIREMENTS	(MCM)	36.00	43.00	11.00	1.00	44.00	61.00	44.00	19.00	16.00	8.00	25.00	9.00
-EVAPORATION	(MCM)	2.29	2.43	3.07	2.98	3.17	2.99	2.58	1.76	1.77	1.55	1.74	2.10
-TANK WATER LEVEL	(EL.M)	59.10	59.10	59.10	59.10	58.83	56.81	55.92	55.72	56.38	58.20	59.10	59.10
-STORAGE VOLUME 1.RULE CURVE	(MCM)	120.00	118.40	123.00	135.10	113.40	81.00	46.00	19.90	20.40	27.70	47.30	95.10
2.ACTUAL	(MCM)	135.10	135.10	135.10	135.10	128.42	83.74	66.00	62.12	74.99	113.03	135.10	135.10
-SPILL OUT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT	(MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA	(MCM)	367.19	6.27	30.82	109.88	0.00	0.00	0.	0.	0.	0.00	14.59	717.22

Table H.4.5 (24/29) DETAIL OUTPUT OF CASE II STUDY

RESERVOIR AND TANK OPERATION FOR MORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1972)

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)												
	65.00	31.00	17.00	6A.00	139.00	92.00	134.00	126.00	112.00	152.00	147.00	147.00
2. NATURAL RUNOFF AT MORAGAHAKANDA DAM SITE (MCM)												
	97.00	49.00	18.00	27.00	80.00	19.00	24.00	14.00	12.00	88.00	108.00	227.00
3. DIVERTED FLOW TO DEWANUM (MCM)												
	1.30	1.30	0.70	0.80	1.30	1.60	1.70	1.10	1.80	2.30	1.30	1.60
4. DIVERTED FLOW TO SYSTEM MAIN AND HN												
- DIVERSION REQUIREMENTS (MCM)	4.00	83.00	78.00	70.00	6.00	59.00	83.00	74.00	75.00	0.	8.00	0.
- ACTUAL DIVERSION (MCM)	4.00	30.30	0.	51.85	83.00	68.21	83.00	74.00	75.00	0.	8.00	0.
- ACCUMULATED DEFICIT (MCM)	0.	52.70	130.70	168.86	71.86	62.62	62.62	0.	0.	0.	0.	0.
5. MORAGAHAKANDA RESERVOIR												
- INFLOW TO RESERVOIR (MCM)	153.70	47.40	33.30	41.35	131.70	38.39	70.30	61.90	46.20	236.50	244.70	371.60
- RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- RELEASE FOR IRRIGATION (MCM)	145.88	134.08	148.34	136.47	103.43	159.84	184.70	151.46	21.32	18.95	18.73	108.85
- EVAPORATION (MCM)	2.98	3.09	3.43	2.73	2.75	2.85	2.28	1.36	0.68	0.94	1.76	2.42
- RESERVOIR WATER LEVEL (EL.M)	187.00	183.96	179.92	175.72	176.78	170.99	162.78	151.27	150.00	169.43	180.35	187.00
- STORAGE VOLUME (MCM)	631.00	541.23	422.75	324.90	349.40	235.10	118.42	27.51	21.70	208.81	435.02	631.00
- SPILL OUT (MCM)	4.83	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- ENERGY OUTPUT (10000WH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)												
	5.82	2.94	1.08	1.62	4.80	1.14	1.44	0.84	0.72	5.28	6.48	13.62
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
- SYSTEM G AND D1 (MCM)	151.70	137.02	149.42	138.09	109.25	146.81	151.70	151.70	89.07	53.93	23.21	122.47
- SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	4.17	34.44	0.59	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
- TO SYSTEM G AND D1 (MCM)	151.70	137.02	149.42	138.09	109.25	146.81	151.70	151.70	52.04	53.93	23.21	124.33
- TO SYSTEM D2 (MCM)	4.83	0.	0.	0.	0.	4.17	34.44	0.59	0.00	0.	0.	42.30
9. WATER REQUIREMENTS OF SYSTEM G (MCM)												
	23.00	18.00	20.00	17.00	24.00	23.00	19.00	27.00	22.00	6.00	3.00	8.00
10. GIRITALA TANK												
- NATURAL INFLOW (MCM)	0.	0.	0.	1.00	1.00	0.	0.	0.	1.00	1.00	1.00	1.00
- SUPPLY FROM UPSTREAM (MCM)	11.29	10.80	6.58	2.66	3.70	2.80	9.85	6.23	0.89	5.11	6.04	13.87
- WATER REQUIREMENTS (MCM)	11.00	13.00	7.00	1.00	7.00	15.00	16.00	13.00	0.	0.	1.00	4.00
- EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
- TANK WATER LEVEL (EL.M)	92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	84.04	86.75	89.19	92.20
- STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
- STORAGE VOLUME 2. ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	25.30
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
- NATURAL INFLOW (MCM)	3.00	0.	2.00	8.00	8.00	0.	0.	0.	22.00	19.00	22.00	18.00
- SUPPLY FROM UPSTREAM (MCM)	106.51	98.54	112.07	108.48	73.82	105.48	111.90	105.64	22.63	32.91	32.49	112.07
- RELEASE TO KANTALAI TANK (MCM)	83.78	45.91	46.47	36.17	19.24	26.74	41.75	37.90	0.	0.	0.	40.68
- RELEASE TO KAUDULLA TANK (MCM)	56.41	42.81	40.33	19.17	20.59	37.29	46.28	42.20	4.28	21.99	30.07	57.17
- WATER REQUIREMENTS (MCM)	35.00	39.00	20.00	4.00	21.00	46.00	48.00	41.00	0.	0.	2.00	12.00
- EVAPORATION (MCM)	2.35	2.22	2.49	2.37	1.12	3.47	3.57	3.40	3.05	2.64	2.42	2.29
- TANK WATER LEVEL (EL.M)	91.59	89.90	90.17	92.91	93.70	93.35	92.08	90.06	92.15	93.70	93.70	93.70
- STORAGE VOLUME 1. RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
- STORAGE VOLUME 2. ACTUAL (MCM)	90.90	59.50	64.28	119.03	136.90	128.88	101.18	62.32	102.61	136.90	136.90	136.90
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
- NATURAL INFLOW (MCM)	1.00	0.	0.	2.00	2.00	0.	0.	0.	3.00	4.00	5.00	4.00
- SUPPLY FROM MINNERIYA TANK (MCM)	55.39	42.04	39.61	18.82	20.27	36.61	45.45	41.44	4.20	21.59	29.53	67.94
- WATER REQUIREMENTS (MCM)	34.00	62.00	31.00	7.00	33.00	72.00	74.00	64.00	0.	0.	4.00	19.00
- EVAPORATION (MCM)	2.39	2.46	2.88	2.82	3.12	2.81	2.15	1.34	1.10	1.29	1.53	1.94
- TANK WATER LEVEL (EL.M)	73.20	72.20	72.45	72.95	72.35	70.41	68.33	65.82	66.82	68.97	70.78	73.20
- STORAGE VOLUME 1. RULE CURVE (MCM)	128.50	103.87	111.80	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	128.50
- STORAGE VOLUME 2. ACTUAL (MCM)	128.50	103.87	111.80	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	128.50
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
13. KANTALAI TANK												
- NATURAL INFLOW (MCM)	7.00	0.	2.00	12.00	15.00	0.	0.	0.	37.00	32.00	39.00	32.00
- SUPPLY FROM MINNERIYA TANK (MCM)	57.64	41.50	42.01	32.70	17.39	24.17	37.74	52.34	0.	0.	0.	42.12
- WATER REQUIREMENTS (MCM)	62.00	59.00	46.00	33.00	69.00	67.00	74.00	79.00	3.00	0.	17.00	22.00
- EVAPORATION (MCM)	2.64	2.72	3.19	3.00	3.29	2.97	2.24	1.14	0.34	1.41	1.81	2.12
- TANK WATER LEVEL (EL.M)	59.30	58.26	58.01	58.43	57.45	56.86	52.02	47.97	52.53	54.70	55.93	58.55
- STORAGE VOLUME 1. RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
- STORAGE VOLUME 2. ACTUAL (MCM)	160.60	140.38	135.20	143.90	124.00	78.20	39.70	11.90	45.56	79.15	96.35	146.34
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)												
	110.01	39.06	44.92	172.38	44.20	10.03	50.00	9.75	15.28	87.72	85.52	265.68
15. PARAKRANA SANDURA TANK												
- NATURAL INFLOW (MCM)	6.00	0.	0.	2.00	2.00	0.	0.	0.	6.00	9.00	8.00	1.00
- SUPPLY FROM ANGAMADILLA (MCM)	46.29	38.71	44.52	3.12	30.17	9.94	42.55	9.66	15.14	75.17	8.97	10.10
- WATER REQUIREMENTS (MCM)	50.00	52.00	26.00	4.00	29.00	61.00	62.00	54.00	0.	0.	3.00	9.00
- EVAPORATION (MCM)	2.29	2.43	2.96	2.95	3.17	3.04	2.55	1.76	1.08	1.21	1.80	2.10
- TANK WATER LEVEL (EL.M)	59.10	58.46	59.09	59.10	59.10	56.67	55.92	51.98	54.04	58.60	59.10	59.10
- STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	123.00	133.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
- STORAGE VOLUME 2. ACTUAL (MCM)	135.10	119.38	134.93	135.10	135.10	81.00	66.00	19.90	39.96	122.93	135.10	135.10
- SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
- DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)												
	65.31	0.	0.00	167.21	13.76	0.00	0.00	0.	0.00	11.87	76.47	255.48

Table H.4.5 (25/29) DETAIL OUTPUT OF CASE II STUDY

 ***** RESERVOIR AND TANK OPERATION FOR MORAGANAKANDA IRRIGATION PROJECT (YEAR 1973) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOALLA TUNNEL (MCM)												
	88.00	56.00	22.00	43.00	24.00	76.00	111.00	152.00	94.00	96.00	143.00	127.00
2. NATURAL RUNOFF AT MORAGANAKANDA DAM SITE (MCM)												
	61.00	47.00	19.00	19.00	16.00	11.00	10.00	9.00	8.00	9.00	45.00	177.00
3. DIVERTED FLOW TO DEVAHUYA (MCM)												
	3.30	3.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.60
4. DIVERTED FLOW TO SYSTEM N/IN AND MH												
-DIVERSION REQUIREMENTS (MCM)	33.00	83.00	76.00	83.00	83.00	83.00	63.00	71.00	75.00	56.00	79.00	0.
-ACTUAL DIVERSION (MCM)	33.00	34.04	0.	21.81	0.	47.17	80.19	71.00	64.88	65.76	79.36	0.
-ACCUMULATED DEFICIT (MCM)	0.	48.96	124.96	186.16	269.16	304.99	287.80	0.	10.12	0.36	0.	0.
5. MORAGANAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	111.70	46.68	39.30	38.39	35.70	35.43	36.11	85.90	34.32	35.74	106.34	301.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	148.04	153.26	186.00	180.07	138.36	113.32	35.52	85.29	33.71	33.27	105.24	123.71
-EVAPORATION (MCM)	2.95	2.93	3.13	2.43	1.97	1.15	0.59	0.61	0.62	0.47	0.39	0.58
-RESERVOIR WATER LEVEL (EL.M)	185.87	181.95	176.86	170.56	161.36	150.00	150.00	150.00	150.00	150.00	150.00	148.77
-STORAGE VOLUME (MCM)	591.71	482.18	351.45	227.36	102.73	21.70	21.70	21.70	21.70	21.70	21.70	195.01
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)												
	3.66	2.82	1.14	1.14	0.96	0.66	0.60	0.54	0.48	0.54	2.70	10.62
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	151.70	133.53	150.47	146.81	151.70	146.81	113.09	151.70	146.81	145.76	139.76	134.33
-SYSTEM D2 (MCM)	0.	22.55	17.57	14.40	7.61	8.32	4.45	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	151.70	133.53	150.47	146.81	151.70	115.98	36.12	85.83	34.19	35.81	108.64	134.33
-TO SYSTEM D2 (MCM)	0.	22.55	17.57	14.40	7.61	0.00	0.00	0.00	0.	0.00	0.00	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)												
	23.00	13.00	22.00	27.00	29.00	23.00	19.00	27.00	24.00	15.00	6.00	4.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	0.	0.	0.	0.	0.	0.	1.00	0.	0.	1.00	0.	2.00
-SUPPLY FROM UPSTREAM (MCM)	13.29	9.80	5.58	6.68	7.20	5.80	0.85	8.23	2.89	8.11	15.04	8.37
-WATER REQUIREMENTS (MCM)	13.00	12.00	6.00	4.00	10.00	13.00	8.00	13.00	1.00	4.00	9.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)	92.20	91.56	91.37	91.91	91.22	88.84	86.01	82.78	84.04	80.75	89.19	91.61
-STORAGE VOLUME 1.RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.60	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2.ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.60	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	0.	3.00	3.00	3.00	3.00	5.00	13.00	0.	5.00	8.00	5.00	29.00
-SUPPLY FROM UPSTREAM (MCM)	104.51	101.23	112.07	103.68	104.70	78.93	13.88	44.65	3.16	19.27	79.81	112.07
-RELEASE TO KANTALA TANK (MCM)	81.20	34.51	52.19	53.75	36.26	0.	0.	2.71	0.86	1.15	27.68	65.10
-RELEASE TO KAUDULLA TANK (MCM)	59.37	30.74	42.19	36.62	38.35	25.22	8.61	4.04	1.78	2.84	27.86	67.15
-WATER REQUIREMENTS (MCM)	39.00	37.00	18.00	13.00	30.00	39.00	25.00	41.00	3.00	12.00	27.00	7.00
-EVAPORATION (MCM)	2.35	1.98	2.49	2.33	2.59	2.75	3.10	3.03	3.02	2.29	1.92	1.82
-TANK WATER LEVEL (EL.M)	89.90	89.90	89.90	89.90	89.90	90.85	90.24	89.90	89.90	89.90	89.90	89.90
-STORAGE VOLUME 1.RULE CURVE (MCM)	136.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90	116.90
-STORAGE VOLUME 2.ACTUAL (MCM)	59.50	59.50	59.50	59.50	59.50	76.44	65.63	59.50	59.50	59.50	59.50	59.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	0.	1.00	1.00	1.00	1.00	1.00	3.00	0.	1.00	2.00	1.00	6.00
-SUPPLY FROM MINNERIYA TANK (MCM)	58.30	30.18	41.63	35.96	37.66	24.78	7.45	3.97	1.26	2.78	27.36	65.94
-WATER REQUIREMENTS (MCM)	61.00	57.00	28.00	21.00	47.00	61.00	40.00	63.00	5.00	18.00	42.00	11.00
-EVAPORATION (MCM)	2.39	2.43	2.79	2.78	3.09	2.81	2.15	1.34	0.91	0.99	1.06	1.25
-TANK WATER LEVEL (EL.M)	72.97	71.71	72.24	72.85	72.32	70.41	68.33	64.00	61.00	64.00	64.00	70.10
-STORAGE VOLUME 1.RULE CURVE (MCM)	123.21	94.96	106.80	119.98	108.55	70.50	39.80	5.00	5.00	5.00	5.00	64.89
-STORAGE VOLUME 2.ACTUAL (MCM)	123.21	94.96	106.80	119.98	108.55	70.50	39.80	5.00	5.00	5.00	5.00	64.89
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	25.57	3.65	14.21	14.71	0.
13. KANTALA TANK												
-NATURAL INFLOW (MCM)	0.	5.00	5.00	5.00	5.00	7.00	22.00	2.00	10.00	15.00	10.00	49.00
-SUPPLY FROM MINNERIYA TANK (MCM)	73.41	31.19	47.18	46.57	32.77	0.	0.	2.45	0.78	1.04	25.19	58.85
-WATER REQUIREMENTS (MCM)	63.00	59.00	48.00	40.00	51.00	25.00	65.00	71.00	16.00	0.	49.00	7.00
-EVAPORATION (MCM)	2.56	2.68	3.12	2.97	3.27	2.97	2.47	1.44	0.14	0.64	1.13	1.17
-TANK WATER LEVEL (EL.M)	58.94	57.69	57.74	58.24	57.64	56.31	53.43	42.80	42.80	48.26	43.01	56.15
-STORAGE VOLUME 1.RULE CURVE (MCM)	100.60	148.90	135.20	145.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-STORAGE VOLUME 2.ACTUAL (MCM)	154.19	128.70	129.76	140.36	123.87	102.90	57.43	0.	0.	15.40	0.45	100.13
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	10.56	5.36	0.	0.	0.
14. NATURAL RUNOFF AT ANGANADILLA (MCM)												
	43.34	36.73	30.43	32.26	20.65	9.34	9.40	10.46	2.52	10.46	58.30	145.38
15. PARAKRAMA SANDURA TANK												
-NATURAL INFLOW (MCM)	0.	2.00	1.00	1.00	1.00	1.00	5.00	1.00	5.00	3.00	5.00	18.00
-SUPPLY FROM ANGANADILLA (MCM)	42.95	36.40	30.16	31.97	20.42	9.26	9.32	10.37	2.50	10.37	33.17	63.80
-WATER REQUIREMENTS (MCM)	52.00	41.00	24.00	18.00	35.00	53.00	23.00	50.00	0.	10.00	3.00	9.00
-EVAPORATION (MCM)	2.29	2.36	2.96	2.87	3.17	2.90	2.47	1.72	1.11	1.05	1.12	1.70
-TANK WATER LEVEL (EL.M)	58.64	56.43	56.60	59.10	58.62	56.26	55.69	52.15	52.91	53.17	55.81	59.10
-STORAGE VOLUME 1.RULE CURVE (MCM)	120.00	118.40	123.00	135.10	118.40	61.00	66.00	19.90	20.40	27.70	47.50	95.10
-STORAGE VOLUME 2.ACTUAL (MCM)	123.76	118.80	123.00	135.10	118.40	72.75	61.59	21.24	27.63	29.94	64.00	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGANADILLA (MCM)												
	0.	0.00	0.	0.	0.	0.00	0.00	0.00	0.00	0.00	4.82	81.61

