water use in the drainage area at the upstream of the Study Area and the simple drainage area of the Inagawan river, the Tank Model was employed. On the other hand, the type of model and the coefficient of runoff have been determined using the rating curve at No.2 gauging station installed in 1993. To determine the constant of Tank's notches, etc., the daily evapo-ration rate was calculated using the modified Penman method. (refer to Figure C.2.9)

As a result of the analysis, the coefficient of corre-lation obtained was 0.610. The mean yearly total runoff was calculated at about 106 MCM at the No.2 gauging station on the Inagawan river, while the runoff coefficient was estimated at 47%. Total runoff was estimated at around 17 MCM during the dry season and 89 MCM during the rainy season. (refer to Tables C.2.8 and C.2.9, and Figure C.2.10)

Based on the results of the probable runoff discharge analysis, drought water discharge was estimated at 0.314 cu.m/sec with a 10 year return period. Through the evaluation of long-term analysis for 17 years, 1977, 1990, 1991 and 1992 were selected as drought years. (refer to Table C.2.10)

C. 2. 5 Groundwater Investigation

Based on the National Water Resources Board report, the Study Area is classified into the deep well zone. There are nine (9) shallow wells in the home lot area and four (4) springs in the depressed areas of the farm lot area.

Discharge measurements were carried out at three (3) springs. The yields from springs as measured vary from 0.01 to 0.22 lit/sec in February 11, and 0.32 lit/sec in August 18, 1994. The amount of discharge from springs is too small for agriculture and is suitable only for the daily life of farmers ue to thepresence of water throughout the year. Although the springs do not dry up even during the dry season the yields are greatly reduced. Some wells, however, dries up or have less water during the dry season. (refer to Table C.2.11 and Figure C.2.11)

Table C.2.1 Discharge Measurement at Inagawan River
(1993 to 1994)

No.	Observation Date M	D	Y	Velocity (m/sec)	Water Depth (m)	Flow Area (sq.m)	Dis-charge (cu.m/sec)	Executed by
Station : CIS Main Canal								
1	Jun	18	1993	0.505	0.70	1.365	0.689	DAR
2	Jul		1993		missing data			DAR
3	Aug		1993		missing data			DAR
4	Sep	16	1993	0.483	0.78	1.615	0.780	DAR
5	Oct	22	1993		0.00			DAR *
6	Nov	19	1993	0.685	0.80	1.680	1.151	DAR
7	Jan	27	1994	0.553	0.36	0.518	0.286	JICA
8	Feb	4	1994	0.528	0.30	0.405	0.214	JICA
9	Feb	26	1994	0.650	0.48	0.778	0.505	JICA
10	Mar	14	1994	0.350	0.26	0.335	0.117	DAR
11	Mar	30	1994		0.00			DAR
12	Apr	21	1994		0.00			DAR
13	Apr	28	1994		0.00			DAR
14	May	6	1994	0.830	0.70	1.365	1.133	DAR
15	Jun	15	1994	0.800	0.60	1.080	0.864	DAR
16	Aug	17	1994	0.840	0.66	1.470	1.048	JICA
Station : No.2								
1	Jun	18	1993	0.462	0.99	5.275	2.437	DAR
2	Jul		1993		missing data			DAR
3	Aug		1993		missing data			DAR
4	Sep	16	1993	0.522	1.25	7.700	4.019	DAR **
5	Oct	22	1993		no data			DAR
6	Nov	19	1993	0.472	0.90	4.900	2.313	DAR **
7	Jan	27	1994	0.386	0.60	2.590	1.001	JICA
8	Feb	4	1994	0.383	0.62	2.474	0.948	JICA
9	Mar	14	1994	0.221	0.40	1.303	0.288	DAR
10	Mar	30	1994	0.168	0.30	1.037	0.174	DAR
11	Apr	21	1994	0.176	0.32	1.110	0.196	DAR
12	Apr	28	1994	0.148	0.30	1.050	0.155	DAR
13	May	6	1994	0.734	1.35	11.800	8.661	DAR **
14	Jun	15	1994	0.732	0.80	3.375	2.472	DAR
15	Aug	17	1994	0.628	0.75	3.268	2.053	JICA
16	Aug	26	1994	0.541	0.58	2.788	1.508	JICA
17	Aug	29	1994	0.587	0.73	2.820	1.655	JICA
Station : No.3								
1	Jun	18	1993	0.120	0.75	6.076	0.732	DAR
2	Jul		1993		missing data			DAR
3	Aug		1993		missing data			DAR
4	Sep	16	1993	0.148	1.00	9.215	1.362	DAR
5	Oct	22	1993	0.197	1 35	16.968	3.348	DAR
6	Nov	19	1993		no data			DAR
7	Jan	27	1994	0.097	1.03	9.678	0.939	JICA
8	Feb	4	1994	0.078	1.06	10.116	0.809	JICA
9	Feb	26	1994	0.070	1.05	9.970	0.698	JICA
10	Mar	14	1994	0.048	1.03	7.467	0.358	DAR
11	Mar	30	1994	0.037	0.95	7.105	0.262	DAR
12	Apr	21	1994	0.041	1.00	7.110	0.295	DAR
13	Apr	28	1994	0.027	1.05	7.283	0.197	DAR
14	May	6	1994		no data			DAR
15	Jun	15	1994	0.198	1.20	12.390	2.456	DAR
16	Aug	17	1994	0.170	1.10	11.025	1.879	JICA

Note: * Water depth is zero
** by Surface flow method
Velocity is measured by a current meter

Table C.2.2 Estimated Design Flood Discharge

Site : Eu

Return Period 100 years
R24= 236.1 mm/day
C= 150
A= 14.5 sq.km
f= 0.6

Fukushima and Kadoya's Formula
T= C*A^0.22*Rt^-0.35
= 57.78 min
= 1.0 hr

Mononobe Formula
Rt= R24/24*(24/T)^(2/3)
= 82 mm/hr

Rational Method
Q= 1/3.6*f*Rt*A
= 198.17 cum/sec
≒ 200 cum/sec

Site : El

Return Period 100 years
R24= 236.1 mm/day
C= 150
A= 15 sq.km
f= 0.6

Fukushima and Kadoya's Formula
T= C*A^0.22*Rt^-0.35
= 58.21 min
= 1.0 hr

Mononobe Formula
Rt= R24/24*(24/T)^(2/3)
= 82 mm/hr

Rational Method
Q= 1/3.6*f*Rt*A
= 205.00 cum/sec
≒ 210 cum/sec

Site : D

Return Period 100 years
R24= 236.1 mm/day
C= 150
A= 118.1 sq.km
f= 0.6

Fukushima and Kadoya's Formula
T= C*A^0.22*Rt^-0.35
= 104.10 min
= 1.7 hr

Mononobe Formula
Rt= R24/24*(24/T)^(2/3)
= 57 mm/hr

Rational Method
Q= 1/3.6*f*Rt*A
= 1121.95 cum/sec
≒ 1,130 cum/sec

Site : C

Return Period 100 years
R24= 236.1 mm/day
C= 150
A= 110.7 sq.km
f= 0.6

Fukushima and Kadoya's Formula
T= C*A^0.22*Rt^-0.35
= 102.62 min
= 1.7 hr

Mononobe Formula
Rt= R24/24*(24/T)^(2/3)
= 57 mm/hr

Rational Method
Q= 1/3.6*f*Rt*A
= 1051.65 cum/sec
≒ 1,060 cum/sec

Site : EuM

Return Period 100 years
R24= 236.1 mm/day
C= 150
A= 13.9 sq.km
f= 0.6

Fukushima and Kadoya's Formula
T= C*A^0.22*Rt^-0.35
= 57.24 min
= 1.0 hr

Mononobe Formula
Rt= R24/24*(24/T)^(2/3)
= 82 mm/hr

Rational Method
Q= 1/3.6*f*Rt*A
= 189.97 cum/sec
≒ 190 cum/sec

Site : LD

Return Period 50 years
R24= 214.1 mm/day
C= 150
A= 118.5 sq.km
f= 0.6

Fukushima and Kadoya's Formula
T= C*A^0.22*Rt^-0.35
= 109.06 min
= 1.8 hr

Mononobe Formula
Rt= R24/24*(24/T)^(2/3)
= 50 mm/hr

Rational Method
Q= 1/3.6*f*Rt*A
= 987.50 cum/sec
≒ 990 cum/sec

Table C.2.3 Correlation of Rainfall

(between Aborlan and P.Princesa Observaotaries)

$Y = A X + B$
Y : Aborlan Rainfall (mm)
X : Puerto Princesa Rainfall (mm)

	Daily	Monthly
Correlation Coefficient	0.479	0.747
Number of Data *1 (1977 to 1993)	6,016	192
A	0.4812	0.7796
B	2.4831	39.1306

note : *1 Without not available data

$Y = A X^{B}$
Y : Aborlan Rainfall (mm)
X : Puerto Princesa Rainfall (mm)

	Daily	Monthly
Correlation Coefficient	0.334	0.808
Number of Data *2 (1977 to 1993)	1,226	179
A	4.0063	3.8767
B	0.3368	0.7276

note : *2 Without 0.0 mm data

Table C.2.4 Applied Daily Rainfall at Aborlan

Rating-Curve: $Y = 3.8767 X^{0.7276}$
X : Puerto Princesa Monthly Rainfall (mm/Month)
Y : Aborlan Monthly Rainfall (mm/Month)

Year = 1977

Day	Jul※1 P.P	Jul※2 Aborlan	Jul※3 Aborlan
1	0.0	2.8	2.8
2	29.5	38.6	38.6
3	5.8	5.6	5.6
4	1.0	2.8	2.8
5	2.6	13.0	13.0
6	6.4	0.5	0.5
7	0.3	na	0.3
8	0.0	na	0.0
9	9.4	na	8.4
10	0.0	0.0	0.0
11	0.5	1.8	1.8
12	0.0	0.0	0.0
13	19.3	24.6	24.6
14	1.8	0.0	0.0
15	0.0	0.0	0.0
16	4.1	0.0	0.0
17	0.0	0.0	0.0
18	13.3	33.8	33.8
19	24.6	21.1	21.1
20	10.2	32.2	32.2
21	0.5	0.0	0.0
22	17.5	2.5	2.5
23	0.0	0.0	0.0
24	10.7	0.0	0.0
25	2.8	0.0	0.0
26	0.0	0.0	0.0
27	1.3	0.0	0.0
28	13.7	5.8	5.8
29	48.2	5.6	5.6
30	0.0	0.0	0.0
31	2.8	3.3	3.3
Total	226.3	194.0	202.7

Year = 1987

Day	Jan※1 P.P	Jan※2 Aborlan	Jan※3 Aborlan
1	0.0	na	0.0
2	0.0	na	0.0
3	0.0	na	0.0
4	0.0	na	0.0
5	0.0	na	0.0
6	0.0	na	0.0
7	0.0	na	0.0
8	0.0	na	0.0
9	0.0	na	0.0
10	0.0	na	0.0
11	0.0	na	0.0
12	0.0	na	0.0
13	0.0	na	0.0
14	0.0	na	0.0
15	0.0	na	0.0
16	0.0	na	0.0
17	0.0	na	0.0
18	0.0	na	0.0
19	0.0	na	0.0
20	0.0	na	0.0
21	0.0	na	0.0
22	1.1	na	4.0
23	0.1	na	0.4
24	0.0	na	0.0
25	0.0	na	0.0
26	0.0	na	0.0
27	0.0	na	0.0
28	0.0	na	0.0
29	0.0	na	0.0
30	0.0	na	0.0
31	0.0	na	0.0
Total	1.2	na	4.4

Note: ※1 Actual observed data at Puerto Princesa Station, PAGASA
※2 Actual observed data including not available data at Aborlan Station, PAGASA
※3 Applied daily rainfall data including supplemented data based on the Puerto Princesa data at Puerto Princesa Station, PAGASA

Table C.2.5 Complemented Monthly Rainfall at Aborlan

(1977 to 1993)

UNIT:mm

Year	Jan.	Feb.	Mar.	Apr.	May	Jun	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Dry Season	Wet Season
1977	68.3	0.8	6.3	17.0	168.7	148.6	202.7	190.0	322.2	112.0	149.9	40.2	1,426.7	92.4	1,334.3
1978	2.2	0.0	3.4	79.3	387.5	258.7	109.0	287.2	202.2	188.7	460.1	144.6	2,122.9	84.9	2,038.0
1979	2.5	13.2	0.0	56.6	194.2	174.6	266.9	80.1	155.0	320.1	187.3	43.8	1,494.3	72.3	1,422.0
1980	72.5	2.2	51.6	5.4	74.0	374.9	251.2	321.1	129.0	173.5	296.3	189.6	1,941.3	131.7	1,809.6
1981	71.3	5.3	2.3	19.5	83.0	98.8	294.5	159.1	244.0	151.8	331.5	140.5	1,601.6	98.4	1,503.2
1982	6.7	14.5	59.4	8.3	35.6	111.8	292.3	328.6	69.8	146.1	200.1	109.2	1,382.4	88.9	1,293.5
1983	15.2	3.0	6.8	7.7	4.7	163.8	296.4	209.7	174.7	223.2	451.0	214.0	1,770.2	32.7	1,737.5
1984	152.3	5.0	53.7	97.6	95.3	189.0	116.8	174.3	198.2	225.2	234.9	115.6	1,657.9	308.6	1,349.3
1985	25.2	11.6	1.5	116.6	82.1	55.9	119.9	164.9	140.6	349.5	227.4	576.7	1,871.9	154.9	1,717.0
1986	44.7	47.2	4.8	21.5	120.7	43.2	288.8	132.8	238.0	201.5	477.1	55.9	1,676.2	118.2	1,558.0
1987	4.4	15.0	4.4	32.0	102.8	146.8	136.7	144.7	156.6	206.8	325.8	134.6	1,410.6	55.8	1,354.8
1988	14.2	43.0	1.0	129.2	118.0	148.0	157.8	122.3	166.0	265.4	410.6	14.2	1,589.7	187.4	1,402.3
1989	89.0	70.1	295.0	39.2	162.6	294.1	93.8	60.5	128.0	136.2	242.6	25.4	1,636.5	493.3	1,143.2
1990	5.2	0.0	0.8	32.1	292.6	70.8	49.0	106.9	174.5	278.3	222.2	37.4	1,269.8	38.1	1,231.7
1991	10.0	30.0	13.8	15.4	81.2	225.4	128.5	134.1	117.7	296.4	99.6	27.6	1,179.7	69.2	1,110.5
1992	4.2	0.9	6.2	29.6	44.5	173.4	174.0	98.9	244.8	165.2	371.2	40.2	1,353.1	40.9	1,312.2
1993	10.6	0.8	50.0	45.7	76.5	95.9	213.6	229.9	208.1	166.1	130.1	276.0	1,503.3	107.1	1,396.2
Mean	35.2	15.4	33.0	44.3	124.9	163.2	187.8	173.2	180.6	212.1	283.4	128.6	1,581.7	127.9	1,453.7

note : Dry season is Jan. to Apr.
Wet season is May to Dec.

Table C.2.6 Probable Rainfall by Iwai Method

Year	Year Rainfall (mm)	Year Rainfall Return Period (year)	Dry Season Rainfall Jan. to Apr. (mm)	Dry Season Rainfall Return Period (year)	Wet Season Rainfall May to De (mm)	Wet Season Rainfall Return Period (year)
1977	1,426.7	3.7	92.4	2.2	1,334.3	3.1
1978	2,122.9		84.9	2.5	2,038.0	
1979	1,494.3	2.7	72.3	3.0	1,422.0	2.1
1980	1,941.3		131.7		1,809.6	
1981	1,601.6		98.4		1,503.2	
1982	1,382.4	4.8	88.9	2.4	1,293.5	3.8
1983	1,770.2		32.7	16.5	1,737.5	
1984	1,657.9		308.6		1,349.3	2.9
1985	1,871.9		154.9		1,717.0	
1986	1,676.2		118.2		1,558.0	
1987	1,410.6	4.0	55.8	4.7	1,354.8	2.8
1988	1,589.7		187.4		1,402.3	2.3
1989	1,636.5		493.3		1,143.2	12.5
1990	1,269.8	11.6	38.1	11.1	1,231.7	5.7
1991	1,179.7	29.7	89.2	3.3	1,110.5	17.3
1992	1,353.1	5.8	40.9	9.2	1,312.2	3.5
1993	1,503.3	2.6	107.1		1,396.2	2.4

Return Period	(mm)	Return Period	(mm)	Return Period	(mm)
2	1,563.9	2	98.1	2	1,435.1
5	1,373.6	5	53.9	5	1,250.6
10	1,283.5	10	39.4	10	1,163.8
20	1,213.5	20	30.4	20	1,096.7
50	1,139.4	50	22.7	50	1,025.8
100	1,092.4	100	18.7	100	981.0
200	1,051.2	200	15.7	200	941.7

Year	Consencutive Dry Days (days)	Consencutive Dry Days Return Period (year)	Daily Muximum Rainfall (mm)	Daily Muximum Rainfall Return Period (year)	2-Days Rainfall (mm)	2-Days Rainfall Return Period (year)	3-Days Rainfall (mm)	3-Days Rainfall Return Period (year)
1977	68	2.7	90.2		100.6		155.0	
1978	111	12.1	80.2		127.4		156.8	
1979	63	2.4	73.2		92.0		107.8	
1980	40		77.0		113.5		122.6	
1981	96	7.0	78.7		101.6		104.1	
1982	33		86.4		88.4		130.1	
1983	61	2.2	136.1	4.7	179.5	4.3	216.1	5.0
1984	43		87.6		116.6		120.9	
1985	85	4.8	232.7	90.5	329.2	109.3	392.1	172.5
1986	39		208.2	41.7	273.0	31.5	287.7	20.1
1987	62	2.3	100.0	2.4	114.0		136.0	
1988	37		159.2	9.2	208.4	7.7	229.4	6.4
1989	30		111.4	2.5	128.0		128.2	
1990	113	13.0	91.2		148.6	2.5	152.6	
1991	33		75.4		102.8		175.0	2.5
1992	115	13.9	75.0		132.0		140.0	
1993	70	2.9	104.0	2.1	147.0	2.4	164.2	2.1

Return Period	(days)	Return Period	(mm)	Return Period	(mm)	Return Period	(mm)
2	58.4	2	102.5	2	136.7	2	160.6
5	86.5	5	138.6	5	187.2	5	216.4
10	106.1	10	162.3	10	220.6	10	252.8
20	125.7	20	184.9	20	252.6	20	287.5
50	152.0	50	214.1	50	294.2	50	332.3
100	172.6	100	236.1	100	325.8	100	366.0
200	193.8	200	258.2	200	357.6	200	399.9

Table C.2.7 Runoff Coefficient

Inagawan River No.2 Station
Year = 1985

Month	Rainfall (mm)	Runoff (mm)	Coefficient (%)
Mar.	1.5	11.3	753.3
Apr.	116.6	21.8	18.7
May	82.1	51.3	62.5
Jun	55.9	80.7	144.4
Jul.	119.9	166.3	138.7
Aug.	164.9	182.8	110.9
Sep.	140.6	179.1	127.4
Oct.	349.5	352.3	100.8
Amount	1,031.0	1,045.6	101.4

Inagawan River No.2 Station
Year = 1986

Month	Rainfall (mm)	Runoff (mm)	Coefficient (%)
Jan.	44.7	37.4	83.7
Feb.	47.2	89.1	188.8
Mar.	4.8	26.5	552.1
Apr.	21.5	14.6	67.9
May	120.7	11.8	9.8
Jun	43.2	59.8	138.4
Jul.	288.8	37.6	13.0
Aug.	132.8	249.0	187.5
Sep.	238.0	105.9	44.5
Amount	941.7	631.7	67.1

Inagawan River No.2 Station
Year = 1993

Month	Rainfall (mm)	Runoff (mm)	Coefficient (%)
Jun	95.9	36.9	38.5
Jul.	213.6	65.7	30.8
Aug.	229.9	69.6	30.3
Sep.	208.1	79.1	38.0
Oct.	166.1	107.1	64.5
Nov.	130.1	105.5	81.1
Dec.	276.0	111.4	40.4
Amount	1,319.7	575.3	43.6

Table C.2.8 Estimated Monthly Discharge

(at No.2 Gauging Station)

Watershed Area : 118.8 km2
UNIT:MCM

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
1977	6.710	3.960	2.273	1.266	4.173	4.922	10.852	10.087	20.689	11.762	10.216	6.746	93.656
1978	3.772	1.846	1.205	2.385	15.378	13.895	14.360	16.506	13.065	17.021	28.644	21.117	149.193
1979	9.790	5.679	3.716	2.598	6.159	8.312	14.001	11.847	8.270	22.255	13.327	9.147	115.100
1980	5.193	4.418	2.709	1.399	1.758	10.371	20.332	20.303	15.976	11.871	19.055	18.131	131.516
1981	12.339	5.871	3.836	1.879	2.049	2.497	11.771	10.718	12.478	12.367	18.436	19.098	113.339
1982	7.477	4.271	3.239	1.743	1.314	3.073	11.542	19.225	12.000	8.312	12.459	8.966	93.621
1983	5.161	2.724	1.526	1.134	1.092	3.428	16.448	14.583	7.482	15.987	23.790	27.631	120.987
1984	14.452	8.510	5.590	4.901	3.914	8.029	6.576	7.016	12.508	14.423	13.597	14.300	113.817
1985	6.451	3.701	2.230	2.555	3.485	2.097	3.938	4.683	9.710	19.676	14.761	41.582	114.869
1986	14.388	8.561	5.467	2.985	3.931	2.076	13.799	9.154	13.238	12.713	14.977	27.293	128.582
1987	8.082	4.534	2.830	1.578	1.539	6.163	7.917	6.914	9.981	10.748	20.522	12.702	93.508
1988	6.611	4.043	2.476	2.927	3.360	5.433	6.511	7.105	7.611	14.323	28.147	11.988	100.534
1989	8.165	7.170	12.924	6.732	6.747	15.065	10.473	5.587	5.429	8.250	13.973	6.205	106.719
1990	3.447	1.657	1.160	1.150	9.075	7.389	3.344	4.591	4.134	13.702	18.186	8.303	76.138
1991	4.511	2.729	1.394	0.924	1.520	10.887	5.646	6.307	6.811	13.584	8.249	4.904	67.467
1992	2.823	1.190	0.850	0.831	0.815	3.483	7.807	7.500	11.453	9.989	25.997	9.543	82.283
1993	5.509	2.910	1.784	1.083	2.061	5.983	14.683	15.673	17.942	11.923	11.694	18.728	109.971
Mean	7.346	4.340	3.248	2.239	4.022	6.653	10.588	10.459	11.105	13.465	17.413	15.670	106.547

Table C.2.9 Various Discharge of Inagawan River

Watershed Area : 118.8 km2

Year	------------- Calculate Discharge (cu.m/sec) -------							Total (MCM)	Dry (MCM)	Wet (MCM)	Rain* (mm)	Corr. (%)
	Max.	95Days	Ordinary	Low	Doughty	Min.	Mean					
1977	21.061	3.956	2.530	1.354	0.473	0.463	2.970	93.656	14.209	79.447	1,712.0	46
1978	23.793	6.646	4.367	1.055	0.420	0.411	4.731	149.193	9.208	139.986	2,547.5	49
1979	20.629	4.466	3.196	2.318	0.663	0.568	3.650	115.100	21.783	93.317	1,793.2	54
1980	17.336	6.307	3.949	1.161	0.487	0.458	4.159	131.516	13.719	117.797	2,329.6	48
1981	20.923	4.961	3.326	1.145	0.539	0.524	3.594	113.339	23.925	89.414	1,921.9	50
1982	18.974	3.886	2.763	1.086	0.474	0.463	2.969	93.621	16.730	76.890	1,658.9	48
1983	42.199	5.535	2.420	0.583	0.398	0.385	3.836	120.987	10.546	110.441	2,124.2	48
1984	22.222	4.458	3.217	1.972	1.206	1.069	3.599	113.817	33.453	80.364	1,989.5	48
1985	96.123	3.925	1.825	0.984	0.494	0.482	3.642	114.869	14.937	99.932	2,246.3	43
1986	71.457	4.913	3.567	1.772	0.643	0.577	4.077	128.582	31.400	97.181	2,011.4	54
1987	24.140	3.948	2.456	1.294	0.463	0.453	2.965	93.508	17.023	76.485	1,686.1	47
1988	41.676	3.594	2.271	1.290	0.662	0.548	3.179	100.534	16.057	84.478	1,907.6	44
1989	22.519	4.033	2.639	2.043	1.535	1.376	3.384	106.719	34.991	71.729	1,963.8	46
1990	20.092	3.330	1.384	0.741	0.395	0.378	2.414	76.138	7.414	68.724	1,523.8	42
1991	23.652	2.546	1.746	0.839	0.342	0.324	2.139	67.467	9.558	57.909	1,415.6	40
1992	25.685	3.632	1.541	0.318	0.260	0.252	2.602	82.283	5.694	76.589	1,623.7	43
1993	33.461	4.270	2.502	1.011	0.343	0.322	3.487	109.971	11.285	98.687	1,804.0	51
Mean	32.114	4.377	2.688	1.233	0.576	0.533	3.376	106.547	17.172	89.375	1,897.6	47

note: Dry: Jan. to Apr. Wet: May to Dec.
rain* is mountain rate(1.2)

Table C.2.10 Provable Discharge of Inagawan River

(at No.2 Gauging Station)

Year	Max. Discharge		95-Days Discharge		Ordinary Discharge		Low Discharge	
	(cu.m/sec)	Return Period (year)	(cu.m/sec)	Return Period (year)	(cu.m/sec)	Return Period (year)	(cu.m/sec)	Return Period (year)
1977	21.061	3.6	3.956	2.7	2.530	2.2	1.354	
1978	23.793	2.4	6.646		4.367		1.055	2.5
1979	20.629	3.9	4.466		3.196		2.318	
1980	17.336	28.0	6.307		3.949		1.161	2.0
1981	20.923	3.7	4.961		3.326		1.145	2.1
1982	18.974	6.9	3.886	2.9	2.673		1.086	2.4
1983	42.199		5.535		2.420	2.5	0.583	11.4
1984	22.222	2.9	4.458		3.217		1.972	
1985	96.123		3.925	2.8	1.825	6.9	0.984	2.9
1986	71.457		4.913		3.567		1.772	
1987	24.140	2.3	3.948	2.8	2.456	2.4	1.294	
1988	41.676		3.594	4.3	2.271	3.0	1.290	
1989	22.519	2.8	4.033	2.6	2.639		2.043	
1990	20.092	4.5	3.330	6.9	1.384	27.5	0.741	5.7
1991	23.652	2.4	2.546	80.7	1.746	8.5	0.839	4.1
1992	25.685		3.632	4.0	1.541	15.6	0.318	68.1
1993	33.461		4.270		2.502	2.3	1.011	2.7

Return Period	(cu.m/sec)	Return Period	(cu.m/sec)	Return Period	(cu.m/sec)	Return Period	(cu.m/sec)
2	25.099	2	4.256	2	2.602	2	1.165
5	19.745	5	3.499	5	1.969	5	0.776
10	18.342	10	3.163	10	1.683	10	0.605
20	17.581	20	2.912	20	1.467	20	0.480
50	17.008	50	2.657	50	1.244	50	0.353
100	16.741	100	2.500	100	1.106	100	0.275
200	16.555	200	2.366	200	0.987	200	0.210

Year	Doughty Discharge		Minimum Discharge		Total Discharge		Dry Season Discharge	
	(cu.m/sec)	Return Period (year)	(cu.m/sec)	Return Period (year)	(MCM)	Return Period (year)	(MCM)	Return Period (year)
1977	0.473	2.1	0.463		93.656	10.6	14.209	2.3
1978	0.420	2.8	0.411	2.7	149.193		9.208	5.8
1979	0.663		0.568		115.100		21.783	
1980	0.487		0.458		131.516		13.719	2.5
1981	0.539		0.524		113.339		23.925	
1982	0.474	2.1	0.463		93.621	2.8	16.730	
1983	0.398	3.2	0.385	3.1	120.987		10.546	4.1
1984	1.206		1.069		113.817		33.453	
1985	0.494		0.482		114.869		14.937	2.1
1986	0.643		0.577		128.582		31.400	
1987	0.463	2.2	0.453	2.0	93.508	2.6	17.023	
1988	0.662		0.548		100.534	2.1	16.057	
1989	1.535		1.376		106.719		34.991	
1990	0.395	3.3	0.378	3.3	76.138	18.3	7.414	11.7
1991	0.342	5.9	0.324	6.5	67.467	33.3	9.558	5.3
1992	0.260	136.4	0.252	120.6	82.283	14.6	5.694	30.4
1993	0.343	5.8	0.322	6.7	109.971		11.285	3.6

Return Period	(cu.m/sec)	Return Period	(cu.m/sec)	Return Period	(MCM)	Return Period	(MCM)
2	0.481	2	0.456	2	104.544	2	15.184
5	0.353	5	0.340	5	88.050	5	9.750
10	0.314	10	0.304	10	80.491	10	7.706
20	0.291	20	0.282	20	74.742	20	6.331
50	0.272	50	0.263	50	68.762	50	5.057
100	0.263	100	0.254	100	65.038	100	4.341
200	0.256	200	0.247	200	61.809	200	3.768

Table C.2.11 List of Wells and Springs

(as of September, 1994)

Well No.	Location	Depth (ft)
1	HL- 20	20
2	HL- 31	20
3	HL- 39	40
4	HL-157	20
5	HL-321	20
6	HL-299	30
7	FL- 1	25
8	FL- 25	60
9	HL-322	60

Spring No.	Location	Yeild(lit/sec)	
		Feb/11	Aug/18
1	FL- 45	0.22	0.32
2	FL- 66	0.07	
3	FL- 73	0.02	
4	FL- 70		

Figure C.2.1 Profile of Inagawan River

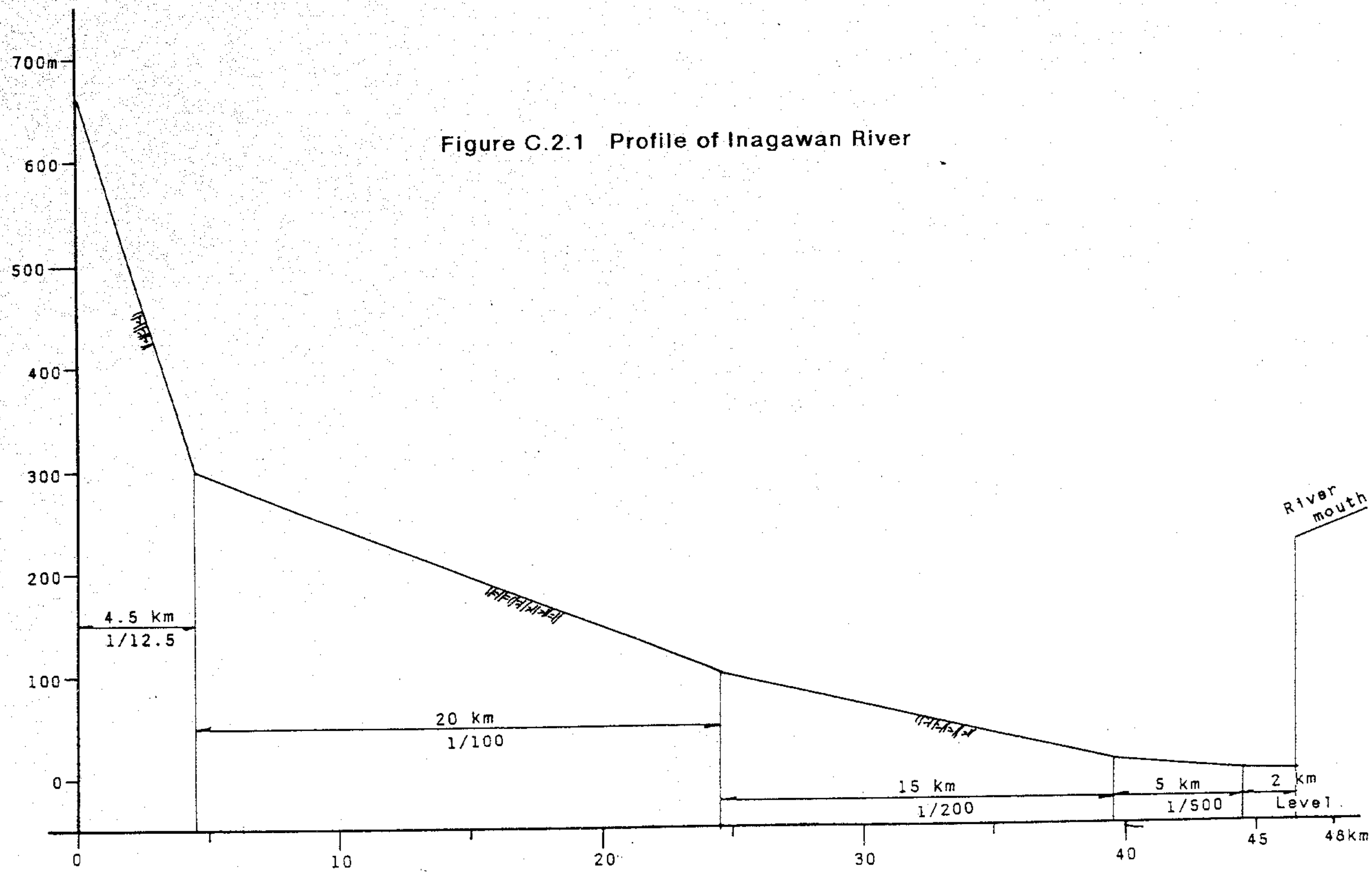
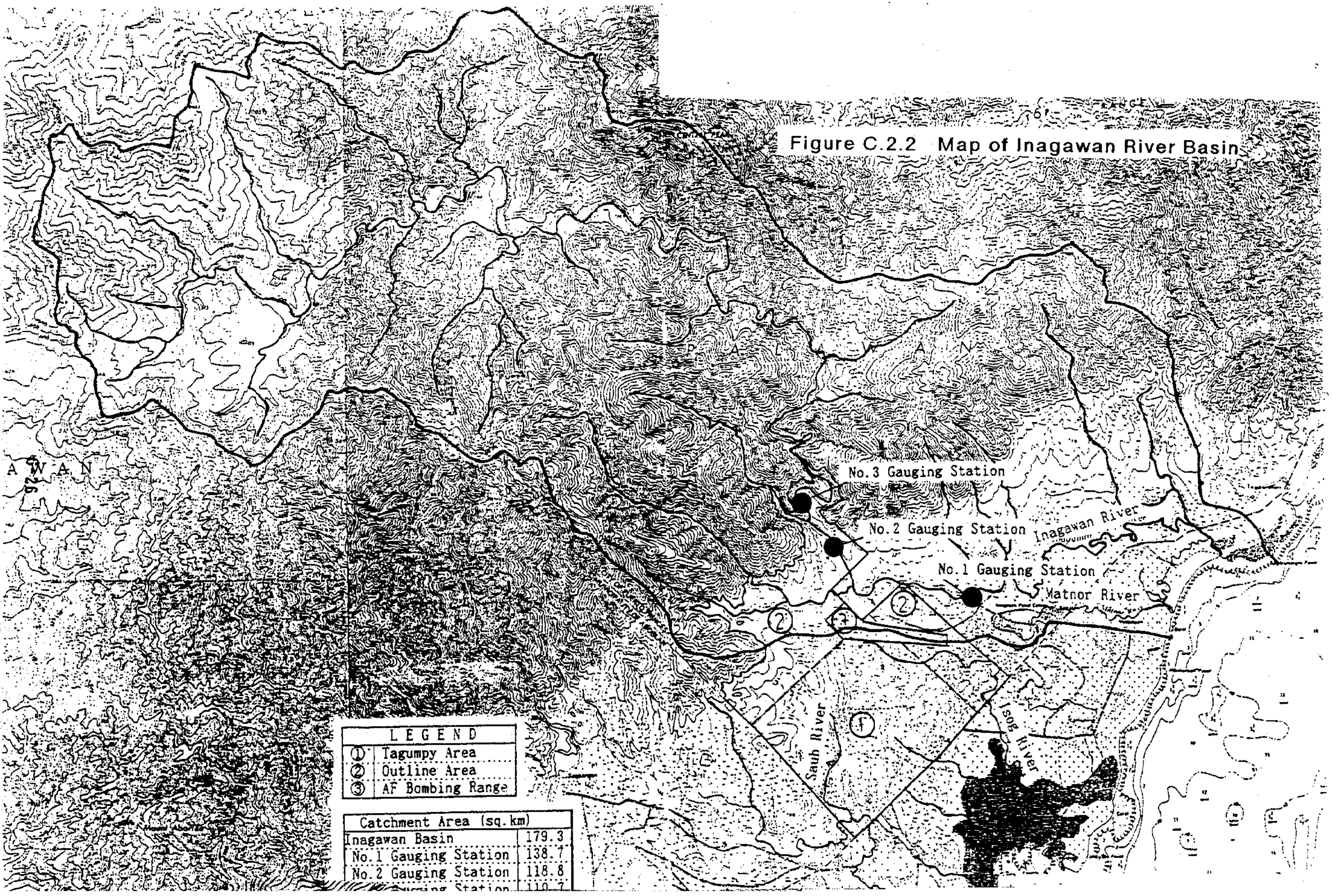


Figure C.2.2 Map of Inagawan River Basin



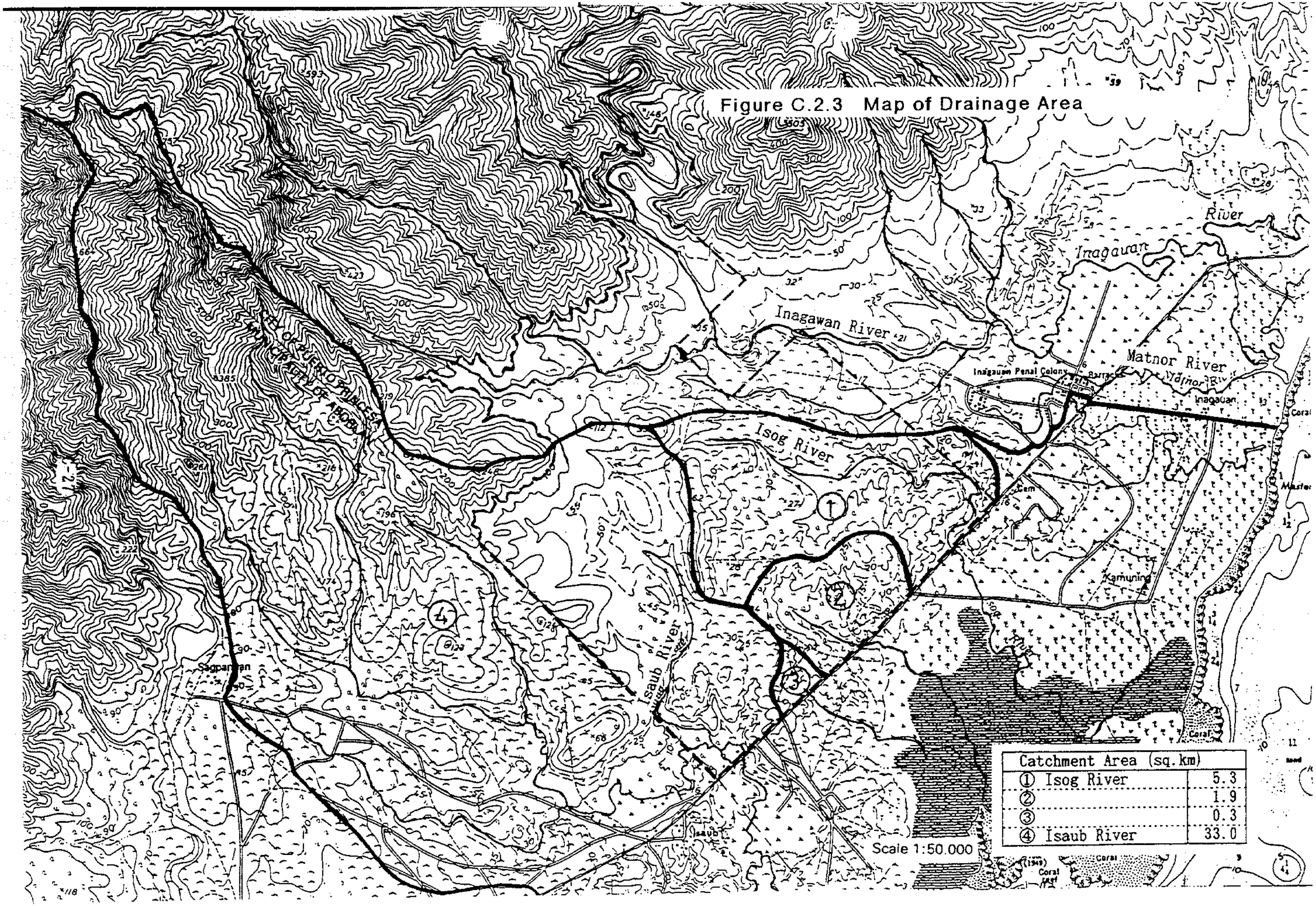
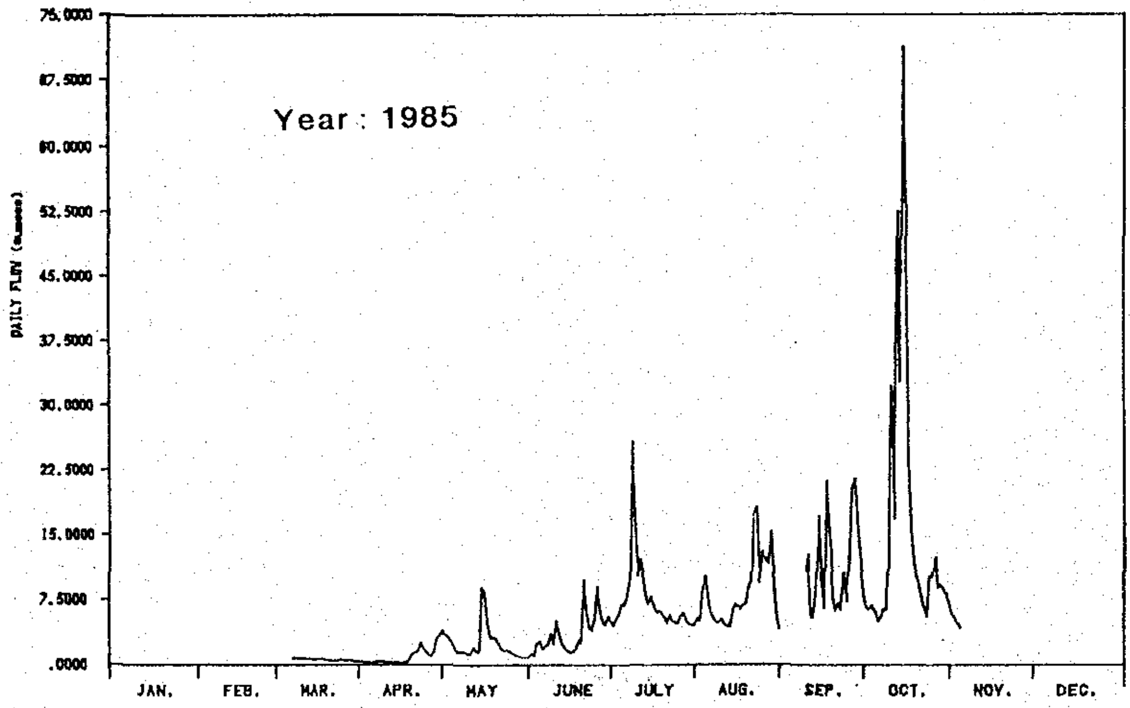


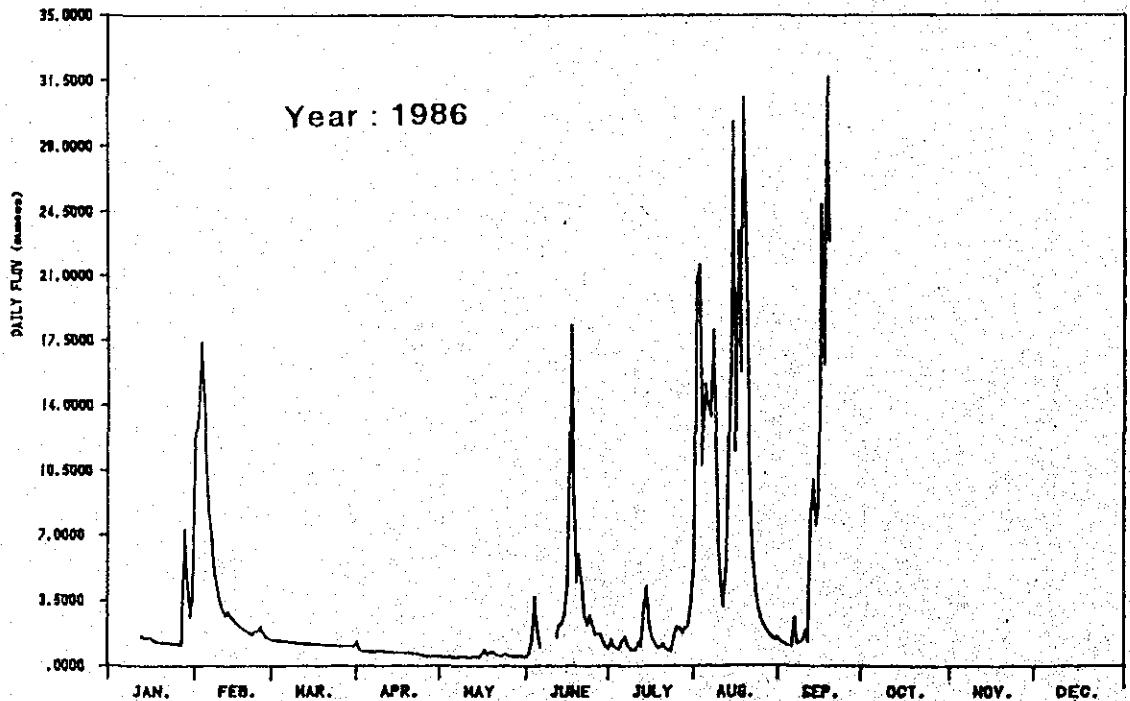
Figure C.2.3 Map of Drainage Area

Figure C.2.4 Observed Discharge of Inagawan River

(1985 to 1986)

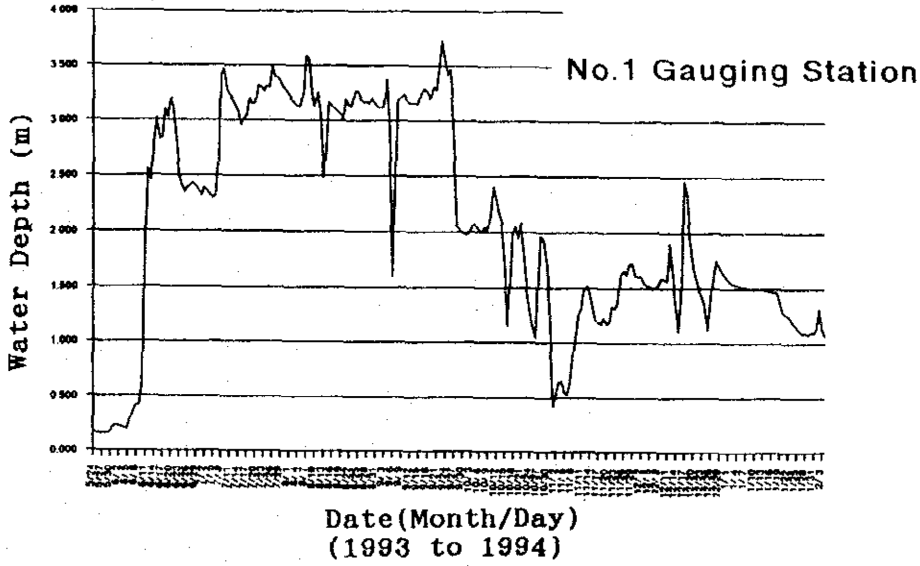


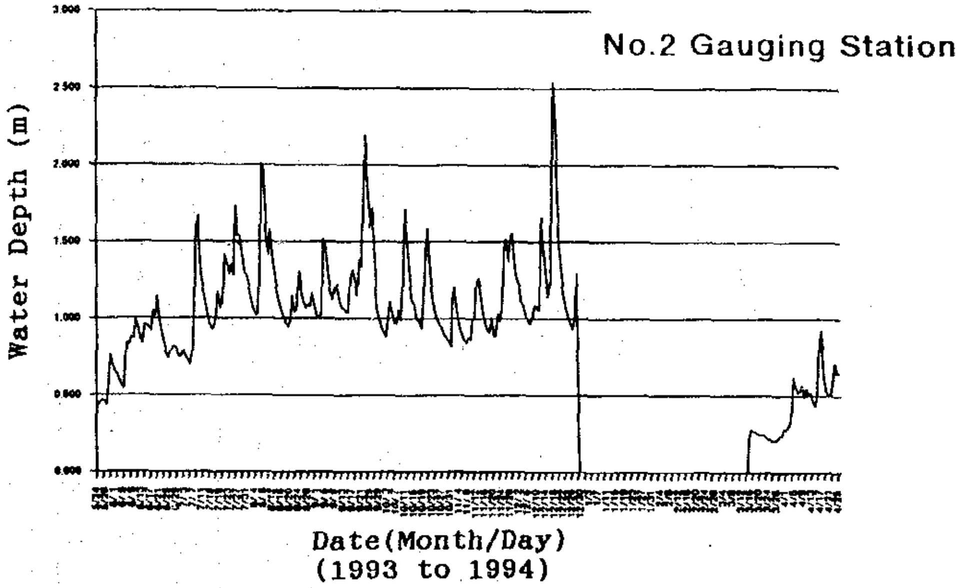
STN Nr S1313001 R. INAGAWAN AT INAGAWAN DAILY FLOW (cumecs) (1985)



STN Nr S1313001 R. INAGAWAN AT INAGAWAN DAILY FLOW (cumecs) (1986)

Figure C.2.5 Observed Water Depth of Inagawan River





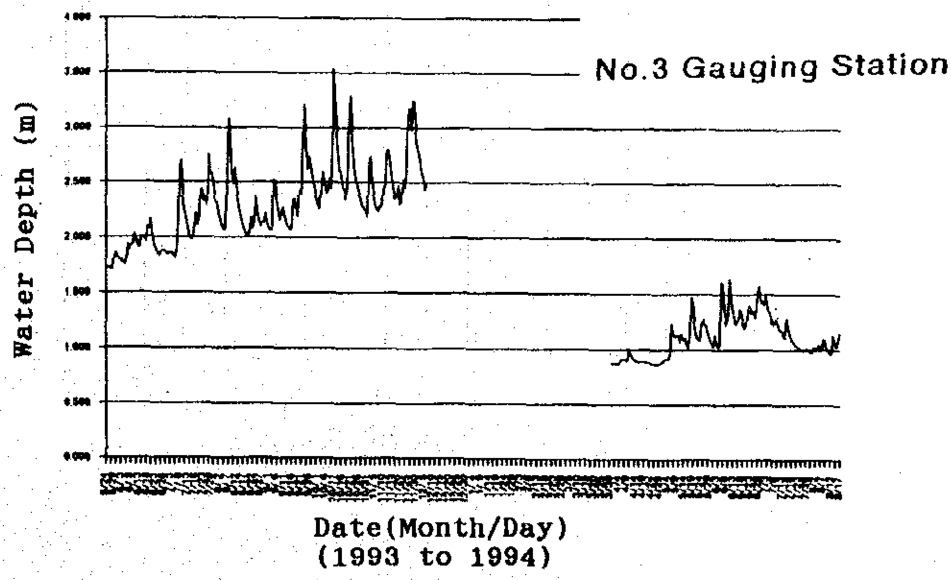


Figure C.2.6 Rating Curve at No.2 Gauging Station

(*Inagawan River, Palawn*)

($Q = 4.2032 * H ^ 2.7100$)

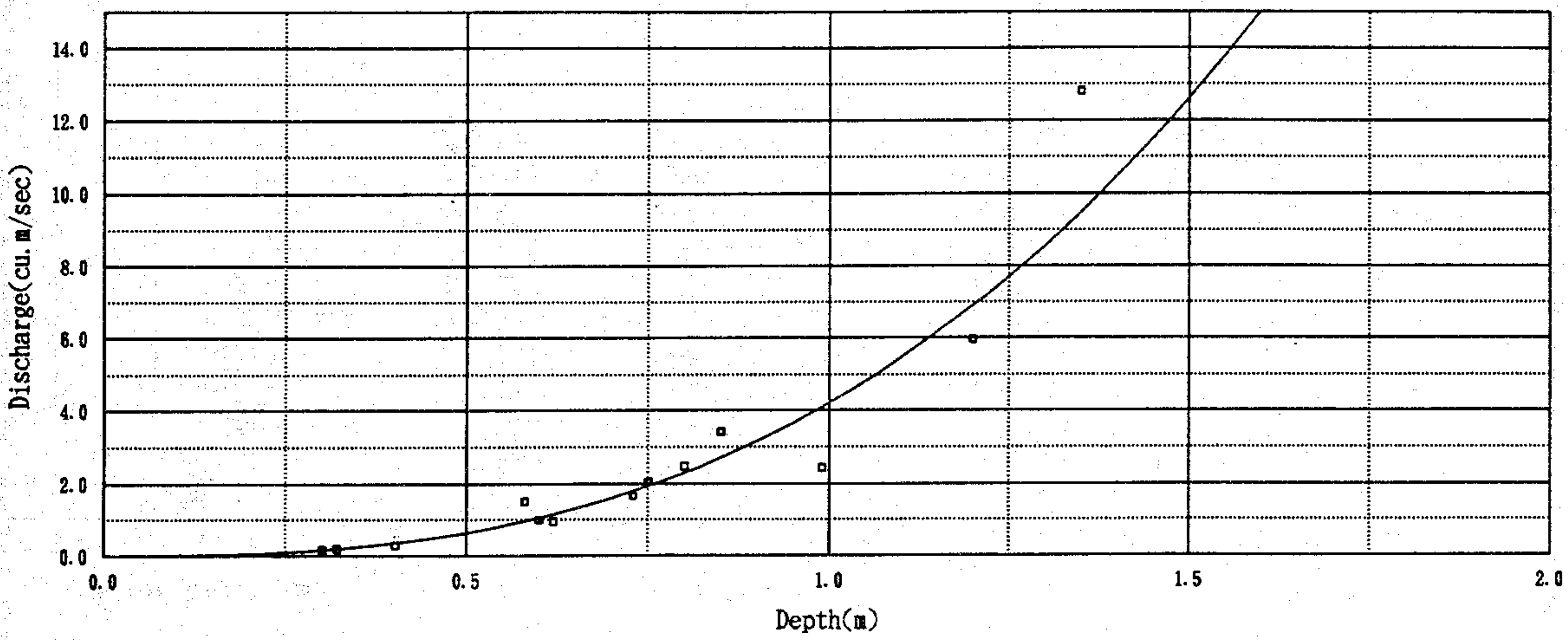


Figure C.2.7 Observed Period of Rainfall at PAGASA Station

Year / Station Name	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
	123456789012	123456789012	123456789012	123456789012	123456789012	123456789012	123456789012	123456789012	123456789012	123456789012
Puerto Princesa	============	*=*=========	============	============	============	============	============	============	============	============
Aborlan	======*=====	============	============	============	============	============	============	============	============	============

Year / Station Name	1987	1988	1989	1990	1991	1992	1993
	123456789012	123456789012	123456789012	123456789012	123456789012	123456789012	123456789012
Puerto Princesa	============	============	============	============	============	============	============
Aborlan	******====*=	===*========	============	============	==*=========	============	============

note: mark "*" is lack of data

Figure C.2.8 Correlation of Monthly Rainfall

*Y = 3.8767 X ** 0.7276 X:Puerto.P Y:Aborlan*

1977 to 1993 Correlation Coefficient = 0.808

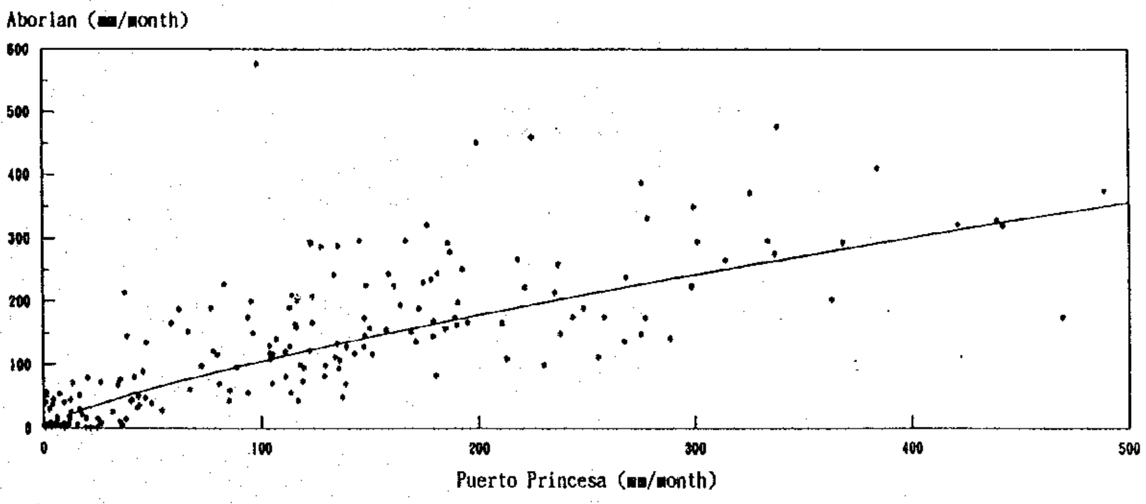


Figure C.2.9 Parameter of Tank Model

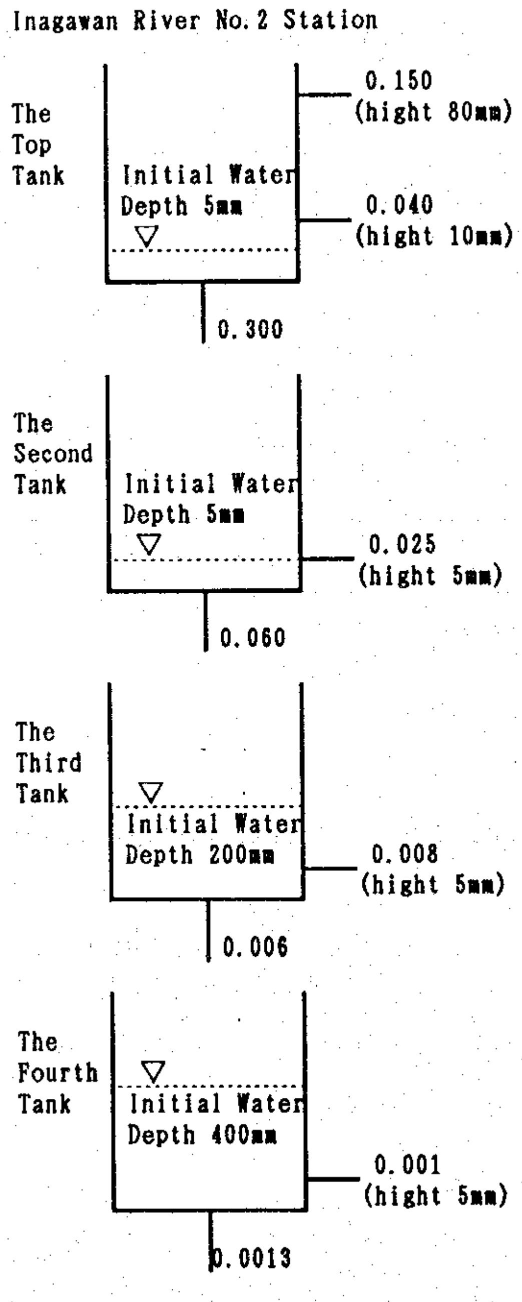


Figure C.2.10 Hydrograph at No.2 Gauging Station

(Inagawan River)

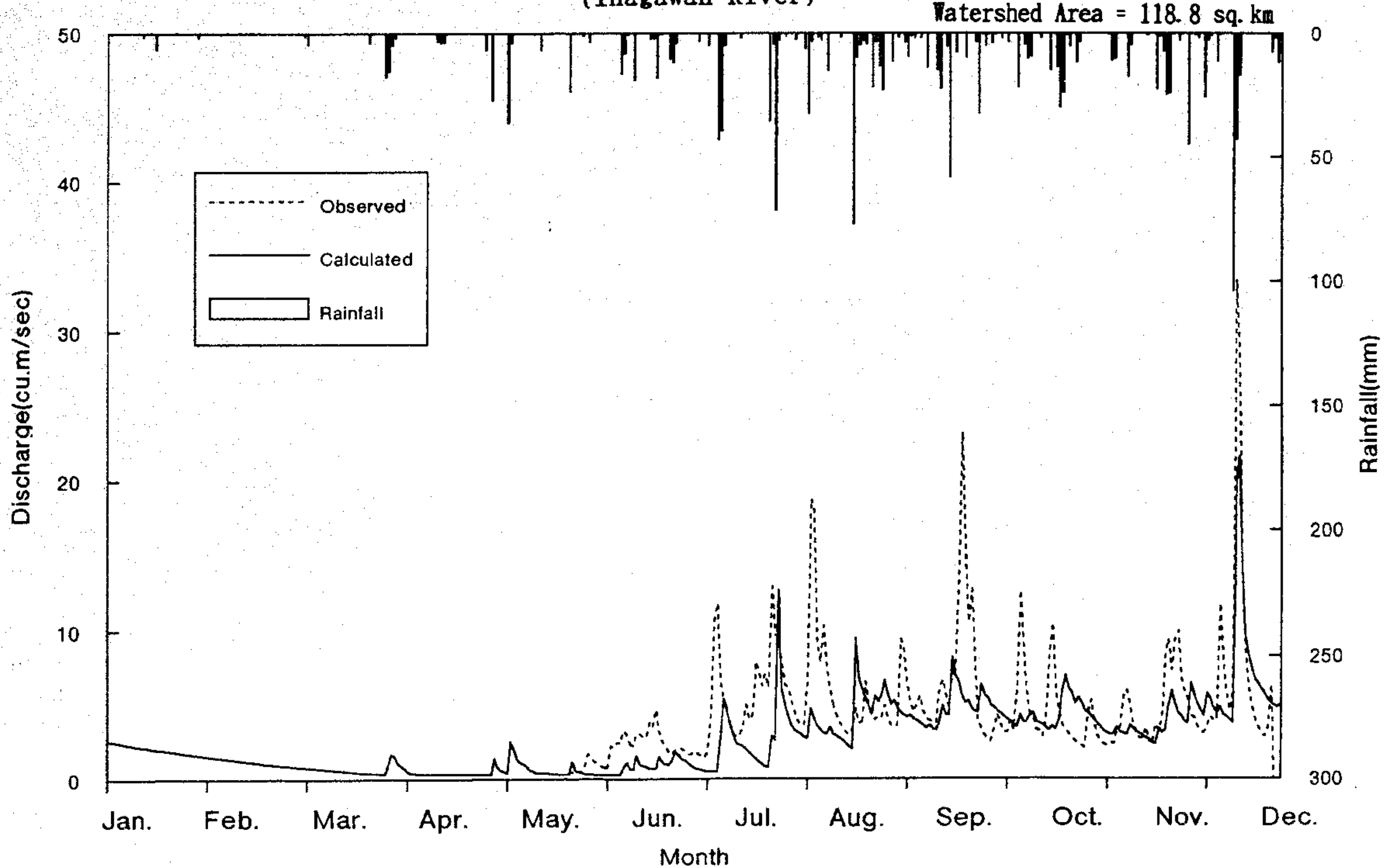
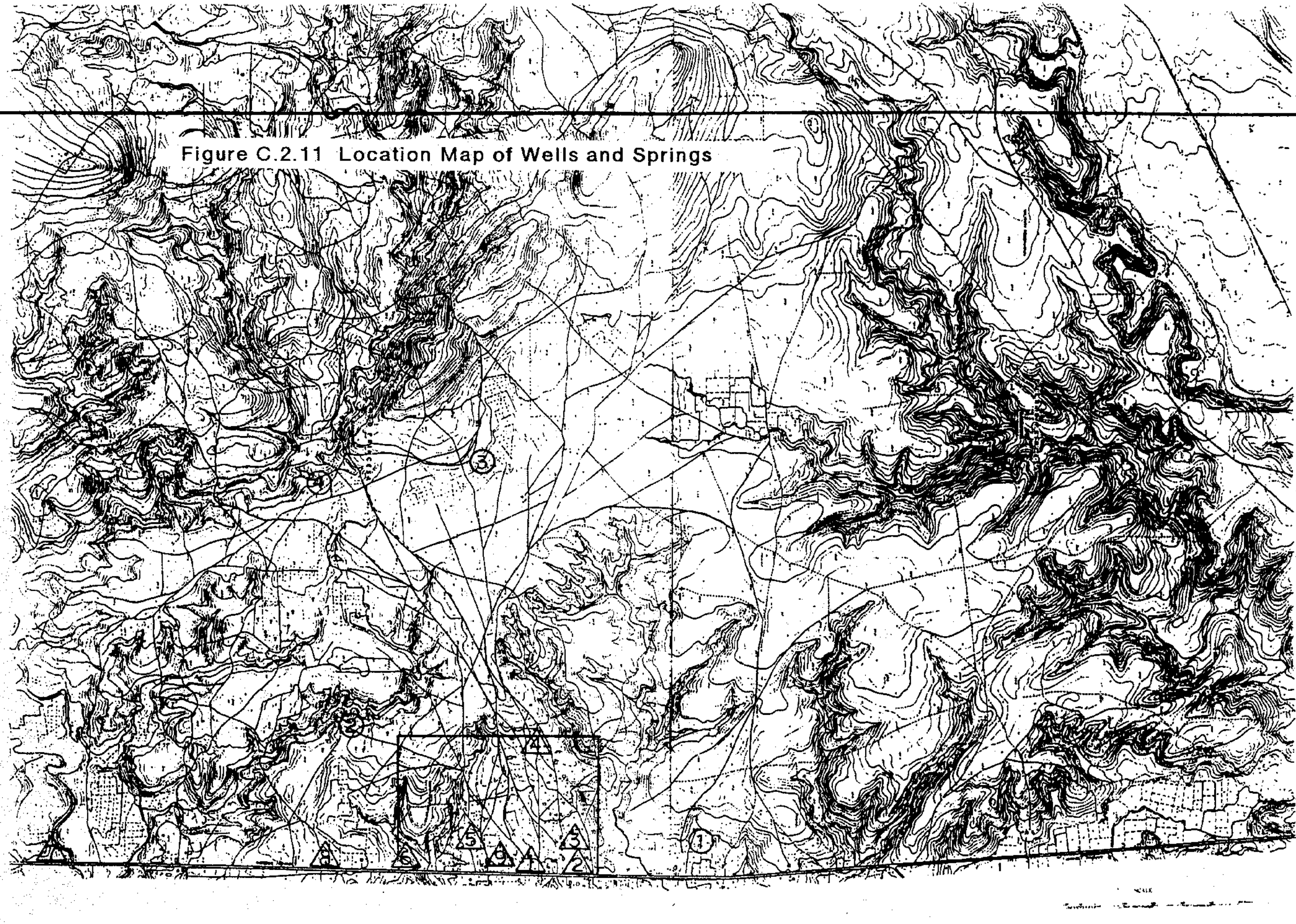


Figure C.2.11 Location Map of Wells and Springs



C. 3 WATER BALANCE STUDY

C. 3. 1 Basic Idea

The proposed irrigation area of 590 ha (gross area, under 40 m MSL) measured on the topo-map with a scale of 1:4,000, is classified into Type-I and Type-II on the land slope classification map. The net irrigation area is estimated at 90% of the gross area considering right-of-way for irrigation facilities such as canals and O&M roads. The cropping intensity of 130% and 200% is applied on the first and second stage development, respectively. As for the water sources for the irrigation area, rainfall and river discharge are considered.

The effective rainfall is calculated based on NIA's guideline. In cases where the total amount of 10 days rainfall is more than 80 mm, the total amount of 10 days effective rainfall is limited at 80 mm. However, in cases where the total amount of 10 days rainfall is less than 80 mm, the effective rainfall is the same as the observed amount. The rainfall data at Aborlan observatory of PAGASA is used for the study.

The river discharge of the Inagawan river and its tributary, the Pinagsaluran river are adopted. The river maintenance flow of 15 lit/sec/100 sq.km, described in Appendix G, is applied. The water permit of the Inagawan CIS, located at the downstream of the Inagawan river, is considered from the proposed intake facilities of the Inagawan river, hence, the water permit of 430 lit/sec for the Inagawan CIS is secured for the Inagawan CIS and the farm of the Inagawan Sub-Colony at the existing diversion dam with a drainage area of 138.7 sq.km. The seepage loss from the proposed reservoir, which is equivalent to 0.05% of daily storage volume, is adopted. The study period of the water balance study is 17 years from 1977 to 1993. The water balance study is calculated on a decade base (10-day interval basis). (refer to Figure C.3.1)

C. 3. 2 Review of Proposed Cropping Pattern

The proposed cropping pattern analyzed not only labor requirement but also the necessary amount of water required because of limitation of water resources at the beginning and ending period of the wet season. The beginning time of land preparation of wet paddy is changed to meet the time of the minimum water requirement. As the index of the minimum water requirement, the shortage time of water for 17 years is applied for the analysis when the proposed storage volume is fixed. These analysis are carried out in cases of 130% of cropping intensity at the proposed EuM water resources sites and in cases of 200% of cropping intensity at the proposed site of Eu.

a) Cropping Pattern with 200% of Cropping Intensity

The beginning time of the land preparation of wet paddy is shifted by a 10-day interval. The minimum water requirement can be identified by shifting the cultivation period of wet paddy. Based on the results of the study, the minimum water requirement appeared on the third 10-day interval of May to the third 10-day interval of June at the beginning time of wet paddy cultivation with a 1.65 MCM proposed storage volume. Consequently, the beginning time of land preparation time is determined at the first 10-day of June with the discovery of a three (3) times shortage for 17 years. (refer to Table C.3.1)

b) Cropping Pattern with 100% of Cropping Intensity

Using the same procedure as above, the beginning time of the paddy cultivating during the wet season, is shifted from the first 10-days of June to the second 10-days of July. At the second 10-days interval of July, the water shortage is at the minimum, three (3) times. Therefore, the beginning time of the cultivation of wet paddy is determined at the second 10-days of July. In this case, the storage volume of 0.15 MCM is applied. (refer to Table C.3.2)

c) Cropping Intensity with varying Cropping Pattern of 100 to 130%

When the proposed storage volume is fixed at 0.15 MCM, an analysis of varying cropping intensity from 100 to 130% are carried out, to find the maximum cropping intensity. The results show that the higher the cropping intensity, the bigger is the time shortage. Up to 110% cropping intensity, the shortage time is only three (3) times for 17 years, however, for a cropping intensity of 130%, the shortest time reached was 13 times. This means that more storage capacity is required to attain the cropping intensity of 130%. (refer to Table C.3.3)

d) Storage Volume Necessary to Attain the Cropping Intensity of 130% at the Proposed EuM Site

To attain the proposed shortage time of three (3) for 17 years, at site EuM, the beginning time of crop of dry season is changed, and storage volume from 0.50 to 0.09 MCM was analyzed. Results show that with a storage volume of 0.195 MCM, a shortage time of three (3) was calculated with the cropping intensity of 130% and 13.9 sq.km of drainage area. (refer to Table C.3.4 and Figure D.3.10 in Appendix D.3)

C. 3. 3 Water Balance Study

a) Input Data

As the input data required for the water balance study, the following items are adopted. (refer to Figure C.3.2)

1) For Calculation of Water Demand

Kc value of proposed crops, percolation rate, irrigation efficiency (Ie), irrigation area

2) For Estimation of Water Resources Amount

Daily rainfall at Aborlan Observatory, daily inflow which are calculated by the Tank Model, reservoir capacity, drainage area, volume at low water level, H-A and H-V curve at the proposed dam site (H: water level, A:water surface area, V:storage volume)

b) Rule and Procedure of Water Balance Study

As to water resources, the amount of effective rainfall and river flow are usually adopted. Effective rainfall at the field is used for calculating the net water requirement (NWR). The diversion water requirement (DWR) is calculated by the following equation.

$$DWR = NWR / Ie$$

The water permit of the existing Inagawan CIS should first be considered and secured in the river flow of the Inagawan river, as top priority. To secure and satisfy the amount of water permits of 430 lit/sec of the existing Inagawan CIS and others, the runoff flow from the rest of the drainage area between the proposed water resources site to the existing diversion dam site (refer to as "section flow") was first used. After this, the following water use rules are carried out.

1) In cases where the section flow is more than the water permit
The necessary amount of water for the CIS is served from the section flow. Any water from the proposed reservoir is not released to the CIS.

2) In case the section flow (SF) is less than the water permit (WP)The water shortage which is calculated by the equation of (WP - SF), should be released from the proposed reservoir to secure the water permit.

The section flow and river runoff are calculated in proportion to the drainage acreage at each site based on the river discharge at No.2 WL gauging station with a drainage area of 118.8 sq.km.

The necessary amount of water for river maintenance is also secured from the section flow and the water stored in the proposed reservoir is considered as second priority. The DWR, evaporation from the water surface of the proposed reservoir, seepage loss from the bottom of the reservoir are also considered.

As the priority for the usage of water resources, inflow discharge into the proposed reservoir is first. If the amount will not satisfactory meet the DWR, the stored water is released second priority. In other words, in case the inflow into the reservoir will be less than DWR, the stored water is released. In case the inflow is more than DWR and the stored volume is not reached at the full storage volume, the remaining inflow after subtracting DWR should be stored. In case the stored volume reached full capacity, the remaining amount is flow down as ineffective river discharge.

c) Results of Water Balance Study

Various kinds and cases of water balance study are carried out. The results of said study are shown in Tables C.3.5 and C.3.6 and Figures C.3.3 and C.3.4 for proposed sites Eu and EuM, respectively.