Table H.4.5 (26/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR HORAGAHAKANDA IRRIGATION PROJECT (YEAR = 1974) *****

ITEMS		JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)		87.00	43.00	54.00	114.00	130.00	147.00	144.00	151.00	147.00	150.00	107.00	80.00
2. NATURAL RUNOFF AT HORAGAHAKANDA DAM SITE (MCM)		61.00	19.00	20.00	33.00	21.00	18.00	24.00	33.00	44.00	27.00	21.00	94.00
3. DIVERTED FLOW TO DEMAHUVA (MCM)		3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM N+IN AND MN													
-DIVERSION REQUIREMENTS (MCM)		13.00	23.00	49.00	12.00	24.00	83.00	83.00	78.00	74.00	83.00	83.00	74.00
-ACTUAL DIVERSION (MCM)		13.00	23.40	32.49	83.00	83.00	83.00	83.00	78.00	74.00	83.00	83.00	74.00
-ACCUMULATED DEFICIT (MCM)		0.	49.60	86.11	13.11	8.11	8.11	8.11	0.	0.	0.	0.	0.
5. HORAGAHAKANDA RESERVOIR													
-INFLOW TO RESERVOIR (MCM)		150.70	56.30	59.81	82.20	83.70	77.60	82.30	101.90	114.70	90.50	42.70	97.60
-RELEASE FOR POWER GENERATION (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)		148.04	159.36	72.32	61.72	83.17	77.04	81.71	101.29	113.58	90.03	42.31	97.23
-EVAPORATION (MCM)		2.19	1.22	0.77	0.48	0.53	0.56	0.59	0.61	0.62	0.47	0.39	0.37
-RESERVOIR WATER LEVEL (EL.M)		167.46	153.91	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	130.00	150.00
-STORAGE VOLUME (MCM)		179.47	55.18	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (100000WH)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)		3.60	1.14	1.20	1.98	1.26	1.08	1.56	1.98	2.64	1.82	1.26	5.84
7. WATER REQUIREMENTS AT ELAHERA ANICUT													
-SYSTEM G AND D1 (MCM)		151.70	133.53	151.55	140.25	151.70	146.81	151.70	151.70	141.53	151.70	146.81	134.33
-SYSTEM D2 (MCM)		0.	26.97	16.66	4.64	12.56	27.28	54.41	28.91	0.	0.	24.32	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT													
-TO SYSTEM G AND D1 (MCM)		151.70	133.53	75.72	63.70	64.43	78.12	83.27	103.27	116.27	91.65	43.57	102.87
-TO SYSTEM D2 (MCM)		0.	26.97	0.00	0.	0.	0.00	0.	0.00	0.	0.00	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)		23.00	13.00	22.00	17.00	29.00	23.00	19.00	26.00	20.00	24.00	21.00	4.00
10. GERTTALA TANK													
-NATURAL INFLOW (MCM)		0.	0.	0.	0.	1.00	0.	0.	0.	0.	0.	0.	2.00
-SUPPLY FROM UPSTREAM (MCM)		15.79	8.60	6.58	4.66	2.70	2.40	9.85	8.23	2.89	12.11	16.04	8.37
-WATER REQUIREMENTS (MCM)		13.00	12.00	7.00	2.00	6.00	15.00	16.00	13.00	1.00	7.00	8.00	2.00
-EVAPORATION (MCM)		0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)		92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	84.04	86.75	89.19	91.61
-STORAGE VOLUME 1, RULE CURVE (MCM)		25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2, ACTUAL (MCM)		25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK													
-NATURAL INFLOW (MCM)		0.	3.00	0.	6.00	10.00	0.	0.	0.	5.00	0.	6.00	26.00
-SUPPLY FROM UPSTREAM (MCM)		102.01	101.23	40.01	37.58	28.39	41.87	48.54	61.78	85.02	49.11	5.61	82.94
-RELEASE TO KANTALAI TANK (MCM)		30.58	32.62	8.76	17.13	8.90	0.	0.	4.74	24.16	34.13	0.	42.44
-RELEASE TO KAUDULLA TANK (MCM)		30.58	32.62	8.76	17.13	8.90	0.	0.	3.97	26.38	22.87	0.	42.44
-WATER REQUIREMENTS (MCM)		39.00	37.00	20.00	7.00	18.00	44.00	48.00	41.00	4.00	22.00	23.00	7.00
-EVAPORATION (MCM)		1.84	1.98	2.49	2.33	2.59	2.73	2.84	2.88	3.02	2.57	1.92	1.75
-TANK WATER LEVEL (EL.M)		89.90	89.90	89.90	89.90	89.90	89.45	89.30	89.90	91.64	89.90	88.90	89.90
-STORAGE VOLUME 1, RULE CURVE (MCM)		136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2, ACTUAL (MCM)		59.50	59.50	59.50	59.50	59.50	52.62	50.31	59.50	91.96	59.50	44.19	59.50
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK													
-NATURAL INFLOW (MCM)		0.	1.00	0.	1.00	2.00	0.	0.	0.	1.00	0.	2.00	4.00
-SUPPLY FROM MINNERIYA TANK (MCM)		30.03	32.03	8.80	16.82	8.74	0.	0.	3.90	25.91	22.44	0.	41.68
-WATER REQUIREMENTS (MCM)		61.00	57.00	31.00	10.00	28.00	72.00	74.00	64.00	7.00	34.00	39.00	11.00
-EVAPORATION (MCM)		1.96	1.89	1.89	1.85	1.80	1.46	1.13	0.74	0.91	1.29	1.13	1.25
-TANK WATER LEVEL (EL.M)		67.59	66.20	64.00	65.10	64.00	64.00	64.00	64.00	64.82	65.10	64.00	68.39
-STORAGE VOLUME 1, RULE CURVE (MCM)		128.30	114.50	111.60	122.60	108.70	70.50	39.80	15.90	24.00	48.30	72.30	116.50
-STORAGE VOLUME 2, ACTUAL (MCM)		31.75	6.10	5.00	11.17	5.00	5.00	5.00	5.00	24.00	11.17	5.00	40.43
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	22.99	0.	12.89	75.46	75.13	60.85	0.	0.	31.96	0.
13. KANTALAI TANK													
-NATURAL INFLOW (MCM)		0.	5.00	0.	10.00	17.00	0.	0.	0.	10.00	0.	12.00	44.00
-SUPPLY FROM MINNERIYA TANK (MCM)		27.64	29.49	7.92	15.48	8.05	0.	0.	4.29	21.84	30.85	0.	38.37
-WATER REQUIREMENTS (MCM)		66.00	57.00	49.00	14.00	35.00	77.00	66.00	71.00	23.00	53.00	40.00	10.00
-EVAPORATION (MCM)		2.32	2.12	2.25	1.52	1.76	1.29	0.89	0.26	0.14	0.74	0.92	1.17
-TANK WATER LEVEL (EL.M)		55.50	51.48	42.80	47.48	42.80	42.80	42.80	42.80	46.85	47.80	42.80	44.36
-STORAGE VOLUME 1, RULE CURVE (MCM)		100.80	148.90	135.20	143.90	124.00	76.20	39.70	11.90	8.70	34.80	81.60	141.00
-STORAGE VOLUME 2, ACTUAL (MCM)		59.45	34.82	0.	9.96	0.	0.	0.	0.	8.70	0.	0.	71.20
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	8.50	0.	1.75	78.29	66.89	68.98	0.	14.19	28.92	0.
14. NATURAL RUNOFF AT ANGAHADILLA (MCM)		48.34	39.83	16.80	28.02	16.74	11.92	21.44	28.02	33.36	22.38	16.74	76.36
15. PARAKRAMA SANDURA TANK													
-NATURAL INFLOW (MCM)		0.	1.00	0.	2.00	1.00	0.	0.	0.	2.00	0.	3.00	3.00
-SUPPLY FROM ANGAHADILLA (MCM)		57.90	39.47	16.85	27.77	16.59	11.81	21.25	27.77	17.25	22.18	16.59	25.17
-WATER REQUIREMENTS (MCM)		52.00	48.00	26.00	3.00	39.00	61.00	63.00	54.00	0.	29.00	24.00	25.00
-EVAPORATION (MCM)		2.29	2.39	2.96	2.76	3.13	2.80	2.26	1.02	1.05	1.17	1.10	1.31
-TANK WATER LEVEL (EL.M)		58.84	58.43	57.93	58.91	57.90	55.12	51.80	51.80	53.77	53.03	52.39	56.38
-STORAGE VOLUME 1, RULE CURVE (MCM)		120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2, ACTUAL (MCM)		128.72	117.80	106.49	130.50	105.96	53.96	18.50	18.50	34.70	28.71	23.20	75.03
-SPILL OUT (MCM)		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)		0.	0.	0.	0.	0.	0.	8.55	27.25	0.	0.	0.	0.
16. SPILL OUT AT ANGAHADILLA (MCM)		0.	0.	0.	0.00	0.	0.	0.	0.00	15.95	0.	0.	0.51