Table C.3.1 Results of Water Balance Study by Farming Period

(Cropping Intensity 200%)

Paddy(ha)	430
Upland Crop(ha)	160
Dry Season Crop(ha)	590
Total(ha)	1,180
Cropping Intensity	200
Site	Eu
Storage Volume(MCM)	1.65
Begin Of Farming	Shortage Frequency(Times)
May/3	3
Jun/1	3
Jun/2	5
Jun/3	8

Table C.3.2 Results of Water Balance Study by Farming Period

(Cropping Intensity 100%)

Paddy(ha)	430
Upland Crop(ha)	160
Dry Season Crop(ha)	0
Total(ha)	590
Cropping Intensity	100
Site	EuM
Storage Volume(MCM)	0.15
Begin Of Farming	Shortage Frequency(Times)
Jun/1	9
Jun/2	7
Jun/3	6
Jul/1	4
Jul/2	3

Table C.3.3 Results of Water Balance Study by Cropping Intensity

(Cropping Intensity : 100 to 130%)

Paddy(ha)	430
Upland Crop(ha)	160
Total(ha)	590
Begin of Farming	Jul/2
Site	EuM
Storage Volume(MCM)	0.15
Cropping Intensity	Shortage Frequency(Times)
100	3
110	3
120	8
130	13

Table C.3.4 Results of Water Balance Study on Various Cases

Site	Eu	El	D	C	EuM	LD
(1) Intake Type	Gravity w/ Reservoir					Pump w/ Weir
(2) Water Source						
a) River Name	Pinagsaluran	Pinagsaluran	Inagawan	Inagawan	Pinagsaluran	Inagawan
b) Watershed Area (sq. km)	14.5	15.0	118.1	110.7	13.9	118.5
(3) Irrigation Area(ha)						
a) Paddy	430				430	430
b) Upland Crop	160				160	160
c) Dry Season Crop	590				177	590
d) Total	1,180				767	1,180
e) Cropping Intensity(%)	200				130	200
(4) Shortage Frequency(time)	Effective Storage Volume(MCM)					
0	2.90	2.80	1.70	1.70	0.50	1.70
1	2.20	2.17	0.70	0.70	0.40	0.70
2	2.17	2.12	0.48	0.50	0.25	0.47
3	1.65	1.61	0.20	0.21	0.195	0.20
4	1.40	1.35	0.12	0.12	0.09	0.06

Table C.3.5 Reservoir Operation

(Site : Eu)

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:1&II JUNI
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1977 Month	Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AWR 5-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPAG (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN 1	3.846	.000	3.846	.002	.309	.307	.239	.000	.011	.010	.260	.047	.041	1.630	.041	34.31
2	3.316	.000	3.316	.002	.270	.268	.431	.000	.011	.010	.452	-.184	-.139	1.491	.000	33.61
3	3.870	.000	3.870	.002	.335	.333	.000	.000	.010	.009	.019	.314	.298	1.650	.140	34.21
FEB 4	3.037	.000	3.037	.002	.240	.234	.328	.000	.013	.010	.351	-.313	-.270	1.380	.000	33.10
5	1.833	.000	1.833	.002	.191	.188	.482	.000	.012	.008	.511	-.323	-.279	1.101	.000	33.13
6	1.377	.000	1.377	.002	.161	.159	.411	.000	.010	.008	.428	-.270	-.186	.915	.000	31.42
MAR 7	1.129	.000	1.129	.002	.132	.130	.374	.000	.011	.005	.390	-.261	-.225	.690	.000	30.57
8	.876	.000	.874	.002	.102	.100	.162	.000	.010	.004	.176	-.076	-.066	.624	.000	30.32
9	.477	.000	.477	.002	.079	.077	.035	.000	.009	.004	.068	.008	.009	.632	.000	30.35
APR 10	.325	.000	.325	.002	.061	.059	.004	.000	.009	.004	.017	.043	.037	.669	.000	30.49
11	.309	.000	.309	.002	.059	.057	.000	.000	.009	.004	.013	.044	.038	.707	.000	30.63
12	.498	.000	.498	.002	.058	.056	.000	.000	.010	.004	.014	.042	.036	.744	.000	30.77
MAY 13	.895	.000	.895	.002	.104	.102	.000	.000	.008	.004	.012	.090	.078	.821	.000	31.07
14	2.166	.000	2.166	.002	.253	.251	.000	.000	.008	.003	.012	.238	.205	1.027	.000	31.84
15	1.808	.000	1.808	.003	.212	.209	.000	.000	.009	.004	.013	.196	.184	1.211	.000	32.34
JUN 16	1.096	.000	1.096	.003	.133	.130	.278	.000	.007	.007	.292	-.166	-.144	1.067	.000	32.00
17	1.336	.000	1.336	.003	.179	.177	.211	.000	.007	.006	.224	-.046	-.040	1.027	.000	31.63
18	3.328	.000	3.328	.003	.388	.386	.027	.000	.007	.006	.040	.347	.299	1.326	.000	33.00
JUL 19	4.193	.000	4.193	.002	.490	.488	.000	.000	.007	.008	.015	.473	.408	1.650	.085	34.31
20	3.788	.000	3.788	.002	.442	.440	.000	.000	.008	.010	.018	.422	.365	1.650	.365	34.31
21	4.681	.000	4.681	.002	.546	.544	.503	.000	.008	.010	.521	.023	.021	1.650	.021	34.31
AUG 22	3.013	.000	3.013	.002	.352	.350	.107	.000	.008	.010	.125	.225	.194	1.650	.194	34.31
23	3.410	.000	3.410	.002	.388	.386	.008	.000	.008	.010	.026	.370	.319	1.650	.319	34.31
24	3.237	.000	3.237	.002	.414	.411	.000	.000	.008	.010	.018	.393	.364	1.650	.364	34.31
SEP 25	9.937	.000	9.937	.002	1.162	1.160	.000	.000	.009	.010	.019	1.142	.986	1.650	.986	34.31
26	7.802	.000	7.802	.002	.911	.909	.186	.000	.009	.010	.215	.694	.600	1.650	.600	34.31
27	7.273	.000	7.273	.002	.849	.847	.000	.000	.009	.010	.019	.829	.716	1.650	.716	34.31
OCT 28	4.941	.000	4.941	.002	.577	.575	.007	.000	.009	.010	.025	.549	.475	1.650	.475	34.31
29	4.447	.000	4.447	.002	.519	.517	.000	.000	.009	.010	.018	.499	.431	1.650	.431	34.31
30	4.403	.000	4.403	.002	.514	.512	.000	.000	.008	.010	.018	.494	.428	1.650	.428	34.31
NOV 31	4.149	.000	4.149	.002	.484	.482	.000	.000	.008	.010	.018	.464	.401	1.650	.401	34.31
32	4.435	.000	4.435	.002	.518	.516	.000	.000	.008	.010	.018	.498	.430	1.650	.430	34.31
33	3.776	.000	3.776	.002	.441	.439	.000	.000	.008	.010	.018	.421	.363	1.650	.363	34.31
DEC 34	3.113	.000	3.113	.002	.363	.361	.103	.000	.009	.010	.122	.240	.207	1.650	.207	34.31
35	2.747	.000	2.747	.002	.321	.319	.000	.000	.009	.010	.019	.300	.259	1.650	.259	34.31
36	2.094	.000	2.094	.002	.244	.242	.341	.000	.009	.010	.360	-.118	-.112	1.538	.000	33.78
T(MCM)	97.9	.0	.0	.1	11.4	11.4	3.9	.0	.3	.3	4.4	1.481	1.481	.924	7.1	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:1&II JUNI
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1978 Month	Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AWR 5-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPAG (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN 1	1.750	.000	1.750	.002	.204	.202	.396	.000	.011	.009	.416	-.214	-.185	1.383	.000	33.08
2	1.476	.000	1.476	.002	.172	.170	.422	.000	.010	.008	.430	-.260	-.233	1.121	.000	32.70
3	1.217	.000	1.217	.002	.142	.140	.480	.000	.009	.006	.495	-.355	-.336	.783	.000	30.82
FEB 4	.977	.000	.977	.002	.114	.112	.438	.000	.008	.005	.332	-.440	-.380	.403	.000	40.96
5	.772	.000	.772	.002	.090	.088	.492	.000	.007	.002	.501	-.413	-.357	.046	.000	46.34
6	.608	.000	.608	.002	.071	.069	.411	.000	.005	.000	.416	-.348	-.240	.000	.000	46.00
MAR 7	.486	.000	.486	.002	.057	.055	.374	.000	.005	.000	.379	-.324	-.280	.000	.000	46.00
8	.460	.000	.460	.002	.055	.053	.177	.000	.005	.000	.182	-.130	-.112	.000	.000	46.00
9	.437	.000	.437	.002	.053	.051	.068	.000	.003	.000	.073	-.021	-.030	.000	.000	46.00
APR 10	.443	.000	.443	.002	.052	.050	.011	.000	.003	.000	.016	.034	.029	.029	.000	46.22
11	.436	.000	.436	.002	.051	.049	.001	.000	.005	.000	.007	.043	.038	.066	.000	46.48
12	2.004	.000	2.004	.002	.234	.232	.000	.000	.005	.000	.006	.226	.195	.261	.000	47.93
MAY 13	.819	.000	.819	.002	.096	.093	.000	.000	.005	.003	.007	.088	.075	.336	.000	48.49
14	6.698	.000	6.698	.002	.782	.780	.000	.000	.006	.002	.008	.772	.667	1.003	.000	31.73
15	10.082	.000	10.082	.002	1.177	1.175	.000	.000	.008	.008	.015	1.160	1.102	1.650	.455	34.31
JUN 16	3.213	.000	3.213	.002	.809	.808	.314	.000	.009	.010	.333	.374	.323	1.650	.323	34.31
17	4.178	.000	4.178	.002	.488	.486	.000	.000	.009	.010	.018	.467	.404	1.650	.404	34.31
18	7.433	.000	7.433	.002	.867	.864	.027	.000	.009	.010	.045	.819	.708	1.650	.708	34.31
JUL 19	7.894	.000	7.894	.002	.922	.919	.411	.000	.008	.010	.428	.491	.424	1.650	.424	34.31
20	4.744	.000	4.744	.002	.554	.552	.090	.000	.008	.010	.108	.444	.384	1.650	.384	34.31
21	4.308	.000	4.308	.002	.503	.501	.090	.000	.008	.010	.108	.393	.373	1.650	.373	34.31
AUG 22	6.985	.000	6.985	.002	.815	.813	.000	.000	.008	.010	.018	.795	.687	1.650	.687	34.31
23	6.621	.000	6.621	.002	.773	.771	.337	.000	.008	.010	.372	.196	.169	1.650	.169	34.31
24	5.788	.000	5.788	.002	.676	.674	.000	.000	.008	.010	.018	.652	.633	1.650	.633	34.31
SEP 25	5.883	.000	5.883	.002	.687	.685	.367	.000	.008	.010	.385	.299	.258	1.650	.258	34.31
26	4.982	.000	4.982	.002	.582	.578	.060	.000	.008	.010	.075	.501	.433	1.650	.433	34.31
27	4.943	.000	4.943	.002	.577	.575	.000	.000	.009	.010	.019	.556	.481	1.650	.481	34.31
OCT 28	8.931	.000	8.931	.002	1.042	1.041	.000	.000	.009	.010	.018	1.022	.883	1.650	.883	34.31
29	6.731	.000	6.731	.002	.785	.783	.000	.000	.009	.010	.018	.764	.660	1.650	.660	34.31
30	4.492	.000	4.492	.002	.535	.522	.000	.000	.009	.010	.018	.504	.479	1.650	.479	34.31
NOV 31	8.878	.000	8.878	.002	1.036	1.034	.000	.000	.008	.010	.018	1.016	.878	1.650	.878	34.31
32	13.349	.000	13.349	.002	1.558	1.556	.000	.000	.008	.010	.018	1.538	1.328	1.650	1.328	34.31
33	12.441	.000	12.441	.002	1.452	1.450	.000	.000	.008	.010	.018	1.432	1.237	1.650	1.237	34.31
DEC 34	8.756	.000	8.756	.002	1.022	1.020	.076	.000	.008	.010	.094	.925	.799	1.650	.799	34.31
35	9.183	.000	9.183	.002	1.072	1.070	.000	.000	.009	.010	.019	1.051	.908	1.650	.908	34.31
36	6.921	.000	6.921	.002	.808	.806	.341	.000	.009	.010	.360	.446	.424	1.650	.424	34.31
T(MCM)	180.0	.0	.0	.1	18.1	18.1	4.0	.0	.3	.2	3.3	3.148	3.148	.000	13.3	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:1&II JUNI
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1979 Month	Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AWR 5-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPAG (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN 1	4.476	.000	4.476	.002	.323	.320	.399	.000	.011	.010	.420	.101	.087	1.650	.087	34.31
2	3.796	.000	3.796	.002	.443	.441	.449	.000	.011	.010	.470	-.029	-.025	1.625	.000	34.11
3	3.249	.000	3.249	.002	.379	.377	.449	.000	.011	.009	.469	-.092	-.086	1.538	.000	33.78
FEB 4	2.774	.000	2.774	.002	.324	.322	.451	.000	.013	.009	.473	-.151	-.131	1.407	.000	33.29
5	2.420	.000	2.420	.002	.282	.280	.399	.000	.012	.008	.419	-.138	-.120	1.287	.000	32.83
6	2.097	.000	2.097	.002	.245	.243	.411	.000	.011	.007	.430	-.187	-.130	1.158	.000	32.34
MAR 7	1.778	.000	1.778	.002	.208	.205	.374	.000	.013	.007	.393	-.188	-.162	.996	.000	31.73
8	1.431	.000	1.431	.002	.169	.167	.307	.000	.011	.006	.324	-.057	-.049	.947	.000	31.54
9	1.131	.000	1.131	.002	.134	.132	.073	.000	.011	.005	.092	.041	.035	.982	.000	31.69
APR 10	.885	.000	.885	.002	.103	.101	.014	.000	.011	.006	.031	.071	.061	1.047	.000	31.92
11	1.332	.000	1.332	.002	.158	.155	.000	.000	.012	.006	.018	.136	.117	1.164	.000	32.36
12	.926	.000	.926	.002	.108	.106	.000	.000	.012	.007	.019	.087	.075	1.239	.000	32.65
MAY 13	.639	.000	.639	.002	.075	.072	.000	.000	.010	.007	.017	.055	.048	1.286	.000	32.83
14	2.799	.000	2.799	.002	.327	.325	.000	.000	.010	.007	.016	.307	.265	1.551	.000	33.83
15	3.650	.000	3.650	.002	.426	.424	.000	.000	.012	.008	.021	.403	.383	1.650	.283	34.31
JUN 16	3.006	.000	3.006	.002	.351	.349	.000	.000	.009	.010	.019	.330	.286	1.650	.286	34.31
17	2.847	.000	2.847	.002	.332	.330	.035	.000	.009	.010	.056	.274	.237	1.650	.237	34.31
18	4.206	.000	4.206	.002	.491	.489	.108	.000	.009	.010	.127	.362	.313	1.650	.313	34.31
JUL 19	4.139	.000	4.139	.002	.483	.481	.227	.000	.008	.010	.248	.238	.204	1.650	.204	34.31
20	6.273	.000	6.273	.002	.733	.730	.000	.000	.008	.010	.018	.712	.615	1.650	.615	34.31
21	5.934	.000	5.934	.002	.693	.691	.000	.000	.008	.010	.018	.673	.639	1.650	.639	34.31
AUG 22	6.645	.000	6.645	.002	.776	.774	.127	.000	.009	.010	.145	.628	.543	1.650	.543	34.31
23	4.568	.000	4.568	.002	.533	.531	.530	.000	.009	.010	.549	-.018	-.015	1.635	.000	34.15
24	2.840	.000	2.840	.002	.332	.329	.560	.000	.009	.008	.578	-.249	-.237	1.396	.000	33.35
SEP 25	2.924	.000	2.924	.002	.341	.338	.168	.000	.008	.008	.184	.155	.134	1.533	.000	33.76
26	3.368	.000	3.368	.002	.393	.391	.162	.000	.009	.009	.180	.211	.182	1.650	.065	34.31
27	3.718	.000	3.718	.002	.434	.432	.000	.000	.009	.010	.019	.413	.357	1.650	.357	34.31
OCT 28	8.733	.000	8.733	.002	1.020	1.017	.000	.000	.009	.010	.018	.999	.863	1.650	.863	34.31
29	11.342	.000	11.342	.002	1.324	1.322	.000	.000	.009	.010	.018	1.304	1.126	1.650	1.126	34.31
30	6.231	.000	6.231	.002	.727	.725	.000	.000	.009	.010	.018	.707	.611	1.650	.611	34.31
NOV 31	5.075	.000	5.075	.002	.592	.590	.000	.000	.008	.010	.018	.572	.494	1.650	.494	34.31
32	6.413	.000	6.413	.002	.749	.747	.000	.000	.008	.010	.018	.729	.630	1.650	.630	34.31
33	4.636	.000	4.636	.002	.541	.539	.000	.000	.008	.010	.018	.521	.450	1.650	.450	34.31
DEC 34	4.932	.000	4.932	.002	.578	.576	.030	.000	.009	.010	.035	.521	.450	1.650	.450	34.31
35	3.167	.000	3.167	.002	.370	.368	.130	.000	.009	.010	.149	.219	.189	1.650	.189	34.31
36	2.681	.000	2.681	.002	.313	.311	.145	.000	.009	.010	.164	.146	.126	1.650	.126	34.31
T(MCM)	130.3	.0	.0	.1	14.0	14.0	4.6	.0	.3	.3	5.3	.985	.938	.947	8.6	

<< ABBREVIATION >>

UNIT:cu.m/sec

(1)IN1 : Inflow between storage and CIS diversion works
(2)CIS : Water permit of existing irrigation system
(3)BALANCE: (3)=(1)-(2) Balance
(4)MA : Maintenance flow
(5)IN2 : Inflow at storage site
(6)AWR : Available amount of water resource for the project area
If the amount of (3) is the plus amount,(6)=(5)-(4).
If the amount of (3) is the minus amount,
(6)=(5)-(4)+(3).
(7)IRR : Irrigation water (diversion water requirement)
(8)VWS : Village water supply system
(9)EVP : Evaporation from storage area
(10)SPAG : Seepage from storage body
(11)TOTAL : Total of water demand
(12)BALANCE: (12)=(6)-(11)
(13) : Equivalent to MCM of (12)
(14) : Storage volume in MCM
(15)INV : Non effective discharge in MCM
(16)W.LEVEL: Water level at storage site in m

Note : Except the summary table

Table C.3.5 Cont'd

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.5 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1980 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AWR 5-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR +(12) (13)	(UNIT:MCM) (14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	2.318	.000	2.318	.002	.271	.268	.363	.000	.011	.010	.403	-.135	-.118	1.534	.000	33.77
	2	2.003	.000	2.003	.002	.234	.232	.317	.000	.011	.008	.336	-.104	-.090	1.444	.000	33.43
	3	1.782	.000	1.782	.002	.208	.206	.009	.000	.010	.008	.019	.187	.178	1.622	.000	34.10
FEB	4	2.692	.000	2.692	.002	.314	.312	.509	.000	.013	.009	.531	-.219	-.188	1.433	.000	33.38
	5	1.517	.000	1.517	.002	.177	.175	.492	.000	.012	.009	.513	-.337	-.291	1.141	.000	32.24
	6	1.284	.000	1.284	.002	.148	.145	.366	.000	.011	.007	.382	-.237	-.185	.957	.000	31.34
MAR	7	1.021	.000	1.021	.002	.119	.117	.374	.000	.011	.006	.391	-.274	-.238	.720	.000	30.64
	8	.806	.000	.806	.002	.094	.092	.148	.000	.010	.004	.163	-.071	-.061	.659	.000	30.45
	9	1.318	.000	1.318	.002	.154	.152	.000	.000	.010	.004	.014	.138	.131	.791	.000	30.95
APR	10	.636	.000	.636	.002	.074	.072	.012	.000	.010	.005	.027	.045	.039	.830	.000	31.10
	11	.534	.000	.534	.002	.062	.060	.000	.000	.010	.005	.015	.045	.039	.869	.000	31.25
	12	.523	.000	.523	.002	.061	.059	.000	.000	.011	.005	.016	.043	.037	.906	.000	31.38
MAY	13	.609	.000	.609	.002	.071	.069	.000	.000	.009	.005	.014	.055	.048	.954	.000	31.57
	14	.838	.000	.838	.002	.098	.096	.000	.000	.009	.006	.014	.081	.070	1.024	.000	31.83
	15	.617	.000	.617	.002	.072	.070	.000	.000	.008	.006	.015	.055	.052	1.076	.000	32.03
JUN	16	1.562	.000	1.562	.002	.182	.180	.000	.000	.007	.006	.013	.167	.144	1.220	.000	32.58
	17	5.475	.000	5.475	.002	.640	.638	.000	.000	.007	.007	.014	.624	.540	1.630	.110	34.21
	18	5.412	.000	5.412	.002	.632	.630	.027	.000	.008	.010	.045	.585	.505	1.630	.505	34.21
JUL	19	10.289	.000	10.289	.002	1.199	1.197	.000	.000	.008	.010	.018	1.179	1.016	1.630	1.016	34.21
	20	6.860	.000	6.860	.002	.801	.799	.000	.000	.008	.010	.018	.781	.673	1.630	.673	34.21
	21	6.793	.000	6.793	.002	.793	.791	.000	.000	.008	.010	.018	.773	.735	1.650	.735	34.21
AUG	22	5.256	.000	5.256	.002	.640	.640	.108	.000	.009	.010	.123	.533	.452	1.650	.452	34.21
	23	6.829	.000	6.829	.002	.809	.807	.000	.000	.009	.010	.018	.789	.681	1.650	.681	34.21
	24	10.984	.000	10.984	.002	1.282	1.280	.000	.000	.008	.010	.018	1.262	1.188	1.650	1.188	34.21
SEP	25	8.248	.000	8.248	.002	.963	.961	.002	.000	.008	.010	.020	.940	.812	1.650	.812	34.21
	26	3.612	.000	3.612	.002	.425	.423	.224	.000	.009	.010	.243	.180	.156	1.650	.156	34.21
	27	4.873	.000	4.873	.002	.569	.567	.000	.000	.009	.010	.019	.548	.474	1.650	.474	34.21
OCT	28	3.532	.000	3.532	.002	.413	.411	.000	.000	.008	.010	.018	.393	.312	1.650	.312	34.21
	29	3.830	.000	3.830	.002	.450	.448	.000	.000	.009	.010	.018	.430	.380	1.650	.380	34.21
	30	4.701	.000	4.701	.002	.549	.547	.000	.000	.008	.010	.018	.528	.502	1.650	.502	34.21
NOV	31	7.896	.000	7.896	.002	.922	.920	.000	.000	.008	.010	.018	.902	.779	1.650	.779	34.21
	32	9.112	.000	9.112	.002	1.064	1.062	.000	.000	.008	.010	.018	1.044	.902	1.650	.902	34.21
	33	6.048	.000	6.048	.002	.706	.704	.000	.000	.008	.010	.018	.686	.593	1.650	.593	34.21
DEC	34	8.537	.000	8.537	.002	.997	.995	.000	.000	.009	.010	.019	.975	.843	1.650	.843	34.21
	35	6.530	.000	6.530	.002	.761	.759	.000	.000	.009	.010	.019	.740	.639	1.650	.639	34.21
	36	6.255	.000	6.255	.002	.730	.728	.000	.000	.009	.010	.019	.709	.674	1.650	.674	34.21
T(MCM)		137.8	.0	.0	.1	16.1	16.0	3.8	.0	.3	.3	3.2	1.169	1.169	.689	13.6	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.5 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1982 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AWR 5-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR +(12) (13)	(UNIT:MCM) (14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	3.384	.000	3.384	.003	.395	.393	.383	.000	.011	.010	.413	-.020	-.017	1.633	.000	34.14
	2	2.919	.000	2.919	.002	.341	.339	.367	.000	.011	.009	.387	-.049	-.042	1.591	.000	33.96
	3	2.484	.000	2.484	.002	.291	.289	.478	.000	.011	.009	.498	-.209	-.198	1.393	.000	33.33
FEB	4	2.099	.000	2.099	.002	.245	.243	.487	.000	.012	.008	.507	-.264	-.228	1.164	.000	32.57
	5	1.816	.000	1.816	.002	.212	.210	.363	.000	.011	.007	.381	-.171	-.146	1.017	.000	31.81
	6	1.366	.000	1.366	.002	.163	.181	.389	.000	.010	.008	.408	-.124	-.155	.863	.000	31.73
MAR	7	1.306	.000	1.306	.002	.153	.151	.373	.000	.011	.003	.387	-.237	-.208	.657	.000	30.44
	8	1.044	.000	1.044	.002	.122	.120	.048	.000	.010	.004	.033	.066	.057	.714	.000	30.64
	9	1.424	.000	1.424	.002	.166	.164	.000	.000	.010	.004	.014	.150	.143	.857	.000	31.30
APR	10	.890	.000	.890	.002	.104	.102	.013	.000	.011	.004	.027	.074	.064	.921	.000	31.43
	11	.661	.000	.661	.002	.079	.077	.000	.000	.011	.004	.016	.061	.053	.974	.000	31.65
	12	.338	.000	.338	.002	.043	.041	.000	.000	.011	.006	.017	.044	.038	1.013	.000	31.79
MAY	13	.331	.000	.331	.002	.041	.039	.000	.000	.009	.006	.015	.044	.038	1.050	.000	31.95
	14	.309	.000	.309	.002	.039	.037	.000	.000	.009	.005	.013	.042	.036	1.086	.000	32.07
	15	.309	.000	.309	.002	.039	.037	.000	.000	.010	.006	.016	.041	.039	1.125	.000	32.23
JUN	16	1.214	.000	1.214	.002	.142	.140	.000	.000	.007	.007	.014	.126	.109	1.234	.000	32.63
	17	1.617	.000	1.617	.002	.189	.187	.466	.000	.007	.007	.480	-.294	-.254	.980	.000	31.67
	18	.887	.000	.887	.002	.104	.101	.434	.000	.007	.007	.448	-.363	-.313	.667	.000	30.47
JUL	19	3.245	.000	3.245	.002	.413	.410	.000	.000	.003	.004	.008	.401	.319	1.164	.000	33.44
	20	3.828	.000	3.828	.002	.438	.436	.000	.000	.007	.007	.014	.443	.382	1.366	.000	33.69
	21	4.361	.000	4.361	.002	.509	.507	.000	.000	.008	.009	.017	.490	.463	1.430	.382	34.21
AUG	22	3.140	.000	3.140	.002	.401	.399	.000	.000	.010	.009	.018	.381	.303	1.630	.303	34.21
	23	6.331	.000	6.331	.002	.730	.728	.000	.000	.008	.010	.018	.709	.613	1.630	.613	34.21
	24	10.763	.000	10.763	.002	1.259	1.257	.000	.000	.009	.010	.018	1.238	1.177	1.650	1.177	34.21
SEP	25	6.530	.000	6.530	.002	.762	.760	.189	.000	.009	.010	.208	.553	.477	1.650	.477	34.21
	26	4.713	.000	4.713	.002	.550	.548	.490	.000	.009	.010	.499	.050	.043	1.650	.043	34.21
	27	3.281	.000	3.281	.002	.393	.391	.233	.000	.009	.010	.254	.137	.110	1.650	.110	34.21
OCT	28	2.831	.000	2.831	.002	.331	.330	.000	.000	.009	.010	.018	.310	.268	1.650	.268	34.21
	29	3.890	.000	3.890	.002	.454	.452	.000	.000	.009	.010	.018	.434	.378	1.650	.378	34.21
	30	3.033	.000	3.033	.002	.354	.352	.000	.000	.009	.010	.018	.334	.317	1.650	.317	34.21
NOV	31	3.358	.000	3.358	.002	.426	.423	.000	.000	.009	.010	.018	.403	.333	1.650	.333	34.21
	32	4.630	.000	4.630	.002	.542	.538	.000	.000	.008	.010	.018	.521	.450	1.650	.450	34.21
	33	5.079	.000	5.079	.002	.593	.591	.000	.000	.008	.010	.018	.573	.493	1.650	.493	34.21
DEC	34	3.875	.000	3.875	.003	.452	.450	.000	.000	.009	.010	.019	.431	.373	1.650	.373	34.21
	35	3.463	.000	3.463	.003	.404	.402	.000	.000	.009	.010	.019	.383	.331	1.650	.331	34.21
	36	3.192	.000	3.192	.003	.373	.370	.012	.000	.009	.010	.031	.339	.322	1.650	.322	34.21
T(MCM)		97.9	.0	.0	.1	11.4	11.4	4.1	.0	.3	.2	4.6	1.863	1.863	.687	6.8	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.5 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1981 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AWR 5-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR +(12) (13)	(UNIT:MCM) (14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	6.369	.000	6.369	.002	.767	.765	.000	.000	.011	.010	.021	.744	.643	1.650	.643	34.21
	2	4.471	.000	4.471	.002	.522	.520	.065	.000	.011	.010	.085	.435	.376	1.650	.376	34.21
	3	3.537	.000	3.537	.002	.413	.411	.480	.000	.011	.010	.501	-.090	-.085	1.565	.000	33.86
FEB	4	2.896	.000	2.896	.002	.338	.336	.476	.000	.013	.009	.498	-.162	-.140	1.425	.000	33.33
	5	2.480	.000	2.480	.002	.290	.288	.485	.000	.012	.008	.505	-.217	-.187	1.238	.000	32.64
	6	2.150	.000	2.150	.002	.251	.249	.408	.000	.011	.007	.426	-.177	-.125	1.113	.000	32.16
MAR	7	1.826	.000	1.826	.002	.213	.211	.372	.000	.012	.006	.390	-.179	-.153	.960	.000	31.58
	8	1.494	.000	1.494	.002	.174	.172	.207	.000	.011	.006	.223	-.051	-.044	.916	.000	31.43
	9	1.201	.000	1.201	.002	.140	.138	.056	.000	.011	.006	.072	.066	.063	.979	.000	31.66
APR	10	.947	.000	.947	.002	.111	.109	.011	.000	.011	.006	.028	.080	.069	1.048	.000	31.93
	11	.727	.000	.727	.002	.085	.083	.002	.000	.012	.006	.020	.063	.055	1.103	.000	32.13
	12	.601	.000	.601	.002	.070	.068	.000	.000	.012	.006	.018	.050	.043	1.146	.000	32.30
MAY	13	1.188	.000	1.188	.002	.139	.137	.000	.000	.010	.007	.016	.120	.104	1.249	.000	32.69
	14	.665	.000	.665	.002	.078	.076	.000	.000	.010	.007	.017	.059	.050	1.299	.000	32.88
	15	.570	.000	.570	.002	.067	.065	.000	.000	.010	.006	.016	.048	.044	1.343	.000	33.05
JUN	16	.965	.000	.965	.002	.115	.113	.014	.000	.008	.008	.030	.083	.072	1.415	.000	33.32
	17	.963	.000	.963	.002	.112	.110	.348	.000	.008	.006	.362	-.252	-.218	1.197	.000	32.48
	18	1.073	.000	1.073	.002	.125	.123	.461	.000	.007	.007	.476	-.353	-.304	.893	.000	31.34
JUL	19	4.354	.000	4.354	.002	.508	.506	.000	.000	.006	.005	.011	.495	.428	1.321	.000	32.96
	20	5.218	.000	5.218	.002	.609	.607	.094	.000	.007	.008	.109	.498	.430	1.650	.101	34.21
	21	4.247	.000	4.247	.002	.496	.494	.000	.000	.008	.010	.018	.476	.452	1.650	.452	34.21
AUG	22	4.023	.000	4.023	.002	.470	.467	.391	.000	.008	.010	.409	.058	.050	1.650	.050	34.21
	23	3.813	.000	3.813	.002	.445	.443	.156	.000	.009	.010	.177	.266	.230	1.650	.230	34.21
	24	4.666	.000	4.666	.002	.545	.543	.000	.000	.009	.010	.018	.525	.489	1.650	.489	34.21
SEP	25	3.677	.000	3.677	.002	.429	.427	.371	.000	.009	.010	.389	.038	.033	1.650	.033	34.21
	26	4.034	.000	4.034	.002	.470	.468	.000	.000	.009	.010	.019	.449	.388	1.650	.388	34.21
	27	7.398	.000	7.398	.002	.864	.861	.000	.000	.009	.010	.019	.843	.728	1.650	.728	34.21
OCT	28	5.373	.000	5.373	.002	.627	.625	.000	.000	.009	.010	.018	.607	.524	1.650	.524	34.21
	29	4.364	.000	4.364	.002	.509	.507	.000	.000	.009	.010	.018	.489	.423	1.650	.423	34.21
	30	4.731	.000	4.731	.002	.553	.551	.000	.000	.009	.010	.018	.534	.508	1.650	.508	34.21
NOV	31	6.546	.000	6.546	.002	.764	.762	.000	.000	.008	.010	.018	.744	.643	1.650	.643	34.21
	32	8.989	.000	8.989	.002	1.049	1.047	.000	.000	.008	.010	.018	1.029	.889	1.650	.889	34.21
	33	6.772	.000	6.772	.002	.791	.788	.000	.000	.008	.010	.018	.770	.666	1.650	.666	34.21
DEC	34	11.070	.000	11.070	.002	1.292	1.290	.000	.000	.009	.010	.019	1.271	1.098	1.650	1.098	34.21
	35	7.319	.000	7.319	.002	.854	.852	.266	.000	.009	.010	.285	.567	.490	1.650	.490	34.21
	36	4.291	.000	4.291	.002	.501	.499	.331	.000	.009	.010	.350	.149	.141	1.650	.141	34.21
T(MCM)		118.5	.0	.0	.1	13.8	13.8	4.3	.0	.3	.3	4.9	1.156	1.156	.893	8.8	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.5 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1983 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AWR 5-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR +(12) (13)	(UNIT:MCM) (14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	2.414	.000	2.414	.002	.282	.280	.312	.000	.011	.010	.333	.047	.041	1.650	.041	34.21
	2	1.992	.000	1.992	.002	.233	.230	.449	.000	.011	.010	.470	-.239	-.207	1.443	.000	33.42
	3	1.672	.000	1.672	.002	.195	.193	.461	.000	.010	.008	.480	-.287	-.273	1.171	.000	32.39
FEB	4	1.393	.000	1.393	.002	.163	.160	.308	.000	.011	.007	.322	-.362	-.313	.858	.000	31.20
	5	1.147	.000	1.147	.002	.134	.132	.485	.000	.009	.005	.499	-.367	-.317	.541	.000	30.00
	6	.946	.000	.946	.002	.110	.108	.411	.000	.008	.003	.422	-.314	-.317	.224	.000	28.49
MAR	7	.734	.000	.734	.002	.088	.086	.294	.000	.007	.002	.303	-.217	-.187	.136	.000	27.01
	8	.565	.000	.565	.002	.066	.064	.207	.000	.006	.001	.213	-.150	-.129	.007	.000	26.05
	9	.480	.000	.480	.002	.056	.054	.073	.000	.005	.000	.080	-.026	-.025	.000	.000	26.00
APR	10	.467	.000	.467	.002	.055	.052	.014	.000	.005	.000	.018	.034	.029	.028	.000	26.32
	11	.458	.000	.458	.002	.053	.051	.000	.000	.005	.000	.005	.046	.040	.068	.000	26.51
	12	.447	.000	.447	.002	.052	.050	.000	.000	.005	.000	.006	.044	.038	.107	.000	26.79
MAY	13	.436	.000	.436	.002	.051	.049	.000	.000	.005	.001	.005	.044	.038	.145	.000	27.07
	14	.427	.000	.427	.002	.050	.048	.000	.000	.005	.001	.006	.042	.036	.181	.000	27.34
	15	.418	.000	.418	.002	.049	.046	.000	.000	.005	.001	.006	.040	.034	.216	.000	27.63
JUN	16	.538	.000	.538	.002	.063	.060	.071	.000	.004	.001	.076	-.015	-.013	.206	.000	27.32
	17	.784	.000	.784	.002	.092	.089	.403	.000	.004	.001	.408	-.319	-.279	.000	.000	26.00
	18	2.828	.000	2.828	.002	.330	.328	.027	.000	.003	.000	.030	.298	.256	.256	.000	27.91
JUL	19	3.722	.000	3.722	.002	.435	.432	.000	.000	.004	.001	.005	.427	.369	.627	.000	30.33
	20	9.616	.000	9.616	.002	1.123	1.120	.000	.000	.005	.004	.009	1.112	.960	1.587	.000	33.97
	21	5.967	.000	5.967	.002	.697	.695	.239	.000	.008	.009	.257	.438	.416	1.650	.353	34.11
AUG	22	4.676	.000	4.676	.002	.546	.544	.000	.000	.009	.010	.018	.526	.434	1.650	.434	34.21
	23	7.807	.000	7.807	.002	.911	.909	.000	.000	.009	.010	.018	.891	.770	1.650	.770	34.21
	24	4.692	.000	4.692	.002	.548	.546	.327	.000	.009	.010	.345	.001	.001	1.650	.001	34.21
SEP	25	3.032	.000	3.032	.002	.356	.354	.323	.000	.009	.010	.341	-.187	-.162	1.488	.000	33.60
	26	2.621	.000	2.621	.002	.306	.304	.045	.000	.008	.009	.063	.242	.209	1.650	.047	34.21
	27	3.380	.000	3.380	.002	.395	.393	.000	.000	.009	.010	.019	.374	.323	1.650	.323	34.21
OCT	28	6.500	.000	6.500	.002	.759	.757	.000	.000	.009	.010	.018	.738	.638	1.650	.638	34.21
	29	5.667	.000	5.667	.002	.662	.659	.000	.000	.009	.010	.018	.641	.554	1.650	.554	34.21
	30	6.526	.000	6.526	.002	.762	.760	.000	.000	.009	.010	.019	.741	.705	1.650	.705	34.21
NOV	31	6.399	.000	6.399	.002	.747	.745	.000	.000	.008	.010	.018	.727	.628	1.650	.628	34.21
	32	8.040	.000	8.040	.002	.939	.936	.000	.000	.008	.010	.018	.918	.794	1.650	.794	34.21
	33	14.346	.000	14.346	.002	1.675	1.673	.000	.000	.008	.010	.018	1.655	1.430	1.650	1.430	34.21
DEC	34	14.209	.000	14.209	.002	1.659	1.657	.000	.000	.009	.010	.019	1.638	1.415	1.650	1.415	34.21
	35	11.621	.000	11.621	.002	1.380	1.378	.034	.000	.009	.010	.043	1.335	1.154	1.650	1.154	34.21
	36	6.731	.000	6.731	.002	.786	.784	.159	.000	.009	.010	.178	.605	.375	1.650	.375	34.21
T(MCM)		136.5	.0	.0	.1	14.8	14.7	4.5	.0	.2	.2	4.9	3.118	3.118	.808	9.9	

Table C.3.5 Cont'd

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Su (SITE Su),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1984 Month	Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-5-4 (6)	WATER DEMAND IRR (7)	VEG (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN 1	4.788	.000	4.788	.002	.539	.537	.361	.000	.011	.010	.382	.155	.152	1.650	.152	34.21
2	4.118	.000	4.118	.002	.481	.479	.028	.000	.011	.010	.049	.430	.371	1.650	.371	34.21
3	7.801	.000	7.801	.002	.911	.909	.000	.000	.011	.010	.021	.888	.844	1.650	.844	34.21
FEB 4	4.477	.000	4.477	.002	.533	.530	.473	.000	.013	.010	.496	.035	.031	1.650	.031	34.21
5	3.282	.000	3.282	.002	.383	.381	.493	.000	.013	.010	.514	-.133	-.115	1.535	.000	33.77
6	2.821	.000	2.821	.002	.329	.327	.363	.000	.013	.009	.384	-.057	-.044	1.491	.000	33.60
MAR 7	2.439	.000	2.439	.002	.285	.283	.131	.000	.014	.009	.154	.129	.111	1.601	.000	34.03
8	2.158	.000	2.158	.002	.252	.249	.201	.000	.015	.009	.225	.024	.021	1.623	.000	34.10
9	1.873	.000	1.873	.002	.220	.218	.001	.000	.015	.009	.026	.192	.183	1.650	.163	34.21
APR 10	1.375	.000	1.375	.002	.164	.162	.002	.000	.015	.010	.026	.136	.135	1.650	.135	34.21
11	2.623	.000	2.623	.002	.306	.304	.000	.000	.013	.010	.024	.280	.241	1.650	.242	34.21
12	1.731	.000	1.731	.002	.202	.200	.000	.000	.013	.010	.024	.176	.152	1.650	.152	34.21
MAY 13	1.587	.000	1.587	.002	.185	.183	.000	.000	.012	.010	.022	.162	.140	1.650	.140	34.21
14	1.759	.000	1.733	.002	.203	.203	.000	.000	.012	.010	.022	.181	.157	1.650	.157	34.21
15	1.267	.000	1.267	.002	.148	.146	.000	.000	.012	.010	.022	.124	.116	1.650	.116	34.21
JUN 16	2.704	.000	2.704	.002	.316	.313	.000	.000	.009	.010	.018	.295	.255	1.650	.255	34.21
17	3.488	.000	3.488	.002	.407	.405	.000	.000	.009	.010	.018	.387	.334	1.650	.334	34.21
18	3.533	.000	3.533	.002	.411	.409	.518	.000	.009	.010	.536	-.127	-.110	1.540	.000	33.79
JUL 19	3.275	.000	3.275	.003	.382	.380	.149	.000	.008	.009	.166	.214	.185	1.650	.076	34.21
20	2.400	.000	2.400	.002	.280	.278	.407	.000	.008	.010	.425	-.147	-.127	1.523	.000	33.73
21	2.074	.000	2.074	.002	.242	.240	.120	.000	.008	.009	.137	.103	.088	1.611	.000	34.10
AUG 22	1.805	.000	1.805	.002	.211	.209	.466	.000	.009	.009	.484	-.275	-.238	1.384	.000	33.20
23	2.179	.000	2.179	.003	.254	.252	.003	.000	.008	.008	.021	.231	.200	1.583	.000	33.95
24	4.096	.000	4.096	.002	.478	.476	.000	.000	.009	.009	.018	.458	.396	1.650	.348	34.21
SEP 25	5.784	.000	5.784	.002	.673	.671	.000	.000	.009	.010	.019	.652	.563	1.650	.563	34.21
26	3.881	.000	3.881	.002	.453	.451	.461	.000	.009	.010	.480	-.029	-.025	1.625	.000	34.11
27	5.493	.000	5.493	.002	.641	.639	.000	.000	.009	.009	.018	.621	.536	1.650	.512	34.21
OCT 28	4.778	.000	4.778	.002	.558	.555	.000	.000	.009	.010	.018	.537	.464	1.650	.464	34.21
29	5.304	.000	5.304	.002	.619	.617	.000	.000	.009	.010	.018	.599	.517	1.650	.517	34.21
30	6.702	.000	6.702	.002	.782	.780	.000	.000	.009	.010	.018	.762	.724	1.650	.724	34.21
NOV 31	4.307	.000	4.307	.002	.526	.524	.000	.000	.008	.010	.018	.506	.437	1.650	.437	34.21
32	4.498	.000	4.498	.002	.525	.523	.042	.000	.008	.010	.060	.462	.399	1.650	.399	34.21
33	7.431	.000	7.431	.002	.870	.868	.000	.000	.008	.010	.018	.850	.734	1.650	.734	34.21
DEC 34	6.132	.000	6.132	.002	.715	.713	.106	.000	.009	.010	.126	.587	.507	1.650	.507	34.21
35	5.773	.000	5.773	.002	.674	.672	.000	.000	.009	.010	.019	.653	.564	1.650	.564	34.21
36	4.915	.000	4.915	.002	.574	.572	.318	.000	.009	.010	.337	.235	.216	1.650	.216	34.21
T(MCM)	119.0	.0	.0	.1	13.9	13.8	9.9	.0	.3	.3	4.0	.888	.856	1.364	9.3	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Su (SITE Su),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1985 Month	Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-5-4 (6)	WATER DEMAND IRR (7)	VEG (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN 1	2.912	.000	2.912	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	3.461	.000	3.461	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	2.212	.000	2.212	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FEB 4	1.683	.000	1.683	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	1.534	.000	1.534	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	1.336	.000	1.336	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAR 7	1.124	.000	1.124	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8	.968	.000	.968	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
9	.643	.000	.643	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
APR 10	.518	.000	.518	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	.638	.000	.638	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12	1.936	.000	1.936	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MAY 13	1.473	.000	1.473	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14	1.353	.000	1.353	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15	1.266	.000	1.266	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUN 16	.722	.000	.722	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
17	.811	.000	.811	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18	1.003	.000	1.003	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
JUL 19	1.173	.000	1.173	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20	1.940	.000	1.940	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
21	1.300	.000	1.300	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AUG 22	1.792	.000	1.792	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
23	2.482	.000	2.482	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24	1.337	.000	1.337	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SEP 25	4.148	.000	4.148	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26	4.887	.000	4.887	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27	2.717	.000	2.717	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
OCT 28	2.370	.000	2.370	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
29	14.215	.000	14.215	.003	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30	6.366	.000	6.366	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NOV 31	6.222	.000	6.222	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
32	5.069	.000	5.069	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33	6.469	.000	6.469	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DEC 34	5.393	.000	5.393	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35	27.706	.000	27.706	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
36	13.681	.000	13.681	.002	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
T(MCM)	130.1	.0	.0	.1	14.0	14.0	3.4	.0	.2	.3	3.8	2.736	2.736	.096	5.2	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Su (SITE Su),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1986 Month	Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-5-4 (6)	WATER DEMAND IRR (7)	VEG (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN 1	7.734	.000	7.734	.002	.903	.901	.399	.000	.011	.010	.420	.481	.416	1.650	.416	34.21
2	4.833	.000	4.833	.003	.578	.574	.448	.000	.011	.010	.470	.104	.090	1.650	.090	34.21
3	4.311	.000	4.311	.002	.503	.501	.000	.000	.011	.010	.021	.481	.437	1.650	.437	34.21
FEB 4	4.603	.000	4.603	.002	.537	.535	.189	.000	.013	.010	.212	.323	.279	1.650	.279	34.21
5	3.376	.000	3.376	.003	.394	.392	.453	.000	.013	.010	.476	-.084	-.073	1.577	.000	33.83
6	2.975	.000	2.975	.002	.347	.343	.132	.000	.013	.008	.153	.193	.133	1.650	.060	34.21
MAR 7	2.558	.000	2.558	.002	.299	.296	.374	.000	.015	.010	.399	-.102	-.088	1.562	.000	33.87
8	2.123	.000	2.123	.002	.248	.246	.155	.000	.015	.009	.179	.067	.059	1.620	.000	34.09
9	1.753	.000	1.753	.002	.205	.203	.073	.000	.015	.009	.099	.104	.090	1.650	.068	34.21
APR 10	1.439	.000	1.439	.002	.168	.166	.000	.000	.015	.010	.024	.141	.122	1.650	.122	34.21
11	1.220	.000	1.220	.002	.143	.140	.000	.000	.015	.010	.024	.116	.100	1.650	.100	34.21
12	.952	.000	.952	.002	.111	.109	.000	.000	.015	.010	.024	.085	.073	1.650	.073	34.21
MAY 13	.723	.000	.723	.002	.084	.082	.000	.000	.012	.010	.022	.061	.053	1.650	.053	34.21
14	1.774	.000	1.774	.002	.207	.205	.000	.000	.012	.010	.022	.183	.158	1.650	.158	34.21
15	2.053	.000	2.053	.002	.240	.238	.000	.000	.012	.010	.022	.216	.186	1.650	.186	34.21
JUN 16	1.071	.000	1.071	.001	.125	.122	.386	.000	.009	.010	.405	-.282	-.243	1.407	.000	33.28
17	.753	.000	.753	.001	.088	.086	.517	.000	.008	.008	.533	-.447	-.386	1.020	.000	31.62
18	.690	.000	.690	.001	.081	.078	.435	.000	.007	.008	.448	-.370	-.319	.701	.000	30.61
JUL 19	2.307	.000	2.307	.002	.269	.267	.000	.000	.005	.004	.010	.258	.223	.924	.000	31.43
20	9.387	.000	9.387	.003	1.096	1.094	.000	.000	.006	.008	.013	1.081	.934	1.650	.208	34.21
21	4.548	.000	4.548	.002	.531	.529	.372	.000	.008	.010	.391	.138	.121	1.650	.121	34.21
AUG 22	3.739	.000	3.739	.003	.436	.434	.211	.000	.008	.010	.230	.205	.177	1.650	.177	34.21
23	4.030	.000	4.030	.003	.473	.471	.000	.000	.009	.010	.018	.452	.391	1.650	.391	34.21
24	2.989	.000	2.989	.002	.349	.347	.467	.000	.009	.010	.486	-.139	-.113	1.537	.000	33.78
SEP 25	4.014	.000	4.014	.002	.479	.477	.000	.000	.009	.009	.017	.459	.396	1.650	.396	34.21
26	4.714	.000	4.714	.002	.550	.548	.000	.000	.009	.010	.019	.530	.458	1.650	.458	34.21
27	5.492	.000	5.492	.002	.641	.639	.000	.000	.009	.010	.019	.620	.536	1.650	.536	34.21
OCT 28	3.836	.000	3.836	.002	.450	.448	.000	.000	.008	.010	.018	.430	.371	1.650	.371	34.21
29	5.071	.000	5.071	.002	.592	.590	.000	.000	.009	.010	.018	.572	.494	1.650	.494	34.21
30	5.669	.000	5.669	.002	.665	.663	.000	.000	.008	.010	.018	.645	.557	1.650	.557	34.21
NOV 31	4.239	.000	4.239	.002	.495	.493	.000	.000	.008	.010	.018	.475	.410	1.650	.410	34.21
32	7.463	.000	7.463	.002	.871	.869	.000	.000	.008	.010	.018	.851	.735	1.650	.735	34.21
33	6.419	.000	6.419	.002	.749	.747	.000	.000	.008	.010	.018	.729	.630	1.650	.630	34.21
DEC 34	20.914	.000	20.914	.003	2.443	2.440	.115	.000	.009	.010	.134	2.306	1.992	1.650	1.992	34.21
35	6.579	.000	6.579	.002	.766	.764	.266	.000	.009	.010	.285	.481	.416	1.650	.416	34.21
36	3.026	.000	3.026	.002	.387	.385	.000	.000	.009	.010	.019	.366	.336	1.650	.336	34.21
T(MCM)	134.4	.0	.0	.1	15.7	15.6	4.4	.0	.3	.3	5.0	1.523	1.282	.701	10.7	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Su (SITE Su),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1987 Month	Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-5-4 (6)	WATER DEMAND IRR (7)	VEG (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN 1	3.769	.000	3.769	.002	.440	.438	.399	.000	.011	.010	.420	.018	.016	1.650	.016	34.21
2	3.097	.000	3.097	.002	.362	.359	.449	.000	.011	.010	.470	-.110	-.095	1.555	.000	33.88
3	2.640	.000	2.640	.002	.309	.307	.425	.000	.011	.009	.445	-.138	-.131	1.424	.000	33.35
FEB 4	2.237	.000	2.237	.002	.261	.259	.530	.000	.012	.008	.540	-.281	-.243	1.181	.000	33.43
5	1.914	.000	1.914	.002	.223	.221	.306	.000	.011	.007	.323	-.102	-.088	1.093	.000	33.00
6	1.649	.000	1.649	.002	.195	.193	.411	.000	.010	.006	.428	-.233	-.163	.939	.000	31.40
MAR 7	1.369	.000	1.369	.002	.162	.160	.374	.000	.011	.005	.390	-.230	-.199	.741	.000	30.73
8	1.103	.000	1.103	.002	.129	.128	.207	.000	.010	.004	.221	-.094	-.082	.659	.000	30.41
9	.847	.000	.847	.002	.099	.097	.033	.000	.010	.004	.046	.054	.046	.695	.000	30.59
APR 10	.636	.000	.636	.002	.074	.072	.014	.000	.010	.004	.027	.045	.039	.734	.000	30.73
11	.526	.000	.526	.001	.061	.059	.002	.000	.010	.004	.016	.043	.037	.771	.000	30.89
12	.747	.000	.747	.002	.087	.085	.000	.000	.010	.004	.015	.071	.061	.832	.000	31.11
MAY 13	.838	.000	.838	.002	.096	.094	.000	.000	.005	.008	.013	.081	.070	.903	.000	31.37
14	.509	.000	.509	.002	.059	.057	.000	.000	.009	.005	.014	.043	.037	.940	.000	31.51
15	.479	.000	.479	.002	.056	.054	.000	.000	.009	.005	.014	.040	.037	.977	.000	31.66
JUN 16	3.434	.000	3.434	.002	.401	.399	.000	.000	.007	.005	.012	.387	.334	1.311	.000	32.92
17	2.506	.000	2.506	.002	.293	.291	.063	.000	.006	.008	.078	.213	.184	1.495	.000	33.63
18	1.515	.000	1.515	.002	.177	.175	.350	.000	.008	.009	.367	-.192	-.170	1.325	.000	32.96
JUL 19	2.543	.000	2.543	.002	.299	.297	.194	.000	.007	.008	.210	.088	.076	1.404	.000	33.30
20	4.117	.000	4.117	.002	.481	.478	.000	.000	.008	.008	.016	.463	.400	1.650	.154	34.21
21	2.636	.000	2.636	.003	.308	.306	.371	.000	.008	.010	.389	-.284	-.270	1.380	.000	33.19
AUG 22	1.634	.000	1.634	.002	.191	.188	.468	.000	.006	.008	.481	-.493	-.428	.953	.000	31.37
23	3.351	.000	3.351	.002	.391	.389	.000	.000	.004	.009	.013	.376	.346	1.300	.000	33.50
24	3.802	.000	3.802	.002	.444	.442	.132	.000	.007	.007	.146	.296	.181	1.481	.000	33.37
SEP 25	3.190	.000	3.190	.002	.372	.370	.000	.000	.008	.009	.017	.353	.305	1.650	.136	34.21
26	5.636	.000	5.636	.002	.657	.655	.000	.000	.009	.010	.019	.637	.550	1.650	.550	34.21
27	3.257	.000	3.257	.002	.380	.378	.287	.000	.009	.010	.306	.073	.063	1.650	.063	34.21
OCT 28	6.077	.000	6.077	.003	.709	.707	.000	.000	.009	.010	.018	.689	.595	1.650	.595	34.21
29	3.831	.000	3.831	.003	.447	.445	.023	.000	.009	.010	.042	.403	.348	1.650	.348	34.21
30	2.816	.000	2.816	.003	.329	.327	.000	.000	.009	.010	.018	.309	.293	1.650	.293	34.21
NOV 31	10.616	.000	10.616	.002	1.239	1.237	.000	.000	.008	.010	.018	1.219	1.053	1.650	1.053	34.21
32	7.009	.000	7.009	.002	.818	.816	.000	.000	.008	.010	.018	.798	.690	1.650	.690	34.21
33	7.207	.000	7.207	.002	.841	.839	.000	.000	.008	.010	.018	.821	.710	1.650	.710	34.21
DEC 34	5.188	.000	5.188	.002	.606	.603	.000	.000	.008	.010	.019	.584	.505	1.650	.505	34.21
35	4.669	.000	4.669	.002	.545	.543	.000	.000	.008	.010	.018	.524	.453	1.650	.453	34.21
36	5.012	.000	5.012	.002	.585	.583	.150	.000	.008	.010	.168	.434	.393	1.650	.393	34.21
T(MCM)	97.8	.0	.0	.1	11.4	11.3	4.9	.0	.2	.3	5.4	1.882	1.882	.649	6.0	

Table C.3.5

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1988		Pinagsaluran RIVER						WATER DEMAND					BALANCE	RESERVOIR (UNIT:MCM)			WATER LEVEL (m)
Month		IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 5-3-4 (6)	IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	6-11 (12)	+(13) (13)	(14)	INV (15)	(16)
JAN	1	3.873	.000	3.873	.002	.339	.337	.308	.000	.011	.010	.327	.030	.026	1.450	.026	34.21
	2	2.346	.000	2.346	.002	.287	.285	.444	.000	.011	.010	.464	-.180	-.146	1.304	.000	33.63
	3	2.163	.000	2.163	.002	.253	.250	.393	.000	.010	.009	.412	-.162	-.154	1.150	.000	33.07
FEB	4	1.821	.000	1.821	.002	.213	.210	.312	.000	.011	.008	.331	-.121	-.177	1.073	.000	32.02
	5	1.350	.000	1.350	.002	.183	.180	.085	.000	.010	.004	.112	.068	.059	1.132	.000	32.24
	6	1.681	.000	1.681	.002	.196	.194	.228	.000	.011	.007	.245	-.052	-.040	1.092	.000	32.09
MAR	7	1.138	.000	1.138	.002	.144	.142	.342	.000	.012	.006	.360	-.218	-.204	.888	.000	31.31
	8	.971	.000	.971	.002	.113	.111	.207	.000	.011	.005	.223	-.111	-.098	.790	.000	30.95
	9	.717	.000	.717	.002	.084	.083	.075	.000	.010	.005	.090	-.008	-.008	.782	.000	30.92
APR	10	1.398	.000	1.398	.002	.163	.161	.000	.000	.010	.003	.013	.148	.126	.908	.000	31.40
	11	1.182	.000	1.182	.002	.139	.137	.000	.000	.011	.005	.016	.121	.104	1.013	.000	31.79
	12	.932	.000	.932	.002	.111	.109	.000	.000	.011	.006	.017	.092	.079	1.092	.000	32.09
MAY	13	1.381	.000	1.381	.002	.183	.180	.000	.000	.010	.008	.018	.164	.142	1.234	.000	32.63
	14	1.328	.000	1.328	.002	.144	.141	.000	.000	.010	.007	.017	.124	.107	1.341	.000	33.04
	15	1.158	.000	1.158	.002	.135	.133	.000	.000	.011	.008	.018	.115	.109	1.450	.000	33.45
JUN	16	.938	.000	.938	.002	.108	.106	.196	.000	.008	.008	.214	-.108	-.093	1.357	.000	33.10
	17	3.064	.000	3.064	.002	.358	.356	.000	.000	.008	.008	.016	.340	.294	1.450	.001	34.21
	18	2.580	.000	2.580	.002	.301	.298	.426	.000	.008	.010	.444	-.147	-.127	1.323	.000	33.72
JUL	19	1.443	.000	1.443	.002	.168	.166	.466	.000	.008	.008	.483	-.317	-.246	1.076	.000	32.83
	20	2.104	.000	2.104	.002	.246	.244	.000	.000	.007	.006	.013	.231	.199	1.276	.000	32.79
	21	3.939	.000	3.939	.002	.460	.458	.000	.000	.007	.007	.015	.443	.421	1.450	.047	34.21
AUG	22	3.103	.000	3.103	.002	.362	.360	.133	.000	.009	.010	.152	.208	.180	1.450	.180	34.21
	23	2.789	.000	2.789	.002	.326	.323	.129	.000	.008	.010	.147	.176	.152	1.450	.152	34.21
	24	2.458	.000	2.458	.002	.287	.285	.472	.000	.009	.010	.491	-.206	-.196	1.254	.000	33.47
SEP	25	1.559	.000	1.559	.002	.182	.180	.468	.000	.008	.008	.486	-.306	-.238	1.017	.000	31.81
	26	3.381	.000	3.381	.002	.395	.393	.000	.000	.007	.006	.013	.380	.328	1.345	.000	33.08
	27	4.270	.000	4.270	.002	.498	.496	.000	.000	.008	.008	.016	.481	.415	1.450	.110	34.21
OCT	28	5.041	.000	5.041	.002	.589	.586	.000	.000	.009	.010	.018	.568	.491	1.450	.491	34.21
	29	5.247	.000	5.247	.002	.613	.610	.000	.000	.009	.010	.018	.592	.512	1.450	.512	34.21
	30	6.401	.000	6.401	.002	.747	.745	.000	.000	.009	.010	.018	.727	.691	1.450	.691	34.21
NOV	31	17.201	.000	17.201	.002	2.008	2.006	.000	.000	.008	.010	.018	1.988	1.718	1.450	1.718	34.21
	32	8.334	.000	8.334	.002	.996	.994	.000	.000	.008	.010	.018	.976	.843	1.450	.843	34.21
	33	8.322	.000	8.322	.002	.973	.968	.000	.000	.008	.010	.018	.951	.822	1.450	.822	34.21
DEC	34	6.723	.000	6.723	.002	.785	.783	.156	.000	.009	.010	.175	.608	.525	1.450	.525	34.21
	35	4.137	.000	4.137	.002	.483	.481	.147	.000	.009	.010	.166	.314	.165	1.450	.165	34.21
	36	3.314	.000	3.314	.002	.387	.385	.217	.000	.009	.010	.236	.149	.141	1.450	.141	34.21
T(MCM)		106.1	.0	.0	.1	12.3	12.2	3.2	.0	.3	.3	5.8	2.327	2.327	.782	6.4	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1989		Pinagsaluran RIVER						WATER DEMAND					BALANCE	RESERVOIR (UNIT:MCM)			WATER LEVEL (m)
Month		IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 5-3-4 (6)	IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	6-11 (12)	+(13) (13)	(14)	INV (15)	(16)
JAN	1	2.830	.000	2.830	.002	.330	.328	.377	.000	.011	.010	.398	-.070	-.060	1.390	.000	33.88
	2	2.423	.000	2.425	.002	.283	.281	.427	.000	.011	.009	.447	-.166	-.144	1.446	.000	32.44
	3	4.204	.000	4.204	.002	.491	.489	.000	.000	.010	.009	.019	.470	.447	1.650	.243	34.21
FEB	4	4.277	.000	4.277	.002	.499	.497	.000	.000	.013	.010	.023	.475	.410	1.650	.410	34.21
	5	3.782	.000	3.782	.002	.325	.323	.439	.000	.013	.010	.481	-.159	-.137	1.513	.000	33.48
	6	3.021	.000	3.021	.002	.336	.334	.410	.000	.012	.009	.431	-.197	-.136	1.377	.000	33.17
MAR	7	1.784	.000	1.784	.002	.306	.304	.288	.000	.014	.008	.310	-.006	-.005	1.371	.000	33.13
	8	2.360	.000	2.360	.002	.449	.447	.000	.000	.014	.008	.022	.625	.540	1.650	.282	34.21
	9	7.339	.000	7.339	.002	.862	.860	.000	.000	.013	.010	.023	.836	.813	1.650	.813	34.21
APR	10	3.734	.000	3.734	.002	.436	.434	.000	.000	.013	.010	.024	.412	.356	1.650	.356	34.21
	11	2.481	.000	2.481	.002	.290	.287	.000	.000	.013	.010	.024	.263	.227	1.650	.227	34.21
	12	1.913	.000	1.913	.002	.223	.221	.000	.000	.013	.010	.024	.197	.170	1.650	.170	34.21
MAY	13	1.718	.000	1.718	.002	.201	.198	.000	.000	.012	.010	.022	.177	.153	1.650	.153	34.21
	14	1.636	.000	1.636	.002	.191	.189	.000	.000	.013	.010	.022	.167	.143	1.650	.143	34.21
	15	4.370	.000	4.370	.002	.510	.508	.000	.000	.012	.010	.022	.486	.462	1.650	.462	34.21
JUN	16	4.063	.000	4.063	.002	.474	.472	.000	.000	.009	.010	.018	.526	.455	1.650	.455	34.21
	17	7.010	.000	7.010	.002	.818	.816	.249	.000	.009	.010	.267	.549	.474	1.650	.474	34.21
	18	6.337	.000	6.337	.002	.763	.761	.027	.000	.009	.010	.045	.716	.619	1.650	.619	34.21
JUL	19	4.610	.000	4.610	.002	.538	.536	.139	.000	.008	.010	.156	.380	.328	1.650	.328	34.21
	20	2.380	.000	2.380	.002	.391	.389	.689	.000	.008	.010	.707	-.319	-.303	1.347	.000	33.08
	21	3.346	.000	3.346	.002	.376	.374	.453	.000	.008	.007	.468	-.193	-.167	1.180	.000	32.43
AUG	22	2.366	.000	2.366	.002	.363	.361	.379	.000	.007	.007	.398	-.137	-.118	1.063	.000	31.98
	23	2.251	.000	2.251	.002	.327	.325	.577	.000	.007	.007	.590	-.365	-.347	.716	.000	30.64
	24	1.948	.000	1.948	.002	.243	.241	.177	.000	.006	.004	.187	.054	.047	.761	.000	30.84
SEP	25	2.085	.000	2.085	.002	.243	.241	.353	.000	.006	.004	.363	-.106	-.081	.680	.000	30.49
	26	2.225	.000	2.225	.002	.260	.258	.000	.000	.006	.004	.010	.248	.213	.887	.000	31.23
	27	2.339	.000	2.339	.002	.264	.262	.000	.000	.007	.004	.011	.251	.287	1.174	.000	32.40
OCT	28	2.938	.000	2.938	.002	.343	.341	.000	.000	.007	.007	.014	.329	.366	1.540	.000	33.86
	29	3.960	.000	3.960	.002	.463	.460	.000	.000	.009	.007	.017	[illegible]	[illegible]	1.650	[illegible]	34.21
	30	3.787	.000	3.787	.002	.335	.333	.000	.000	.008	.010	.018	[illegible]	[illegible]	1.650	[illegible]	34.21
NOV	31	3.476	.000	3.476	.002	.406	.404	.000	.000	.008	.010	.018	[illegible]	[illegible]	1.650	[illegible]	34.21
	32	8.690	.000	8.690	.002	1.013	1.011	.000	.000	.008	.010	.018	[illegible]	[illegible]	1.650	[illegible]	34.21
	33	4.743	.000	4.743	.002	.554	.551	.171	.000	.008	.010	[illegible]	[illegible]	[illegible]	1.650	[illegible]	34.21
DEC	34	3.102	.000	3.102	.002	.362	.360	.029	.000	.008	.010	.048	[illegible]	[illegible]	1.650	[illegible]	34.21
	35	2.283	.000	2.283	.002	.267	.265	.171	.000	.009	.010	.190	.074	.064	1.650	.064	34.21
	36	1.928	.000	1.928	.002	.225	.223	.341	.000	.009	.010	.360	-.137	-.130	1.520	.000	33.71
T(MCM)		111.4	.0	.0	.1	13.0	13.0	4.8	.0	.3	.2	5.8	1.840	1.840	.470	7.6	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1990		Pinagsaluran RIVER						WATER DEMAND					BALANCE	RESERVOIR (UNIT:MCM)			WATER LEVEL (m)
Month		IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 5-3-4 (6)	IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	6-11 (12)	+(13) (13)	(14)	INV (15)	(16)
JAN	1	1.603	.000	1.603	.002	.167	.165	.394	.000	.010	.008	.413	-.228	-.197	1.323	.000	33.87
	2	1.341	.000	1.341	.002	.157	.154	.386	.000	.010	.008	.404	-.249	-.215	1.108	.000	33.13
	3	1.114	.000	1.114	.002	.130	.128	.478	.000	.009	.006	.493	-.365	-.347	.761	.000	30.84
FEB	4	.868	.000	.868	.002	.104	.101	.339	.000	.009	.004	.352	-.451	-.389	.372	.000	40.75
	5	.690	.000	.690	.002	.081	.078	.492	.000	.007	.002	.500	-.422	-.365	.007	.000	44.03
	6	.533	.000	.533	.002	.062	.060	.411	.000	.004	.000	.416	-.356	-.246	.000	.000	46.00
MAR	7	.464	.000	.464	.002	.054	.052	.364	.000	.003	.000	.369	-.317	-.274	.000	.000	46.00
	8	.453	.000	.453	.002	.053	.051	.207	.000	.003	.000	.212	-.161	-.139	.000	.000	46.00
	9	.442	.000	.442	.002	.052	.049	.075	.000	.003	.000	.080	-.030	-.029	.000	.000	46.00
APR	10	.432	.000	.432	.002	.050	.048	.013	.000	.003	.000	.016	.030	.036	.036	.000	46.19
	11	.422	.000	.422	.002	.049	.047	.003	.000	.003	.000	.007	.040	.035	.081	.000	46.43
	12	.537	.000	.537	.002	.063	.061	.000	.000	.003	.000	.006	.055	.047	.108	.000	46.80
MAY	13	.533	.000	.533	.002	.061	.059	.000	.000	.003	.001	.005	.054	.046	.155	.000	47.15
	14	3.950	.000	3.950	.002	.495	.493	.000	.000	.003	.001	.006	.487	.593	.748	.000	50.79
	15	4.088	.000	4.094	.002	.478	.476	.000	.000	.008	.004	.012	.464	.441	1.189	.000	53.46
JUN	16	4.430	.000	4.430	.002	.516	.514	.047	.000	.007	.007	.061	.433	.374	1.563	.000	53.88
	17	2.756	.000	2.756	.002	.322	.320	.499	.000	.008	.009	.516	-.197	-.170	1.393	.000	53.33
	18	1.763	.000	1.763	.002	.206	.204	.514	.000	.008	.008	.530	-.327	-.283	1.111	.000	52.16
JUL	19	1.481	.000	1.481	.002	.173	.171	.420	.000	.007	.006	.433	-.263	-.227	.884	.000	51.30
	20	1.340	.000	1.340	.002	.156	.154	.463	.000	.006	.005	.473	-.519	-.448	.435	.000	49.35
	21	1.113	.000	1.113	.002	.130	.128	.493	.000	.005	.003	.500	-.372	-.334	.083	.000	46.61
AUG	22	1.083	.000	1.083	.002	.126	.124	.394	.000	.003	.000	.397	-.173	-.150	.000	.000	46.00
	23	2.912	.000	2.912	.002	.340	.338	.000	.000	.003	.000	.003	.335	.288	.288	.000	48.14
	24	1.418	.000	1.418	.002	.166	.163	.667	.000	.004	.002	.673	-.510	-.484	.000	.000	46.00
SEP	25	1.845	.000	1.845	.002	.315	.313	.167	.000	.003	.000	.170	.044	.038	.038	.000	46.28
	26	1.029	.000	1.029	.002	.120	.118	.300	.000	.003	.000	.303	-.185	-.160	.000	.000	46.00
	27	2.130	.000	2.130	.002	.249	.246	.000	.000	.003	.000	.003	.243	.210	.210	.000	47.34
OCT	28	4.658	.000	4.636	.002	.365	.363	.000	.000	.004	.001	.005	.358	.483	.692	.000	50.38
	29	5.745	.000	5.745	.002	.671	.669	.000	.000	.006	.004	.010	.659	.569	1.262	.000	52.74
	30	3.431	.000	3.431	.002	.438	.434	.000	.000	.007	.007	.015	.419	.389	1.650	.200	34.21
NOV	31	7.318	.000	7.318	.002	.878	.876	.000	.000	.008	.010	.018	.858	.741	1.650	.741	34.21
	32	8.573	.000	8.573	.002	1.001	.999	.000	.000	.008	.010	.018	.981	.847	1.650	.847	34.21
	33	5.915	.000	5.915	.002	.691	.688	.020	.000	.008	.010	.038	.651	.563	1.650	.563	34.21
DEC	34	4.379	.000	4.379	.002	.511	.509	.000	.000	.009	.010	.019	.490	.423	1.650	.423	34.21
	35	2.964	.000	2.964	.002	.346	.344	.266	.000	.009	.010	.285	.059	.051	1.650	.051	34.21
	36	3.459	.000	3.459	.002	.387	.385	.281	.000	.009	.010	.300	-.016	-.015	1.635	.000	34.18
T(MCM)		79.6	.0	.0	.1	9.3	9.2	7.0	.0	.3	.1	7.4	4.490	4.490	.000	2.8	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:IAII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1991		Pinagsaluran RIVER						WATER DEMAND					BALANCE	RESERVOIR (UNIT:MCM)			WATER LEVEL (m)
Month		IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 5-3-4 (6)	IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	6-11 (12)	+(13) (13)	(14)	INV (15)	(16)
JAN	1	2.067	.000	2.067	.002	.241	.239	.344	.000	.011	.008	.363	-.124	-.109	1.337	.000	33.74
	2	1.773	.000	1.773	.002	.207	.205	.375	.000	.011	.009	.395	-.190	-.164	1.363	.000	33.12
	3	1.470	.000	1.470	.002	.172	.169	.473	.000	.010	.008	.490	-.321	-.305	1.038	.000	31.96
FEB	4	1.315	.000	1.315	.002	.154	.151	.139	.000	.010	.004	.145	.006	.005	1.063	.000	31.86
	5	1.263	.000	1.263	.002	.147	.142	.492	.000	.010	.006	.508	-.363	-.313	.749	.000	30.79
	6	.905	.000	.905	.002	.106	.104	.411	.000	.009	.004	.424	-.321	-.233	.518	.000	49.91
MAR	7	.703	.000	.703	.002	.082	.080	.346	.000	.009	.003	.357	-.276	-.240	.288	.000	48.15
	8	.542	.000	.542	.002	.063	.061	.080	.000	.007	.002	.088	-.037	-.032	.256	.000	47.89
	9	.404	.000	.404	.002	.047	.045	.075	.000	.007	.001	.083	-.038	-.036	.219	.000	47.83
APR	10	.382	.000	.382	.002	.045	.042	.012	.000	.006	.001	.019	.023	.020	.239	.000	47.77
	11	.372	.000	.372	.002	.043	.041	.000	.000	.007	.001	.008	.033	.029	.268	.000	47.98
	12	.364	.000	.364	.002	.042	.040	.000	.000	.007	.002	.008	.032	.028	.295	.000	48.19
MAY	13	.355	.000	.355	.002	.041	.039	.000	.000	.006	.001	.007	.032	.028	.323	.000	48.39
	14	.943	.000	.943	.002	.110	.108	.000	.000	.006	.002	.008	.100	.087	.410	.000	49.03
	15	.491	.000	.491	.002	.057	.055	.000	.000	.006	.003	.009	.046	.044	.454	.000	49.36
JUN	16	7.629	.000	7.629	.002	.891	.888	.000	.000	.005	.002	.007	.881	.761	1.215	.000	52.30
	17	3.731	.000	3.731	.002	.436	.433	.290	.000	.007	.007	.303	.129	.111	1.326	.000	52.98
	18	1.813	.000	1.813	.002	.212	.209	.570	.000	.008	.006	.583	-.374	-.325	1.001	.000	51.73
JUL	19	1.734	.000	1.734	.002	.205	.203	.412	.000	.006	.006	.424	-.221	-.191	.811	.000	51.02
	20	2.346	.000	2.346	.002	.297	.295	.000	.000	.006	.005	.011	.284	.246	1.057	.000	51.98
	21	2.303	.000	2.303	.002	.269	.267	.094	.000	.007	.006	.106	.160	.152	1.209	.000	52.54
AUG	22	2.380	.000	2.380	.002	.278	.276	.000	.000	.007	.007	.014	.261	.226	1.435	.000	53.39
	23	2.901	.000	2.901	.002	.339	.337	.315	.000	.008	.008	.332	-.195	-.169	1.266	.000	52.73
	24	2.137	.000	2.137	.002	.249	.247	.231	.000	.007	.007	.248	.001	.001	1.267	.000	52.76
SEP	25	2.277	.000	2.277	.002	.266	.264	.000	.000	.008	.007	.015	.249	.215	1.483	.000	53.57
	26	4.049	.000	4.049	.002	.473	.471	.212	.000	.008	.009	.230	.240	.208	1.650	.040	34.21
	27	1.916	.000	1.916	.002	.224	.222	.304	.000	.009	.010	.323	-.101	-.088	1.562	.000	33.88
OCT	28	3.205	.000	3.205	.002	.374	.372	.000	.000	.008	.009	.017	.355	.308	1.650	.219	34.21
	29	4.839	.000	4.839	.002	.565	.563	.000	.000	.009	.010	.018	.543	.470	1.650	.470	34.21
	30	7.830	.000	7.830	.002	.891	.889	.000	.000	.009	.010	.018	.870	.827	1.650	.827	34.21
NOV	31	4.024	.000	4.024	.002	.470	.468	.000	.000	.008	.010	.018	.450	.388	1.650	.388	34.21
	32	2.693	.000	2.693	.002	.314	.312	.004	.000	.008	.010	.022	.290	.250	1.650	.250	34.21
	33	3.264	.000	3.264	.002	.381	.379	.000	.000	.008	.010	.018	.361	.312	1.650	.312	34.21
DEC	34	2.485	.000	2.485	.002	.290	.288	.189	.000	.009	.010	.208	.080	.069	1.650	.069	34.21
	35	1.742	.000	1.742	.002	.204	.202	.266	.000	.009	.010	.285	-.083	-.072	1.578	.000	33.94
	36	1.344	.000	1.344	.002	.181	.178	.037	.000	.009	.009	.055	.123	.117	1.650	.049	34.21
T(MCM)		70.2	.0	.0	.1	8.2	8.1	3.1	.0	.3	.1	3.5	2.304	2.304	.319	2.8	

Table C.3.5

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:1AII JUN1
BASIN AREA : 14.5 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1992 Month		Pinagsaluran IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AVR 3-3-4 (6)	WATER DEMAND IRR (7)	VTR (8)	EVP (9)	SPAGE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR -(12) (13)	(UNIT:MCM) (14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	1.413	.000	1.413	.002	.165	.163	.390	.000	.011	.010	.420	-.257	-.222	1.428	.000	52.37
	2	1.066	.000	1.066	.002	.124	.122	.392	.000	.010	.008	.410	-.288	-.249	1.180	.000	52.42
	3	.852	.000	.852	.002	.099	.097	.480	.000	.009	.007	.496	-.399	-.379	.801	.000	50.99
FEB	4	.647	.000	.647	.002	.078	.073	.527	.000	.009	.005	.540	-.467	-.403	.397	.000	48.94
	5	.473	.000	.473	.002	.055	.053	.492	.000	.007	.002	.501	-.447	-.387	.011	.000	46.06
	6	.353	.000	.353	.002	.041	.039	.368	.000	.004	.000	.370	-.331	-.257	.000	.000	46.00
MAR	7	.340	.000	.340	.002	.040	.037	.337	.000	.003	.000	.362	-.325	-.281	.000	.000	46.00
	8	.332	.000	.332	.002	.039	.037	.165	.000	.003	.000	.168	-.131	-.114	.000	.000	46.00
	9	.324	.000	.324	.002	.036	.036	.069	.000	.003	.000	.073	-.037	-.033	.000	.000	46.00
APR	10	.317	.000	.317	.002	.037	.035	.014	.000	.005	.000	.019	.016	.014	.014	.000	46.10
	11	.308	.000	.309	.002	.036	.034	.000	.000	.005	.000	.005	.029	.035	.039	.000	46.30
	12	.379	.000	.379	.002	.044	.042	.000	.000	.005	.000	.005	.037	.032	.071	.000	46.52
MAY	13	.293	.000	.293	.002	.034	.032	.000	.000	.004	.000	.003	.027	.024	.094	.000	46.70
	14	.383	.000	.383	.002	.045	.042	.000	.000	.005	.001	.005	.037	.032	.127	.000	46.94
	15	.261	.000	.261	.002	.033	.031	.000	.000	.005	.001	.005	.025	.024	.151	.000	47.13
JUN	16	.290	.000	.290	.002	.034	.032	.166	.000	.004	.001	.170	-.138	-.120	.031	.000	46.33
	17	.273	.000	.273	.002	.032	.030	.437	.000	.003	.000	.440	-.411	-.355	.000	.000	46.00
	18	3.652	.000	3.652	.002	.426	.424	.027	.000	.003	.000	.030	.394	.341	.341	.000	48.31
JUL	19	2.606	.000	2.606	.002	.304	.302	.441	.000	.004	.002	.447	-.143	-.133	.215	.000	47.39
	20	3.338	.000	3.338	.002	.361	.359	.000	.000	.004	.001	.005	.354	.220	.433	.000	49.33
	21	4.184	.000	4.184	.002	.488	.486	.000	.000	.005	.002	.007	.479	.455	.880	.000	51.33
AUG	22	3.124	.000	3.124	.002	.365	.363	.144	.000	.006	.005	.156	.207	.179	1.089	.000	52.01
	23	3.544	.000	3.544	.002	.414	.412	.224	.000	.007	.006	.237	.175	.151	1.220	.000	52.36
	24	2.168	.000	2.168	.002	.253	.253	.604	.000	.007	.007	.621	-.367	-.349	.871	.000	51.28
SEP	25	2.315	.000	2.313	.002	.294	.291	.000	.000	.006	.005	.011	.280	.242	1.113	.000	52.17
	26	6.677	.000	6.677	.002	.780	.777	.000	.000	.007	.006	.014	.764	.660	1.650	.133	54.21
	27	4.665	.000	4.665	.002	.845	.843	.077	.000	.009	.010	.096	.447	.386	1.650	.386	54.21
OCT	28	3.624	.000	3.624	.002	.423	.421	.000	.000	.009	.010	.018	.403	.348	1.650	.348	54.21
	29	3.887	.000	3.887	.002	.454	.452	.000	.000	.009	.010	.018	.433	.374	1.650	.374	54.21
	30	4.160	.000	4.160	.002	.486	.483	.000	.000	.009	.010	.018	.463	.442	1.650	.442	54.21
NOV	31	11.406	.000	11.406	.002	1.332	1.330	.000	.000	.008	.010	.018	1.311	1.133	1.650	1.133	54.21
	32	12.387	.000	12.387	.002	1.446	1.444	.000	.000	.008	.010	.018	1.428	1.232	1.650	1.232	54.21
	33	7.664	.000	7.664	.002	.895	.893	.000	.000	.008	.010	.018	.875	.756	1.650	.756	54.21
DEC	34	4.610	.000	4.610	.002	.538	.536	.144	.000	.009	.010	.162	.373	.322	1.650	.322	54.21
	35	3.673	.000	3.673	.002	.429	.427	.006	.000	.009	.010	.025	.402	.347	1.650	.347	54.21
	36	2.967	.000	2.967	.002	.346	.344	.240	.000	.009	.010	.259	.085	.081	1.650	.081	54.21
T(MCM)		86.0	.0	.0	.1	10.0	10.0	5.1	.0	.2	.1	5.4	3.278	3.273	.000	5.5	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :Eu (SITE Eu),CROPPING PATTERN:1AII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1993 Month		Pinagsaluran IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AVR 3-3-4 (6)	WATER DEMAND IRR (7)	VTR (8)	EVP (9)	SPAGE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR -(12) (13)	(UNIT:MCM) (14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	2.321	.000	2.321	.002	.294	.292	.391	.000	.011	.010	.411	-.119	-.103	1.547	.000	53.43
	2	2.152	.000	2.152	.002	.251	.249	.327	.000	.011	.009	.357	-.106	-.093	1.454	.000	53.46
	3	1.813	.000	1.813	.002	.212	.209	.458	.000	.010	.008	.476	-.267	-.254	1.200	.000	53.30
FEB	4	1.500	.000	1.500	.002	.175	.172	.531	.000	.011	.007	.549	-.376	-.324	.876	.000	51.27
	5	1.222	.000	1.222	.002	.143	.141	.489	.000	.009	.005	.503	-.363	-.313	.563	.000	50.09
	6	.998	.000	.998	.002	.117	.114	.411	.000	.008	.003	.421	-.308	-.213	.350	.000	48.39
MAR	7	.807	.000	.807	.002	.094	.092	.303	.000	.008	.003	.313	-.221	-.191	.159	.000	47.18
	8	.588	.000	.588	.002	.069	.066	.207	.000	.006	.001	.214	-.147	-.127	.032	.000	46.33
	9	.694	.000	.694	.002	.081	.079	.000	.000	.005	.000	.005	.073	.070	.101	.000	46.73
APR	10	.388	.000	.388	.002	.069	.066	.014	.000	.006	.001	.020	.046	.040	.142	.000	47.05
	11	.365	.000	.365	.002	.043	.040	.000	.000	.006	.001	.007	.034	.029	.171	.000	47.36
	12	.356	.000	.356	.002	.042	.039	.000	.000	.006	.001	.007	.032	.028	.199	.000	47.47
MAY	13	1.237	.000	1.237	.002	.144	.142	.000	.000	.005	.001	.006	.136	.117	.316	.000	48.34
	14	.488	.000	.488	.002	.057	.055	.000	.000	.006	.002	.008	.047	.041	.357	.000	48.64
	15	.700	.000	.700	.002	.082	.080	.000	.000	.006	.002	.008	.071	.068	.425	.000	49.13
JUN	16	1.801	.000	1.801	.002	.210	.208	.178	.000	.005	.002	.184	.025	.021	.446	.000	49.30
	17	3.263	.000	3.262	.002	.381	.379	.180	.000	.005	.003	.187	.191	.165	.611	.000	50.37
	18	2.178	.000	2.176	.002	.254	.252	.491	.000	.005	.004	.500	-.248	-.214	.397	.000	48.94
JUL	19	4.492	.000	4.492	.002	.524	.522	.000	.000	.004	.002	.007	.516	.445	.843	.000	51.12
	20	4.081	.000	4.081	.002	.476	.474	.653	.000	.006	.005	.664	-.190	-.164	.678	.000	50.32
	21	8.357	.000	8.357	.002	.976	.974	.000	.000	.005	.004	.009	.964	.918	1.596	.000	54.00
AUG	22	8.560	.000	8.560	.002	.999	.997	.134	.000	.008	.009	.151	.845	.730	1.650	.675	54.21
	23	5.196	.000	5.196	.002	.607	.604	.000	.000	.008	.010	.018	.588	.508	1.650	.508	54.21
	24	4.733	.000	4.733	.002	.553	.551	.000	.000	.009	.010	.018	.533	.504	1.650	.506	54.21
SEP	25	7.797	.000	7.797	.002	.877	.875	.262	.000	.009	.010	.300	.374	.324	1.650	.324	54.21
	26	5.314	.000	5.314	.002	.620	.618	.000	.000	.008	.010	.018	.600	.518	1.650	.518	54.21
	27	10.599	.000	10.599	.002	1.237	1.235	.000	.000	.008	.010	.018	1.317	1.031	1.650	1.031	54.21
OCT	28	3.756	.000	3.756	.002	.439	.436	.000	.000	.009	.010	.018	.418	.361	1.650	.361	54.21
	29	6.135	.000	6.135	.002	.715	.713	.000	.000	.009	.010	.018	.695	.600	1.650	.600	54.21
	30	4.133	.000	4.133	.002	.482	.480	.000	.000	.008	.010	.018	.462	.439	1.650	.439	54.21
NOV	31	3.317	.000	3.317	.002	.387	.385	.000	.000	.008	.010	.018	.367	.317	1.650	.317	54.21
	32	4.019	.000	4.019	.002	.489	.487	.000	.000	.008	.010	.018	.449	.388	1.650	.388	54.21
	33	6.814	.000	6.814	.002	.796	.793	.000	.000	.008	.010	.018	.775	.670	1.650	.670	54.21
DEC	34	4.317	.000	4.317	.002	.504	.502	.000	.000	.009	.010	.019	.483	.417	1.650	.417	54.21
	35	11.464	.000	11.464	.002	1.339	1.337	.000	.000	.009	.010	.019	1.318	1.313	1.650	1.313	54.21
	36	2.888	.000	2.888	.002	.347	.345	.088	.000	.009	.010	.107	.438	.418	1.650	.418	54.21
T(MCM)		113.9	.0	.0	.1	13.4	13.4	4.4	.0	.2	.2	4.9	1.997	1.997	.032	5.8	