Table H.4.5 (27/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR MORAGANAKANDA IRRIGATION PROJECT (YEAR -- 1975) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	85.00	36.00	39.00	84.00	101.00	140.00	139.00	150.00	146.00	152.00	147.00	144.00
2. NATURAL RUNOFF AT MORAGANAKANDA DAM SITE (MCM)	78.00	30.00	45.00	22.00	25.00	25.00	23.00	30.00	29.00	23.00	145.00	116.00
3. DIVERTED FLOW TO DEWAHUNA (MCM)	3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.30	1.30	1.40
4. DIVERTED FLOW TO SYSTEM H.I.H. AND MH												
-DIVERSION REQUIREMENTS (MCM)	81.00	83.00	75.00	83.00	75.00	83.00	62.00	76.00	76.00	58.00	12.00	47.00
-ACTUAL DIVERSION (MCM)	81.00	78.37	35.24	64.70	80.04	83.00	83.00	76.00	76.00	58.00	12.00	47.00
-ACCUMULATED DEFICIT (MCM)	0.	54.63	96.39	114.69	102.65	109.63	88.65	0.	0.	0.	0.	0.
5. MORAGANAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	77.70	43.33	49.06	39.50	41.66	77.60	74.30	99.90	96.20	113.50	277.70	210.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	78.02	42.93	48.35	39.03	41.33	72.04	73.71	99.29	93.58	113.03	126.21	132.71
-EVAPORATION (MCM)	1.68	0.61	0.51	0.48	0.53	0.56	0.59	0.61	0.62	0.47	0.59	1.38
-RESERVOIR WATER LEVEL (EL.M)	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	166.96	171.73
-STORAGE VOLUME (MCM)	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	21.70	172.10	248.61
-SPILL OUT (MS)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (1000MH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	4.68	2.28	2.70	1.32	1.50	1.50	1.38	1.80	1.74	1.38	8.70	6.96
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	151.70	134.59	138.75	145.52	151.70	146.81	138.99	151.70	146.81	151.70	135.41	139.67
-SYSTEM D2 (MCM)	10.53	18.94	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	80.70	45.21	51.25	40.35	42.63	78.54	75.09	101.09	97.32	114.41	135.41	139.67
-TO SYSTEM D2 (MCM)	0.	0.	0.00	0.	0.	0.	0.	0.	0.00	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	18.00	14.00	12.00	25.00	28.00	23.00	15.00	27.00	27.00	24.00	8.00	8.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	1.00	0.	0.	1.00	1.00	0.	1.00	0.	1.00	0.	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	10.79	9.60	6.58	1.88	3.70	7.80	1.85	6.23	0.89	11.11	9.01	9.37
-WATER REQUIREMENTS (MCM)	9.00	12.00	5.00	0.	7.00	15.00	9.00	11.00	0.	6.00	4.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.40	0.35	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)	92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	84.04	88.75	89.19	91.61
-STORAGE VOLUME 1. RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-STORAGE VOLUME 2. ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	8.00	3.00	3.00	10.00	8.00	0.	13.00	5.00	8.00	3.00	14.00	11.00
-SUPPLY FROM UPSTREAM (MCM)	46.20	18.45	31.05	11.07	8.19	42.26	52.90	60.78	62.63	71.18	108.48	112.07
-RELEASE TO KANTALAI TANK (MCM)	7.17	0.	0.	4.98	0.	0.	0.	7.63	18.17	24.69	56.73	46.26
-RELEASE TO KAUDULLA TANK (MCM)	38.00	39.00	20.00	1.00	34.00	46.00	46.00	38.00	11.00	16.00	6.00	7.00
-WATER REQUIREMENTS (MCM)	1.86	1.95	2.36	2.28	2.59	2.61	2.69	2.88	3.02	2.29	1.92	1.82
-EVAPORATION (MCM)	89.90	88.63	89.39	89.90	88.57	88.15	89.28	89.90	89.90	89.90	89.90	89.90
-TANK WATER LEVEL (EL.M)	136.90	134.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 1. RULE CURVE (MCM)	59.50	39.98	51.67	59.50	39.10	32.75	49.96	59.50	59.50	59.50	59.50	59.50
-STORAGE VOLUME 2. ACTUAL (MCM)	59.50	39.98	51.67	59.50	39.10	32.75	49.96	59.50	59.50	59.50	59.50	59.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	2.00	1.00	1.00	2.00	2.00	0.	3.00	1.00	2.00	1.00	3.00	2.00
-SUPPLY FROM MINNERIYA TANK (MCM)	7.04	0.	0.	4.89	0.	0.	0.	7.30	17.84	24.25	59.71	45.42
-WATER REQUIREMENTS (MCM)	45.00	37.00	26.00	1.00	34.00	72.00	42.00	55.00	1.00	31.00	22.00	11.00
-EVAPORATION (MCM)	1.73	1.35	1.67	1.65	1.77	1.46	1.13	0.74	0.91	1.27	1.19	1.72
-TANK WATER LEVEL (EL.M)	64.00	64.00	64.00	64.76	64.00	64.00	64.00	64.00	64.00	64.00	64.00	64.00
-STORAGE VOLUME 1. RULE CURVE (MCM)	128.30	116.50	111.60	122.60	108.70	70.30	32.80	15.30	26.00	48.30	72.30	115.50
-STORAGE VOLUME 2. ACTUAL (MCM)	128.30	116.50	111.60	122.60	108.70	70.30	32.80	15.30	22.03	15.90	51.43	86.13
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	2.26	57.55	26.67	0.	29.53	73.66	40.13	47.25	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	15.00	5.00	7.00	17.00	15.00	0.	22.00	7.00	12.00	5.00	25.00	20.00
-SUPPLY FROM MINNERIYA TANK (MCM)	6.48	0.	0.	4.50	0.	0.	0.	6.99	34.76	25.21	52.25	61.47
-WATER REQUIREMENTS (MCM)	56.00	62.00	40.00	37.00	43.00	77.00	60.00	56.00	40.00	40.00	19.00	27.00
-EVAPORATION (MCM)	2.16	1.84	1.57	1.52	1.59	1.29	0.89	0.26	0.14	0.70	0.92	1.89
-TANK WATER LEVEL (EL.M)	51.45	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	52.80	51.52	50.14
-STORAGE VOLUME 1. RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-STORAGE VOLUME 2. ACTUAL (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.62	0.	57.34	99.91
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	24.32	34.57	17.01	29.59	78.29	38.89	42.28	0.	0.88	0.	0.
14. NATURAL RUNOFF AT ANGANADILLA (MCM)	65.32	32.72	38.30	17.68	21.50	22.50	19.62	26.20	27.26	19.62	117.30	96.04
15. PARAKRANA SAPDURA TANK												
-NATURAL INFLOW (MCM)	2.00	2.00	3.00	3.00	2.00	0.	1.00	1.00	0.	3.00	4.00	5.00
-SUPPLY FROM ANGANADILLA (MCM)	64.73	32.43	37.26	1.87	21.31	22.30	19.44	16.30	16.30	16.30	72.74	18.24
-WATER REQUIREMENTS (MCM)	37.00	35.00	5.00	0.	32.00	61.00	21.00	43.00	16.00	7.00	13.00	9.00
-EVAPORATION (MCM)	1.94	2.24	2.81	2.94	3.17	2.94	2.56	1.89	1.61	1.32	1.42	2.04
-TANK WATER LEVEL (EL.M)	57.75	57.65	59.02	59.10	58.61	56.70	56.55	54.88	54.78	55.64	58.60	59.10
-STORAGE VOLUME 1. RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2. ACTUAL (MCM)	102.85	100.03	133.17	135.10	123.24	81.59	78.48	50.89	49.58	60.57	122.89	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGANADILLA (MCM)	0.	0.00	0.00	15.79	0.	0.00	0.	9.75	10.81	3.17	43.89	77.63

Table H.4.5 (28/29) DETAIL OUTPUT OF CASE II STUDY

 ***** RESERVOIR AND TANK OPERATION FOR HORAGAHAKANDA IRRIGATION PROJECT (YEAR 1976) *****

ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	100.00	37.00	19.00	86.00	31.00	23.00	83.00	91.00	86.00	139.00	145.00	123.00
2. NATURAL RUNOFF AT HORAGAHAKANDA DAM SITE (MCM)	165.00	54.00	42.00	30.00	21.00	1.00	15.00	17.00	22.00	64.00	170.00	192.00
3. DIVERTED FLOW TO DEVAHUYA (MCM)	5.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.30	1.30	1.40
4. DIVERTED FLOW TO SYSTEM MAIN AND MH												
-DIVERSION REQUIREMENTS (MCM)	77.00	83.00	75.00	34.00	82.00	83.00	79.00	48.00	45.00	6.00	6.00	6.00
-ACTUAL DIVERSION (MCM)	77.00	39.45	11.35	71.74	7.52	0.	53.34	48.00	45.00	0.00	6.00	6.00
-ACCUMULATED DEFICIT (MCM)	0.	43.55	102.20	69.48	143.96	226.94	250.60	0.	0.	0.	0.	0.
5. HORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	183.70	49.25	47.95	42.48	40.18	19.60	37.96	57.90	60.20	193.50	306.70	304.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	141.80	133.78	149.03	118.73	39.45	19.04	37.37	57.29	59.58	148.21	120.92	124.94
-EVAPORATION (MCM)	2.37	1.85	1.74	0.95	0.53	0.56	0.59	0.61	0.62	0.57	0.96	1.80
-RESERVOIR WATER LEVEL (EL.M)	173.91	168.94	161.01	150.00	150.00	150.00	150.00	150.00	150.00	157.58	171.98	180.29
-STORAGE VOLUME (MCM)	288.14	201.76	98.92	21.70	21.70	21.70	21.70	21.70	21.70	68.42	253.24	433.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (10000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELANERA ANICUT (MCM)	9.90	3.24	2.52	1.80	1.20	0.06	0.90	1.02	1.32	3.84	10.20	11.52
7. WATER REQUIREMENTS AT ELANERA ANICUT												
-SYSTEM G AND D1 (MCM)	151.70	137.02	151.55	142.33	151.70	146.81	151.70	151.70	146.81	150.05	131.12	136.46
-SYSTEM D2 (MCM)	0.	0.	0.	0.	16.02	36.58	63.75	33.86	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELANERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	151.70	137.02	151.55	120.53	40.91	19.10	38.27	58.31	60.90	150.05	131.12	136.46
-TO SYSTEM D2 (MCM)	0.	0.	0.	0.	0.	0.00	0.	0.00	0.	0.	0.	0.
9. WATER REQUIREMENTS OF SYSTEM G (MCM)	16.00	16.00	22.00	22.00	29.00	23.00	19.00	27.00	27.00	17.00	6.00	6.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	0.	0.	0.	1.00	0.	0.	0.	0.	0.	0.	1.00	2.00
-SUPPLY FROM UPSTREAM (MCM)	14.79	10.60	6.58	1.66	8.70	0.	18.56	7.25	4.89	10.11	7.04	8.37
-WATER REQUIREMENTS (MCM)	12.00	13.00	7.00	0.	11.00	15.00	15.00	12.00	3.00	5.00	2.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.48	0.40	0.28	0.23	0.19	0.21	0.24	0.27
-TANK WATER LEVEL (EL.M)	92.20	91.58	91.37	91.95	91.77	85.33	88.05	82.78	84.04	86.75	89.59	91.65
-STORAGE VOLUME 1.RULE CURVE (MCM)	25.30	22.90	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	14.70	22.80
2.ACTUAL (MCM)	25.30	22.90	21.80	24.10	21.40	6.00	7.30	2.30	4.00	8.90	14.70	22.80
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	2.00	2.00	0.	10.00	2.00	0.	2.00	3.00	2.00	5.00	19.00	29.00
-SUPPLY FROM UPSTREAM (MCM)	109.91	100.51	112.07	88.27	0.61	0.	0.13	20.17	21.91	112.07	108.46	112.07
-RELEASE TO KANTALAI TANK (MCM)	41.92	31.76	46.29	54.65	0.	0.	0.	0.	0.	28.35	51.04	30.79
-RELEASE TO KAUBULLA TANK (MCM)	39.13	31.76	46.29	41.29	0.	0.	0.	0.	0.	32.15	60.49	60.58
-WATER REQUIREMENTS (MCM)	29.00	37.00	17.00	0.	21.00	46.00	27.00	35.00	0.	20.00	14.00	7.00
-EVAPORATION (MCM)	1.86	1.98	2.49	2.33	2.59	2.60	1.88	1.92	1.96	2.01	1.92	1.82
-TANK WATER LEVEL (EL.M)	89.90	89.90	89.90	89.90	88.53	82.10	82.10	82.10	87.32	89.90	89.90	92.04
-STORAGE VOLUME 1.RULE CURVE (MCM)	136.90	116.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
2.ACTUAL (MCM)	59.50	59.50	59.50	59.50	38.52	0.	0.	0.	24.95	59.50	59.50	100.38
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	10.08	26.75	13.75	0.	0.	0.	0.
12. KAUBULLA TANK												
-NATURAL INFLOW (MCM)	0.	0.	0.	2.00	0.	0.	0.	1.00	0.	1.00	4.00	6.00
-SUPPLY FROM MINNERIYA TANK (MCM)	38.42	31.19	45.46	40.55	0.	0.	0.	0.	0.	31.57	59.41	59.49
-WATER REQUIREMENTS (MCM)	60.00	62.00	31.00	1.00	53.00	72.00	71.00	59.00	16.00	25.00	10.00	11.00
-EVAPORATION (MCM)	2.12	1.98	2.07	2.14	2.74	1.85	1.13	0.74	0.91	0.99	1.13	1.84
-TANK WATER LEVEL (EL.M)	69.94	67.40	68.53	71.00	67.03	64.00	64.00	64.00	64.00	65.17	70.04	72.67
-STORAGE VOLUME 1.RULE CURVE (MCM)	128.30	116.50	111.60	127.60	108.70	70.50	39.80	15.20	24.00	48.30	77.50	116.50
2.ACTUAL (MCM)	62.44	29.64	42.03	81.44	25.70	5.00	5.00	5.00	5.00	11.58	63.85	116.50
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	53.15	72.13	58.74	16.91	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	2.00	2.00	0.	17.00	2.00	0.	5.00	5.00	2.00	10.00	32.00	31.00
-SUPPLY FROM MINNERIYA TANK (MCM)	37.90	28.71	41.85	49.40	0.	0.	0.	0.	0.	25.83	48.14	27.83
-WATER REQUIREMENTS (MCM)	63.00	65.00	49.00	28.00	63.00	88.00	59.00	60.00	28.00	28.00	13.00	7.00
-EVAPORATION (MCM)	2.32	2.25	2.29	2.05	2.70	1.31	0.89	0.26	0.14	0.64	0.97	1.99
-TANK WATER LEVEL (EL.M)	58.59	51.83	50.75	53.93	43.33	42.80	42.80	42.80	42.80	48.03	52.36	58.29
-STORAGE VOLUME 1.RULE CURVE (MCM)	160.60	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
2.ACTUAL (MCM)	74.49	37.97	28.53	64.90	1.20	0.	0.	0.	0.	6.99	71.16	141.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	68.11	50.89	55.26	26.14	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)	134.10	42.76	33.48	26.70	16.74	0.00	12.10	12.98	17.68	52.16	137.60	155.48
15. PARAKRANA SANDURA TANK												
-NATURAL INFLOW (MCM)	3.00	0.	0.	1.00	0.	1.00	0.	1.00	1.00	2.00	8.00	19.00
-SUPPLY FROM ANGAMADILLA (MCM)	26.29	42.38	33.18	24.77	16.59	0.00	11.99	12.86	17.05	51.69	83.49	1.30
-WATER REQUIREMENTS (MCM)	27.00	52.00	26.00	15.00	46.00	56.00	62.00	45.00	3.00	17.00	3.00	9.00
-EVAPORATION (MCM)	2.29	2.43	2.99	2.90	3.17	2.77	2.13	1.02	1.05	3.12	1.46	2.10
-TANK WATER LEVEL (EL.M)	59.10	58.61	58.78	59.10	57.73	54.61	51.80	51.80	53.43	56.02	59.10	59.10
-STORAGE VOLUME 1.RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	68.00	19.90	20.40	27.70	67.30	95.10
2.ACTUAL (MCM)	155.10	123.04	127.24	135.10	102.52	64.75	18.50	18.50	32.50	68.07	133.10	133.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	25.89	32.16	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)	107.58	0.	0.	1.21	0.	0.	0.00	0.00	0.48	0.	73.73	134.37