Summary

***** WATER BALANCE OF SOUTHERN PALAWAN *****
<< SUMMARY >>

CASE :Eu (SITE Eu),CROPPING PATTERN:1AII JUN1
BASIN AREA : 14.3 SQ.KM EFFECTIVE STORAGE VOLUME : 1.650 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 38.7 ha
CORN : 116.1 ha BEANS DRY: 193.5 ha VEGETABLE2: 38.7 ha
VEGETABLE3: 72.0 ha VEGETABLE4: 72.0 ha BEANS DRY: 72.0 ha
BEANS WET: 72.0 ha

ALL UNIT:MCM

YEAR	Pinagsaluran IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AVR 3-3-4 (6)	WATER DEMAND IRR (7)	VTR (8)	EVP (9)	SPAG (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR -(12) (13)	(14)	INV (15)	
1977	97.9	.0	.0	.1	11.4	11.4	3.9	.0	.3	.3	4.4	1.3	1.481	.624	7.1	0
1978	130.0	.0	.0	.1	16.2	16.1	4.9	.0	.3	.2	5.2	2.1	2.149	.000	13.2	3
1979	130.3	.0	.0	.1	14.0	14.0	4.8	.0	.3	.3	3.5	1.0	.985	.947	5.6	0
1980	137.5	.0	.0	.1	16.1	16.0	3.8	.0	.3	.3	3.3	1.2	1.169	.639	13.6	0
1981	118.3	.0	.0	.1	13.8	13.6	4.3	.0	.3	.3	4.9	1.3	1.256	.693	6.9	0
1982	97.9	.0	.0	.1	11.4	11.4	4.1	.0	.3	.2	4.6	1.6	1.542	.637	6.2	0
1983	130.5	.0	.0	.1	14.6	14.7	4.5	.0	.2	.3	4.9	2.1	2.118	.000	5.9	0
1984	119.0	.0	.0	.1	13.9	13.8	3.8	.0	.3	.2	4.6	.7	.636	1.384	9.3	0
1985	120.1	.0	.0	.1	14.0	14.0	3.4	.0	.2	.2	5.8	2.8	2.753	.036	8.2	0
1986	134.4	.0	.0	.1	15.7	15.6	4.4	.0	.2	.2	5.8	1.3	1.335	.701	10.7	0
1987	97.8	.0	.0	.1	11.4	11.3	4.9	.0	.2	.2	5.4	1.9	1.863	.649	6.8	0
1988	108.1	.0	.0	.1	13.3	13.3	5.1	.0	.3	.3	5.8	3.3	3.237	.762	4.4	0
1989	111.8	.0	.0	.1	13.0	13.0	4.9	.0	.3	.3	3.5	1.8	1.640	.670	7.6	0
1990	78.8	.0	.0	.1	9.3	9.2	7.0	.0	.2	.1	7.4	4.3	4.490	.000	2.8	3
1991	70.3	.0	.0	.1	8.3	8.2	5.1	.0	.3	.2	5.5	3.3	3.364	.319	2.6	0
1992	86.0	.0	.0	.1	10.0	10.0	5.1	.0	.2	.1	5.4	3.3	3.273	.000	3.3	3
1993	115.0	.0	.0	.1	13.4	13.4	4.4	.0	.2	.2	4.9	2.0	1.997	.032	8.5	0

Table C.3.6 Reservoir Operation

(Site : EuM)

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:I&II JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1977 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 2-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) *(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	3.639	.000	3.639	.002	.296	.294	.064	.000	.003	.001	.067	.227	.196	.193	.196	45.00
	2	2.327	.000	2.327	.002	.339	.337	.110	.000	.003	.001	.114	.143	.123	.193	.123	45.00
	3	2.884	.000	2.884	.002	.321	.318	.000	.000	.003	.001	.004	.315	.300	.193	.300	45.00
FEB	4	2.067	.000	2.067	.002	.330	.328	.123	.000	.003	.001	.127	.101	.088	.193	.088	45.00
	5	1.641	.000	1.641	.002	.163	.161	.124	.000	.003	.001	.128	.032	.045	.193	.045	45.00
	6	1.384	.000	1.384	.002	.154	.152	.117	.000	.003	.001	.121	.031	.021	.193	.031	45.00
MAR	7	1.138	.000	1.138	.002	.126	.124	.127	.000	.004	.001	.131	-.008	-.007	.186	.000	44.88
	8	.880	.000	.880	.002	.098	.096	.075	.000	.004	.001	.080	.016	.014	.193	.007	45.00
	9	.681	.000	.681	.002	.076	.074	.041	.000	.004	.001	.046	.028	.037	.193	.037	45.00
APR	10	.327	.000	.327	.002	.059	.057	.009	.000	.004	.001	.013	.043	.037	.193	.037	45.00
	11	.312	.000	.312	.002	.037	.035	.004	.000	.004	.001	.009	.044	.040	.193	.040	45.00
	12	.300	.000	.300	.002	.056	.054	.002	.000	.004	.001	.007	.047	.041	.193	.041	45.00
MAY	13	.899	.000	.899	.002	.100	.098	.000	.000	.003	.001	.004	.094	.081	.193	.081	45.00
	14	2.177	.000	2.177	.002	.242	.240	.000	.000	.003	.001	.004	.236	.204	.193	.204	45.00
	15	1.818	.000	1.818	.002	.202	.200	.000	.000	.003	.001	.004	.196	.168	.193	.168	45.00
JUN	16	1.101	.000	1.101	.002	.123	.121	.000	.000	.002	.001	.003	.117	.101	.193	.101	45.00
	17	1.543	.000	1.543	.002	.172	.170	.000	.000	.002	.001	.003	.167	.144	.193	.144	45.00
	18	3.342	.000	3.342	.002	.372	.370	.000	.000	.002	.001	.003	.367	.317	.193	.317	45.00
JUL	19	4.218	.000	4.218	.002	.470	.467	.000	.000	.002	.001	.003	.464	.401	.193	.401	45.00
	20	3.806	.000	3.806	.002	.424	.422	.000	.000	.002	.001	.003	.419	.362	.193	.362	45.00
	21	4.703	.000	4.703	.002	.524	.522	.437	.000	.002	.001	.440	.082	.078	.193	.078	45.00
AUG	22	3.028	.000	3.028	.002	.337	.335	.392	.000	.002	.001	.395	.040	.034	.193	.034	45.00
	23	3.427	.000	3.427	.002	.382	.380	.016	.000	.002	.001	.018	.360	.311	.193	.311	45.00
	24	5.282	.000	5.282	.002	.588	.586	.000	.000	.002	.001	.003	.583	.504	.193	.504	45.00
SEP	25	10.008	.000	10.008	.002	1.114	1.112	.000	.000	.002	.001	.003	1.109	.958	.193	.958	45.00
	26	7.840	.000	7.840	.002	.873	.871	.336	.000	.002	.001	.339	.532	.459	.193	.459	45.00
	27	7.310	.000	7.310	.002	.814	.812	.000	.000	.002	.001	.003	.809	.699	.193	.699	45.00
OCT	28	4.963	.000	4.963	.002	.553	.551	.444	.000	.002	.001	.447	.104	.090	.193	.090	45.00
	29	4.469	.000	4.469	.002	.498	.496	.270	.000	.002	.001	.273	.223	.193	.193	.193	45.00
	30	4.435	.000	4.435	.002	.493	.491	.050	.000	.002	.001	.053	.438	.378	.193	.378	45.00
NOV	31	4.169	.000	4.169	.002	.464	.462	.000	.000	.002	.001	.003	.459	.397	.193	.397	45.00
	32	4.456	.000	4.456	.002	.496	.494	.000	.000	.002	.001	.003	.491	.424	.193	.424	45.00
	33	3.794	.000	3.794	.002	.423	.421	.004	.000	.002	.001	.007	.413	.357	.193	.357	45.00
DEC	34	3.129	.000	3.129	.002	.348	.346	.030	.000	.002	.001	.033	.313	.271	.193	.271	45.00
	35	2.761	.000	2.761	.002	.307	.305	.004	.000	.002	.001	.006	.298	.257	.193	.257	45.00
	36	2.104	.000	2.104	.002	.234	.232	.097	.000	.002	.001	.101	.132	.114	.193	.114	45.00
T(MCM)		98.4	.0	.0	.1	11.0	10.9	3.4	.0	.1	.0	3.8	.007	.007	.188	9.4	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:I&II JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1979 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 2-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) *(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	4.497	.000	4.497	.002	.501	.499	.111	.000	.003	.001	.115	.384	.331	.193	.331	45.00
	2	3.814	.000	3.814	.002	.425	.423	.116	.000	.003	.001	.120	.303	.262	.193	.262	45.00
	3	3.363	.000	3.363	.002	.364	.362	.105	.000	.003	.001	.109	.252	.240	.193	.240	45.00
FEB	4	2.787	.000	2.787	.002	.310	.308	.103	.000	.003	.001	.107	.201	.174	.193	.174	45.00
	5	2.433	.000	2.433	.002	.271	.269	.104	.000	.003	.001	.108	.161	.139	.193	.139	45.00
	6	2.107	.000	2.107	.002	.235	.233	.117	.000	.003	.001	.121	.111	.077	.193	.077	45.00
MAR	7	1.787	.000	1.787	.002	.199	.197	.127	.000	.004	.001	.132	.065	.056	.193	.056	45.00
	8	1.458	.000	1.458	.002	.162	.160	.087	.000	.004	.001	.092	.068	.059	.193	.059	45.00
	9	1.157	.000	1.157	.002	.129	.127	.047	.000	.004	.001	.051	.076	.072	.193	.072	45.00
APR	10	.880	.000	.880	.002	.089	.087	.017	.000	.004	.001	.022	.072	.068	.193	.068	45.00
	11	1.338	.000	1.338	.002	.149	.147	.000	.000	.004	.001	.005	.142	.123	.193	.123	45.00
	12	.931	.000	.931	.002	.104	.102	.000	.000	.004	.001	.005	.097	.084	.193	.084	45.00
MAY	13	.642	.000	.642	.002	.071	.069	.000	.000	.003	.001	.004	.065	.056	.193	.056	45.00
	14	2.812	.000	2.812	.002	.313	.311	.000	.000	.003	.001	.004	.307	.265	.193	.265	45.00
	15	3.667	.000	3.667	.002	.408	.406	.000	.000	.003	.001	.004	.402	.347	.193	.347	45.00
JUN	16	3.030	.000	3.030	.002	.336	.334	.000	.000	.002	.001	.003	.331	.286	.193	.286	45.00
	17	2.861	.000	2.861	.002	.319	.317	.000	.000	.002	.001	.003	.313	.271	.193	.271	45.00
	18	4.226	.000	4.226	.002	.471	.469	.000	.000	.002	.001	.003	.465	.402	.193	.402	45.00
JUL	19	4.159	.000	4.159	.002	.463	.461	.000	.000	.002	.001	.003	.458	.396	.193	.396	45.00
	20	6.308	.000	6.308	.002	.702	.700	.000	.000	.002	.001	.003	.697	.602	.193	.602	45.00
	21	5.963	.000	5.963	.002	.664	.662	.000	.000	.002	.001	.003	.659	.569	.193	.569	45.00
AUG	22	6.677	.000	6.677	.002	.744	.742	.313	.000	.002	.001	.316	.426	.368	.193	.368	45.00
	23	4.586	.000	4.586	.002	.511	.509	.478	.000	.002	.001	.480	.029	.025	.193	.025	45.00
	24	2.834	.000	2.834	.002	.316	.314	.314	.000	.002	.001	.317	-.201	-.191	.004	.000	41.04
SEP	25	2.938	.000	2.938	.002	.327	.325	.066	.000	.001	.000	.067	.234	.206	.193	.015	43.00
	26	3.383	.000	3.383	.002	.377	.375	.219	.000	.002	.001	.222	.152	.131	.193	.131	45.00
	27	3.736	.000	3.736	.002	.416	.414	.000	.000	.002	.001	.003	.411	.355	.193	.355	45.00
OCT	28	8.775	.000	8.775	.002	.977	.975	.000	.000	.002	.001	.003	.972	.840	.193	.840	45.00
	29	11.397	.000	11.397	.002	1.269	1.267	.000	.000	.002	.001	.003	1.264	1.092	.193	1.092	45.00
	30	6.261	.000	6.261	.002	.697	.695	.351	.000	.002	.001	.354	.341	.294	.193	.294	45.00
NOV	31	5.099	.000	5.099	.002	.568	.566	.036	.000	.002	.001	.038	.527	.435	.193	.435	45.00
	32	6.446	.000	6.446	.002	.718	.716	.000	.000	.002	.001	.003	.713	.616	.193	.616	45.00
	33	4.658	.000	4.658	.002	.519	.517	.000	.000	.002	.001	.003	.514	.444	.193	.444	45.00
DEC	34	4.976	.000	4.976	.002	.554	.552	.018	.000	.002	.001	.021	.531	.459	.193	.459	45.00
	35	3.182	.000	3.182	.002	.354	.352	.037	.000	.002	.001	.040	.312	.269	.193	.269	45.00
	36	2.693	.000	2.693	.002	.300	.298	.039	.000	.002	.001	.043	.258	.243	.193	.243	45.00
T(MCM)		130.9	.0	.0	.1	13.8	13.4	2.7	.0	.1	.0	3.0	.191	.191	.004	10.6	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:I&II JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1978 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 2-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) *(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	1.738	.000	1.738	.002	.196	.194	.111	.000	.003	.001	.114	.079	.069	.193	.069	45.00
	2	1.483	.000	1.483	.002	.165	.163	.108	.000	.003	.001	.111	.052	.045	.193	.045	45.00
	3	1.223	.000	1.223	.002	.136	.134	.112	.000	.003	.001	.116	.018	.015	.193	.015	45.00
FEB	4	.983	.000	.983	.002	.109	.107	.126	.000	.003	.001	.130	-.023	-.020	.173	.000	44.35
	5	.773	.000	.773	.002	.086	.084	.124	.000	.003	.001	.128	-.044	-.038	.136	.000	43.83
	6	.609	.000	.609	.002	.068	.066	.117	.000	.003	.001	.121	-.055	-.048	.100	.000	43.04
MAR	7	.488	.000	.488	.002	.054	.052	.127	.000	.003	.001	.131	-.078	-.067	.032	.000	41.44
	8	.471	.000	.471	.002	.053	.051	.080	.000	.004	.001	.085	-.034	-.027	.005	.000	41.10
	9	.409	.000	.409	.002	.045	.043	.043	.000	.004	.001	.048	-.005	-.004	.001	.000	41.10
APR	10	.448	.000	.448	.002	.050	.048	.013	.000	.004	.001	.018	.032	.028	.028	.000	41.74
	11	.436	.000	.436	.002	.049	.047	.008	.000	.004	.001	.013	.034	.029	.058	.000	42.42
	12	2.014	.000	2.014	.002	.224	.222	.000	.000	.004	.001	.004	.220	.190	.193	.055	45.00
MAY	13	.833	.000	.833	.002	.092	.090	.000	.000	.003	.001	.004	.086	.074	.193	.074	45.00
	14	6.731	.000	6.731	.002	.750	.748	.000	.000	.003	.001	.004	.744	.643	.193	.643	45.00
	15	10.131	.000	10.131	.002	1.128	1.126	.000	.000	.003	.001	.004	1.122	.969	.193	.969	45.00
JUN	16	3.338	.000	3.338	.002	.372	.370	.000	.000	.002	.001	.003	.367	.317	.193	.317	45.00
	17	4.168	.000	4.168	.002	.464	.462	.000	.000	.002	.001	.003	.459	.397	.193	.397	45.00
	18	7.439	.000	7.439	.002	.831	.829	.000	.000	.002	.001	.003	.825	.713	.193	.713	45.00
JUL	19	7.933	.000	7.933	.002	.883	.881	.000	.000	.002	.001	.003	.878	.758	.193	.758	45.00
	20	4.747	.000	4.747	.002	.529	.527	.076	.000	.002	.001	.079	.448	.387	.193	.387	45.00
	21	4.337	.000	4.337	.002	.483	.481	.146	.000	.002	.001	.149	.332	.287	.193	.287	45.00
AUG	22	7.018	.000	7.018	.002	.782	.780	.036	.000	.002	.001	.039	.741	.640	.193	.640	45.00
	23	6.653	.000	6.653	.002	.741	.739	.498	.000	.002	.001	.501	.238	.206	.193	.206	45.00
	24	5.816	.000	5.816	.002	.648	.646	.000	.000	.002	.001	.003	.643	.555	.193	.555	45.00
SEP	25	3.913	.000	3.913	.002	.436	.434	.391	.000	.002	.001	.394	.040	.035	.193	.035	45.00
	26	3.006	.000	3.006	.002	.335	.333	.117	.000	.002	.001	.120	.213	.184	.193	.184	45.00
	27	4.966	.000	4.966	.002	.553	.551	.000	.000	.002	.001	.003	.548	.473	.193	.473	45.00
OCT	28	8.974	.000	8.974	.002	1.000	.998	.000	.000	.002	.001	.003	.995	.859	.193	.859	45.00
	29	6.734	.000	6.734	.002	.732	.730	.447	.000	.002	.001	.450	.280	.242	.193	.242	45.00
	30	4.513	.000	4.513	.002	.503	.501	.000	.000	.002	.001	.003	.498	.430	.193	.430	45.00
NOV	31	8.919	.000	8.919	.002	.993	.991	.000	.000	.002	.001	.003	.988	.854	.193	.854	45.00
	32	13.408	.000	13.408	.002	1.493	1.491	.000	.000	.002	.001	.003	1.488	1.286	.193	1.286	45.00
	33	12.501	.000	12.501	.002	1.392	1.390	.000	.000	.002	.001	.003	1.387	1.198	.193	1.198	45.00
DEC	34	8.798	.000	8.798	.002	.980	.978	.024	.000	.002	.001	.028	.950	.821	.193	.821	45.00
	35	9.238	.000	9.238	.002	1.028	1.026	.000	.000	.002	.001	.003	1.022	.883	.193	.883	45.00
	36	6.934	.000	6.934	.002	.775	.773	.097	.000	.002	.001	.101	.673	.639	.193	.639	45.00
T(MCM)		156.7	.0	.0	.1	17.5	17.4	3.4	.0	.1	.0	3.5	.190	.190	.008	14.9	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:I&II JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1980 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 2-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) *(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	3.328	.000	3.328	.002	.239	.237	.107	.000	.003	.001	.110	.147	.127	.193	.127	45.00
	2	3.013	.000	3.013	.002	.224	.222	.076	.000	.003	.001	.080	.142	.123	.193	.123	45.00
	3	1.791	.000	1.791	.002	.199	.197	.000	.000	.003	.001	.004	.194	.168	.193	.168	45.00
FEB	4	2.705	.000	2.705	.002	.301	.299	.117	.000	.003	.001	.121	.178	.154	.193	.154	45.00
	5	1.524	.000	1.524	.002	.170	.168	.124	.000	.003	.001	.128	.039	.034	.193	.034	45.00
	6	1.270	.000	1.270	.002	.141	.139	.104	.000	.003	.001	.108	.031	.027	.193	.027	45.00
MAR	7	1.028	.000	1.028	.002	.114	.112	.137	.000	.004	.001	.142	-.020	-.017	.176	.000	44.65
	8	.810	.000	.810	.002	.090	.088	.071	.000	.004	.001	.076	.013	.011	.187	.000	44.87
	9	1.323	.000	1.323	.002	.148	.146	.007	.000	.004	.001	.012	.134	.115	.193	.115	45.00
APR	10	.639	.000	.639	.002	.071	.069	.014	.000	.004	.001	.018	.051	.044	.193	.044	45.00
	11	.537	.000	.537	.002	.060	.058	.003	.000	.004	.001	.008	.050	.043	.193	.043	45.00
	12	.323	.000	.323	.002	.036	.034	.000	.000	.004	.001	.005	.030	.026	.193	.026	45.00
MAY	13	.613	.000	.613	.002	.068	.066	.000	.000	.003	.001	.004	.062	.054	.193	.054	45.00
	14	.844	.000	.844	.002	.094	.092	.000	.000	.003	.001	.004	.088	.076	.193	.076	45.00
	15	.620	.000	.620	.002	.069	.067	.000	.000	.003	.001	.004	.063	.054	.193	.054	45.00
JUN	16	1.549	.000	1.549	.002	.173	.171	.000	.000	.002	.001	.003	.170	.148	.193	.148	45.00
	17	3.602	.000	3.602	.002	.401	.399	.000	.000	.002	.001	.003	.396	.343	.193	.343	45.00
	18	3.436	.000	3.436	.002	.383	.381	.000	.000	.002	.001	.003	.378	.327	.193	.327	45.00
JUL	19	10.319	.000	10.319	.002	1.149	1.147	.000	.000	.002	.001	.003	1.144	.988	.193	.988	45.00
	20	6.492	.000	6.492	.002	.723	.721	.000	.000	.002	.001	.003	.718	.620	.193	.620	45.00
	21	6.526	.000	6.526	.002	.727	.725	.031	.000	.002	.001	.034	.691	.597	.193	.597	45.00
AUG	22	3.383	.000	3.383	.002	.377	.375	.290	.000	.002	.001	.293	.082	.071	.193	.071	45.00
	23	6.902	.000	6.902	.002	.769	.767	.000	.000	.002	.001	.003	.764	.660	.193	.660	45.00
	24	11.037	.000	11.037	.002	1.229	1.227	.000	.000	.002	.001	.003	1.224	1.058	.193	1.058	45.00
SEP	25	8.287	.000	8.287	.002	.923	.921	.000	.000	.002	.001	.003	.918	.793	.193	.793	45.00
	26	6.242	.000	6.242	.002	.695	.693	.436	.000	.002	.001	.439	.254	.219	.193	.219	45.00
	27	4.096	.000	4.096	.002	.456	.454	.077	.000	.002	.001	.080	.374	.323	.193	.323	45.00
OCT	28	3.278	.000	3.278	.002	.365	.363	.000	.000	.002	.001	.003	.360	.311	.193	.311	45.00
	29	3.958	.000	3.958	.002	.441	.439	.376	.000	.002	.001	.379	.060	.052	.193	.052	45.00
	30	4.724	.000	4.724	.002	.526	.524	.000	.000	.002	.001	.003	.521	.450	.193	.450	45.00
NOV	31	7.934	.000	7.934	.002	.884	.882	.000	.000	.002	.001	.003	.879	.759	.193	.759	45.00
	32	9.156	.000	9.156	.002	1.020	1.018	.000	.000	.002	.001	.003	1.015	.877	.193	.877	45.00
	33	6.077	.000	6.077	.002	.677	.675	.000	.000	.002	.001	.003	.672	.580	.193	.580	45.00
DEC	34	8.376	.000	8.376	.002	.933	.931	.000	.000	.002	.001	.003	.928	.802	.193	.802	45.00
	35	6.552	.000	6.552	.002	.730	.728	.000	.000	.002	.001	.003	.724	.626	.193	.626	45.00
	36	6.283	.000	6.283	.002	.700	.698	.000	.000	.002	.001	.003	.695	.600	.193	.600	45.00
T(MCM)		184.2	.0	.0	.1	19.4	19.3	2.0	.0	.1	.0	2.1	.017	.017	.176	13.3	

Table C.3.6 Cont'd

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:IAII JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .195 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 38.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1981 Month		Pinagsaluran RIVER INI (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AVR 5-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7-8-9-10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(13) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	6.600	.000	6.600	.002	.735	.733	.000	.000	.003	.001	.004	.729	.630	.195	.630	45.00
	2	4.492	.000	4.492	.002	.500	.498	.004	.000	.003	.001	.008	.491	.424	.193	.424	45.00
	3	3.354	.000	3.354	.002	.396	.394	.115	.000	.003	.001	.119	.275	.262	.195	.262	45.00
FEB	4	2.910	.000	2.910	.002	.324	.322	.108	.000	.003	.001	.113	.209	.181	.195	.181	45.00
	5	2.500	.000	2.500	.002	.278	.276	.133	.000	.003	.001	.137	.139	.139	.195	.139	45.00
	6	2.161	.000	2.161	.002	.241	.239	.118	.000	.003	.001	.121	.118	.081	.195	.081	45.00
MAR	7	1.833	.000	1.833	.002	.204	.202	.127	.000	.004	.001	.131	.071	.061	.195	.061	45.00
	8	1.501	.000	1.501	.002	.167	.165	.087	.000	.004	.001	.092	.073	.065	.195	.063	45.00
	9	1.207	.000	1.207	.002	.134	.132	.041	.000	.004	.001	.046	.087	.082	.195	.074	45.00
APR	10	.952	.000	.952	.002	.106	.104	.013	.000	.004	.001	.018	.086	.074	.195	.039	45.00
	11	.730	.000	.730	.002	.081	.079	.007	.000	.004	.001	.011	.068	.039	.195	.032	45.00
	12	.604	.000	.604	.002	.067	.065	.000	.000	.004	.001	.005	.061	.032	.195	.110	45.00
MAY	13	1.193	.000	1.193	.002	.133	.131	.000	.000	.003	.001	.004	.127	.110	.195	.039	45.00
	14	.668	.000	.668	.002	.074	.072	.000	.000	.003	.001	.004	.068	.039	.195	.055	45.00
	15	.573	.000	.573	.002	.064	.062	.000	.000	.003	.001	.004	.058	.055	.195	.061	45.00
JUN	16	.990	.000	.990	.002	.110	.108	.000	.000	.003	.001	.003	.105	.061	.195	.068	45.00
	17	.968	.000	.968	.002	.108	.106	.000	.000	.003	.001	.003	.102	.068	.195	.099	45.00
	18	1.080	.000	1.080	.002	.120	.118	.000	.000	.003	.001	.003	.115	.099	.195	.417	45.00
JUL	19	4.375	.000	4.375	.002	.487	.485	.000	.000	.003	.001	.003	.482	.417	.195	.430	45.00
	20	5.243	.000	5.243	.002	.584	.561	.061	.000	.003	.001	.064	.486	.430	.195	.447	45.00
	21	4.287	.000	4.287	.002	.475	.473	.000	.000	.002	.001	.003	.470	.447	.195	.000	45.38
AUG	22	4.042	.000	4.042	.002	.450	.448	.538	.000	.002	.001	.530	-.081	-.078	.117	.142	45.00
	23	3.830	.000	3.830	.002	.427	.425	.167	.000	.002	.001	.169	.256	.121	.198	.491	45.00
	24	4.681	.000	4.681	.002	.522	.520	.000	.000	.002	.001	.003	.517	.491	.195	.097	45.00
SEP	25	3.685	.000	3.685	.002	.412	.409	.294	.000	.002	.001	.298	.111	.097	.195	.364	45.00
	26	4.043	.000	4.043	.002	.450	.448	.000	.000	.002	.001	.003	.442	.364	.195	.711	45.00
	27	7.433	.000	7.433	.002	.828	.826	.000	.000	.002	.001	.003	.823	.711	.195	.300	45.00
OCT	28	5.401	.000	5.401	.002	.601	.599	.248	.000	.002	.001	.253	.347	.306	.195	.181	45.00
	29	4.365	.000	4.365	.002	.488	.486	.296	.000	.002	.001	.300	.187	.181	.195	.300	45.00
	30	4.772	.000	4.772	.002	.532	.530	.000	.000	.002	.001	.003	.526	.300	.195	.638	45.00
NOV	31	6.577	.000	6.577	.002	.733	.730	.000	.000	.002	.001	.003	.727	.638	.195	.865	45.00
	32	9.032	.000	9.032	.002	1.006	1.004	.000	.000	.002	.001	.003	1.001	.865	.195	.650	45.00
	33	6.605	.000	6.605	.002	.736	.734	.000	.000	.002	.001	.003	.733	.650	.195	1.046	45.00
DEC	34	11.124	.000	11.124	.002	1.239	1.237	.000	.000	.002	.001	.003	1.233	1.046	.195	.638	45.00
	35	7.355	.000	7.355	.002	.819	.817	.075	.000	.002	.001	.079	.738	.638	.195	.361	45.00
	36	4.311	.000	4.311	.002	.480	.478	.094	.000	.002	.001	.098	.381	.361	.195	.361	45.00
T(MCM)		119.1	.0	.0	.1	13.3	13.2	3.1	.0	.1	.0	3.3	.076	.076	.117	10.9	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:IAII JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .195 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 38.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1982 Month		Pinagsaluran RIVER INI (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AVR 5-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7-8-9-10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(13) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	3.400	.000	3.400	.002	.379	.377	.109	.000	.003	.001	.113	.263	.228	.195	.228	45.00
	2	2.933	.000	2.933	.002	.327	.325	.091	.000	.003	.001	.095	.230	.198	.195	.198	45.00
	3	2.507	.000	2.507	.002	.279	.277	.114	.000	.003	.001	.118	.159	.132	.195	.132	45.00
FEB	4	2.109	.000	2.109	.002	.235	.233	.111	.000	.003	.001	.115	.118	.102	.195	.102	45.00
	5	1.823	.000	1.823	.002	.203	.201	.096	.000	.003	.001	.100	.101	.087	.195	.087	45.00
	6	1.574	.000	1.574	.002	.175	.173	.112	.000	.003	.001	.117	.057	.039	.195	.039	45.00
MAR	7	1.314	.000	1.314	.002	.146	.144	.127	.000	.004	.001	.131	.013	.011	.195	.011	45.00
	8	1.049	.000	1.049	.002	.117	.115	.036	.000	.004	.001	.040	.074	.064	.195	.064	45.00
	9	1.431	.000	1.431	.002	.159	.157	.002	.000	.004	.001	.007	.150	.143	.195	.143	45.00
APR	10	.894	.000	.894	.002	.100	.098	.014	.000	.004	.001	.018	.079	.068	.195	.068	45.00
	11	.664	.000	.664	.002	.076	.074	.004	.000	.004	.001	.009	.065	.056	.195	.056	45.00
	12	.541	.000	.541	.002	.060	.058	.002	.000	.004	.001	.007	.051	.044	.195	.044	45.00
MAY	13	.523	.000	.523	.002	.058	.056	.000	.000	.003	.001	.004	.052	.045	.195	.045	45.00
	14	.513	.000	.513	.002	.057	.055	.000	.000	.003	.001	.004	.051	.044	.195	.044	45.00
	15	.512	.000	.512	.002	.057	.055	.000	.000	.003	.001	.004	.051	.048	.195	.048	45.00
JUN	16	1.220	.000	1.220	.002	.136	.134	.000	.000	.003	.001	.003	.131	.113	.195	.113	45.00
	17	1.622	.000	1.622	.002	.181	.179	.000	.000	.003	.001	.003	.176	.153	.195	.153	45.00
	18	.891	.000	.891	.002	.099	.097	.000	.000	.003	.001	.003	.094	.081	.195	.081	45.00
JUL	19	5.370	.000	5.370	.002	.587	.585	.000	.000	.002	.001	.003	.582	.503	.195	.503	45.00
	20	3.943	.000	3.943	.002	.439	.437	.000	.000	.002	.001	.003	.434	.375	.195	.375	45.00
	21	4.203	.000	4.203	.002	.468	.466	.000	.000	.002	.001	.003	.463	.439	.195	.439	45.00
AUG	22	5.174	.000	5.174	.002	.576	.574	.036	.000	.002	.001	.039	.535	.448	.195	.448	45.00
	23	6.301	.000	6.301	.002	.700	.697	.000	.000	.002	.001	.003	.694	.600	.195	.600	45.00
	24	10.838	.000	10.838	.002	1.207	1.205	.000	.000	.002	.001	.003	1.201	1.142	.195	1.142	45.00
SEP	25	6.559	.000	6.559	.002	.731	.729	.108	.000	.002	.001	.111	.618	.524	.198	.524	45.00
	26	4.736	.000	4.736	.002	.527	.525	.592	.000	.002	.001	.595	-.070	-.060	.135	.000	43.77
	27	3.296	.000	3.296	.002	.367	.365	.534	.000	.002	.001	.537	-.172	-.148	.000	.000	41.00
OCT	28	2.843	.000	2.843	.002	.317	.315	.040	.000	.001	.000	.041	.274	.219	.195	.014	43.00
	29	3.909	.000	3.909	.002	.436	.434	.133	.000	.003	.001	.137	.297	.092	.195	.092	45.00
	30	3.048	.000	3.048	.002	.339	.337	.076	.000	.002	.001	.079	.258	.246	.195	.246	45.00
NOV	31	3.304	.000	3.304	.002	.369	.368	.000	.000	.002	.001	.003	.364	.314	.195	.314	45.00
	32	4.601	.000	4.601	.002	.519	.517	.000	.000	.002	.001	.003	.514	.444	.195	.444	45.00
	33	5.103	.000	5.103	.002	.568	.566	.000	.000	.002	.001	.003	.563	.487	.195	.487	45.00
DEC	34	3.894	.000	3.894	.002	.434	.432	.000	.000	.002	.001	.004	.428	.370	.195	.370	45.00
	35	3.479	.000	3.479	.002	.388	.386	.000	.000	.002	.001	.003	.382	.330	.195	.330	45.00
	36	3.307	.000	3.307	.002	.368	.355	.000	.000	.002	.001	.011	.344	.327	.195	.327	45.00
T(MCM)		98.3	.0	.0	.1	11.0	10.9	2.2	.0	.1	.0	2.3	.306	.306	.000	8.6	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:IAII JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .195 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 38.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1983 Month		Pinagsaluran RIVER INI (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AVR 5-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7-8-9-10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(13) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	2.436	.000	2.436	.002	.270	.268	.033	.000	.003	.001	.039	.229	.181	.195	.181	45.00
	2	2.001	.000	2.001	.002	.223	.221	.116	.000	.003	.001	.120	.101	.087	.195	.087	45.00
	3	1.680	.000	1.680	.002	.187	.185	.108	.000	.003	.001	.113	.073	.068	.195	.068	45.00
FEB	4	1.209	.000	1.209	.002	.136	.134	.116	.000	.003	.001	.120	.014	.029	.195	.029	45.00
	5	1.133	.000	1.133	.002	.126	.124	.122	.000	.003	.001	.127	-.001	-.001	.195	.000	44.99
	6	.951	.000	.951	.002	.106	.104	.117	.000	.003	.001	.121	-.016	-.013	.182	.000	44.74
MAR	7	.737	.000	.737	.002	.084	.082	.107	.000	.003	.001	.111	-.029	-.025	.157	.000	44.23
	8	.567	.000	.567	.002	.063	.061	.087	.000	.003	.001	.091	-.030	-.026	.131	.000	43.66
	9	.463	.000	.463	.002	.054	.052	.047	.000	.003	.001	.050	.001	.001	.132	.000	43.70
APR	10	.470	.000	.470	.002	.052	.050	.017	.000	.003	.001	.021	.029	.025	.157	.000	44.22
	11	.460	.000	.460	.002	.051	.049	.000	.000	.003	.001	.004	.045	.036	.193	.000	44.93
	12	.450	.000	.450	.002	.050	.048	.003	.000	.004	.001	.007	.041	.036	.195	.034	45.00
MAY	13	.436	.000	.436	.002	.049	.047	.000	.000	.004	.001	.004	.043	.037	.195	.037	45.00
	14	.429	.000	.429	.002	.048	.046	.000	.000	.003	.001	.004	.043	.036	.195	.036	45.00
	15	.418	.000	.418	.002	.047	.044	.000	.000	.003	.001	.004	.040	.036	.195	.036	45.00
JUN	16	.539	.000	.539	.002	.060	.058	.000	.000	.003	.001	.004	.055	.047	.195	.047	45.00
	17	.768	.000	.768	.002	.086	.084	.000	.000	.003	.001	.003	.082	.071	.195	.071	45.00
	18	2.843	.000	2.843	.002	.316	.314	.000	.000	.003	.001	.003	.311	.269	.195	.269	45.00
JUL	19	3.740	.000	3.740	.002	.416	.414	.000	.000	.003	.001	.003	.411	.355	.195	.355	45.00
	20	9.663	.000	9.663	.002	1.076	1.074	.000	.000	.002	.001	.003	1.071	.925	.195	.925	45.00
	21	5.996	.000	5.996	.002	.668	.665	.313	.000	.002	.001	.318	.347	.330	.195	.330	45.00
AUG	22	4.899	.000	4.899	.002	.545	.543	[illegible]	.000	.002	.001	[illegible]	.463	.400	.195	.400	45.00
	23	7.843	.000	7.843	.002	.874	.872	[illegible]	.000	.002	.001	[illegible]	[illegible]	.730	.195	.730	45.00
	24	4.715	.000	4.715	.002	.525	.523	[illegible]	.000	.002	.001	[illegible]	[illegible]	.060	.195	.060	45.00
SEP	25	3.066	.000	3.066	.002	.342	.340	[illegible]	.000	.002	.001	[illegible]	[illegible]	[illegible]	[illegible]	.000	[illegible]
	26	2.634	.000	2.634	.002	.293	.291	[illegible]	.000	.002	.001	[illegible]	[illegible]	[illegible]	[illegible]	.000	[illegible]
	27	3.396	.000	3.396	.002	.378	.376	[illegible]	.000	.002	.001	[illegible]	[illegible]	[illegible]	.195	[illegible]	45.00
OCT	28	6.531	.000	6.531	.002	.737	.735	[illegible]	.000	.002	.001	[illegible]	[illegible]	[illegible]	.195	[illegible]	45.00
	29	5.695	.000	5.695	.002	.634	.632	[illegible]	.000	.002	.001	[illegible]	[illegible]	[illegible]	.195	[illegible]	45.00
	30	6.557	.000	6.557	.002	.730	.728	[illegible]	.000	.002	.001	[illegible]	[illegible]	[illegible]	.195	[illegible]	45.00
NOV	31	6.430	.000	6.430	.002	.716	.714	[illegible]	.000	.002	.001	[illegible]	.711	.614	.195	.614	45.00
	32	8.074	.000	8.074	.002	.900	.898	[illegible]	.000	.002	.001	[illegible]	[illegible]	.773	.195	.773	45.00
	33	14.417	.000	14.417	.002	1.606	1.604	.000	.000	.002	.001	.003	1.601	1.383	.195	1.383	45.00
DEC	34	14.277	.000	14.277	.002	1.590	1.588	.000	.000	.002	.001	.003	1.585	1.369	.195	1.369	45.00
	35	11.876	.000	11.876	.002	1.323	1.321	.014	.000	.002	.001	.018	1.303	1.126	.195	1.126	45.00
	36	6.763	.000	6.763	.002	.753	.751	.043	.000	.002	.001	.046	.705	.670	.195	.670	45.00
T(MCM)		137.1	.6	.0	.1	14.2	14.1	3.3	.0	.1	.0	3.4	.330	.180	.029	11.7	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :EuM(SITE EuM),CROPPING PATTERN:IAII JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .195 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 38.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1984 Month		Pinagsaluran RIVER INI (1)	CIS (2)	BALANCE (1)-(2) (3)	MA (4)	IN2 (5)	AVR 5-3-4 (6)	WATER DEMAND IRR (7)	VFS (8)	EVP (9)	SPACE (10)	TOTAL 7-8-9-10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) -(13) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	4.811	.000	4.811	.002	.536	.534	.100	.000	.003	.001	.104	.430	.372	.195	.372	45.00
	2	4.138	.000	4.138	.002	.461	.459	.000	.000	.003	.001	.004	.455	.393	.195	.393	45.00
	3	7.830	.000	7.830	.002	.873	.871	.000	.000	.003	.001	.004	.867	.834	.195	.834	45.00
FEB	4	4.498	.000	4.498	.002	.501	.499	.108	.000	.003	.001	.112	.387	.334	.195	.334	45.00
	5	3.290	.000	3.290	.002	.367	.365	.124	.000	.003	.001	.128	.237	.203	.195	.203	45.00
	6	2.834	.000	2.834	.002	.316	.314	.104	.000	.003	.001	.108	.206	.180	.195	.180	45.00
MAR	7	2.451	.000	2.451	.002	.273	.271	.082	.000	.004	.001	.087	.204	.177	.195	.177	45.00
	8	2.169	.000	2.169	.002	.241	.239	.084	.000	.004	.001	.091	.146	.138	.195	.138	45.00
	9	1.963	.000	1.963	.002	.221	.219	.006	.000	.004	.001	.011	.206	.198	.195	.198	45.00
APR	10	1.583	.000	1.583	.002	.176	.174	.008	.000	.004	.001	.012	.162	.140	.195	.140	45.00
	11	2.636	.000	2.636	.002	.294	.291	.000	.000	.004	.001	.005	.287	.248	.195	.248	45.00
	12	1.740	.000	1.740	.002	.194	.192	.000	.000	.004	.001	.005	.187	.162	.195	.162	45.00
MAY	13	1.592	.000	1.592	.002	.178	.176	.000	.000	.003	.001	.004	.172	.148	.195	.148	45.00
	14	1.764	.000	1.764	.002	.196	.194	.000	.000	.003	.001	.004	.190	.164	.195	.164	45.00
	15	1.273	.000	1.273	.002	.142	.140	.000	.000	.003	.001	.004	.136	.129	.195	.129	45.00
JUN	16	2.717	.000	2.717	.002	.303	.300	.000	.000	.002	.001	.003	.297	.257	.195	.257	45.00
	17	3.308	.000	3.308	.002	.390	.388	.000	.000	.002	.001	.003	.385	.333	.195	.333	45.00
	18	3.540	.000	3.540	.002	.394	.393	.000	.000	.002	.001	.003	.389	.336	.195	.336	45.00
JUL	19	3.281	.000	3.281	.002	.367	.364	.000	.000	.002	.001	.003	.361	.312	.195	.312	45.00
	20	2.412	.000	2.412	.002	.269	.267	.234	.000	.002	.001	.237	.030	.026	.195	.026	45.00
	21	2.084	.000	2.084	.002	.232	.230	.216	.000	.002	.001	.219	.011	.011	.195	.011	45.00
AUG	22	1.814	.000	1.814	.002	.202	.200	.395	.000	.001	.001	.398	-.398	-.344	.000	.000	41.00
	23	2.180	.000	2.180	.002	.244	.242	.013	.000	.001	.000	.014	.227	.196	.195	.001	45.00
	24	4.116	.000	4.116	.002	.458	.456	.000	.000	.002	.001	.003	.453	.431	.195	.431	45.00
SEP	25	5.791	.000	5.791	.002	.645	.643	.000	.000	.002	.001	.003	.640	.553	.195	.553	45.00
	26	3.899	.000	3.899	.002	.434	.432	.373	.000	.002	.001	.376	-.144	-.124	.071	.000	41.45
	27	5.518	.000	5.518	.002	.615	.613	.000	.000	.001	.000	.002	.611	.528	.195	.404	45.00
OCT	28	4.799	.000	4.799	.002	.534	.532	.013	.000	.002	.001	.016	.517	.446	.195	.446	45.00
	29	3.329	.000	3.329	.002	.354	.351	.000	.000	.002	.001	.003	.348	.304	.195	.300	45.00
	30	6.735	.000	6.735	.002	.750	.748	.000	.000	.002	.001	.003	.745	.798	.195	.798	45.00
NOV	31	4.829	.000	4.829	.002	.504	.502	.000	.000	.002	.001	.003	.499	.431	.195	.431	45.00
	32	4.317	.000	4.317	.002	.503	.501	.258	.000	.002	.001	.259	.242	.209	.195	.209	45.00
	33	7.487	.000	7.487	.002	.834	.832	.000	.000	.002	.001	.003	.829	.716	.195	.716	45.00
DEC	34	6.152	.000	6.152	.002	.685	.683	.031	.000	.002	.001	.034	.649	.560	.195	.560	45.00
	35	5.003	.000	5.003	.002	.646	.644	.000	.000	.002	.001	.003	.641	.554	.195	.554	45.00
	36	4.930	.000	4.930	.002	.550	.548	.060	.000	.002	.001	.064	.484	.466	.195	.466	45.00
T(MCM)		119.6	.0	.0	.1	13.3	13.3	2.2	.0	.1	.0	2.4	.466	.466	.000	11.0	

Table C.3.6 Cont'd

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :SuN(SITE SuN),CROPPING PATTERN:IAII JUL3
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1945 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) +(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	2.936	.000	2.936	.002	.336	.334	.111	.000	.003	.001	.113	.209	.180	.193	.180	43.00
	2	2.473	.000	2.473	.002	.275	.273	.031	.000	.003	.001	.035	.238	.206	.193	.206	43.00
	3	2.223	.000	2.223	.002	.248	.243	.098	.000	.003	.001	.101	.144	.137	.193	.137	43.00
FEB	4	1.864	.000	1.864	.003	.206	.205	.118	.000	.003	.001	.122	.084	.072	.193	.072	43.00
	5	1.561	.000	1.561	.003	.174	.172	.123	.000	.003	.001	.127	.045	.039	.193	.039	43.00
	6	1.345	.000	1.345	.002	.150	.148	.083	.000	.003	.001	.088	.060	.043	.193	.043	43.00
MAR	7	1.129	.000	1.129	.002	.126	.124	.127	.000	.004	.001	.132	-.008	-.007	.184	.000	42.85
	8	.872	.000	.872	.002	.097	.095	.087	.000	.004	.001	.093	.003	.003	.191	.000	42.90
	9	.646	.000	.646	.002	.072	.070	.043	.000	.004	.001	.047	.022	.021	.193	.017	43.00
APR	10	.521	.000	.521	.002	.058	.056	.017	.000	.004	.001	.022	.034	.029	.193	.029	43.00
	11	.641	.000	.641	.002	.071	.069	.000	.000	.004	.001	.005	.065	.056	.193	.056	43.00
	12	1.946	.000	1.946	.002	.217	.215	.000	.000	.004	.001	.005	.210	.181	.193	.181	43.00
MAY	13	1.479	.000	1.479	.002	.165	.163	.000	.000	.003	.001	.004	.159	.137	.193	.137	43.00
	14	1.338	.000	1.338	.002	.151	.149	.000	.000	.003	.001	.004	.145	.125	.193	.125	43.00
	15	1.272	.000	1.272	.002	.143	.140	.000	.000	.003	.001	.004	.136	.120	.193	.120	43.00
JUN	16	.728	.000	.728	.002	.081	.079	.000	.000	.003	.001	.003	.078	.068	.193	.068	43.00
	17	.613	.000	.613	.002	.082	.080	.000	.000	.002	.001	.003	.085	.074	.193	.074	43.00
	18	1.007	.000	1.007	.002	.112	.110	.000	.000	.002	.001	.003	.107	.092	.193	.092	43.00
JUL	19	1.179	.000	1.179	.002	.131	.129	.000	.000	.002	.001	.003	.126	.109	.193	.109	43.00
	20	1.950	.000	1.950	.002	.215	.213	.000	.000	.002	.001	.003	.213	.183	.193	.183	43.00
	21	1.307	.000	1.307	.002	.168	.166	.424	.000	.002	.001	.431	-.263	-.232	.000	.000	41.00
AUG	22	1.801	.000	1.801	.002	.201	.198	.056	.000	.001	.000	.058	.142	.133	.133	.000	42.51
	23	2.504	.000	2.504	.002	.279	.277	.482	.000	.002	.001	.484	-.207	-.179	.000	.000	41.00
	24	1.262	.000	1.262	.002	.141	.139	.000	.000	.001	.000	.001	.138	.131	.131	.000	42.68
SEP	25	4.165	.000	4.165	.002	.464	.462	.000	.000	.002	.001	.003	.459	.387	.193	.333	43.00
	26	4.911	.000	4.911	.002	.547	.545	.043	.000	.003	.001	.045	.500	.432	.193	.432	43.00
	27	2.730	.000	2.730	.002	.304	.303	.002	.000	.003	.001	.490	-.384	-.340	.000	.000	41.00
OCT	28	2.381	.000	2.381	.002	.265	.263	.000	.000	.001	.000	.001	.262	.227	.193	.032	43.00
	29	14.284	.000	14.284	.002	1.561	1.558	.000	.000	.002	.001	.003	1.586	1.370	.193	1.370	43.00
	30	6.599	.000	6.599	.002	.735	.733	.184	.000	.002	.001	.187	.386	.336	.193	.336	43.00
NOV	31	6.353	.000	6.353	.002	.708	.706	.000	.000	.002	.001	.003	.702	.607	.193	.607	43.00
	32	3.094	.000	3.094	.002	.365	.363	.000	.000	.002	.001	.003	.543	.466	.193	.466	43.00
	33	6.501	.000	6.501	.002	.724	.722	.000	.000	.002	.001	.003	.719	.621	.193	.621	43.00
DEC	34	5.420	.000	5.420	.002	.604	.603	.004	.000	.002	.001	.007	.594	.514	.193	.514	43.00
	35	27.839	.000	27.839	.002	3.101	3.098	.000	.000	.002	.001	.003	3.095	2.674	.193	2.674	43.00
	36	15.727	.000	15.727	.002	1.753	1.750	.007	.000	.002	.001	.101	1.649	1.347	.193	1.347	43.00
T(MCM)		136.7	.0	.0	.1	15.4	15.4	2.8	.0	.1	.0	2.6	.778	.778	.000	11.0	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :SuN(SITE SuN),CROPPING PATTERN:IAII JUL3
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1946 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) +(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	7.772	.000	7.772	.002	.866	.864	.111	.000	.003	.001	.115	.748	.646	.193	.646	43.00
	2	4.937	.000	4.937	.002	.552	.550	.116	.000	.003	.001	.120	.430	.373	.193	.373	43.00
	3	4.332	.000	4.332	.002	.483	.480	.000	.000	.003	.001	.004	.477	.433	.193	.433	43.00
FEB	4	4.625	.000	4.625	.003	.515	.512	.048	.000	.003	.001	.050	.463	.400	.193	.400	43.00
	5	3.392	.000	3.392	.002	.378	.376	.116	.000	.003	.001	.120	.256	.221	.193	.221	43.00
	6	2.990	.000	2.990	.002	.333	.331	.047	.000	.003	.001	.051	.280	.193	.193	.193	43.00
MAR	7	2.371	.000	2.371	.002	.266	.264	.127	.000	.004	.001	.132	.133	.132	.193	.132	43.00
	8	2.136	.000	2.136	.002	.238	.236	.073	.000	.004	.001	.078	.158	.137	.193	.137	43.00
	9	1.764	.000	1.764	.002	.196	.194	.047	.000	.004	.001	.051	.143	.126	.193	.126	43.00
APR	10	1.448	.000	1.448	.002	.161	.159	.006	.000	.004	.001	.010	.149	.126	.193	.126	43.00
	11	1.226	.000	1.226	.002	.137	.134	.003	.000	.004	.001	.009	.125	.108	.193	.108	43.00
	12	.957	.000	.957	.002	.107	.105	.002	.000	.004	.001	.007	.098	.085	.193	.085	43.00
MAY	13	.727	.000	.727	.002	.081	.079	.000	.000	.003	.001	.004	.075	.065	.193	.065	43.00
	14	1.783	.000	1.783	.002	.199	.196	.000	.000	.003	.001	.004	.192	.166	.193	.166	43.00
	15	2.063	.000	2.063	.002	.230	.228	.000	.000	.003	.001	.004	.224	.193	.193	.193	43.00
JUN	16	1.076	.000	1.076	.002	.120	.118	.000	.000	.003	.001	.003	.113	.099	.193	.099	43.00
	17	.753	.000	.753	.003	.084	.082	.000	.000	.003	.001	.003	.079	.068	.193	.068	43.00
	18	.693	.000	.693	.003	.077	.076	.000	.000	.002	.001	.003	.073	.062	.193	.062	43.00
JUL	19	2.316	.000	2.316	.002	.258	.256	.000	.000	.002	.001	.003	.253	.219	.193	.219	43.00
	20	9.432	.000	9.432	.002	1.051	1.048	.000	.000	.002	.001	.003	1.045	.903	.193	.903	43.00
	21	4.579	.000	4.579	.002	.509	.507	.378	.000	.002	.001	.381	.126	.130	.193	.130	43.00
AUG	22	3.737	.000	3.737	.002	.418	.416	.397	.000	.002	.001	.400	.016	.014	.193	.014	43.00
	23	4.070	.000	4.070	.002	.453	.451	.000	.000	.002	.001	.003	.448	.387	.193	.387	43.00
	24	3.003	.000	3.003	.002	.333	.332	.320	.000	.002	.001	.324	.004	.004	.193	.004	43.00
SEP	25	5.843	.000	5.843	.002	.651	.649	.000	.000	.002	.001	.005	.645	.558	.193	.558	43.00
	26	4.737	.000	4.737	.002	.528	.525	.000	.000	.002	.001	.003	.522	.451	.193	.451	43.00
	27	5.518	.000	5.518	.002	.615	.613	.126	.000	.002	.001	.130	.483	.417	.193	.417	43.00
OCT	28	3.874	.000	3.874	.002	.432	.429	.373	.000	.002	.001	.376	.053	.046	.193	.046	43.00
	29	5.098	.000	5.098	.002	.568	.566	.000	.000	.002	.001	.005	.563	.486	.193	.486	43.00
	30	4.098	.000	4.098	.002	.457	.455	.000	.000	.002	.001	.003	.452	.419	.193	.419	43.00
NOV	31	4.260	.000	4.260	.002	.474	.472	.029	.000	.002	.001	.032	.441	.381	.193	.381	43.00
	32	7.500	.000	7.500	.002	.835	.833	.000	.000	.002	.001	.003	.830	.717	.193	.717	43.00
	33	6.430	.000	6.430	.002	.718	.716	.000	.000	.002	.001	.003	.713	.616	.193	.616	43.00
DEC	34	21.013	.000	21.013	.002	2.341	2.339	.035	.000	.002	.001	.038	2.300	1.987	.193	1.987	43.00
	35	6.611	.000	6.611	.002	.736	.734	.075	.000	.002	.001	.079	.656	.566	.193	.566	43.00
	36	3.052	.000	3.052	.002	.363	.361	.000	.000	.002	.001	.003	.357	.330	.193	.330	43.00
T(MCM)		136.1	.0	.0	.1	15.0	15.0	3.2	.0	.1	.0	3.3	.000	.000	.193	13.7	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :SuN(SITE SuN),CROPPING PATTERN:IAII JUL3
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1947 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) +(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	3.787	.000	3.787	.002	.422	.420	.111	.000	.003	.001	.115	.304	.263	.193	.263	43.00
	2	3.112	.000	3.112	.002	.347	.344	.116	.000	.003	.001	.120	.225	.194	.193	.194	43.00
	3	3.561	.000	3.561	.002	.396	.394	.095	.000	.003	.001	.099	.193	.163	.193	.163	43.00
FEB	4	2.248	.000	2.248	.002	.250	.248	.120	.000	.003	.001	.124	.124	.107	.193	.107	43.00
	5	1.923	.000	1.923	.002	.214	.212	.063	.000	.004	.001	.068	.124	.106	.193	.106	43.00
	6	1.677	.000	1.677	.002	.187	.185	.117	.000	.003	.001	.121	.063	.044	.193	.044	43.00
MAR	7	1.396	.000	1.396	.003	.155	.153	.127	.000	.004	.001	.132	.021	.019	.193	.019	43.00
	8	1.107	.000	1.107	.002	.123	.121	.087	.000	.004	.001	.092	.029	.025	.193	.025	43.00
	9	.831	.000	.831	.002	.093	.091	.035	.000	.004	.001	.040	.053	.030	.193	.030	43.00
APR	10	.639	.000	.639	.002	.071	.069	.017	.000	.004	.001	.022	.047	.041	.193	.041	43.00
	11	.528	.000	.528	.002	.059	.057	.007	.000	.004	.001	.011	.046	.039	.193	.039	43.00
	12	.731	.000	.731	.002	.084	.082	.000	.000	.004	.001	.005	.077	.066	.193	.066	43.00
MAY	13	.830	.000	.830	.003	.093	.090	.000	.000	.003	.001	.004	.088	.075	.193	.075	43.00
	14	.512	.000	.512	.003	.057	.055	.000	.000	.003	.001	.004	.051	.044	.193	.044	43.00
	15	.481	.000	.481	.002	.054	.052	.000	.000	.003	.001	.004	.047	.045	.193	.045	43.00
JUN	16	3.431	.000	3.431	.002	.384	.382	.000	.000	.003	.001	.003	.379	.338	.193	.238	43.00
	17	2.520	.000	2.520	.002	.281	.279	.000	.000	.002	.001	.003	.275	.236	.193	.238	43.00
	18	1.522	.000	1.522	.003	.170	.167	.000	.000	.002	.001	.003	.164	.142	.193	.142	43.00
JUL	19	2.576	.000	2.576	.002	.287	.285	.000	.000	.002	.001	.003	.282	.243	.193	.243	43.00
	20	4.137	.000	4.137	.003	.461	.439	.000	.000	.002	.001	.003	.436	.394	.193	.394	43.00
	21	2.648	.000	2.648	.002	.295	.292	.470	.000	.002	.001	.472	-.180	-.171	.024	.000	41.46
AUG	22	1.642	.000	1.642	.002	.183	.181	.765	.000	.001	.000	.766	-.585	-.505	.000	.000	41.00
	23	2.363	.000	2.363	.002	.265	.263	.000	.000	.001	.000	.001	.282	.244	.193	.049	43.00
	24	3.821	.000	3.821	.002	.426	.423	.000	.000	.002	.001	.003	.420	.363	.193	.389	43.00
SEP	25	3.205	.000	3.205	.002	.357	.355	.000	.000	.002	.001	.003	.352	.304	.193	.304	43.00
	26	5.657	.000	5.657	.002	.630	.628	.047	.000	.002	.001	.051	.577	.499	.193	.499	43.00
	27	3.272	.000	3.272	.002	.364	.362	.393	.000	.002	.000	.396	-.236	-.204	.000	.000	41.90
OCT	28	6.107	.000	6.107	.002	.680	.678	.000	.000	.001	.000	.001	.677	.585	.193	.390	43.00
	29	3.849	.000	3.849	.002	.439	.437	.668	.000	.002	.001	.671	-.244	-.211	.000	.000	41.00
	30	2.830	.000	2.830	.002	.315	.313	.000	.000	.001	.000	.001	.312	.297	.193	.102	43.00
NOV	31	10.667	.000	10.667	.002	1.188	1.184	.000	.000	.002	.001	.003	1.183	1.022	.193	1.022	43.00
	32	7.043	.000	7.043	.002	.784	.782	.000	.000	.002	.001	.003	.779	.673	.193	.673	43.00
	33	7.243	.000	7.243	.002	.807	.805	.000	.000	.002	.001	.003	.801	.692	.193	.692	43.00
DEC	34	5.213	.000	5.213	.002	.581	.578	.005	.000	.002	.001	.009	.569	.493	.193	.493	43.00
	35	4.692	.000	4.692	.002	.523	.520	.000	.000	.002	.001	.003	.517	.447	.193	.447	43.00
	36	3.036	.000	3.036	.002	.341	.339	.040	.000	.002	.001	.044	.315	.490	.193	.490	43.00
T(MCM)		98.3	.0	.0	.1	10.9	10.9	3.1	.0	.1	.0	3.2	1.092	1.092	.000	8.2	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :SuN(SITE SuN),CROPPING PATTERN:IAII JUL3
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1948 Month		Pinagsaluran RIVER IN1 (1)	CIS (2)	BALANCE (1)-(2) (3)	NA (4)	IN2 (5)	AVR 3-3-4 (6)	WATER DEMAND IRR (7)	VWS (8)	EVP (9)	SPACE (10)	TOTAL 7+8+9+10 (11)	BALANCE 6-11 (12)	RESERVOIR (UNIT:MCM) +(12) (13)	(14)	INV (15)	WATER LEVEL (m) (16)
JAN	1	3.090	.000	3.090	.002	.344	.342	.084	.000	.003	.001	.087	.255	.220	.193	.220	43.00
	2	2.556	.000	2.556	.002	.285	.283	.114	.000	.003	.001	.118	.165	.142	.193	.142	43.00
	3	2.173	.000	2.173	.002	.242	.240	.089	.000	.003	.001	.092	.148	.140	.193	.140	43.00
FEB	4	1.830	.000	1.830	.002	.204	.202	.118	.000	.003	.001	.122	.080	.069	.193	.069	43.00
	5	1.563	.000	1.563	.002	.174	.172	.031	.000	.003	.001	.033	.137	.118	.193	.118	43.00
	6	1.689	.000	1.689	.002	.188	.186	.072	.000	.003	.001	.076	.110	.094	.193	.094	43.00
MAR	7	1.241	.000	1.241	.002	.138	.136	.134	.000	.004	.001	.139	.007	.006	.193	.006	43.00
	8	.976	.000	.976	.002	.109	.107	.087	.000	.004	.001	.092	.015	.013	.193	.013	43.00
	9	.721	.000	.721	.002	.080	.078	.047	.000	.004	.001	.051	.027	.023	.193	.023	43.00
APR	10	1.403	.000	1.403	.002	.156	.154	.000	.000	.004	.001	.005	.150	.129	.193	.129	43.00
	11	1.196	.000	1.196	.002	.133	.131	.000	.000	.004	.001	.005	.127	.109	.193	.109	43.00
	12	.957	.000	.957	.002	.107	.105	.000	.000	.004	.001	.005	.100	.086	.193	.086	43.00
MAY	13	1.568	.000	1.568	.002	.175	.173	.000	.000	.003	.001	.004	.169	.146	.193	.146	43.00
	14	1.233	.000	1.233	.002	.138	.136	.000	.000	.003	.001	.004	.131	.114	.193	.114	43.00
	15	1.163	.000	1.163	.002	.130	.128	.000	.000	.003	.001	.004	.124	.118	.193	.118	43.00
JUN	16	.934	.000	.934	.002	.104	.102	.000	.000	.003	.001	.003	.099	.085	.193	.085	43.00
	17	3.079	.000	3.079	.002	.343	.341	.000	.000	.003	.001	.003	.336	.291	.193	.291	43.00
	18	2.593	.000	2.593	.002	.289	.287	.000	.000	.003	.001	.003	.283	.245	.193	.245	43.00
JUL	19	1.449	.000	1.449	.002	.161	.159	.000	.000	.003	.001	.003	.156	.135	.193	.135	43.00
	20	2.115	.000	2.115	.002	.236	.233	.000	.000	.003	.001	.003	.230	.199	.193	.199	43.00
	21	3.958	.000	3.958	.002	.441	.439	.000	.000	.003	.001	.003	.436	.414	.193	.414	43.00
AUG	22	3.118	.000	3.118	.002	.347	.345	.319	.000	.003	.001	.323	.022	.020	.193	.020	43.00
	23	2.803	.000	2.803	.002	.312	.310	.137	.000	.002	.001	.140	.170	.147	.193	.147	43.00
	24	3.471	.000	3.471	.002	.375	.373	.383	.000	.002	.001	.386	-.093	-.080	.103	.000	43.15
SEP	25	1.566	.000	1.566	.002	.174	.172	.779	.000	.002	.001	.782	-.609	-.526	.000	.000	41.00
	26	3.397	.000	3.397	.002	.378	.376	.000	.000	.001	.000	.001	.375	.324	.193	.129	43.00
	27	4.290	.000	4.290	.002	.478	.476	.038	.000	.003	.001	.041	.437	.377	.193	.377	43.00
OCT	28	3.066	.000	3.066	.002	.344	.342	.000	.000	.002	.001	.003	.339	.463	.193	.463	43.00
	29	3.272	.000	3.272	.002	.367	.365	.000	.000	.002	.001	.003	.382	.303	.193	.303	43.00
	30	6.432	.000	6.432	.002	.716	.714	.000	.000	.002	.001	.003	.711	.676	.193	.676	43.00
NOV	31	17.284	.000	17.284	.002	1.925	1.923	.000	.000	.002	.001	.003	1.920	1.659	.193	1.659	43.00
	32	8.373	.000	8.373	.002	.935	.933	.000	.000	.002	.001	.003	.930	.821	.193	.821	43.00
	33	8.363	.000	8.363	.002	.931	.929	.000	.000	.002	.001	.003	.928	.800	.193	.800	43.00
DEC	34	6.756	.000	6.756	.002	.752	.750	.053	.000	.002	.001	.056	.694	.599	.193	.599	43.00
	35	4.137	.000	4.137	.002	.463	.461	.069	.000	.002	.001	.073	.388	.336	.193	.336	43.00
	36	3.330	.000	3.330	.002	.371	.369	.080	.000	.002	.001	.083	.306	.290	.193	.290	43.00
T(MCM)		108.6	.0	.0	.1	11.8	11.7	3.3	.0	.1	.0	3.4	.616	.616	.000	9.7	

Table C.3.6 Cont'd

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :SuN(SITE SuN),CROPPING PATTERN:IAII JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1990		Pinagsaluran RIVER IN1	CIS	BALANCE (1)-(2)	MA	IN2	AVR 5-3-4	WATER DEMAND IRR	VRS	EVP	SPAGE	TOTAL 7+8+9+10	BALANCE 6-11	RESERVOIR (UNIT:MCM) -(12)		INV	WATER-LEVEL (m)
Month		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
JAN	1	1.613	.000	1.613	.002	.180	.178	.110	.000	.003	.001	.114	.064	.035	.193	.035	45.00
	2	1.348	.000	1.348	.002	.150	.148	.097	.000	.003	.001	.101	.047	.041	.193	.041	45.00
	3	1.130	.000	1.130	.003	.135	.132	.114	.000	.003	.001	.118	.003	.005	.193	.005	45.00
FEB	4	.893	.000	.893	.002	.099	.097	.126	.000	.003	.001	.130	-.033	-.038	.167	.000	44.41
	5	.693	.000	.693	.002	.077	.075	.134	.000	.003	.001	.138	-.033	-.046	.131	.000	43.48
	6	.536	.000	.536	.002	.060	.058	.117	.000	.002	.001	.120	-.063	-.043	.078	.000	42.38
MAR	7	.466	.000	.466	.002	.052	.050	.125	.000	.002	.000	.128	-.078	-.067	.010	.000	41.31
	8	.455	.000	.455	.002	.051	.049	.087	.000	.002	.000	.089	-.041	-.035	.000	.000	41.00
	9	.444	.000	.444	.002	.049	.047	.047	.000	.002	.000	.048	-.001	-.001	.000	.000	41.00
APR	10	.434	.000	.434	.002	.048	.046	.015	.000	.002	.000	.016	.030	.036	.028	.000	41.53
	11	.424	.000	.424	.002	.047	.045	.007	.000	.002	.000	.009	.037	.032	.057	.000	42.18
	12	.540	.000	.540	.002	.060	.058	.000	.000	.002	.000	.003	.054	.046	.103	.000	43.16
MAY	13	.525	.000	.525	.002	.059	.056	.000	.000	.002	.001	.003	.054	.046	.152	.000	44.11
	14	5.978	.000	5.978	.002	.666	.664	.000	.000	.002	.001	.003	.660	.571	.193	.337	45.00
	15	4.116	.000	4.116	.002	.459	.457	.000	.000	.003	.001	.004	.453	.430	.193	.430	45.00
JUN	16	4.442	.000	4.442	.002	.493	.492	.000	.000	.002	.001	.003	.489	.423	.193	.423	45.00
	17	2.771	.000	2.771	.002	.309	.307	.000	.000	.002	.001	.003	.303	.262	.193	.262	45.00
	18	1.771	.000	1.771	.002	.197	.195	.000	.000	.002	.001	.003	.193	.166	.193	.166	45.00
JUL	19	1.489	.000	1.489	.002	.166	.164	.000	.000	.002	.001	.003	.161	.139	.193	.139	45.00
	20	1.347	.000	1.347	.002	.150	.148	.346	.000	.002	.001	.349	-.201	-.174	.021	.000	41.44
	21	1.118	.000	1.118	.002	.125	.123	.431	.000	.001	.000	.432	-.309	-.294	.000	.000	41.00
AUG	22	1.088	.000	1.088	.002	.121	.119	.467	.000	.001	.000	.468	-.349	-.301	.000	.000	41.00
	23	2.926	.000	2.926	.002	.326	.324	.000	.000	.001	.000	.001	.323	.279	.193	.084	45.00
	24	1.424	.000	1.424	.002	.159	.157	.697	.000	.002	.001	.700	-.543	-.516	.000	.000	41.00
SEP	25	1.834	.000	1.834	.002	.207	.204	.085	.000	.001	.000	.086	.118	.102	.101	.000	43.19
	26	1.034	.000	1.034	.002	.115	.113	.392	.000	.002	.001	.394	-.281	-.242	.000	.000	41.00
	27	2.140	.000	2.140	.002	.238	.236	.000	.000	.001	.000	.001	.235	.203	.193	.008	45.00
OCT	28	4.862	.000	4.862	.002	.541	.539	.000	.000	.002	.001	.003	.536	.463	.193	.463	45.00
	29	5.773	.000	5.773	.002	.643	.641	.066	.000	.002	.001	.070	.571	.494	.193	.494	45.00
	30	5.477	.000	5.477	.002	.610	.608	.000	.000	.002	.001	.003	.605	.523	.193	.523	45.00
NOV	31	7.554	.000	7.554	.002	.841	.839	.000	.000	.002	.001	.003	.836	.722	.193	.722	45.00
	32	8.414	.000	8.414	.002	.939	.937	.000	.000	.002	.001	.003	.934	.824	.193	.824	45.00
	33	5.944	.000	5.944	.002	.662	.660	.033	.000	.002	.001	.035	.625	.540	.193	.540	45.00
DEC	34	4.401	.000	4.401	.002	.490	.488	.000	.000	.002	.001	.003	.485	.419	.193	.419	45.00
	35	2.978	.000	2.978	.002	.332	.330	.075	.000	.002	.001	.078	.251	.217	.193	.217	45.00
	36	2.471	.000	2.471	.002	.275	.273	.079	.000	.002	.001	.083	.190	.161	.193	.161	45.00
T(MCM)		88.6	.0	.0	.1	9.9	9.8	3.3	.0	.1	.0	3.3	1.746	1.746	.000	6.6	

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :SuN(SITE SuN),CROPPING PATTERN:IAII JUL2
BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM
PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha
CORN : 34.8 ha BEANS DRY: 36.0 ha VEGETABLE2: 11.6 ha
VEGETABLE3: .0 ha VEGETABLE4: 72.0 ha BEANS DRY: 43.2 ha
BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1992		Pinagsaluran RIVER IN1	CIS	BALANCE (1)-(2)	MA	IN2	AVR 5-3-4	WATER DEMAND IRR	VRS	EVP	SPAGE	TOTAL 7+8+9+10	BALANCE 6-11	RESERVOIR (UNIT:MCM) -(12)		INV	WATER-LEVEL (m)
Month		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
JAN	1	1.420	.000	1.420	.002	.158	.156	.111	.000	.003	.001	.115	.041	.035	.193	.035	45.00
	2	1.072	.000	1.072	.002	.119	.117	.099	.000	.003	.001	.102	.015	.013	.193	.013	45.00
	3	.856	.000	.856	.002	.095	.093	.115	.000	.003	.001	.118	-.025	-.024	.171	.000	44.31
FEB	4	.650	.000	.650	.002	.072	.070	.122	.000	.003	.001	.126	-.056	-.048	.123	.000	43.33
	5	.477	.000	.477	.002	.053	.051	.124	.000	.003	.001	.136	-.076	-.066	.057	.000	42.17
	6	.335	.000	.335	.002	.040	.037	.104	.000	.002	.001	.127	-.069	-.034	.003	.000	41.07
MAR	7	.341	.000	.341	.002	.038	.036	.123	.000	.002	.000	.106	-.089	-.077	.000	.000	41.00
	8	.334	.000	.334	.002	.037	.035	.075	.000	.002	.000	.125	-.042	-.036	.000	.000	41.00
	9	.328	.000	.328	.002	.036	.034	.043	.000	.002	.000	.077	-.012	-.011	.000	.000	41.00
APR	10	.319	.000	.319	.002	.035	.033	.017	.000	.003	.000	.044	.015	.013	.013	.000	41.26
	11	.311	.000	.311	.002	.035	.033	.003	.000	.002	.000	.018	.024	.033	.035	.000	41.72
	12	.301	.000	.301	.002	.043	.040	.000	.000	.002	.000	.006	.036	.033	.068	.000	42.40
MAY	13	.296	.000	.296	.002	.033	.031	.000	.000	.002	.000	.003	.078	.073	.092	.000	42.90
	14	.384	.000	.384	.002	.043	.041	.000	.000	.002	.000	.002	.036	.033	.126	.000	43.38
	15	.283	.000	.283	.002	.031	.030	.000	.000	.003	.001	.003	.038	.028	.151	.000	44.08
JUN	16	.291	.000	.291	.002	.032	.030	.000	.000	.002	.001	.003	.020	.016	.175	.000	44.38
	17	.274	.000	.274	.002	.031	.028	.000	.000	.002	.001	.003	.025	.022	.193	.003	45.00
	18	3.089	.000	3.089	.002	.408	.407	.000	.000	.002	.001	.003	.403	.349	.193	.349	45.00
JUL	19	2.619	.000	2.619	.002	.292	.290	.000	.000	.002	.001	.003	.288	.247	.193	.247	45.00
	20	2.249	.000	2.249	.002	.251	.248	.000	.000	.002	.001	.003	.245	.212	.193	.212	45.00
	21	4.204	.000	4.204	.002	.466	.464	.000	.000	.003	.001	.003	.403	.440	.193	.440	45.00
AUG	22	3.139	.000	3.139	.002	.350	.348	.330	.000	.003	.001	.333	.015	.013	.193	.013	45.00
	23	3.561	.000	3.561	.002	.397	.395	.232	.000	.003	.001	.235	.139	.138	.193	.138	45.00
	24	3.199	.000	3.199	.002	.245	.243	.582	.000	.002	.001	.586	-.335	-.335	.000	.000	41.00
SEP	25	2.528	.000	2.528	.002	.282	.279	.000	.000	.002	.001	.001	.270	.241	.193	.048	45.00
	26	6.710	.000	6.710	.002	.747	.745	.000	.000	.001	.000	.003	.742	.641	.193	.641	45.00
	27	4.687	.000	4.687	.002	.522	.520	.314	.000	.003	.001	.317	.203	.175	.193	.175	45.00
OCT	28	3.641	.000	3.641	.002	.406	.403	.382	.000	.002	.001	.385	.019	.016	.193	.016	45.00
	29	3.906	.000	3.906	.002	.435	.433	.003	.000	.002	.001	.009	.424	.387	.193	.387	45.00
	30	4.180	.000	4.180	.002	.466	.463	.004	.000	.002	.001	.003	.480	.437	.193	.437	45.00
NOV	31	11.461	.000	11.461	.002	1.277	1.274	.000	.000	.002	.001	.003	1.271	1.098	.193	1.098	45.00
	32	12.446	.000	12.446	.002	1.386	1.384	.000	.000	.002	.001	.003	1.381	1.102	.193	1.193	45.00
	33	7.701	.000	7.701	.002	.856	.854	.000	.000	.002	.001	.003	.853	.727	.193	.737	45.00
DEC	34	4.633	.000	4.633	.002	.516	.514	.046	.000	.003	.001	.053	.462	.399	.193	.399	45.00
	35	3.690	.000	3.690	.002	.411	.409	.006	.000	.002	.001	.013	.397	.343	.193	.343	45.00
	36	2.981	.000	2.981	.002	.331	.330	.007	.000	.002	.001	.070	.280	.247	.193	.347	45.00
T(MCM)		94.4	.0	.0	.1	9.6	9.4	3.0	.0	.1	.0	3.7	.031	.031	.000	7.1	