Table H.4.5 (29/29) DETAIL OUTPUT OF CASE II STUDY

***** RESERVOIR AND TANK OPERATION FOR HORAGAHAKANDA IRRIGATION PROJECT (YEAR -- 1977) *****												
ITEMS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1. DIVERTED FLOW THROUGH POLGOLLA TUNNEL (MCM)	36.00	21.00	25.00	64.00	147.00	144.00	140.00	100.00	79.00	145.00	134.00	108.00
2. NATURAL RUNOFF AT HORAGAHAKANDA DAM SITE (MCM)	63.00	22.00	28.00	39.00	142.00	117.00	94.00	47.00	27.00	180.00	232.00	291.00
3. DIVERTED FLOW TO DIMAHUVA (MCM)	3.30	1.30	0.70	0.80	3.30	3.40	3.70	3.10	1.80	2.50	1.30	1.40
4. DIVERTED FLOW TO SYSTEM MAIN AND HH												
-DIVERSION REQUIREMENTS (MCM)	30.00	50.00	58.00	60.00	6.00	7.00	7.00	34.00	76.00	1.00	1.00	1.00
-ACTUAL DIVERSION (MCM)	30.00	3.29	8.55	55.41	83.00	30.77	7.00	34.00	61.85	15.15	1.00	1.00
-ACCUMULATED DEFICIT (MCM)	0.	59.71	98.18	100.77	23.77	0.	0.	0.	14.15	0.	0.	0.
5. HORAGAHAKANDA RESERVOIR												
-INFLOW TO RESERVOIR (MCM)	64.70	37.41	42.77	45.79	201.70	225.83	222.30	108.90	41.35	286.35	362.70	395.60
-RELEASE FOR POWER GENERATION (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-RELEASE FOR IRRIGATION (MCM)	147.92	152.66	142.73	144.47	143.18	139.29	154.09	148.88	116.28	9.62	12.48	0.
-EVAPORATION (MCM)	2.57	2.04	1.95	1.08	0.69	1.35	2.14	2.54	2.18	1.63	2.45	2.92
-RESERVOIR WATER LEVEL (EL.M)	176.69	170.72	163.22	150.40	159.20	166.55	171.57	168.81	163.15	178.44	187.00	187.00
-STORAGE VOLUME (MCM)	347.30	230.21	123.30	23.54	81.36	168.05	242.13	199.60	122.49	397.58	631.00	631.00
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-POWER OUTPUT (MW)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-ENERGY OUTPUT (1000MWH)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6. NATURAL RUNOFF BETWEEN DAM SITE AND ELAHERA ANICUT (MCM)	3.78	1.32	1.68	2.34	8.52	7.02	5.64	2.82	1.62	9.60	13.92	17.46
7. WATER REQUIREMENTS AT ELAHERA ANICUT												
-SYSTEM G AND D1 (MCM)	151.70	137.02	149.41	146.81	151.70	146.81	149.73	151.70	117.90	19.22	26.40	7.45
-SYSTEM D2 (MCM)	0.	16.76	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
8. ACTUAL DIVERTED FLOW AT ELAHERA ANICUT												
-TO SYSTEM G AND D1 (MCM)	151.70	137.02	149.41	146.81	151.70	146.81	149.73	151.70	117.90	19.22	140.75	36.47
-TO SYSTEM D2 (MCM)	0.	16.76	0.	0.	0.	0.	0.	0.	0.	0.	0.	363.66
9. WATER REQUIREMENTS OF SYSTEM G												
(MCM)	17.00	18.00	21.00	27.00	28.00	23.00	19.00	27.00	24.00	11.00	6.00	7.00
10. GIRITALA TANK												
-NATURAL INFLOW (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	1.00	1.00	1.00	1.00
-SUPPLY FROM UPSTREAM (MCM)	13.79	9.60	5.58	7.66	8.70	7.80	7.85	8.23	0.89	4.11	18.64	1.28
-WATER REQUIREMENTS (MCM)	11.00	12.00	6.00	5.00	11.00	15.00	14.00	13.00	0.	0.	1.00	2.00
-EVAPORATION (MCM)	0.29	0.30	0.38	0.36	0.40	0.50	0.35	0.25	0.19	0.21	0.24	0.28
-TANK WATER LEVEL (EL.M)	92.20	91.56	91.37	91.91	91.27	88.84	86.01	82.78	84.04	88.75	92.20	92.70
-STORAGE VOLUME 1.RULE CURVE (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	16.70	22.80
-STORAGE VOLUME 2.ACTUAL (MCM)	25.30	22.60	21.80	24.10	21.40	13.80	7.30	2.30	4.00	8.90	25.30	25.30
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
11. MINNERIYA TANK												
-NATURAL INFLOW (MCM)	5.00	2.00	3.00	0.	2.00	0.	3.00	3.00	13.00	21.00	22.00	22.00
-SUPPLY FROM UPSTREAM (MCM)	109.92	99.54	112.02	101.68	104.18	105.48	112.07	103.64	85.63	2.85	107.77	23.59
-RELEASE TO KANTALAI TANK (MCM)	64.07	21.72	33.19	46.12	38.05	31.38	34.30	35.38	0.	0.	0.	0.
-RELEASE TO KAUDULLA TANK (MCM)	55.60	39.84	47.72	38.52	40.95	30.95	33.88	31.30	17.22	20.97	30.07	0.
-WATER REQUIREMENTS (MCM)	34.00	38.00	17.00	15.00	33.00	46.00	44.00	39.00	0.	0.	2.00	7.00
-EVAPORATION (MCM)	2.14	1.98	2.19	2.47	2.74	2.82	2.89	2.95	3.02	2.88	2.42	2.29
-TANK WATER LEVEL (EL.M)	89.90	89.90	90.72	90.70	90.22	89.90	89.90	89.90	93.70	93.70	93.70	93.70
-STORAGE VOLUME 1.RULE CURVE (MCM)	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90	136.90
-STORAGE VOLUME 2.ACTUAL (MCM)	59.50	59.50	76.17	73.74	65.18	59.50	59.50	59.50	136.90	136.90	136.90	136.90
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	12.71
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
12. KAUDULLA TANK												
-NATURAL INFLOW (MCM)	1.00	0.	1.00	0.	0.	0.	1.00	1.00	3.00	5.00	5.00	5.00
-SUPPLY FROM MINNERIYA TANK (MCM)	54.60	39.12	46.86	37.82	40.22	30.40	33.27	30.74	16.91	20.59	80.53	8.27
-WATER REQUIREMENTS (MCM)	53.00	60.00	27.00	24.00	51.00	72.00	69.00	60.00	0.	0.	4.00	11.00
-EVAPORATION (MCM)	2.32	2.39	2.77	2.82	3.12	2.81	2.08	1.19	0.91	1.29	1.53	2.27
-TANK WATER LEVEL (EL.M)	72.69	71.65	72.45	72.95	72.33	70.07	67.20	64.00	66.82	66.97	73.20	73.20
-STORAGE VOLUME 1.RULE CURVE (MCM)	128.30	114.50	113.66	122.60	108.70	70.50	39.80	15.90	24.00	48.30	77.30	116.50
-STORAGE VOLUME 2.ACTUAL (MCM)	116.78	93.52	111.60	122.60	108.70	66.23	27.47	5.00	24.00	48.30	128.30	128.30
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	6.99	0.	0.	0.	0.
13. KANTALAI TANK												
-NATURAL INFLOW (MCM)	10.00	5.00	5.00	2.00	2.00	0.	5.00	5.00	22.00	37.00	39.00	39.00
-SUPPLY FROM MINNERIYA TANK (MCM)	57.92	19.63	30.01	41.70	34.39	28.37	31.01	31.99	0.	0.	39.18	15.52
-WATER REQUIREMENTS (MCM)	58.00	32.00	35.00	32.00	53.00	77.00	78.00	71.00	2.00	0.	6.00	18.00
-EVAPORATION (MCM)	2.53	2.65	3.18	3.00	3.29	2.97	2.20	0.91	0.14	1.00	1.67	2.29
-TANK WATER LEVEL (EL.M)	38.85	58.18	58.01	58.83	57.45	56.44	50.71	42.80	49.56	53.32	57.52	53.30
-STORAGE VOLUME 1.RULE CURVE (MCM)	180.00	148.90	135.20	143.90	124.00	78.20	39.70	11.90	8.70	36.80	81.60	141.00
-STORAGE VOLUME 2.ACTUAL (MCM)	148.58	138.37	133.20	143.90	124.00	72.40	28.21	0.	19.66	55.86	126.37	160.40
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	6.71	0.	0.	0.	0.
14. NATURAL RUNOFF AT ANGAMADILLA (MCM)	51.22	34.44	23.32	31.66	114.48	94.98	76.36	39.18	22.38	130.40	188.08	599.20
15. PARAKRANA SANDURA TANK												
-NATURAL INFLOW (MCM)	2.00	1.00	2.00	3.00	2.00	0.	2.00	1.00	2.00	4.00	9.00	8.00
-SUPPLY FROM ANGAMADILLA (MCM)	31.29	34.13	23.13	4.06	31.17	64.08	43.03	38.83	7.97	0.	0.	3.10
-WATER REQUIREMENTS (MCM)	31.00	49.00	12.00	0.	30.00	61.00	42.00	45.00	0.	2.00	3.00	9.00
-EVAPORATION (MCM)	2.29	2.43	2.96	2.91	3.17	3.04	3.03	2.40	2.39	1.98	1.87	2.10
-TANK WATER LEVEL (EL.M)	59.10	58.43	58.85	59.10	59.10	59.10	59.10	58.79	59.10	59.10	59.10	59.10
-STORAGE VOLUME 1.RULE CURVE (MCM)	120.00	118.80	123.00	135.10	118.40	81.00	66.00	19.90	20.40	27.70	47.30	95.10
-STORAGE VOLUME 2.ACTUAL (MCM)	135.10	118.80	128.95	135.10	135.10	135.10	135.10	127.53	135.10	135.10	135.10	135.10
-SPILL OUT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.02	4.13	0.
-DEFICIT (MCM)	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
16. SPILL OUT AT ANGAMADILLA (MCM)	19.65	0.	0.00	25.55	83.03	30.36	32.94	0.	14.34	150.40	188.08	599.07

Table H.4.6 IRRIGATION WATER DEFICIT WITHOUT DAM CONDITION
(Irrigable Area 48,300 ha, without Kotmale)

Million cu-m

YEAR	YALA SEASON			MAHA SEASON		
	IR	Deficit	% of Deficit	IR	Deficit	% of Deficit
1950	935	120.46	12.9	560	0.00	0.0
1951	864	56.14	6.5	519	0.00	0.0
1952	897	33.84	3.8	641	0.00	0.0
1953	826	301.27	36.5	433	0.00	0.0
1954	906	55.46	6.1	498	0.00	0.0
1955	792	0.28	0.0	753	0.00	0.0
1956	934	440.12	47.1	492	0.00	0.0
1957	947	123.75	13.1	404	0.00	0.0
1958	901	0.00	0.0	673	0.00	0.0
1959	905	84.91	9.4	340	0.00	0.0
1960	789	0.00	0.0	459	0.00	0.0
1961	964	71.81	7.4	453	3.00	0.7
1962	903	7.45	0.8	441	0.00	0.0
1963	885	41.26	4.7	443	0.00	0.0
1964	913	73.16	8.0	641	11.41	1.8
1965	788	0.00	0.0	399	0.00	0.0
1966	882	67.15	7.6	547	0.00	0.0
1967	968	79.57	8.2	435	0.00	0.0
1968	941	123.79	13.2	617	0.00	0.0
1969	856	43.59	5.1	414	0.00	0.0
1970	867	0.00	0.0	547	0.00	0.0
1971	856	0.00	0.0	710	0.00	0.0
1972	872	157.67	18.1	565	0.00	0.0
1973	827	222.18	26.9	661	47.56	7.2
1974	874	285.15	32.6	718	73.04	10.2
1975	857	248.44	29.0	678	6.72	1.0
1976	888	424.54	47.8	578	0.00	0.0
1977	905	83.79	9.3			
TOTAL	24742	3145.78		14619	141.73	
AVERAGE	883.6	112.3	12.6	541.4	5.2	0.8

NOTE IR : Irrigation Requirements

Table H.4.7 IRRIGATION WATER DEFICIT WITH DAM CONDITION
(Irrigable Area 62,200 ha, Irrigation Purpose
Only, without Kotmale)

Million cu-m

YEAR	YALA SEASON			MAHA SEASON		
	IR	Deficit	% of Deficit	IR	Deficit	% of Deficit
1950	1184	0.00	0.0	725	0.00	0.0
1951	1096	0.00	0.0	669	0.00	0.0
1952	1131	0.00	0.0	826	0.00	0.0
1953	984	263.99	26.8	561	0.00	0.0
1954	1199	0.00	0.0	647	0.00	0.0
1955	991	0.00	0.0	959	0.00	0.0
1956	1208	444.11	36.8	637	0.00	0.0
1957	1208	330.66	27.4	525	0.00	0.0
1958	1143	0.00	0.0	868	0.00	0.0
1959	1163	0.00	0.0	436	0.00	0.0
1960	1008	0.00	0.0	586	0.00	0.0
1961	1195	0.00	0.0	593	0.00	0.0
1962	1149	0.00	0.0	568	0.00	0.0
1963	1122	0.00	0.0	575	0.00	0.0
1964	1159	0.00	0.0	850	0.00	0.0
1965	995	0.00	0.0	519	0.00	0.0
1966	1124	0.00	0.0	709	0.00	0.0
1967	1242	0.00	0.0	579	0.00	0.0
1968	1203	0.00	0.0	802	0.00	0.0
1969	1082	0.00	0.0	546	0.00	0.0
1970	1089	0.00	0.0	702	0.00	0.0
1971	1085	0.00	0.0	910	0.00	0.0
1972	1109	0.00	0.0	726	0.00	0.0
1973	1036	39.02	3.8	868	48.39	5.6
1974	1112	485.22	43.6	915	220.20	24.1
1975	1054	396.43	37.6	874	0.88	0.1
1976	1133	510.60	45.1	733	0.00	0.0
1977	1150	5.66	0.5			
TOTAL	31354	2475.69		18908	269.47	
AVERAGE	1119.8	88.4	7.9	700.3	10.0	1.1

NOTE IR : Irrigation Requirements

Table H.4.8 SUMMARY OF WATER BALANCE STUDIES (CASE III)

1. Case	Case a	Case b	Case c
2. H.W.L.	MSL 200 m	MSL 195 m	MSL 188 m
3. L.W.L.	MSL 175 m	MSL 170 m	MSL 154 m
4. Total Capacity	1,110 million cu-m	900 million cu-m	658 million cu-m
5. Effective Capacity	802 million cu-m	686 million cu-m	618 million cu-m
6. Irrigable Area	62,200 ha	62,200 ha	62,200 ha
7. Firm Power Potential	10 MW	6 MW	0
8. Average Annual Power Output Installed Capacity			
66 MW	183.0 GWH	- GWH	- GWH
50 MW	179.7	-	-
45 MW	178.5	-	-
40 MW	176.9	159.6	-
35 MW	174.7	157.7	-
30 MW	170.8	154.7	-
25 MW	162.2	148.9	-
20 MW	144.3	135.4	-
22 MW			104.4*
9. Average Reservoir Water Level	MSL 190.60 m	MSL 184.77 m	MSL 173.77 m

* : Generated under reservoir water level higher than MSL 165 m, and potential below this water level not counted because of limitation of turbine design.