Table C.3.6 Cont'd

***** WATER BALANCE OF SOUTHERN PALAWAN *****

CASE :DAM(SITE DAM),CROPPING PATTERN:I&II JUL2

BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM

PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha

CORN : 34.6 ha BEANS DRY: 58.0 ha VEGETABLE2: 11.6 ha

VEGETABLE3: .0 ha VEGETABLE4: 73.0 ha BEANS DRY: 43.2 ha

BEANS WET: 72.0 ha

UNIT:CU.M/SEC

YEAR 1993		Pinagsaluran RIVER IN1	CIS	BALANCE (1)-(2)	MA	IN2	AVR 5-3-4	WATER DEMAND IRR	VRS	EVP	SPAGE	TOTAL 7+8+9+10	BALANCE 6-11	RESERVOIR (UNIT:MCM) -(12)		INV	WATER LEVEL (m)
Month		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
JAN	1	3.333	.000	3.333	.002	.282	.180	.109	.000	.003	.001	.113	.167	.144	.193	.144	43.00
	2	3.163	.000	3.162	.002	.241	.239	.083	.000	.003	.001	.088	.132	.133	.193	.132	43.00
	3	1.823	.000	1.822	.002	.203	.201	.108	.000	.003	.001	.112	.089	.085	.193	.085	43.00
FEB	4	1.307	.000	1.307	.002	.168	.166	.133	.000	.003	.001	.126	.036	.033	.193	.033	43.00
	5	1.328	.000	1.328	.002	.137	.135	.123	.000	.003	.001	.128	.007	.006	.193	.006	43.00
	6	1.003	.000	1.003	.002	.112	.110	.117	.000	.003	.001	.121	-.012	-.006	.187	.000	44.83
MAR	7	.811	.000	.811	.002	.090	.088	.109	.000	.004	.001	.114	-.026	-.022	.165	.000	44.37
	8	.390	.000	.390	.002	.066	.064	.087	.000	.003	.001	.092	-.028	-.024	.141	.000	43.88
	9	.698	.000	.698	.002	.078	.076	.003	.000	.003	.001	.006	.070	.066	.193	.012	43.00
APR	10	.390	.000	.390	.002	.066	.064	.017	.000	.004	.001	.022	.042	.036	.193	.036	43.00
	11	.367	.000	.367	.002	.041	.039	.003	.000	.004	.001	.007	.031	.027	.193	.027	43.00
	12	.338	.000	.338	.002	.040	.038	.000	.000	.004	.001	.005	.033	.029	.193	.029	43.00
MAY	13	1.243	.000	1.243	.002	.138	.136	.000	.000	.003	.001	.004	.132	.114	.193	.114	43.00
	14	.488	.000	.488	.002	.054	.052	.000	.000	.003	.001	.004	.048	.042	.193	.042	43.00
	15	.704	.000	.704	.002	.078	.076	.000	.000	.003	.001	.004	.072	.068	.193	.068	43.00
JUN	16	1.810	.000	1.810	.002	.202	.200	.000	.000	.002	.001	.003	.198	.170	.193	.170	43.00
	17	3.278	.000	3.278	.002	.363	.363	.000	.000	.002	.001	.003	.360	.311	.193	.311	43.00
	18	2.188	.000	2.188	.002	.243	.241	.000	.000	.002	.001	.003	.238	.208	.193	.208	43.00
JUL	19	4.314	.000	4.314	.002	.503	.501	.000	.000	.002	.001	.003	.488	.430	.193	.430	43.00
	20	4.101	.000	4.101	.002	.457	.455	.341	.000	.002	.001	.345	.110	.095	.193	.095	43.00
	21	8.398	.000	8.398	.002	.935	.933	.000	.000	.002	.001	.003	.930	.884	.193	.884	43.00
AUG	22	8.602	.000	8.602	.002	.958	.956	.320	.000	.002	.001	.323	.633	.547	.193	.547	43.00
	23	5.331	.000	5.331	.002	.582	.578	.000	.000	.002	.001	.003	.576	.498	.193	.498	43.00
	24	4.738	.000	4.738	.002	.330	.328	.000	.000	.002	.001	.003	.325	.499	.193	.499	43.00
SEP	25	5.435	.000	5.435	.002	.649	.647	.208	.000	.002	.001	.211	.435	.376	.193	.376	43.00
	26	5.340	.000	5.340	.002	.585	.583	.000	.000	.002	.001	.003	.348	.309	.193	.309	43.00
	27	10.690	.000	10.690	.002	1.184	1.184	.057	.000	.002	.001	.061	1.123	.971	.193	.971	43.00
OCT	28	3.774	.000	3.774	.002	.420	.418	.289	.000	.002	.001	.292	.126	.109	.193	.109	43.00
	29	6.135	.000	6.135	.002	.486	.483	.202	.000	.002	.001	.306	.478	.413	.193	.413	43.00
	30	4.183	.000	4.133	.002	.463	.460	.000	.000	.002	.001	.003	.457	.435	.193	.435	43.00
NOV	31	3.333	.000	3.333	.002	.371	.369	.181	.000	.002	.001	.184	.185	.160	.193	.160	43.00
	32	4.038	.000	4.038	.002	.450	.448	.005	.000	.002	.001	.008	.440	.380	.193	.380	43.00
	33	6.847	.000	6.847	.002	.763	.761	.000	.000	.002	.001	.003	.757	.654	.193	.654	43.00
DEC	34	4.338	.000	4.338	.002	.483	.481	.000	.000	.002	.001	.003	.478	.413	.193	.413	43.00
	35	13.230	.000	13.230	.002	1.476	1.474	.000	.000	.002	.001	.003	1.470	1.270	.193	1.270	43.00
	36	4.710	.000	4.710	.002	.525	.523	.026	.000	.002	.001	.029	.493	.489	.193	.489	43.00
T(MCM)		115.3	.0	.0	.1	13.0	12.8	2.2	.0	.1	.0	2.3	.094	.064	.141	10.8	

Summary

***** WATER BALANCE OF SOUTHERN PALAWAN *****

<< SUMMARY >>

CASE :DAM(SITE DAM),CROPPING PATTERN:I&II JUL2

BASIN AREA : 13.9 SQ.KM EFFECTIVE STORAGE VOLUME : .193 MCM

PADDY WET: 387.0 ha PADDY DRY: .0 ha VEGETABLE1: 11.6 ha

CORN : 34.6 ha BEANS DRY: 58.0 ha VEGETABLE2: 11.6 ha

VEGETABLE3: .0 ha VEGETABLE4: 73.0 ha BEANS DRY: 43.2 ha

BEANS WET: 72.0 ha

ALL UNIT:MCM

YEAR	Pinagsaluran RIVER IN1	CIS	BALANCE (1)-(2)	MA	IN2	AVR 5-3-4	WATER DEMAND IRR	VRS	EVP	SPAG	TOTAL 7+8+9+10	BALANCE 6-11	RESERVOIR -(12)		INV	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
1977	98.4	.0	.0	.1	11.0	10.9	3.4	.0	.1	.0	3.5	.0	.007	.188	8.4	0
1978	156.7	.0	.0	.1	17.5	17.4	3.4	.0	.1	.0	3.5	.1	.180	.008	14.9	0
1979	120.9	.0	.0	.1	13.5	13.4	2.7	.0	.1	.0	2.8	.3	.191	.004	10.6	0
1980	138.2	.0	.0	.1	15.4	15.3	2.0	.0	.1	.0	2.1	.0	.017	.178	13.3	0
1981	119.1	.0	.0	.1	13.3	13.2	2.2	.0	.1	.0	2.3	.1	.078	.117	10.9	0
1982	98.3	.0	.0	.1	11.0	10.9	2.2	.0	.1	.0	2.3	.2	.306	.000	8.6	0
1983	127.1	.0	.0	.1	14.2	14.1	2.3	.0	.1	.0	2.4	.2	.230	.029	11.7	0
1984	119.6	.0	.0	.1	13.3	13.3	2.3	.0	.1	.0	2.4	.3	.468	.000	11.0	0
1985	120.7	.0	.0	.1	13.4	13.4	2.5	.0	.1	.0	2.6	.6	.778	.000	11.0	0
1986	135.1	.0	.0	.1	15.0	15.0	2.2	.0	.1	.0	2.3	.9	.000	.193	12.7	0
1987	98.2	.0	.0	.1	10.9	10.9	3.1	.0	.1	.0	3.2	1.1	1.083	.000	8.3	0
1988	105.6	.0	.0	.1	11.8	11.7	2.3	.0	.1	.0	2.4	.6	.616	.000	9.7	0
1989	111.1	.0	.0	.1	12.5	12.4	3.6	.0	.1	.0	3.7	1.0	1.029	.000	9.4	2
1990	80.0	.0	.0	.1	8.9	8.8	3.2	.0	.1	.0	3.3	1.7	1.748	.000	6.6	2
1991	70.9	.0	.0	.1	7.9	7.8	2.9	.0	.1	.0	3.0	.8	.339	.000	5.0	0
1992	86.4	.0	.0	.1	9.6	9.6	2.6	.0	.1	.0	2.7	.7	.651	.000	7.1	2
1993	115.3	.0	.0	.1	13.0	12.8	2.2	.0	.1	.0	2.3	.1	.094	.141	10.3	0

Figure C.3.1 Basic Concept of Proposed Water Utilization at Inagawan River

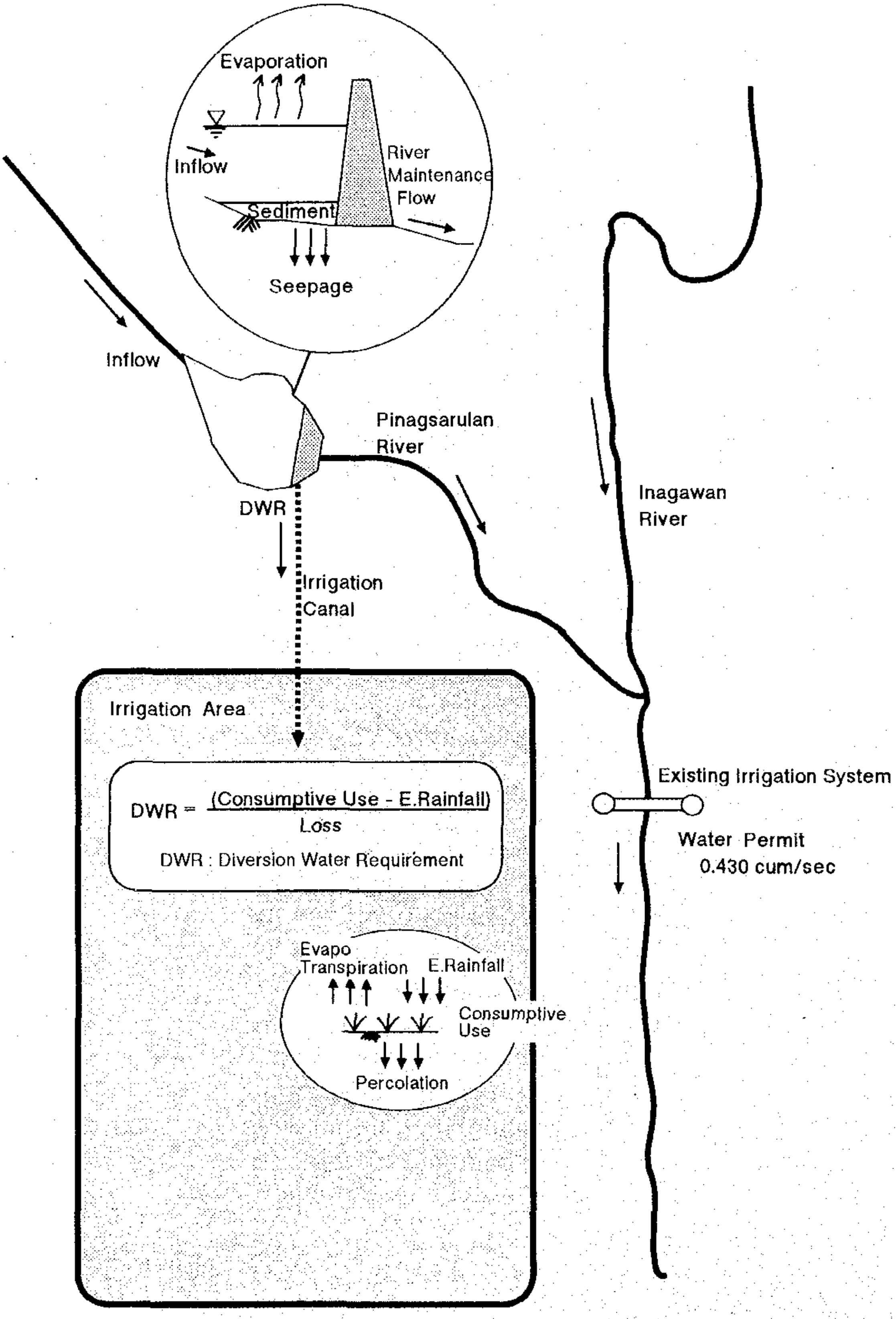


Figure C.3.2 Flow Chart of Reservoir Operation

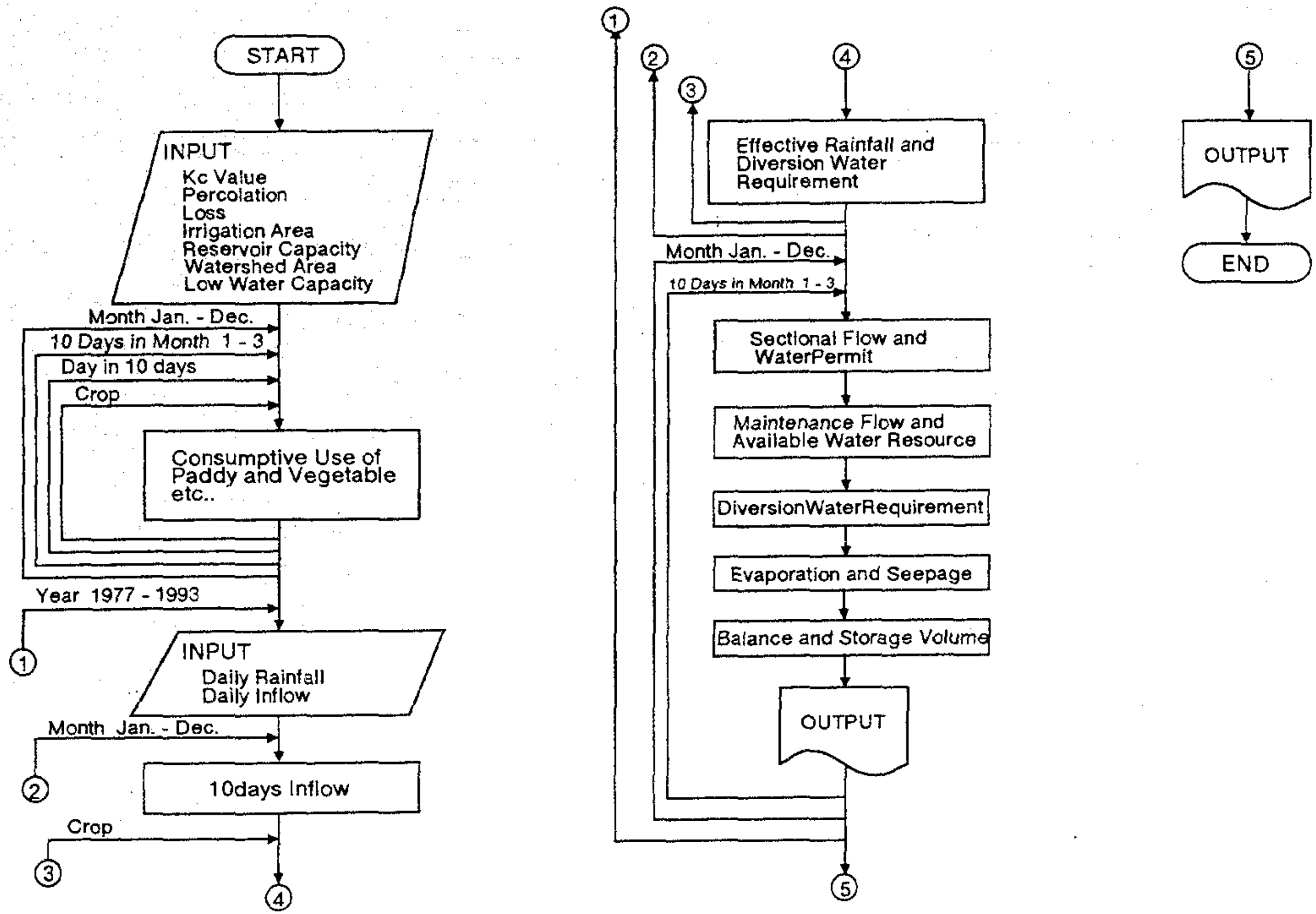


Figure C.3.3 Result of Reservoir Operation (Site : Eu)

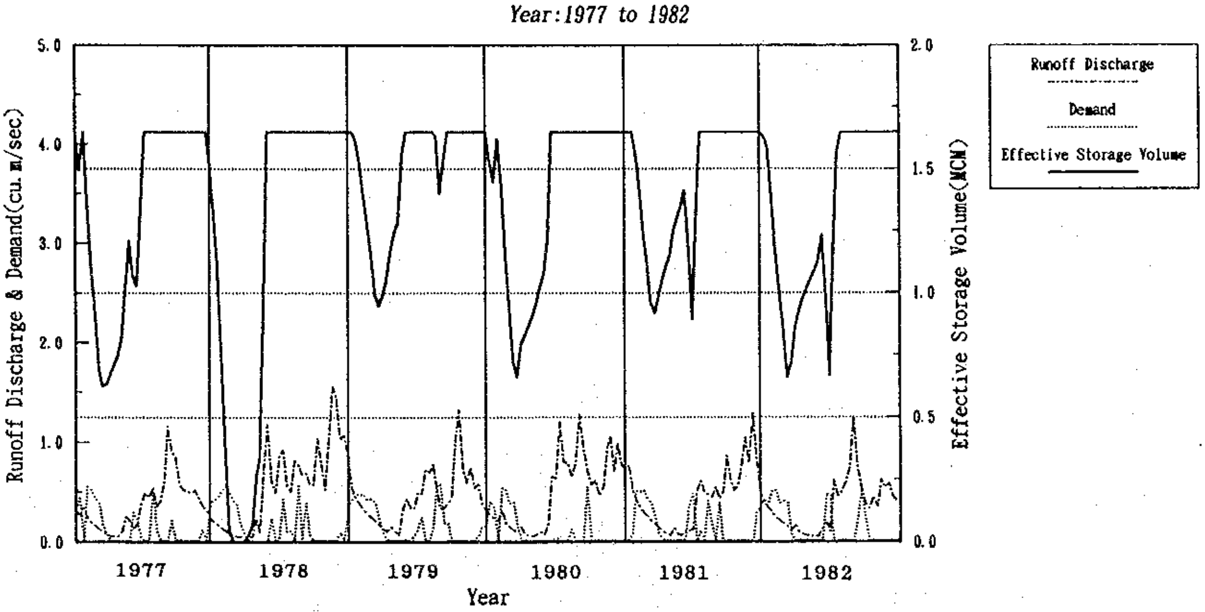


Figure C.3.3 Cont'd

(Site : Eu)

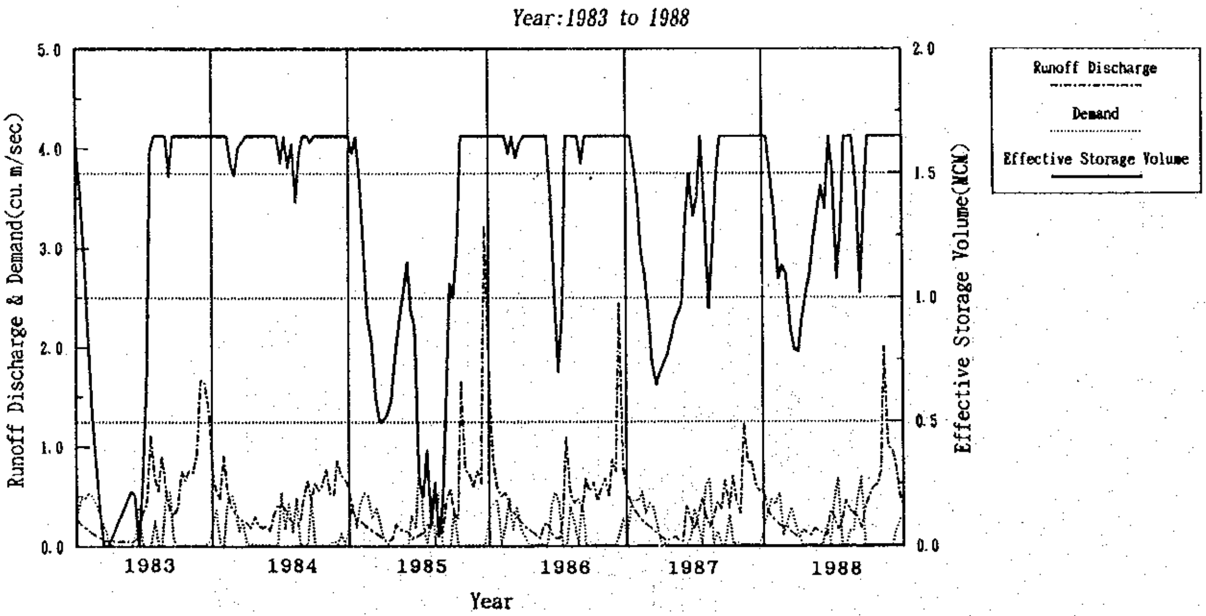


Figure C.3.3 Cont'd

(Site : Eu)

Year:1989 to 1993

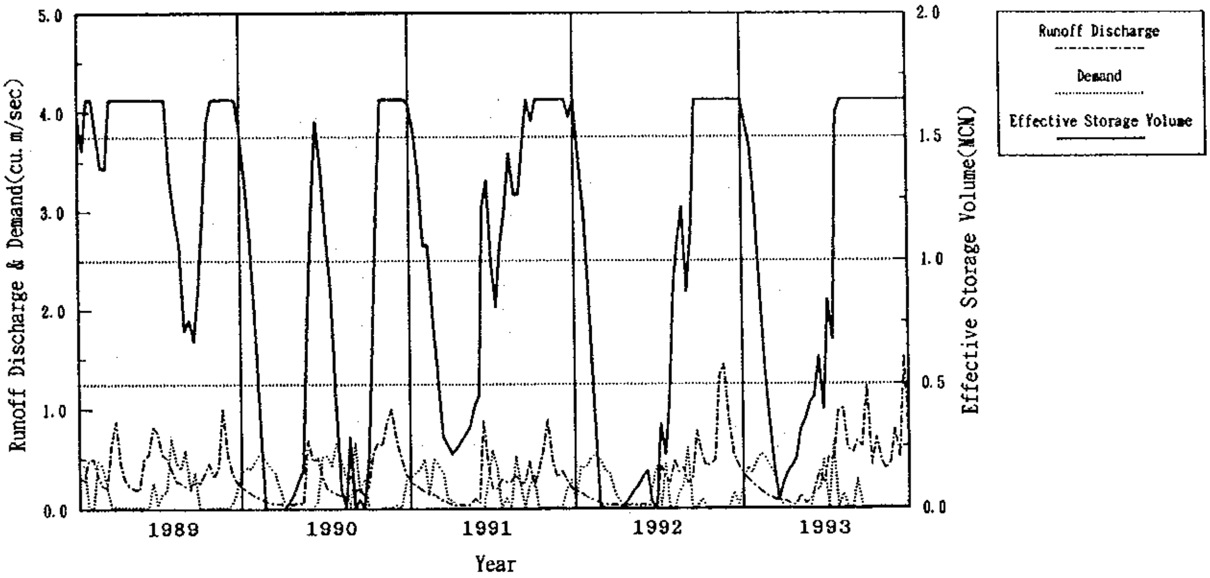


Figure C.3.4 Result of Reservoir Operation (Site : EuM)

Year:1977 to 1982

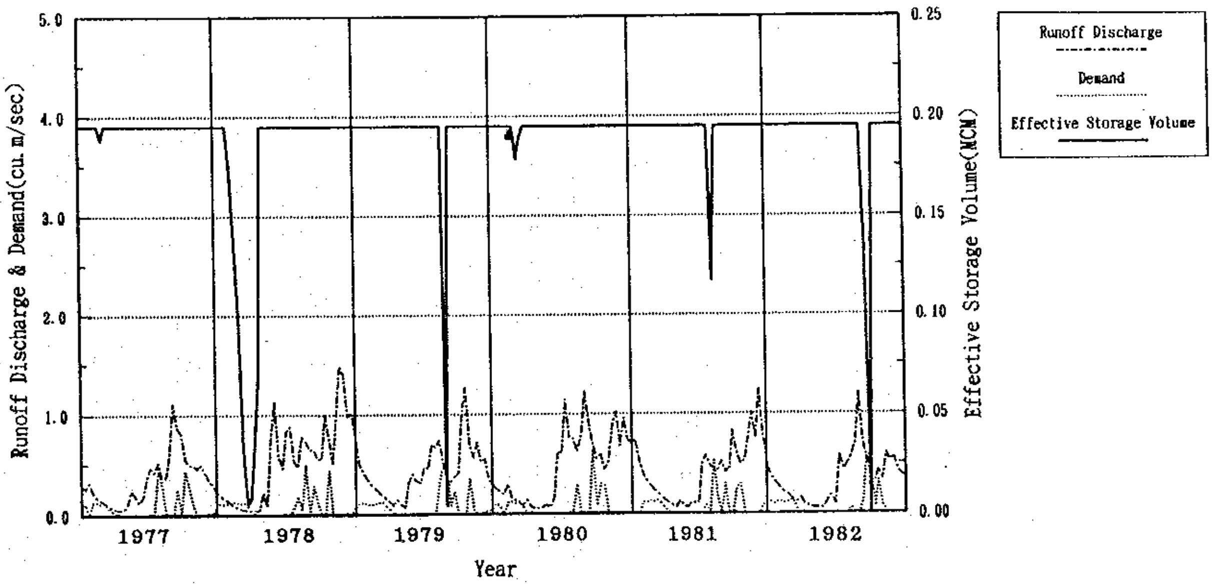


Figure C.3.4 Cont'd

(Site : EuM)

Year:1983 to 1988

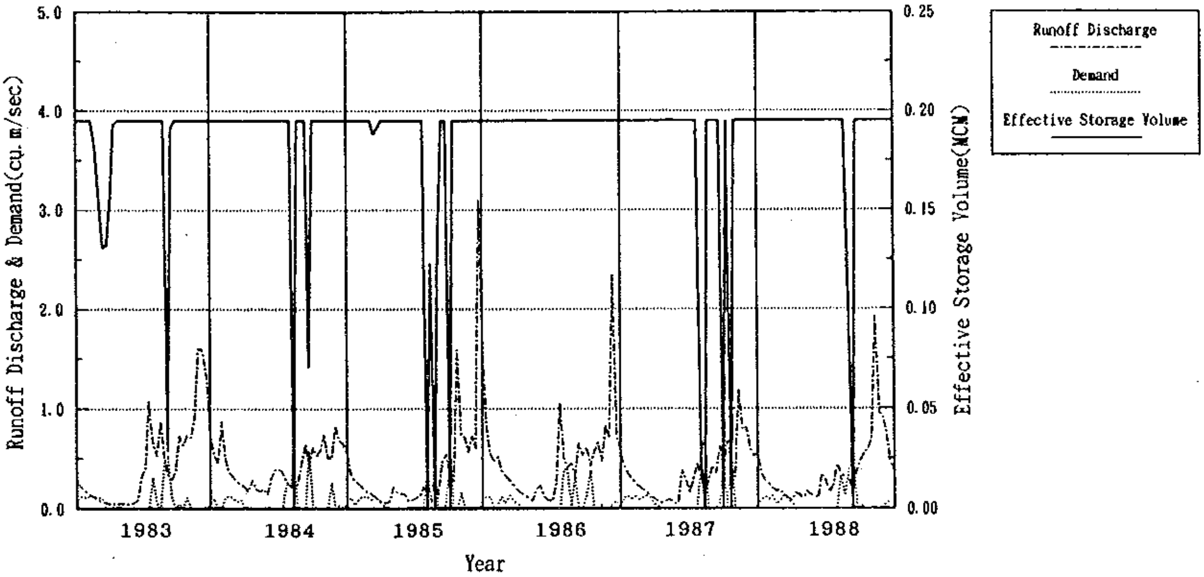
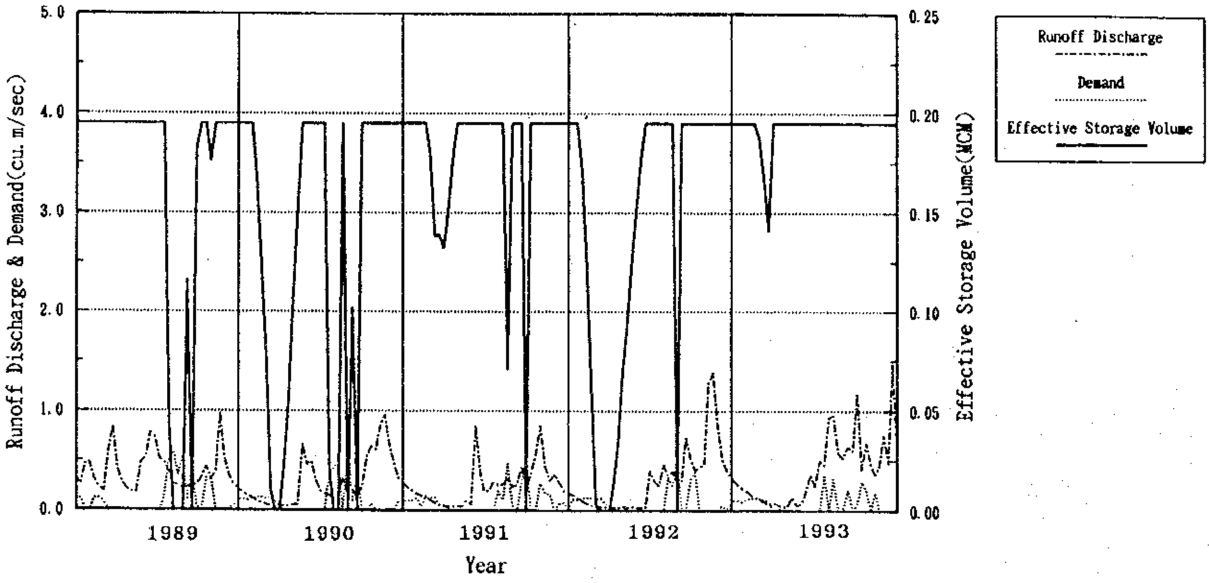


Figure C.3.4 Cont'd

(Site : EuM)

Year:1989 to 1993



APPENDIX D. SOIL AND AGRICULTURE

D. 1 SOIL

D. 1. 1 General Condition

Land management unit map, covering the study area was prepared by the Bureau of Soils and Water Management (BSWM), in 1988. Based on this map, the soil in the Study Area was generally classified into two units.

(1) Minor alluvial plains, which are distributed at the river basins of Isog and Isaub river.
(2) Terrace (residual soils), which occupies more than 80% of the total area.

There are some minor units, volcanic hills and broad plains, at the edges of the Study Area. (refer to Figure D.1.1)

D. 1. 2 Soil Profile Survey

The soil profile survey was conducted by digging soil pits. The profile was examined at a depth of about 1 m and to an average survey density at about one profile per 50 ha in the Study Area. The items and methods observed are as follows:

Soil Color	:	Under field conditions, soil color was determined by comparing with the Standard Soil Color Chart, expressed in the same color notation as the Munsell Soil Color Chart.
Mottling	:	The presence of color mottlings in a soil profile may be of great significance in relation to soil forming process or drainage pattern. Oxidative sediments mainly consist of various compounds of iron and manganese oxides. The abundance and color of mottles were recorded.
Gley	:	Dark green, dark blush green or blush gley colored horizon against which the ground water lies may be designated as gley horizon. Such reducing spots or gley horizon usually contain a large amount of ferrous iron compound. The presence of gley horizon and the color were recorded.

Gravel : The absence or presence, size, quantity of gravel and stones larger than 2 mm in diameter were recorded.

Compactness : Compactness was determined by using Yamanaka's cone penetrometer. The following are the degree & compactness and the recorded value of the soil profile.

Degree of Compactness	Values Recorded
Loose	Less than 10 mm
Slightly compact	11 to 18 mm
Compact	19 to 24 mm
Very compact	24 to 29 mm
Extremely compact	More than 30 mm

The values in mm read on this apparatus show the strength of resistance of the soil to the penetration of conical part of the instrument.

Ground Water Level: The absence or presence, depth of groundwater level were recorded.

Plant Root : For each horizon, the distribution of plant root (wood, herb) was described on the basis of exposed surface.

Plasticity : For the determination of plasticity in the field, enough moisture was supplied to the soil material rolled between thumb and fingers. When the soil material does not anymore adhere to the finger, it becomes a wire. Degree of plasticity was recorded.

Stickiness : For the determination of stickiness in the field, soil material was pressed between thumb and finger, and its adherence was recorded.

Data of each soil profile (refer to Table D.1.1) the legend for these data are presented as follows:

<u>Mottling</u>

Abundance : few .... Mottles occupy less than 2% of the exposed surface.

common ... Mottles occupy 2 to 20% of the exposed surface.

mosaic .... Mottles occupy more than 20% of the exposed surface

Gravel

Size	:	very fine ...	Less than 1 cm in diameter
		fine	1 to 2 cm in diameter
		medium ...	2 to 10 cm in diameter
		coarse	More than 10 cm in diameter
Quantity	:	few	Less than 5%
		common ...	5 to 10%
		many	10 to 20%
		abundant ..	20 to 50%
		gravel layer	More than 50%

Plant Root

Distribution	:	few	Less than 5%
		common ...	5 to 10%
		many	10 to 20%
		abundant ..	More than 20%

Plasticity

Degree of Plasticity:

plastic	Plastic
s. plastic ...	Slightly plastic
v.s. plastic .	Very slightly plastic
non plastic .	Non plastic

Stickiness

Degree of Stickiness:

very sticky .	Very sticky
sticky	Sticky
s. sticky ...	Slightly sticky
non sticky .	Non sticky

Most of the test pits have less than three horizons. But some of them have three (No.4, 10, 11, 13) and 4 (No.14) horizons. Horizon thickness differ from 10 to 100 cm. The dominant soil color in the Study Area is yellowish brown (5 ~ 10 YR) with almost no mottles except for the lowland or paddy field. The soil with gravel is not common in the Study Area, but some subsoil horizons have gravel with more 20%. Hence, if surface soil is not thick enough, it may need extra operation to remove the bigger ones before commencement of farming.

Compactness of the soil is very important to determine the workability of land. Values resulting from using the Yamanaka's cone penetrometer are indices which describe the degree of soil compactness. Generally, when the value of the meter is more than 20 mm, the free root elongation is interfered, so it needs ample tillage for crop growth. In the Study Area, the values with more than 20 mm are more than the ones with less than 20 mm. Since, the clayey soil is dominant in the Study Area, the soil is rather hard than loamy area. (refer to Figure D.1.2 and Table D.1.1)

D. 1. 3 Laboratory Analysis

In the course of the profile examination, some 40 soil samples were collected from the major layers. These soil samples were sent to BSWM, Manila for testing, to determine physical features and chemical properties. The soil test conducted were as follows:

Physical Nature:

- Particle size distribution

Chemical Properties:

- Soil reaction (pH)
- Available phosphate
- Organic matter (%)
- Electric conductivity (EC)
- Exchangeable cations (Ca, Mg, Na, K)
- Exchange acidity
- Cation exchange capacity (CEC)
- Aluminum
- Trace elements (Cu, Zn, Fe, Mn)

According to the particle size distribution analysis, each textural class was determined. The dominant soil textures in the Study Area are clayey loam and light clay, accounting to 12 samples among 40. But 5 surface soil samples have heavy clay; namely, Pit No.4, 6, 12, 21, 35. This soil texture is not adaptable for farming due to its poor drainage and difficulty of tillage. Therefore, improvement of soil texture will be necessary for stable harvest.

pH is an important chemical property of soil, because pH affects the activity of microbes, availability of nutrient elements, etc. The lowest value, which indicates strong acidic reaction is 4.7 while the highest is 7.1. Generally, there is a need to improve the soil conditions below pH 5.0, but in the Study Area, these strong acidic properties are observed in 6 samples. For ordinary growth, most crops prefer the conditions of pH 6.0 ~7.0, hence, the need to neutralize above pH 6.0 area.

There is a need therefore, to increase the available phosphate in the soil before farming. Phosphate is easy to combine with iron, aluminum and clay and becomes invalid. In the Study Area, aluminum is not common, but high iron content and clayey soils are observed. Therefore, more application of phosphorus fertilizer than usual will be needed.

Organic matter is also very few in the Study Area. Most of the samples contain less than 1%. Organic matter affects the nature of soil entirely, like increasing nutrient supply and buffer function and Cation Exchange Capacity(CEC), so application of organic matter is necessary from both chemical and physical viewpoints.

CEC is one indicator which shows the holding ability of nutrient cations. The bigger the CEC, the higher the ability. In the Study Area, the value of CEC ranged from 6.5 to 43.9 me/100 g. The low value means the lack of ability to hold various cations in the soil, hence, this must be improved through organic manure application, etc.

Some of the trace elements are relatively with high concentrations. For example, some soils have characteristics which suffer from manganese excess which are harmful under low pH condition. Depending on the combination of crops and the soil condition, the excess becomes harmful. To prevent these harmful conditions, it is essential that acidity conditions be not too strong or too much reduced.