Table H.4.9 IRRIGATION WATER DEFICIT WITH MORAGAHAKANDA DAM
(Irrigable Area 62,200 ha, with Kotmale Dam)

Million cu-m

YEAR	YALA SEASON			MAHA SEASON		
	IR	Deficit	% of Deficit	IR	Deficit	% of Deficit
1950	1184	0.00	0.0	725	0.00	0.0
1951	1096	0.00	0.0	669	0.00	0.0
1952	1131	0.00	0.0	826	0.00	0.0
1953	984	92.19	9.4	561	0.00	0.0
1954	1199	0.00	0.0	647	0.00	0.0
1955	991	0.00	0.0	959	0.00	0.0
1956	1208	335.47	27.8	637	0.00	0.0
1957	1208	114.80	9.5	525	0.00	0.0
1958	1143	0.00	0.0	868	0.00	0.0
1959	1163	0.00	0.0	436	0.00	0.0
1960	1008	0.00	0.0	586	0.00	0.0
1961	1195	0.00	0.0	593	0.00	0.0
1962	1149	0.00	0.0	568	0.00	0.0
1963	1122	0.00	0.0	575	0.00	0.0
1964	1159	0.00	0.0	850	0.00	0.0
1965	995	0.00	0.0	519	0.00	0.0
1966	1124	0.00	0.0	709	0.00	0.0
1967	1242	0.00	0.0	579	0.00	0.0
1968	1203	0.00	0.0	802	0.00	0.0
1969	1082	0.00	0.0	546	0.00	0.0
1970	1089	0.00	0.0	702	0.00	0.0
1971	1085	0.00	0.0	910	0.00	0.0
1972	1109	0.00	0.0	726	0.00	0.0
1973	1036	0.00	0.0	868	13.46	1.6
1974	1112	361.77	32.5	915	146.45	16.0
1975	1054	346.79	32.9	874	2.85	0.3
1976	1133	442.22	39.0	733	0.00	0.0
1977	1150	4.05	0.4			
TOTAL	31354	1697.29		18908	162.76	
AVERAGE	1119.8	60.6	5.4	700.3	6.0	0.7

NOTE IR : Irrigation Requirements

Table H.4.10 RESULTS OF RESERVOIR OPERATION STUDY WHEN IMPOUNDING, SATISFYING THE WATER REQUIREMENT FROM EXISTING FARM LAND OF 40,000 HA UNDER THE PROJECT

No.	Commencement of storage	Time necessary up to L.W.L. (Month)	Reached at L.W.L.	Time necessary up to H.W.L. (Month)	Reached at H.W.L.
1	Oct. 1950	3	Jan. 1951	15	Jan. 1952
2	Oct. 1951	2	Dec. 1951	30	Apr. 1954
3	Oct. 1952	16	Jan. 1954	26	Jan. 1955
4	Oct. 1953	3	Jan. 1954	14	Dec. 1954
5	Oct. 1954	2	Dec. 1954	6	Apr. 1955
6	Oct. 1955	25	Nov. 1957	27	Jan. 1958
7	Oct. 1956	13	Nov. 1957	15	Jan. 1958
8	Oct. 1957	1	Nov. 1957	3	Jan. 1958
9	Oct. 1958	13	Nov. 1959	16	Feb. 1960
10	Oct. 1959	1	Nov. 1959	4	Feb. 1960
11	Oct. 1960	1	Nov. 1960	3	Jan. 1962
12	Oct. 1961	2	Dec. 1961	14	Dec. 1962
13	Oct. 1962	2	Dec. 1962	6	Apr. 1963
14	Oct. 1963	2	Dec. 1963	5	Mar. 1964
15	Oct. 1964	11	Oct. 1965	14	Jan. 1966
16	Oct. 1965	1	Nov. 1965	13	Nov. 1966
17	Oct. 1966	1	Nov. 1966	14	Dec. 1967
18	Oct. 1967	1	Nov. 1967	14	Dec. 1968
19	Oct. 1968	2	Dec. 1968	15	Jan. 1970
20	Oct. 1969	2	Dec. 1969	4	Feb. 1970
21	Oct. 1970	2	Dec. 1970	12	Oct. 1971
22	Oct. 1971	2	Dec. 1971	73	Oct. 1977
23	Oct. 1972	1	Nov. 1972	59	Oct. 1977
24	Oct. 1973	25	Dec. 1975	47	Oct. 1977
25	Oct. 1974	13	Dec. 1975	35	Oct. 1977
26	Oct. 1975	2	Dec. 1975	25	Oct. 1977
27	Oct. 1976	1	Nov. 1976	13	Nov. 1977
Total		150		522	
Mean		5.5		19.3	

Table H.4.11 RESULTS OF RESERVOIR OPERATION STUDY WHEN
 IMPOUNDING, SATISFYING THE WATER REQUIREMENT FROM
 EXISTING FARM LAND OF 62,200 HA UNDER THE PROJECT

No.	Commencement of storage	Time necessary up to L.W.L. (Month)	Reached at L.W.L.	Time necessary up to H.W.L. (Month)	Reached at H.W.L.
1	Oct. 1950	3	Jan. 1951	51	Jan. 1955
2	Oct. 1951	2	Dec. 1951	39	Jan. 1955
3	Oct. 1952	16	Jan. 1954	31	Apr. 1955
4	Oct. 1953	3	Jan. 1954	18	Mar. 1955
5	Oct. 1954	2	Dec. 1954	39	Dec. 1957
6	Oct. 1955	25	Nov. 1957	28	Jan. 1958
7	Oct. 1956	13	Nov. 1957	16	Jan. 1958
8	Oct. 1957	1	Nov. 1957	4	Jan. 1958
9	Oct. 1958	13	Nov. 1959	17	Feb. 1960
10	Oct. 1959	1	Nov. 1959	5	Feb. 1960
11	Oct. 1960	1	Nov. 1960	28	Jan. 1963
12	Oct. 1961	2	Dec. 1961	16	Jan. 1963
13	Oct. 1962	2	Dec. 1962	7	Apr. 1963
14	Oct. 1963	2	Dec. 1963	28	Jan. 1966
15	Oct. 1964	13	Nov. 1965	39	Dec. 1967
16	Oct. 1965	1	Nov. 1965	27	Dec. 1967
17	Oct. 1966	1	Nov. 1966	40	Jan. 1970
18	Oct. 1967	1	Nov. 1967	28	Jan. 1970
19	Oct. 1968	2	Dec. 1968	16	Jan. 1970
20	Oct. 1969	2	Dec. 1969	5	Feb. 1970
21	Oct. 1970	2	Dec. 1970	12	Dec. 1971
22	Oct. 1971	2	Dec. 1971	74	Nov. 1977
23	Oct. 1972	1	Nov. 1972	62	Nov. 1977
24	Oct. 1973	25	Dec. 1975	50	Nov. 1977
25	Oct. 1974	13	Dec. 1975	38	Nov. 1977
26	Oct. 1975	2	Dec. 1975	26	Nov. 1977
27	Oct. 1976	1	Nov. 1976	14	Nov. 1977
Total		152		758	
Mean		5.6		28	

FIGURES

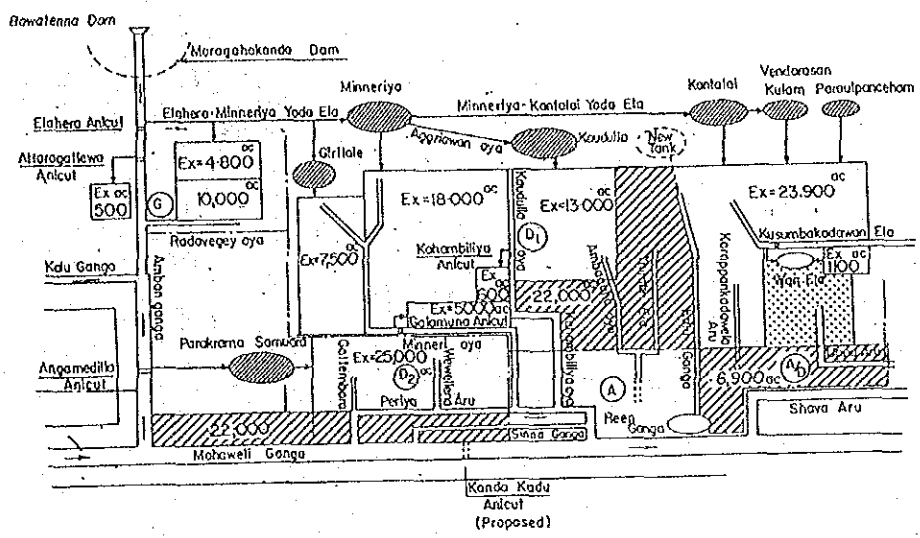


Fig. H.2-1 Irrigation and Drainage System

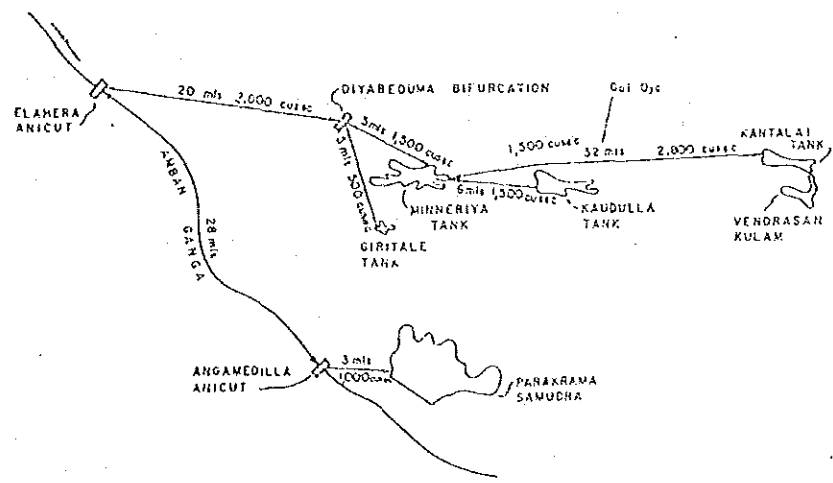


Fig. H.2-2 Existing Canal Layout

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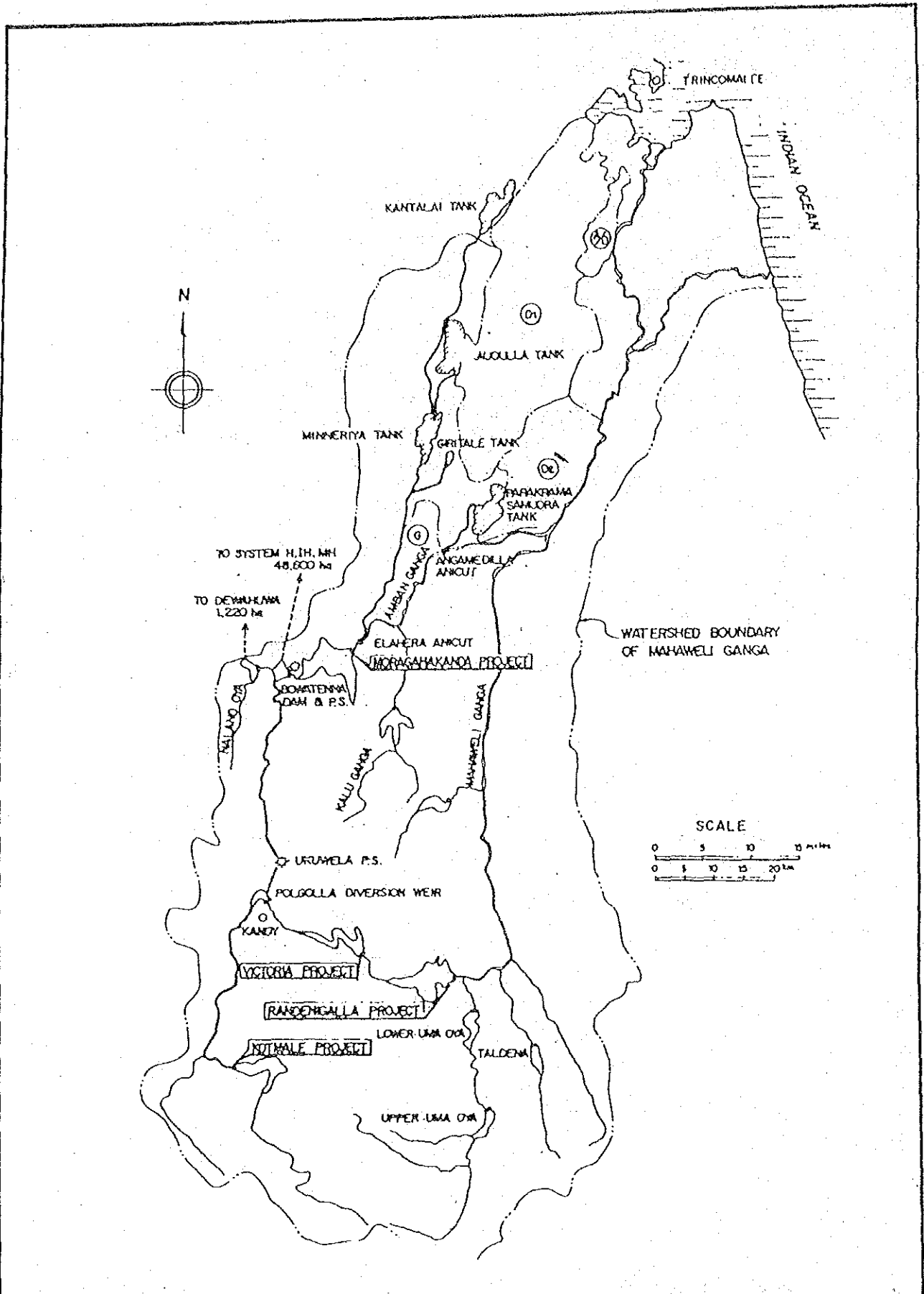


Fig. H.2-3 Water Flow System

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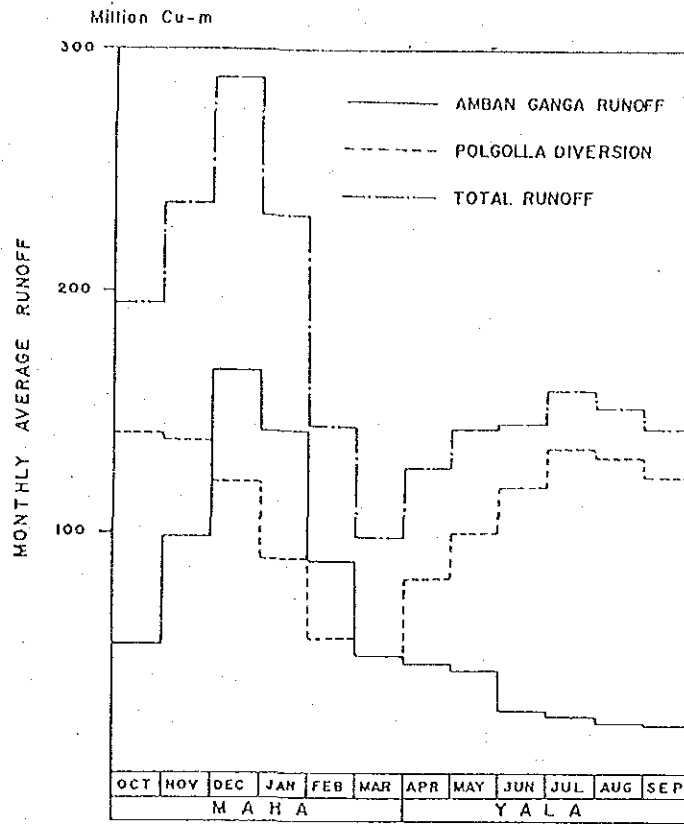


Fig. H.3-1 Available Water at Moragahakanda Dam Site

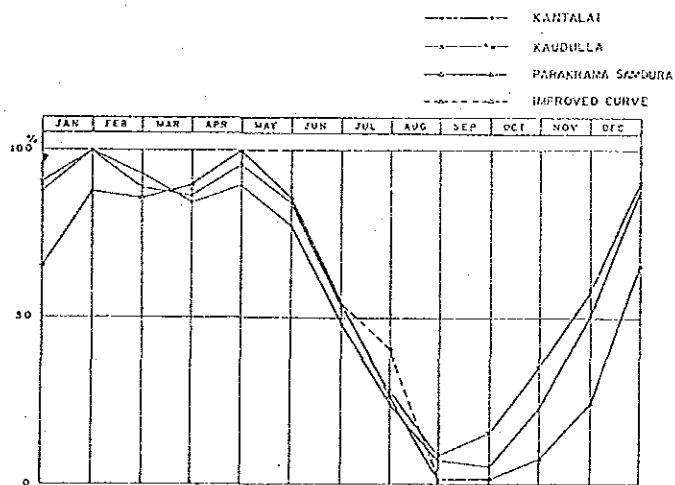
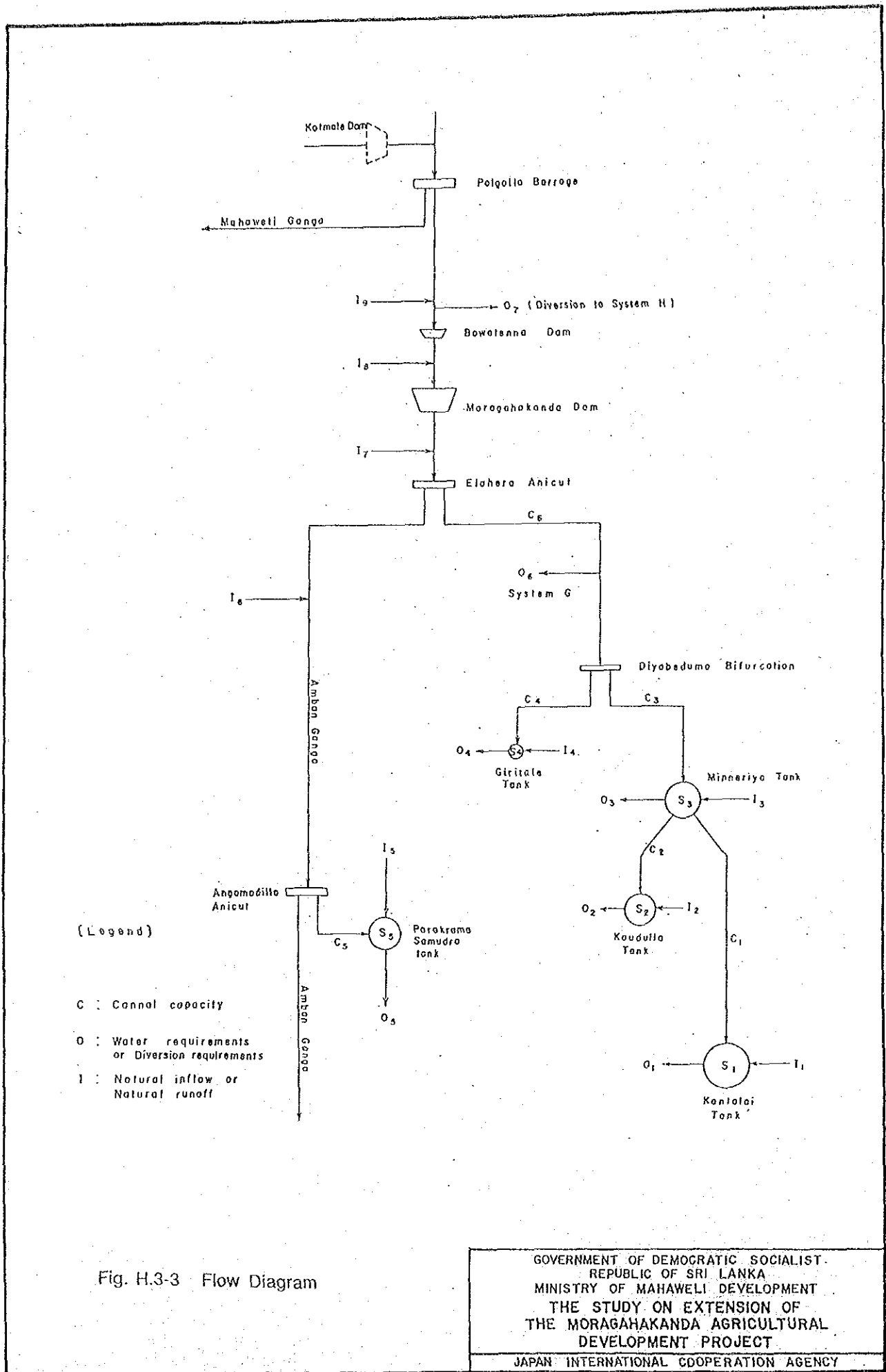


Fig. H.3-2 Operation Rule Curve for Each Tank

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(Legend)

C : Canal capacity

O : Water requirements or Diversion requirements

I : Natural inflow or Natural runoff

Fig. H.3-3 Flow Diagram

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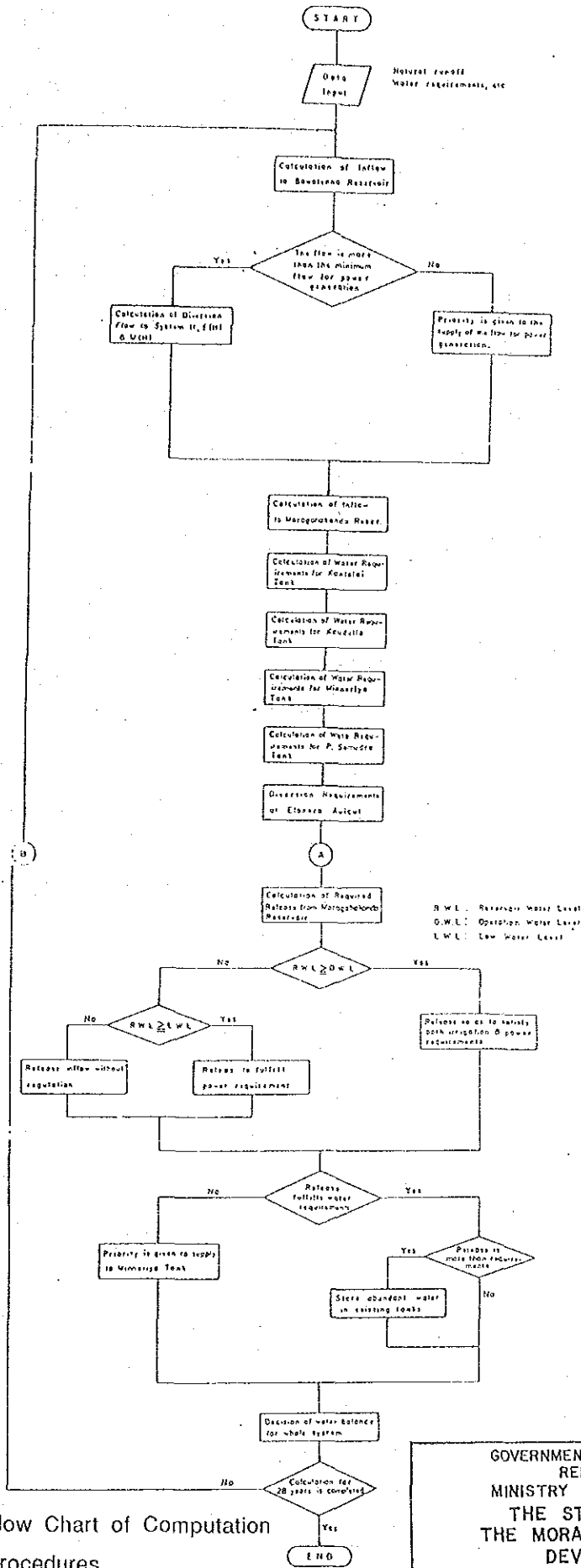


Fig. H.3-4 Flow Chart of Computation Procedures

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JAPAN INTERNATIONAL COOPERATION AGENCY

ANNEX - I

FOUNDATION AND CONSTRUCTION MATERIAL

ANNEX - I

FOUNDATION AND CONSTRUCTION MATERIAL

TABLE OF CONTENTS

	<u>Page</u>
I.1 GENERAL	I-1
I.1.1 General	I-1
I.1.2 General Geology	I-1
I.2 FOUNDATION	I-3
I.2.1 Foundation Investigation	I-3
I.2.2 Geology of the Damsite	I-8
I.2.3 Dam Foundation Engineering	I-12
I.2.3.1 Strength of the Foundation	I-12
I.2.3.2 Permeability of the Foundation	I-13
I.2.3.3 Excavation Line	I-14
I.2.3.4 Foundation Treatment	I-14
I.2.4 Foundation of Diversion Weir Site	I-17
I.2.5 Geology of the Reservoir Area	I-17
I.3 CONSTRUCTION MATERIALS	I-20
I.3.1 Outline of Investigations	I-20
I.3.2 Soil Materials	I-20
I.3.2.1 Available Quantity of Soil Materials and the Selection of Borrow Areas	I-20
I.3.2.2 Physical and Mechanical Properties	I-22
I.3.2.3 Suitability as Impervious Material	I-24
I.3.2.4 Matters of Special Attention	I-25
I.3.3 Filter Material and Fine Aggregates for Concrete	I-26
I.3.3.1 Availability and Exploitable Quantity	I-26
I.3.3.2 Physical and Mechanical Properties	I-27
I.3.3.3 Suitability as Filter Material	I-27
I.3.3.4 Suitability as a Fine Aggregate for Concrete	I-28
I.3.3.5 Matters of Special Attention	I-29

	<u>Page</u>
I.3.4 Rock Material and Coarse Aggregates for Concrete	I-29
I.3.4.1 Available Quantity and the Selection of Quarries	I-29
I.3.4.2 Physical and Mechanical Properties	I-31
I.3.4.3 Suitability as Rock Material	I-32
I.3.4.4 Suitability as Coarse Aggregates for Concrete	I-32
I.3.4.5 Matters of Special Attention	I-33

LIST OF TABLES

			<u>Page</u>
Table	I.1.1	STRATIGRAPHIC COLUMN OF THE PROJECT AREA	I-34
Table	I.2.1	RESULT OF CORE DRILLING	I-35
Table	I.2.2	RESULT SEISMIC EXPLORATION	I-36
Table	I.2.3	RESULT OF TEST ADIT	I-37
Table	I.2.4	RESULT OF TEST GROUTING	I-38
Table	I.2.5	ROCK CLASSIFICATION OF THE DAMSITE AREA	I-39
Table	I.2.6	RESULTS OF IN-SITU ROCK TEST	I-40
Table	I.2.7	RESULTS OF GROUTING TEST	I-41
Table	I.3.1	LIST OF DATA COLLECTED ON PREVIOUS SOIL SURVEY	I-42
Table	I.3.2	NUMBER OF LABORATORY TESTS CONDUCTED ON IMPERVIOUS MATERIAL	I-43
Table	I.3.3	NUMBER OF LABORATORY TESTS CONDUCTED ON FILTER MATERIAL AND FINE AGGREGATES	I-43
Table	I.3.4	NUMBER OF LABORATORY TESTS CONDUCTED ON COARSE AGGREGATES AND ROCK-FILL MATERIAL	I-44
Table	I.3.5	AVAILABILITY OF IMPERVIOUS MATERIAL IN EACH BORROW AREA	I-45
Table	I.3.6	SUMMARY OF LABORATORY TEST RESULTS FOR SOILS IN UPSTREAM BORROW AREAS	I-46
Table	I.3.7	COMPARISON OF LABORATORY TEST RESULTS OF SOILS IN PREVIOUS AND RECENT INVESTIGATIONS	I-47
Table	I.3.8	SUMMARY OF LABORATORY TEST RESULTS (JICA-1978)	I-48
Table	I.3.9	SUMMARY OF MECHANICAL TESTS ON IMPERVIOUS MATERIAL	I-49
Table	I.3.10	SUMMARY OF LABORATORY TESTS ON RIVERBED MATEIAL AND ROCK BLASTINGS	I-50
Table	I.3.11	COMPARISON OF THE STANDARD RANGE OF GRAIN SIZE DISTRIBUTION RECOMMENDED FOR FINE AGGREGATES IN DAM CONCRETE WITH THE ACTUAL GRADATION OF RIVER SAND AND ROCK BLASITNGS	I-51
Table	I.3.12	LABORATORY TEST RESULTS OF ROCK SAMPLES FROM BORING CORE	I-52
Table	I.3.13	SUMMARY OF THE TEST RESULTS OF QUARRY MATERIALS (ROCK BLASTINGS)	I-53

LIST OF FIGURES

			<u>Page</u>
Fig.	I.1-1	The Main Geological Divisions and Simplified Geological Structures	I-54
Fig.	I.1-2	General Geology of the Project Area	I-54
Fig.	I.2-1	$\Delta P/\Delta s$ on Load-displacement Curve and Creep Ratio.....	I-55
Fig.	I.2-2	Loading Pattern and Dial Gauge Locations	I-55
Fig.	I.2-3	Shear Strength	I-56
Fig.	I.2-4	Results of the Grouting Tests	I-57
Fig.	I.2-5	Geological Map of the Reservoir Area	I-58
Fig.	I.3-1	Grain Size Distribution Curves of Soils in Upstream Borrow Areas	I-59
Fig.	I.3-2	Grain Size Distribution Curves of Soils in Borrow Area E	I-59
Fig.	I.3-3	Grain Size Distribution Curves of Soils in Borrow Area A, B, C ₁ , C ₂ , D and E	I-60
Fig.	I.3-4	Grain Size Distribution Curves of Soils in Borrow Area F	I-60
Fig.	I.3-5	Relation between Moisture Content and Dry Density, Cohesion Angle of Internal Friction and Coefficient of Permeability ($1/3 - 3/3$)	I-61
Fig.	I.3-6	Relation between Field Moisture Content and Optimum Moisture Content	I-62
Fig.	I.3-7	Results of Compaction Test	I-62
Fig.	I.3-8	Grain Size Distribution Curves of Riverbed Materials and Rock Blasting	I-63
Fig.	I.3-9	Conditions for the Design of Filter	I-63
Fig.	I.3-10	Availability of Rock Materials (Quarry I)	I-64
Fig.	I.3-11	Availability of Rock Materials (Quarry II)	I-64

ANNEX-I FOUNDATION AND CONSTRUCTION MATERIAL

I.1 GENERAL

I.1.1 General

This ANNEX was recompiled on the basis of the previous Feasibility Report prepared by JICA in 1979.

I.1.2 General Geology

Topography of Sri Lanka is characterized by three steps of peneplains. The highest peneplain forms the so-called Central Highland including Nuwara Eliya, from 1,500 m to 1,800 m in altitude, in the center of the island. Topography of this area is rather of steep mountains as the result of deep downward erosion below the surface of the peneplain. The highest peak Pidurutalagala (2,527 m) is located in this zone. The middle peneplain forms the area of 90 m or 120 m to 750 m in altitude, surrounding the highest peneplain, and is characterized by mildly undulating terrain, hills and small mountains. The lowest peneplain is developed extensively in the coastal region within 120 m in altitude, surrounding the middle peneplain. Topographic characteristic of the lower peneplain is flat plain with scattered heights of erosion remnant.

Geologically, the island of Ceylon is a part of very old and stable continental mass of the South Indian Shield, consisting of highly crystalline metamorphic rocks (see Fig. I.1-1). The most part of the island is composed of pre-Cambrian Highland Series and Cambrian Vijayan Series; the former exposed in a belt with 50 to 100 km of width stretching in the direction of north-northeast to south-southwest through the middle part of the island and the latter forming about 50 km wide belts on both sides of it. Miocene sedimentary rock beds are located on the northwestern coastal region. Besides these there is a very local patch of Mesozoic rocks in the northwestern part. Quaternary deposits are composed of unconsolidated material of various grain sizes, from clay to gravels, of which some are flood and terrace deposits formed along rivers, some are residual soil scree or talus on hill slopes and others are marine and lacustrine.

Geological history of Sri Lanka starts in the pre-Cambrian era with thick sedimentation in a geosyncline, which underwent regional metamorphism to produce metamorphic rocks of the Highland Series. In Cambrian period, another metamorphism exerting a part of the above metamorphic rocks resulted in polymetamorphosed Vijayan Series. From the late Paleozoic to the late Mesozoic, it was a part of Gondwana Land which covered the southern hemisphere extensively. During this period, the tectonic activity in Sri Lanka was predominantly upheaval and erosion, but for a very partial sedimentation occurred in Jurassic. The subsequent periods after disappearance of the Gondwana Land up to the recent age have still kept on seeing upheaval and erosion in the most parts of the island, except in the northwestern part where marine transgression occurred in Miocene. The outstanding development of the peneplains was also due to these activities.

Foldings are observed in these metamorphic rock beds of the Highland Series and the Vijayan Series. Trend of the folding axes shows north-south in general and northwest-southeast in the southwestern part on the area of the Highland Series. In the area of the Vijayan Series, those axes are more varying in direction and less continuous. Faults show main trends of northeast-southwest and northwest-southeast.

The Mahaweli Ganga, the biggest river in Sri Lanka with 330 km of length, originates in the mountain ridges, more than 1,800 m high, in Nuwara Eliya, flows about 85 km intricately bending but generally northward to Kandy, then 55 km southeastward and then 190 km north and north-northeastward till it pours into Koddigar Bay near Trincomalee. The final course of 190 km is situated for the most part on the lower peneplain below EL. 120 m. The Amban Ganga is the biggest tributary of the Mahaweli. Originating on a mountain slope at 1,300 m in altitude about 12 km southeast of Matale town, it flows 50 km northward to the existing Bowatenna dam, then 25 km eastward to Elahera and then about 45 km northeastward until it flows into the Mahaweli main stream at its 80 km upstream from the estuary.

The irrigation area of the Project develops in an extensive lower peneplain on the west bank of the lower Mahaweli Ganga and the Amban Ganga in the downstream reaches from the proposed damsite, about 4 km southwest from Elahera. From geological viewpoint the project area is situated for the most part in the zone of the pre-Cambrian Highland series and partially in the transition zone from the Cambrian Vijayan Series exposed on the eastern side of the Mahaweli main stream, all of which are composed of highly crystalline metamorphic rocks (See Fig. I.1-2).

The Highland Series comprises three groups of rocks, that is, Khondalite group, Charnockite and Kadugannawa gneisses, as described in the Table I.1.1, which occur in alternating thin strata and not in regionally separate formations. Rocks of the Highland Series are characterized by such contained minerals as garnet, sillimanite, graphite, cordierite and hypersthene, which are very rare or lacked in the polymetamorphic Vijayan Series. Quaternary unconsolidated deposits covering these rocks are within a few meters in thickness generally in the project area.

I.2 FOUNDATION

I.2.1 Foundation Investigations

One of the previous investigations was performed by UNDP/FAO as a part of the Mahaweli Ganga Irrigation and Hydropower Survey from 1959 to 1968. It comprised geological mappings of the reservoir area with topographic map in scale of 1 inch to 0.5 miles and of the damsite in scale of 1 inch to 200 ft., core drilling at 40 spots with more than 1,500 m of total length, nine observation trenches and geophysical investigations. The other previous investigation was carried out by the Irrigation Department of the Government up to 1978, with 29 core drilling holes totalling 902.1 m (2,959.75 ft) to obtain the additional data.

Succeeding and based on the study of the results of those previous investigations, proposed and performed were the present foundation investigations for supplementary data, that includes geological mapping of the damsite in scale of 1/1,200 (1 inch to 100 ft), core drilling with water pressure test, test grouting, adit excavation, in-situ rock mechanical test and geophysical (seismic) exploration. Detailed quantities for each item are shown in Tables I.2.1 to I.2.4 respectively.

Method of test grouting

The test grouting was performed in the following procedures.

(1) Sequence of the work

The grout holes GH3, GH1 and GH2, allocated at three corners of a regular triangle with side length of 2.15 m, were drilled, water-pressure-tested and grouted by step of 4.5 m (15 ft) in down-stage from the top. Then, a check hole GH4 was drilled at the center of the said triangle and water-pressure-tested by 4.5 m down-stage to examine the effect of the above groutings. As the results of the water pressure tests in GH4 were not satisfactory, the hole was grouted by 4.5 m up-stage. And then, a grout hole GH5 was drilled, water-pressure-tested and grouted by 4.5 m down-stage at the symmetric position with GH4 in relation to the line GH1 to GH2, so as to make a smaller triangle GH2-GH4-GH5 with side length of 1.23 m. Last of all, a check hole GH6 was drilled and water-pressure-tested at the center of the smaller triangle to examine the effect of groutings with the shorter spaced holes.

(2) Grouting pressure

The maximum allowable pressure for the test grouping was as follows.

Depth (m)	Max. allowable pressure (kg/cm ²)*
4.85 - 14.0	3.0 - 4.0
14.0 - 18.5	6.0
18.5 - 23.0	8.0
23.0 - 27.5	10.0

*: The pressure read at the neck of the holes.

(3) Mix proportion of grout

Mix proportion of grout used for the test is as follows. The mix proportion in the left column of the table below is changed to that in the right column when the grouting is in the condition as indicated in the middle column.

Mix proportion cement grout (cement/water in weight)	When average grout taken in 20 minutes is more than: lit./min./m	Mix proportion shall be changed to:
1/10	6	1/5
1/5	6	1/3
1/3	5	1/2
1/2	4	1/1

Regardless the grout take, 1/1 is to be continued until completion. If grout take is extraordinarily much, then ---- Mortar grout

Mortar grout
(sand/cement/water in weight)

1/1/1.3

To be continued until completion.

Grouting was started with injection of grout at 1/10 in case that foregoing water pressure test showed leakage lower than 10 Lugeon unit. Otherwise, it was started at 1/5.

Method of in-situ rock test

In-situ rock tests comprise plate loading tests at three spots to obtain the moduli of elasticity and deformation and a shear test with four concrete test blocks placed on bed rock, all performed for charnockite in the adit No.5 on the left bank of the main damsite. The principles and methods of the tests are as follows:

(1) Plate loading test

Principle:

Moduli of elasticity and deformation are given by the following equation.

$$E \text{ or } D = \frac{1 - \mu^2}{2a} \cdot \frac{dP}{ds}$$

where, D : Modulus of deformation (kg/cm²)
E : Modulus of elasticity (kg/cm²)
 μ : Poisson's ratio (assuming 0.2)
a : Radius of loading plate (cm)
dP : Certain increase of load (kg)
ds : Increase of displacement by the above increase of load (cm)

As Poisson's ratio does not effect much difference in the values of E or D, a certain appropriate value for is assumed. The radius of loading plate (a) is given of itself. It is the purpose of test to obtain dP/ds. The value dP/ds is obtained from inclination of load- displacement curve, and varies depending on the inclination of what part of the curve is taken, as shown in Fig. I.2-1. So called "tangential elasticity" (Et) is calculated with the inclination of the curve in the section of rather high load or the range of expected load effected from the designed size of structure. As the curve is usually steeper in the range of high loading, the tangential elasticity is higher than the other values following. So called "secantial elasticity" (Es) is calculated by the inclination of a straight line combining the bottom and the top of each load-displacement curve, and is used in case when the design condition is not yet established. This Es implies partly the effect of non-elastic irrevocable displacement. Deformation modulus (D) that counts all displacement from the start of the test shows a total deformability characteristic of bed rock, both elastic and non-elastic. Naturally the value D is smaller than the others.

Creep ratio (Cf) is calculated by the following equation.

$$Cf = \frac{dc}{de}$$

where, dc : Displacement by creep (Amount of displacement during the sustained load)
de : Elastic displacement (Amount of displacement by the load increased form zero to the sustained load, in the loading cycle for observation of creep) (See Fig. I.2-2)

Method:

- Equipments used for the test are as follows:-
- Hydraulic test jack with a separate oil pump capacity 100 ton, 1 unit

- Steel loading plate, diameter 350 mm, thickness 32 mm, 2 units
- Dial gauge, minimum reading 1/100 mm, stroke 50 mm, 4 nos.
- Column supports for 2 m, spherical adjuster, steel channel beam for dial gauge supporter, dial gauge holders, etc.

Loading patterns are shown in the load-time graph in the drawings of tests. Applied maximum load was 40 tons (41.6 kg/cm²) and 60 tons (62.4 kg/cm²), that are approximately the expected load from the designed dam. Rate of loading up and down was 3.55 ton/min. (3.7 kg/cm² every minutes.) Vertical displacement was read by four dial gauges every minutes (every 5 tons of charge of load) in the course of loading up and down, and every 5 minutes when load was sustained.

After cyclic loadings with increasing peak, the final maximum load was sustained for 3.5 to 4 hours or until displacement diminished below observable range, to measure creep. During this sustained load for creep the dial gauge readings were made at 1, 3, 5, 10 minutes after the final load was reached and then every ten minutes in the following 20 minutes, and every 30 minutes until completion.

(2) Block shear test

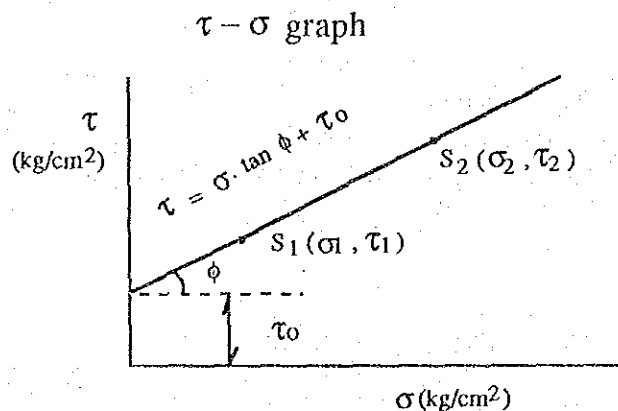
Principle:

Block shear test is based on the following equation, that gives shear strength as a function of cohesive strength (or shear resistance) and internal friction angle ϕ .

$$\tau = \sigma \tan \phi + \tau_0$$

- where,
- τ : Shear strength (kg/cm²)
 - σ : Normal stress (kg/cm²)
 - ϕ : Internal friction angle
 - τ_0 : Cohesive strength (kg/cm²)

The equation is graphically represented as below:



To obtain values of τ_0 and ϕ that are characteristic of the foundation rock in question, three or four concrete test blocks with size of 60cm x 60cm in the base are placed on cleaned rocks which are as similar in condition as possible and horizontally sheared with jacks under different normal (vertical) loads. If concrete of the test blocks is placed carefully enough to stick tight to the rock and if strength of the rock is lower than the concrete, the shear plane develops in the foundation rock to give shear strength of the rock. If strength of the rock is higher than the concrete, obtained shear strength would be not of the rock but of the concrete or the boundary between both. In any case, the situation is similar to the failure in the foundation of concrete dam and the result gives a range of design value.

Though theoretically two pairs of measurement value (σ_n , τ_n) are sufficient to solve the equation, possible deviation of the obtained data due to test error and actual differences of rock conditions at test spots necessitates the use of more than two test blocks. Four blocks were placed in this test.

Actually, shearing force is loaded by jacks dipping about 17° from horizontal, for the purpose of rendering the axis of this inclined load meet that of the normal load at the center of the base of the test block and thereby preventing occurrence of moment in the block. In consequence, the shearing force in the horizontal direction is one of the elements of the inclined force loaded by the jacks; the other element is additional normal load. Hence,

$$\tau_n = \frac{P_i \cdot \cos \theta}{A}$$

$$\sigma_n = \frac{P_n + P_i \cdot \sin \theta}{A}$$

where, τ_n : Shear stress at failure of block No.n (kg/cm²)
 σ_n : Normal stress at failure of block No.n (kg/cm²)
 P_i : Inclined load at failure (kg)
 P_n : Constant normal load applied on block No.n by vertical jack (kg)
 A : Area of sheared plane (cm²)
 θ : Dip of the inclined load from horizontal

The values of σ_n , τ_n ($n = 1, 2, 3, 4$) are plotted on the $\sigma - \tau$ coordinate and by drawing the line " $\tau = \sigma \cdot \tan \phi + \tau_0$ " through the plotted points the values of τ_0 and ϕ are obtained.

Method:

- Equipments used for the test are as follows:-
- Hydraulic test jack with a separate oil pump,
Capacity 100 tons, 1 unit

- Capacity 200 tons, 2 units
- Dial gauge minimum reading 1/100 mm, stroke 50 mm, 10 nos.
- Column supports for 2 m, spherical adjuster, steel channel beam for dial gauge supporter, dial gauge holders, steel plates, etc.

The test was performed with concrete test blocks with 60 cm x 60 cm in the size of the base which were placed at four spots on cleaned foundation rocks subject to the test. Four different normal loads, i.e. 1, 10, 25 and 35 tons, were applied on those four blocks, and under those constant normal load gradually increased was the inclined load, of which horizontal element worked for shearing while the vertical element adds to the normal load. Loading pattern and dial gauge locations are as shown in Fig. I.2-2. Vertical displacement and horizontal displacement of the blocks were observed with four dial gauges respectively to be represented by the average values. Horizontal displacement in the direction right angle to the shearing was also recorded with two dial gauges. The reading of dial gauges was done at every beginning and end of jacking-up operations to increase the inclined load by the rate of 10 tons per 5 minutes. The inclined load in every step was sustained for 5 minutes.

After shearing had completed in each test block, it was re-tested (the second loading) by increasing the inclined load from zero under the same normal load. This is to examine frictional resistance.

I.2.2 Geology of the Damsite

Foundation rocks of the damsite, as classified below, are the members of the pre-Cambrian Highland Series.

- Crystalline limestone: Composed mainly of calcite, and containing mica and quartz in various ratio. The component minerals are medium grained. White to pale grey, hard and massive in fresh condition.
- Calc gneiss: Composed of calcite, quartz, feldspar, mica and small amount of other basic minerals. Sometimes distinguished from crystalline limestone by less calcite content but the boundary is obscure. Though most of it shows gneissose foliation, it is not flaky but massive and hard.
- Charnockite: Dark grey to dark blue coloured due to so tinted quartz and feldspar. Containing hyperthene. Fine to medium grained. Some granulitic. Often accompanied by garnets. Hard and massive, rarely foliated.
- Quartzite: Some containing many garnet crystals within a few millimeters in diameter. Hard and cracky. Irregularly inter-calating in thin strata among the other rock beds.
- Gneiss: Gnerally highly siliceous and hard. Foliated but not flaky. Massive and solid in fresh condition. Often containing much garnet and some granulitic.

Gneissose rocks in the Highland Series are various in mineral components as shown in Table I.1.1. The rocks of different mineral composition are so intricately mixed but so similar in mechanical and physical characteristics that they can be classified in a single category "gneiss" for the engineering purpose.

Condition of the above rocks except for quartzite is no doubt very good with high strength, scarce cracks and little leakage, when they are fresh. A problem that requires strong precaution is solution cavities in the crystalline limestone and the calc gneiss, as discussed in Sub-section 2.2.

Topographic trend in the damsite is oriented predominantly north-northeast to south-southwest, in which direction stretch the ridges and rivers. The river bed of the Amban Ganga, around 135 m in altitude, is about 50 meters wide, accompanied by another 50 m wide flood terrace in 140 m to 145 m in altitude on the right bank. Slopes on both banks show approximately vertical: horizontal 1:2 in gradient. The left bank rises up to EL. 220 m, and then descends to about EL. 150 m in a presumably ancient river channel which is connected to the present river course in both the upstream and downstream vicinities and thus renders the left bank an isolated hill. This ancient river channel, now dry and passed by Naula-Elahera motor road, shows about 100 m of width at the bottom, with slopes of 1/1.5 to 1/2 on both sides. This requires the sub-dam No.1 when the main dam on the Amban Ganga is designed to have high water level around 200 m in altitude.

Approximately 300 m northwest from the said ancient river channel, another short flat valley with 180 m of altitude at the top is encountered along the eastern foot of Mt. Moragahakanda, and this requires the sub-dam No.2. All of these channels and ridges tend to develop in the direction of NNE-SSW.

Those topographic trends are closely related with the geological structure. The rock beds show generally strike of N-S to N40°E and dip of 10 to 20°W, that is, mildly dipping from right bank toward left bank. The bedding is homoclinal, with occasional small folds with several meters of length. Faults, though not exposed, are suggested by low velocity zones (1.7- 2.7 km/sec) detected in the geophysical (seismic) exploration, and its direction is assumed NW-SE from geomorphological characteristics observed in aerial photographs.

The foundation rock is classified into four zones from viewpoint of rock condition as shown in Table I.2.5, based on the results of drilling, adit and seismic exploration. Because of gradual change of the rock conditions, boundaries of those zones are often obscure. However, they roughly coincide with the boundaries of seismic velocity zones. Rocks in "intensively weathered zone" and "moderately weathered zone" which show the P-wave velocity less than 1.7 km/sec are so deteriorated, insufficient in stability and unreliable in effect of grouting that they are not applicable for foundations of concrete gravity dam and impervious core zone of fill dam. On the other hand, rocks in "slightly weathered zone" and "fresh rock zone" are competent enough for those foundations, though the former is a little inferior to the latter. Actually, the "slightly weathered zone" is composed for the most part of virtually fresh rock but some weathering along cracks at 1 to 2 m intervals.

Quaternary deposits found in the damsite are, on one hand, residual soil which is reddish brown mixture of sand, silt and clay, or sandy loam, with occasional rock fragments, produced from intensive weathering and deterioration of bed rocks, and, on the other hand, yellowish brown sandy or silty deposits on the river bed and the flood plain. The residual soil, mainly developing on the hill slopes with 1 to 3 m of thickness, sometimes accompanied by talus deposits, show 0.2 to 0.3 km/sec of P-wave velocity, whereas the river deposits show around 1.5 km/sec, a high velocity presumably due to saturation.

Geological condition of each damsite is as described below.

(1) Main damsite

- Base rock: The river bed and the upper parts of the right bank slope are occupied by charnockite, and the other parts by gneiss.
- Geological structure: General strike and dip of the bedding plane shows N-S to N40°E/15 to 20°W. No fault is found. Predominant joints trend N85°W/85°W (in the adit No.6) and N70°E/80°NW (in the adit No.5).
- Quaternary deposits: River bed deposit, composed of sand, sandy silt and clay with occasional gravels, are 6 to 8 m in thickness. The residual soil is 1 to 2 m thick on the both banks.
- Rock condition: The intensively weathered zone (0.7-1.2 km/sec) is 10 m thick, and the moderately weathered zone (1.2-1.7 km/sec) is lacked in this site. The slightly weathered zone with 1.7-2.0 km/sec of velocity (this velocity is a little lower than in the slightly weathered zone in the other places) is 10 m thick on the right bank and 10 to 20 m, thickening up-slope, on the left bank. The fresh rock zone shows P-wave velocities of 4.4 to 5.5 km/sec in the river bed and the right bank, and 6.0 km/sec on the left bank.

(2) Sub-dam No. 1

- Base rock: Gneisses are in the upper levels of the both banks, and crystalline limestones - calc gneisses in the lower levels.
- Geological structure: Strike and dip of the strata is similar to that in the main damsite, i.e. N-S to N40°E/10-20°W. A fractured zone in the drill hole DM22 is the only fault that is confirmed. Two other faults are assumed running through two low velocity zones on the seismic exploration line RA. None of those three are deemed to have major or extensive fractures around them, from rather small discrepancies of beddings on both sides.
- Quaternary deposits: The area is covered by residual soil in 1 to 2 m of thickness.

- **Rock condition:** The intensively weathered zone has 3 to 7 m of thickness. The moderately weathered zone is observed only in the bottom of the valley and the upper parts of the left bank, and is 3 to 5 m thick. The slightly weathered zone (2.0-2.4 km/sec) is about 20 m thick on the right bank, 10 to 15 m under the bottom of valley and 8 to 10 m on the left bank. P-wave velocity in the fresh rock zone shows 5.5 to 6.0 km/sec, and partially 4.5 km/sec.
- **Cavity:** three drill holes through calc gneiss on the left bank slope have encountered sections of no core recovery which are deemed to be solution cavities in the calcareous rock.

They are located:-

- in a part of the section 19.8 m - 22.35 m of depth in the hole DH24
- in the whole section 23.65 m - 28.40 m of depth, and
- in a part of the section 29.4 m - 31.3 m of depth

- in the section 15.3 m - 19.55 m of depth in the hole DM19
- in the section 6.8 m - 7.45 m of depth, and in the test grout hole GH-3
- in the section 9.35 m - 14.2 m of depth

On the other hand in the adit No.8 which is situated in the upper part of the same slope, open fissures are found within 20 m of vertical depth from the ground surface. Two of them are 0.2 to 0.5 m of vertical depth from the ground surface. Two of them are 0.2 to 0.5 m wide openings developed along sub-vertical joints, trending N10°E and N70°W, filled with loose black sandy loam. The other one is about 0.5 m wide and develops along a joint in N70°E/30°SE, that is nearly parallel to the ground surface. The former two appear to change the widths and pinch out within a short distance. The latter seems continuous for a considerably wide range but not developing deep underground from its direction. Very probably, the latter is connected with those cavities found in the drillings. In effect, location of the cavity are limited within about 30 m of depth and no other cavities have been found in other parts of the foundation except on the left bank of the sub-dam No.2, though it does not prove that no cavities exist in the other parts.

(3) Sub-dam No.2

- **Base rock:** Calc gneiss is exposed on the left bank, that is the foot of Mt. Moragahakanda. Charnockite with 20 m of thickness is at the bottom of the valley. The right side is composed of gneiss.
- **Geological structure:** General strike and dip of the bed rocks is nearly N-S/10-20°W. Two faults are assumed by low velocity zones on the seismic exploration line EA on the right bank.

- Quaternary deposits: Residual soil is within 2 m of thickness. Fairly large area of the rock surface is exposed without covering of Quaternary deposits.
- Rock condition: The intensively weathered zone prevails the surface of bed rocks in all over the area with 3 to 5 m of thickness. The moderately weathered zone shows 3 to 8 m of thickness at the bottom of the valley and on the right bank, and is lacked in the other area. The slightly weathered zone is 10 to 20 m thick and is underlain by the fresh rock zone with 5.3-6.0 km/sec of P-wave velocity.

I.2.3 Dam Foundation Engineering

I.2.3.1 Strength of the Foundation

In-situ rock tests on shear strength and elasticity, performed in charnockite in the adit No.5 on the left abutment of the main damsite, obtained the following results. (See Fig. I.2-3 and Table I.2.6).

Shear strength	Cohesion 36 kg/cm ² Internal friction angle 53° ($\tau = 36 + \sigma \cdot \tan 53^\circ$ kg/cm ²) where, τ is shear strength and σ is vertical stress)
Modulus of elasticity	84,000 - 90,000 kg/cm ²
Modulus of deformation	51,000 kg/cm ²

The plate loading tests for measurement of modulus of elasticity and deformation were made with the maximum load at 40 to 60 kg/cm², taking into consideration the actual stress effected from the dam of designed size. Because of very high solidity of the foundation rock, the movement was generally too small and irregular within the said load to result in a stable load-displacement curve usable for calculation. Only one test out of four observed exceptionally calculable displacement, and it is the basis of the above moduli of elasticity and deformation. It should be noted, therefore, that those values are rather lower ones for this foundation and the average can be far higher.

The charnockite, subject to the test, was in fresh or partly slightly weathered, hard and massive condition with scarce cracks which were tightly closed. Though it is in the velocity zone of 1.9-2.0 km/sec that falls under the slightly weathered zone, the rock condition is apparently almost similar to the fresh rock zone. The value obtained for shear strength should be taken to be nearly maximum in this area, and use of some lower moderate value is recommendable for design.

Gneiss and calcareous rocks have not been tested, but no much difference from charnockite is conceivable in the aspect of strength in the field observation. Thus, from mechanical point of view, the slightly weathered zone and the fresh rock zone are competent enough for foundations of concrete gravity dam and impervious core of fill dam.

1.2.3.2 Permeability of the Foundation

Permeability distribution in the foundation rock is shown in Lugeon Map (see DRAWINGS), which is based on data of water pressure tests in drill holes. Zoning is as follows:

(1) Main damsite

Zone of high leakage more than 50 in Lugeon unit forms a superficial layer within 10 to 20 m in depth. It is underlain by zone of 5 to 15 Lugeon unit, about 10 m in thickness. Watertight zone with less than 1 Lugeon unit is found below 20 m of depth on the left bank, about 10 m in the river bed and 20-25 m on the right bank.

(2) Sub-dam No.1

High leakage zone over 50 Lugeon unit shows thickness generally ranging from 5 m to 20 m, with tendency of being thinner on the right bank and thicker on the left bank, except for a part on the left bank where the high leakage is observed to 40 m of depth though cavities were found only to 31 m of depth. Underlying is zone of 15 to 30 Lugeon unit, that is still fairly permeable, in about 5 m of thickness. Zone of 1 to 5 Lugeon unit with thickness from 10 m to 15 m is found under the bottom of the valley. Watertight Zone of less than 1 Lugeon unit is found deeper than 5 to 15 m on the right bank, 25 to 35 m in the bottom of the valley and 20 to 40 m on the left bank.

(3) Sub-dam No. 2

The available water pressure test data on the presently proposed dam axis are only for the left bank. Zone of more than 50 Lugeon unit lies within 5 m of depth, and the underlying 10 to 15 meters thickness is occupied by two layers of 30-50 and 5-15 in Lugeon unit. The impervious zone below 1 Lugeon unit lies 15 to 20 m under the ground surface. As for the right bank, if inferred from the data on now abandoned alternative axis about 100 m to north, high leakage condition is encountered probably to about 16 m of depth, and the underlying zone is deemed to show fairly low leakage, such as less than 10 Lugeon unit.

The leakage condition are roughly correlated with the classification of rock conditions as below.

- Intensively weathered zone
- Moderately weathered zone More than 50 Lug. unit
- Slightly weathered zone
 upper part 15-30 Lug. unit, partly less than 15
 lower part
- Fresh rock zone Less than 5 Lug. unit, Mostly less than 1