In total, the Study Area has no serious negative factors for agriculture in terms of soil conditions. Adequate countermeasures to correct acidity and supply nutrients will be required to a certain extent, but these are necessary operations undertaken in any kind of soil.

D. 1. 4 Land Classification

Land classification survey was conducted mainly to establish the location and extent of arable and non-arable lands and to classify the lands that are suitable for the development of viable agrarian community. Arable lands classified as suitable for irrigation have a total area of 1,544.69 ha while non-arable lands considered not suitable for cultivation cover an area of 521.21 ha. (refer to Table D.1.3 to D.1.5)

a) Objectives and Methodology

The main objectives of the land classification survey were as follows:

- To delineate and segregate arable and non-arable lands.
- To classify arable lands into land classes and sub-classes based on their potential productivity and existing limitations.

The land classification scheme was patterned from the land classification specifications of the U.S. Bureau of Land Reclamation with some specifications to suit the local condition. Following this set of specifications, the soils were classified and land classes were delineated so as to reflect the productivity potential of the land according to soil, surface configuration and drainage limitations.

The arable lands were divided into two categories namely: riceland and diversified crops. These were further segregated into land classes as reflected by the productive capacity of the land. Further sub-divisions were also made according to the degree of limiting factors such as soil, topography and flooding hazards, whenever encountered. These limitations or deficiencies were further reflected in the land sub-classes.

b) Description of Major Classes

1) Riceland

The land under this category are suited for irrigated lowland rice during the wet and dry season crops. The soil that belongs to this group consists mostly of very fine to fine clayey texture, with very poor to poor drain ability and level to nearly level topography.

Class 1R : The land under this class is highly suitable for rice production during the wet and dry season crops with minimum input level and adequate irrigation water supply.

Class 2R : This type of land is moderately suitable land for the production of rice crop. This land class has lower productivity rating compared to Class IR land. Soils of this land are similar to Class 1R except for minor deficiency such as soil or topographic limitation. With adequate supply of irrigation water during the wet and dry season, good harvest could be attained annually. This land occupies 1,008 ha or 48.8% of the total area.

Class 3R : The land under this class is marginally suitable for rice production. This land class has lower productivity rating than Class 2R land. Soils of this land are similar to Class 2R except for serious differences like topography and soil limitation.

2) Diversified Cropland

The land under this category is suited for irrigated diversified crops. Its suitability is attributed to soil characteristics having fine loamy to coarse loamy textures. This land is located mostly in the flood plain, meander belts of the river channels. This land occupies 243 ha or 11.8% of the total area.

Class 2 : This type of land is moderately suitable for diversified crops. They have moderate limitation on topography. The land is capable of agricultural production with moderate cost of farm inputs. This land class occupies 49ha or 2.4% of the total area.

Class 3 : This type of land is marginally suitable for diversified cropping. The limitation includes soil and topographic differences. The land is capable of agricultural production with marginal cost of farm inputs. This land covers 194 ha or 9.4% of the total area.

3) Non-Arable Land

This land is not suitable for agricultural development because of their existing limitations as soil, topography or drainage condition. This land includes rivers / creeks and residential areas.

Class 6 : The land is found near the rivers and creeks devoid of soil material with no agricultural value. While 6st and 6t include areas with either stony or very steep topography. This land occupies 494 ha or 23.9% of the total area.

Class M : This land is utilized for the beneficiaries' houses, community center, church and school. This land occupies 26.90 ha or 1.30% of the total area.

Table D.1.1 Soil Profile Description

Pit No. : 1
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-100		
Color		10 YR 4/6		
Mottling		-		
Gley		-		
Gravel	size	fine		
	quantity	few		
Compactness		22		
Groundwater Level		-		
Plant Root	wood	-		
	herb	common		
Plasticity		s. plastic		
Stickiness		sticky		

Pit No. : 2
Kind of Profile : Exploratory Pit
Topography : On the Hill
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-42	42-100	
Color		7.5 YR 5/6	7.5 YR 5/8	
Mottling		-	common (N 3/0,7.5 R 5/8)	
Gley		-	-	
Gravel	size	-	fine,medium	
	quantity	-	many	
Compactness		22	24	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	many	few	
Plasticity		non plastic	v.s.plastic	
Stickiness		non sticky	sticky	

Pit No. : 3
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Cogon

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-60	60-100	
Color		10 YR 5/8	10 YR 6/8	
Mottling		-	common (10 R 4/6)	
Gley		-	-	
Gravel	size	-	fine,medium	
	quantity	-	abundant	
Compactness		18	22	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	common	few	
Plasticity		s.plastic	-	
Stickiness		very sticky	-	

Pit No. : 4
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Cogon

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-15	15-63	63-100
Color		5 YR 4/6	2.5 YR 4/8	10 Y 8/1
Mottling		-	-	common (10 R 5/8)
Gley		-	-	-
Gravel	size	-	fine,medium	-
	quantity	-	abundant	-
Compactness		20	17	17
Groundwater Level		-	-	-
Plant Root	wood	few	few	-
	herb	many	common	few
Plasticity		plastic	s.plastic	s.plastic
Stickiness		very sticky	sticky	s.sticky

Pit No. : 5
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Forest

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-10	10-100	
Color		10 YR 4/6	2.5 Y 5/6	
Mottling		-	few (10 R 4/8)	
Gley		-	-	
Gravel	size	-	-	
	quantity	-	-	
Compactness		19	21	
Groundwater Level		-	-	
Plant Root	wood	common	few	
	herb	many	common	
Plasticity		v.s.plastic	s. plastic	
Stickiness		non sticky	sticky	

Pit No. : 6
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Kaingin

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-42	42-100	
Color		2.5 Y 3/4	7.5 Y 4/2	
Mottling		-	common (5 Y 2/1,10 BG 3/1)	
Gley		-	-	
Gravel	size	-	-	
	quantity	-	-	
Compactness		19	15	
Groundwater Level		-	-	
Plant Root	wood	common	-	
	herb	common	few	
Plasticity		plastic	plastic	
Stickiness		s.sticky	sticky	

Pit No. : 7
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Paddy

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-40	40-100	
Color		10 YR 5/3	11 YR 6/8	
Mottling		-	common (2.5 YR 4/8)	
Gley		-	-	
Gravel	size	-	medium	
	quantity	-	common	
Compactness		18	24	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	many	few	
Plasticity		non plastic	non plastic	
Stickiness		non sticky	non sticky	

Pit No. : 8
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-44	44-100	
Color		10 YR 3/3	2.5 Y 6/2	
Mottling		-	few (10 YR 6/8)	
Gley		-	-	
Gravel	size	-	-	
	quantity	-	-	
Compactness		17	15	
Groundwater Level		-	90 cm	
Plant Root	wood	few	-	
	herb	common	few	
Plasticity		v.s.plastic	s.plastic	
Stickiness		non sticky	non sticky	

Table D.1.1 Cont'd

Pit No. : 9
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-17	17-76	76-(rock)
Color		10 YR 3/3	7.5 YR 5/8	
Mottling		common (N 2/0)	common (N 2/0)	
Gley		-	-	
Gravel	size	very fine	fine,medium	
	quantity	common	many	
Compactness		21	21	
Groundwater Level		-	-	
Plant Root	wood	common	common	
	herb	few	few	
Plasticity		s.plastic	s.plastic	
Stickiness		s.sticky	s.sticky	

Pit No. : 10
Kind of Profile : Exploratory Pit
Topography : On the Hill
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-27	27-47	47-100
Color		7.5 YR 5/8	10 R 4/8	7.5 Y 7/2
Mottling		-	-	many (10 R 4/8)
Gley		-	-	-
Gravel	size	-	-	fine,medium
	quantity	-	-	abundant
Compactness		21	21	23
Groundwater Level		-	-	-
Plant Root	wood	few	few	-
	herb	many	common	few
Plasticity		s.plastic	v.s.plastic	non plastic
Stickiness		s.sticky	very sticky	very sticky

Pit No. : 13
Kind of Profile : Exploratory Pit
Topography : On the Hill
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-29	29-65	65-100
Color		7.5 YR 4/4	10 YR 6/8	7.5 Y 4/2
Mottling		-	common (10 Y 2/1)	common (10 Y 2/1)
Gley		-	-	-
Gravel	size	-	fine	fine
	quantity	-	many	many
Compactness		23	25	25
Groundwater Level		-	-	-
Plant Root	wood	many	common	few
	herb	common	few	-
Plasticity		plastic	s.plastic	-
Stickiness		s.sticky	very sticky	-

Pit No. : 14
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3	4
Depth of top & bottom of horizon (cm)		0-18	18-32	32-67	67-100
Color		5 YR 3/4	10 YR 6/6	2.5 Y 8/4	5 Y 6/1
Mottling		-	-	common (10 R 4/8)	many (10 R 4/8)
Gley		-	-	-	-
Gravel	size	-	-	very fine	very fine
	quantity	-	-	abundant	many
Compactness		12	13	15	18
Groundwater Level		-	-	-	-
Plant Root	wood	-	-	-	-
	herb	few	few	-	-
Plasticity		-	-	-	-
Stickiness		-	-	-	-

Pit No. : 11
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Cogon

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-25	25-51	51-100
Color		2.5 Y 3/2	5 Y 4/3	10 GY 5/1
Mottling		-	common (5 BG 5/1)	common (5 BG 5/1)
Gley		-	-	58 cm
Gravel	size	-	fone,medium	fone,medium
	quantity	-	many	many
Compactness		20	18	15
Groundwater Level		-	-	85 cm
Plant Root	wood	-	-	-
	herb	common	few	few
Plasticity		s.plastic	s.plastic	s.plastic
Stickiness		non sticky	non sticky	sticky

Pit No. : 12
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-52	52-100	
Color		5 YR 4/3	2.5 YR 4/8	
Mottling		-	-	
Gley		-	-	
Gravel	size	-	medium	
	quantity	-	many	
Compactness		20	22	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	common	few	
Plasticity		plastic	plastic	
Stickiness		very sticky	very sticky	

Pit No. : 15
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Paddy

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-41	41-100	
Color		7.5 YR 4/2	2.5 Y 6/2	
Mottling		-	common (10 R 4/8)	
Gley		-	-	
Gravel	size	-	-	
	quantity	-	-	
Compactness		13	13	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	common	few	
Plasticity		s. plastic	-	
Stickiness		sticky	-	

Pit No. : 16
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-100		
Color		7.5 YR 5/4		
Mottling		many (10 R 4/6)		
Gley		-		
Gravel	size	very fine		
	quantity	few		
Compactness		13		
Groundwater Level		100 cm		
Plant Root	wood	few		
	herb	few		
Plasticity		s.plastic		
Stickiness		non sticky		

Table D.1.1 Cont'd

Pit No. : 17
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Cashew

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-54	54-100	
Color		10 YR 6/6	7.5 YR 5/6	
Mottling		-	-	
Gley		-	-	
Gravel	size	-	-	
	quantity	-	-	
Compactness		17	20	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	few	few	
Plasticity		-	-	
Stickiness		-	-	

Pit No. : 18
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-28	28-100	
Color		10 YR 3/4	2.5 YR 4/6	
Mottling		common (10 R 3/6)	common (2.5 YR 2/0)	
Gley		-	-	
Gravel	size	fine,medium	fine,medium	
	quantity	common	many	
Compactness		22	22	
Groundwater Level		-	-	
Plant Root	wood	common	few	
	herb	common	few	
Plasticity		s.plastic	v.s.plastic	
Stickiness		sticky	very sticky	

Pit No. : 21
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-65	65-100	
Color		7.5 YR 5/8	2.5 YR 5/8	
Mottling		-	-	
Gley		-	-	
Gravel	size	fine,medium	fine,medium	
	quantity	few	common	
Compactness		22	20	
Groundwater Level		-	-	
Plant Root	wood	few	few	
	herb	few	few	
Plasticity		s.plastic	s.plastic	
Stickiness		sticky	sticky	

Pit No. : 22
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-20	20-100	
Color		7.5 YR 5/4	10 YR 5/1	
Mottling		-	many (10 R 4/8)	
Gley		-	-	
Gravel	size	-	fine	
	quantity	-	gravel layer	
Compactness		20	23	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	few	few	
Plasticity		-	-	
Stickiness		-	-	

Pit No. : 19
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Pasture

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-53	53-100	
Color		5 YR 3/6	10 R 4/4	
Mottling		-	few (10 PB 2/1)	
Gley		-	-	
Gravel	size	very fine	fine,medium	
	quantity	few	common	
Compactness		22	23	
Groundwater Level		-	-	
Plant Root	wood	few	few	
	herb	common	few	
Plasticity		non plastic	non plastic	
Stickiness		very sticky	very sticky	

Pit No. : 20
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-48	48-100	
Color		5 YR 5/3	10 YR 6/2	
Mottling		-	many (10 YR 8/8)	
Gley		-	-	
Gravel	size	-	fine	
	quantity	-	abundant	
Compactness		24	22	
Groundwater Level		-	-	
Plant Root	wood	few	-	
	herb	common	-	
Plasticity		s.plastic	s.plastic	
Stickiness		non sticky	non sticky	

Pit No. : 23
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-40	40-100	
Color		7.5 YR 4/3	5 Y 6/1	
Mottling		common (10 R 4/8)	common (10 R 4/8)	
Gley		-	-	
Gravel	size	-	-	
	quantity	-	-	
Compactness		17	18	
Groundwater Level		-	-	
Plant Root	wood	-	-	
	herb	common	few	
Plasticity		-	-	
Stickiness		-	-	

Pit No. : 25
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Pasture

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-25	25-100	
Color		7.5 YR 4/2	10 Y 2/1	
Mottling		-	-	
Gley		-	-	
Gravel	size	-	fine,medium	
	quantity	-	abundant	
Compactness		11	11	
Groundwater Level		-	47 cm	
Plant Root	wood	-	-	
	herb	many	common	
Plasticity		v.s.plastic	v.s.plastic	
Stickiness		non sticky	non sticky	

Table D.1.1 Cont'd

Pit No. : 26
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-16	16-100	
Color		10 YR 6/8	5 YR 4/6	
Mottling		common (7.5 R 5/8)	many (7.5 R 5/8)	
Gley		-	-	
Gravel	size quantity	very fine few	fine many	
Compactness		23	21	
Groundwater Level		-	-	
Plant Root	wood herb	- few	- few	
Plasticity		s.plastic	s.plastic	
Stickiness		non sticky	sticky	

Pit No. : 27
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-61	61-100	
Color		7.5 YR 5/6	10 YR 6/6	
Mottling		-	many (10 R 4/8)	
Gley		-	-	
Gravel	size quantity	- few	fine,medium many	
Compactness		22	21	
Groundwater Level		-	-	
Plant Root	wood herb	- common	- few	
Plasticity		s.plastic	non plastic	
Stickiness		sticky	non sticky	

Pit No. : 30
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Pasture

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-21	21-100	
Color		N 6/0	5 B 5/1	
Mottling		many (2.5 YR 5/8)	many (2.5 YR 5/8)	
Gley		-	-	
Gravel	size quantity	very fine few	medium many	
Compactness		21	18	
Groundwater Level		-	-	
Plant Root	wood herb	few many	few common	
Plasticity		s. plastic	non plastic	
Stickiness		sticky	non sticky	

Pit No. : 31
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Pasture

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-74	74-100	
Color		2.5 YR 4/0	2.5 YR 6/0	
Mottling		many (N 2/0)	many (10 R 4/8)	
Gley		-	-	
Gravel	size quantity	- -	medium abundant	
Compactness		19	20	
Groundwater Level		-	-	
Plant Root	wood herb	- common	- -	
Plasticity		s.plastic	s.plastic	
Stickiness		sticky	sticky	

Pit No. : 28
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-38	38-100	
Color		10 Y 6/1	7.5 YR 6/1	
Mottling		common (10 R 4/8)	many (7.5 YR 4/8)	
Gley		-	-	
Gravel	size quantity	very fine few	fine abundant	
Compactness		21	21	
Groundwater Level		-	-	
Plant Root	wood herb	- few	- few	
Plasticity		non plastic	s.plastic	
Stickiness		non sticky	non sticky	

Pit No. : 29
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-80	80-100	
Color		2.5 Y 4/6	10 YR 4/2	
Mottling		-	-	
Gley		-	-	
Gravel	size quantity	- -	fine many	
Compactness		20	22	
Groundwater Level		-	-	
Plant Root	wood herb	few common	- -	
Plasticity		s.plastic	non plastic	
Stickiness		sticky	non sticky	

Pit No. : 32
Kind of Profile : Exploratory Pit
Topography : Grassland
Land Use : Sloping

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-25	25-100	
Color		7.5 YR 6/6	7.5 YR 5/6	
Mottling		-	-	
Gley		-	-	
Gravel	size quantity	- -	- -	
Compactness		22	17	
Groundwater Level		-	-	
Plant Root	wood herb	common common	few few	
Plasticity		non plastic	s. plastic	
Stickiness		very sticky	sticky	

Pit No. : 33
Kind of Profile : Exploratory Pit
Topography : Sloping
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-19	19-100	
Color		2.5 Y 6/2	N 8/0	
Mottling		-	many (10 R 4/6)	
Gley		-	-	
Gravel	size quantity	very fine few	very fine few	
Compactness		22	22	
Groundwater Level		-	-	
Plant Root	wood herb	- many	- common	
Plasticity		s.plastic	s.plastic	
Stickiness		non sticky	sticky	

Table D.1.1 Cont'd

Pit No. : 34
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-62	62-100	
Color		7.5 YR 4/3	2.5 YR 5/8	
Mottling		-	common (7.5 R 5/8)	
Gley		-	-	
Gravel	size	fine	fine,medium	
	quantity	few	few	
Compactness		23	21	
Groundwater Level		-	-	
Plant Root	wood	few	few	
	herb	many	few	
Plasticity		s.plastic	s. plastic	
Stickiness		sticky	very sticky	

Pit No. : 35
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Pasture

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-66	66-100	
Color		10 YR 5/8	5 Y 3/2	
Mottling		common (N 1/0)	many (7.5 YR 7/8)	
Gley		-	-	
Gravel	size	-	fine	
	quantity	-	common	
Compactness		19	18	
Groundwater Level		-	-	
Plant Root	wood	common	few	
	herb	common	few	
Plasticity		s.plastic	s.plastic	
Stickiness		non sticky	non sticky	

Pit No. : 38
Kind of Profile : Exploratory Pit
Topography : On the Hill
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-40	40-100	
Color		7.5 YR 8/6	10 R 4/8	
Mottling		-	common (7.5 R 4/6)	
Gley		-	-	
Gravel	size	-	fine,medium	
	quantity	few	abundant	
Compactness		23	-	
Groundwater Level		-	-	
Plant Root	wood	few	-	
	herb	common	few	
Plasticity		s.plastic	non plastic	
Stickiness		non sticky	non sticky	

Pit No. : 39
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-34	34-100	
Color		5 YR 3/4	7.5 YR 5/8	
Mottling		-	-	
Gley		-	-	
Gravel	size	very fine	medium	
	quantity	few	abundant	
Compactness		16	13	
Groundwater Level		-	84 cm	
Plant Root	wood	common	few	
	herb	many	common	
Plasticity		s.plastic	s.plastic	
Stickiness		non sticky	sticky	

Pit No. : 36
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Grassland

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-56	56-100	
Color		7.5 YR 4/1	7.5 Y 4/1	
Mottling		many (10 YR 6/8)	many (7.5 YG 2/1)	
Gley		-	-	
Gravel	size	-	fine,medium	
	quantity	-	gravel layer	
Compactness		-	-	
Groundwater Level		-	-	
Plant Root	wood	few	few	
	herb	many	few	
Plasticity		s.plastic	s.plastic	
Stickiness		sticky	sticky	

Pit No. : 37
Kind of Profile : Exploratory Pit
Topography : On the Hill
Land Use : Forest

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-35	35-100	
Color		7.5 YR 5/8	5 YR 4/8	
Mottling		-	-	
Gley		-	-	
Gravel	size	-	-	
	quantity	-	-	
Compactness		23	18	
Groundwater Level		-	-	
Plant Root	wood	common	few	
	herb	common	few	
Plasticity		s.plastic	plastic	
Stickiness		non sticky	very sticky	

Pit No. : 40
Kind of Profile : Exploratory Pit
Topography : On the Hill
Land Use : Forest

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-41	41-100	
Color		5 YR 3/2	7.5 YR 4/6	
Mottling		-	common (7.5 YR 6/8)	
Gley		-	-	
Gravel	size	very fine	medium	
	quantity	few	gravel layer	
Compactness		19	19	
Groundwater Level		-	-	
Plant Root	wood	many	few	
	herb	common	few	
Plasticity		-	s.plastic	
Stickiness		-	s.sticky	

Pit No. : 41
Kind of Profile : Exploratory Pit
Topography : Flat
Land Use : Paddy

Horizon Symbol		1	2	3
Depth of top & bottom of horizon (cm)		0-100		
Color		10 Y 4/1		
Mottling		many (10 R 4/8)		
Gley		85 cm (5 B 4/1)		
Gravel	size	-		
	quantity	-		
Compactness		17		
Groundwater Level		95 cm		
Plant Root	wood	-		
	herb	common		
Plasticity		s.plastic		
Stickiness		sticky		

Table D.1.2 Results of Soil Laboratory Analysis

(Samples collected in the Study Area)

Pit NO.	Horizon NO.	Depth (cm)	Particle Size Distribution (%) Sand >0.05mm	Silt 0.05-0.002	Clay 0.002mm>	Textural Class	pH(H2O) 1:1	pH(KCl) 1:2.5	Difference	Available Phosphate (ppm-Olsen)	Organic Matter (%)	Electric Conductivity mmho/sec
1	1	0-100	16.2	53.0	30.8	SiCL	6.3	4.7	1.6	2.23	1.34	0.04
2	1	0-42	62.2	24.0	13.8	L	5.9	4.7	1.2	1.01	0.96	0.02
3	1	0-60	43.2	27.0	29.8	LiC	5.0	3.9	1.1	0.13	0.83	0.01
4	1	0-15	14.2	34.0	51.8	HC	4.9	4.0	0.9	0.57	3.08	0.08
5	1	0-10	51.2	31.8	17.0	CL	5.6	4.6	1.0	1.71	1.69	0.05
5	2	10-100	47.2	26.8	26.0	LiC	5.4	4.2	1.2	0.28	0.95	0.02
6	1	0-42	15.2	35.0	49.8	HC	5.5	4.1	1.4	0.41	1.57	0.16
6	2	42-58	34.2	30.0	35.8	LiC	6.4	4.8	1.6	0.33	0.79	0.13
7	1	0-40	62.2	26.8	11.0	L	5.4	4.3	1.1	0.98	0.67	0.00
8	1	0-44	57.2	28.8	14.0	L	6.7	5.3	1.4	0.75	0.58	0.01
8	2	44-100	56.2	18.0	25.8	SC	6.3	4.8	1.5	0.65	0.26	0.03
9	1	0-17	44.2	27.0	28.8	CL	6.0	4.9	1.1	1.06	2.36	0.05
10	1	0-27	28.2	40.0	31.8	CL	5.2	4.1	1.1	0.31	2.15	0.04
12	1	0-52	28.2	21.0	50.8	HC	4.9	3.7	1.2	0.19	1.34	0.02
13	1	0-29	40.2	33.8	26.0	LiC	5.3	4.6	0.7	1.04	2.06	0.05
13	2	29-65	20.2	27.0	52.8	HC	5.4	4.3	1.1	1.80	0.46	0.08
14	1	0-18	69.2	21.0	9.8	SL	6.6	5.4	1.2	9.92	0.83	0.29
14	2	18-32	62.2	22.0	15.8	CL	5.3	4.2	1.1	0.42	0.58	0.00
15	1	0-41	27.2	52.8	20.0	SiCL	4.7	3.9	0.8	1.66	2.70	0.00
15	2	41-100	40.2	41.8	18.0	CL	5.0	3.9	1.1	0.10	0.46	0.00
16	1	0-100	55.2	23.8	21.0	CL	5.2	4.0	1.2	0.99	0.81	0.01
17	1	0-54	58.2	29.0	12.8	L	5.4	4.2	1.2	0.15	0.72	0.00
17	2	54-100	47.2	21.8	31.0	LiC	5.6	4.0	1.6	0.07	0.53	0.01
18	1	0-28	35.2	41.0	23.8	CL	6.0	5.1	0.9	1.25	2.56	0.00
19	1	0-53	48.2	23.0	28.8	CL	6.2	4.8	1.4	0.27	1.31	0.04
20	1	0-48	37.2	31.0	31.8	LiC	5.4	4.6	0.8	1.46	1.31	0.05
21	1	0-35	26.2	21.0	52.8	HC	5.3	4.2	1.1	0.09	0.76	0.01
23	1	0-40	40.2	40.0	19.8	CL	7.1	5.6	1.5	7.09	1.31	0.20
23	2	40-100	55.2	23.8	21.0	CL	5.3	3.9	1.4	0.38	0.46	0.00
25	1	0-25	57.2	30.8	12.0	L	5.4	4.5	0.9	0.62	1.26	0.02
27	1	0-61	48.2	25.0	26.8	LiC	5.2	4.0	1.2	0.06	0.86	0.00
30	1	0-21	30.2	43.8	26.0	LiC	5.2	3.7	1.5	1.96	1.86	0.02
33	1	0-19	36.2	38.0	25.8	CL	5.8	4.8	1.0	0.93	1.14	0.03
34	1	0-62	39.2	46.0	14.8	SiL	5.3	4.0	1.3	3.16	1.31	0.01
35	1	0-66	22.2	29.0	48.8	HC	6.1	5.0	1.1	1.01	1.38	0.26
37	1	0-35	39.2	36.8	24.0	CL	5.1	3.9	1.2	0.62	1.34	0.01
37	2	35-100	33.2	28.8	38.0	LiC	5.3	4.0	1.3	0.28	0.74	0.00
38	1	0-40	29.2	39.0	31.8	LiC	5.4	3.9	1.5	0.43	1.67	0.04
40	1	0-41	24.2	37.0	38.8	LiC	5.6	4.7	0.9	0.53	3.25	0.10
41	1	0-100	27.2	36.8	36.0	LiC	5.7	4.9	0.8	1.87	0.91	0.23

Pit NO.	Horizon NO.	Depth (cm)	Exchangeable Cations (me/100g) Ca	Mg	Na	K	Total	Exchange Acidity (me/100g)	CEC (me/100g)	Base Saturation (%)	Alminum (me/100g)	Trace Elements (ppm) Cu	Zn	Fe	Mn
1	1	0-100	8.2	5.8	0.1	0.2	14.3	8.6	22.9	62.4	trace	3.91	1.34	98.94	73.95
2	1	0-42	1.2	0.9	0.1	0.2	2.4	10.0	12.4	19.4	trace	0.73	1.76	31.31	78.88
3	1	0-60	1.7	2.4	0.1	0.1	4.3	4.1	8.4	51.2	0.10	0.73	0.72	44.88	12.55
4	1	0-15	8.0	9.8	0.1	0.8	18.7	6.4	25.1	74.5	trace	1.73	1.40	65.72	195.57
5	1	0-10	2.2	1.7	trace	0.2	4.1	11.5	15.6	26.3	trace	1.09	1.23	65.65	35.96
5	2	10-100	2.4	2.5	0.1	0.1	5.1	7.0	12.1	42.1	trace	1.57	0.79	41.41	72.92
6	1	0-42	17.7	17.4	0.5	0.1	35.7	1.6	37.3	95.7	trace	2.70	0.44	61.48	68.58
6	2	42-58	20.9	20.7	0.6	0.1	42.3	1.6	43.9	96.4	trace	2.32	0.49	40.66	122.41
7	1	0-40	2.0	0.4	trace	trace	2.4	10.9	13.3	18.0	trace	0.18	0.47	12.40	1.43
8	1	0-44	2.8	3.9	0.1	trace	6.8	9.0	15.8	43.0	trace	0.47	0.44	18.69	0.95
8	2	44-100	4.7	9.0	0.1	0.1	13.9	8.1	22.0	63.2	trace	0.43	0.38	12.65	0.56
9	1	0-17	14.7	6.4	0.1	0.1	21.3	8.3	29.6	72.0	trace	1.40	0.92	73.50	229.95
10	1	0-27	4.8	5.0	0.1	0.2	10.1	6.1	16.2	62.3	trace	1.82	0.49	63.86	159.03
12	1	0-52	6.5	4.8	0.1	0.2	11.6	11.4	23.0	50.4	trace	1.24	0.27	19.50	3.41
13	1	0-29	6.7	4.5	0.1	0.2	11.5	1.1	12.6	91.3	trace	1.58	0.63	108.12	23.05
13	2	29-65	12.9	8.7	0.4	0.2	22.2	13.8	36.0	61.7	trace	1.67	0.57	46.80	22.46
14	1	0-18	0.3	0.2	0.3	0.1	0.9	9.0	9.9	9.1	trace	0.34	0.22	38.38	6.67
14	2	18-32	0.4	0.2	0.1	trace	0.7	8.5	9.2	7.6	trace	0.36	0.12	18.18	5.45
15	1	0-41	1.5	0.4	0.1	trace	2.0	18.9	20.9	9.6	1.20	0.92	0.39	106.05	1.23
15	2	41-100	1.7	0.4	trace	trace	2.1	9.0	11.1	18.9	0.11	0.47	0.39	2.12	0.4
16	1	0-100	3.3	1.7	0.1	trace	5.1	12.1	17.2	29.7	trace	1.50	0.84	74.74	39.90
17	1	0-54	0.5	0.8	trace	trace	1.3	10.0	11.3	11.5	0.10	0.18	0.36	10.71	23.43
17	2	54-100	8.4	4.5	0.1	trace	13.0	13.6	26.6	48.9	trace	0.36	0.45	17.44	17.24
18	1	0-28	6.6	3.2	0.1	0.6	10.5	6.1	16.6	63.3	trace	6.30	2.36	35.02	260.08
19	1	0-53	3.9	2.8	trace	0.1	6.8	4.1	10.9	62.4	trace	1.00	0.90	46.92	214.20
20	1	0-48	8.2	4.2	0.1	0.1	12.6	10.6	23.2	54.3	trace	1.94	0.49	81.60	25.09
21	1	0-35	1.5	1.4	0.1	0.1	3.1	7.0	10.1	30.7	trace	0.28	0.39	16.22	5.66
23	1	0-40	0.4	0.1	0.8	0.2	1.5	7.0	8.5	17.6	trace	0.89	0.41	64.64	2.34
23	2	40-100	1.9	0.5	0.1	trace	2.5	11.5	14.0	17.9	0.11	0.59	0.42	13.33	0.42
25	1	0-25	2.6	1.2	trace	trace	3.8	10.0	13.8	27.5	trace	0.79	0.63	17.27	0.33
27	1	0-61	1.0	0.9	0.1	trace	2.0	5.1	7.1	28.2	1.10	0.52	0.33	65.65	5.36
30	1	0-21	0.7	2.3	0.1	0.1	3.2	4.0	7.2	44.4	0.11	2.91	0.96	313.10	6.38
33	1	0-19	5.5	1.4	0.1	0.1	7.1	7.0	14.1	50.4	trace	2.76	1.23	88.88	91.71
34	1	0-62	0.8	0.4	0.1	0.1	1.4	5.1	6.5	21.5	trace	0.79	0.71	32.32	21.61
35	1	0-66	8.9	21.4	0.4	0.1	30.8	6.3	37.1	83.0	trace	2.67	0.71	54.60	26.46
37	1	0-35	0.8	2.5	0.1	0.1	3.5	6.0	9.5	36.8	0.02	0.57	0.75	85.85	39.19
37	2	35-100	1.9	3.2	trace	trace	5.1	12.6	17.7	28.8	trace	0.57	0.61	18.97	12.65
38	1	0-40	5.4	3.6	0.1	0.1	9.2	2.0	11.2	82.1	0.20	1.44	0.66	83.64	139.94
40	1	0-41	14.4	13.5	0.3	0.1	28.3	3.2	31.5	89.8	trace	2.11	1.12	57.24	132.08
41	1	0-100	9.5	6.0	0.3	0.1	15.9	8.1	24.0	66.3	0.01	4.56	1.23	48.41	30.69

Table D.1.3 Land Classification
(the Study Area)

Land Class	Area (Has.)	Percent (%)
A. Riceland		
Class 1R	70	3.4
Class 2R		
2Rs	719	34.8
2Rst	220	10.7
2Rt	69	3.3
Class 3R		
3Rs	16	0.8
3Rst	156	7.5
3Rt	52	2.5
Sub-total A	1,302	63.0
B. Diversified Land		
Class 2		
2t	49	2.4
Class 3		
3st	2	0.1
3Rst	192	9.3
Sub-total B	243	11.8
C. Non-Arable Land		
Class 6		
6st	24	1.2
6t	445	21.5
6w	25	1.2
M	27	1.3
Sub-total	521	25.2
TOTAL	2,066	100.0

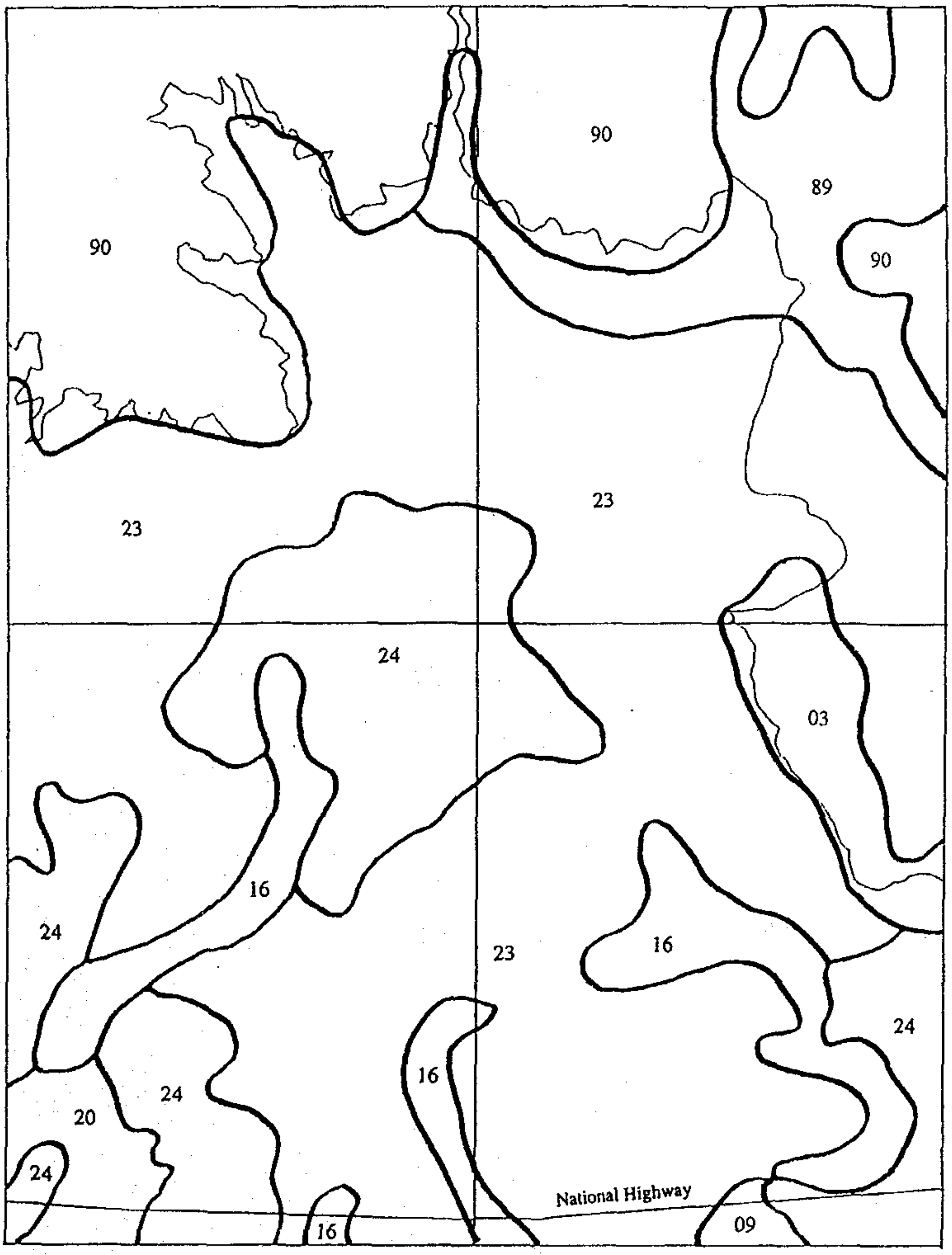
Table D.1.4 Land Classification Specification
(for Irrigated Paddy Rice)

LAND CHARACTERISTICS	CLASS 1-ARABLE	CLASS 2R-ARABLE	CLASS 3R-ARABLE
Soils Texture (dominant texture) of surface ' 0-30 cm.	Fine sandy loam to clay	Fine sandy loam to clay	Fine sandy loam to clay
Depth (After land development) To very slowly permeable clay layer, clean sand, gravel or cobbles, or water table.	More than 60cm	More than 45 cm	More than 30 cm
Effective CEC at Soil of surface soil '0-30 cm.	More than 5 meq/100g	More than 4 meq/100g	More than 4 meq/100g
pH (anaerobic)	More than 5.5	More than 5 may be. Less provided aluminum and effective iron are satisfactory.	More than 5 may be. Less provided aluminum and effective iron are satisfactory.
Salinity (at equilibrium under irrigation)	Less than 3 mmhos/cm.	Less than 8 mmhos/cm.	Less than 8 mmhos/cm.
S A R	Less than 20	Less than 30	Less than 30
Reduction Product	Nil	Trace	Trace
Topography Slope in general gradient Land Levelling Land Terracing Land Clearing	Less than 2 percent Low Low Low	Less than 5 percent Medium Medium Medium	Less than 8 percent High High High
Drainage Flooding	May be subject to occasional flooding of short duration which does not materially affect productivity.	May be subject to annual flooding which may materially affect productivity.	May be subject to severe flooding which may seriously affect productivity.
Internal	Fair to Poor	Fair to Poor	Fair to Poor

Table D.1.5 Land Classification Specification
(for Irrigated Diversified Crop)

LAND CHARACTERISTICS	CLASS 1-ARABLE	CLASS 2R-ARABLE	CLASS 3R-ARABLE
Soils Texture (dominant texture) of surface ' 0-30 cm	Fine sandy loam to clay loam	Loamy sand to permeable clay	Loamy sand to permeable clay
Depth (After land development) To very slowly permeable clay layer, clean sand, gravel or cobbles, or water table.	More than 90 cm	More than 60 cm	More than 40 cm
Effective CEC at Soil of surface soil '0-30 cm	More than 8 meq/100g	More than 4 meq/100g	More than 4 meq/100g
pH (anaerobic)	More than 5.5	More than 5 may be. Less provided aluminum	More than 5 may be. Less provided aluminumless
Salinity (at equilibrium under irrigation)			
S A R	Less than 20	Less than 30	Less than 30
Reduction Product	Nil	Trace	Trace
Topography Slope in general gradient Land Levelling Land Terracing Land Clearing	Less than 2 percent Low Low Low	Less than 5 percent Medium Medium Medium	Less than 8 percent High High High
Drainage Flooding	May be subject to periodic flooding of short duration which may materially affect productivity.	May be subject to periodic flooding of short duration which may materially affect productivity.	May be subject to severe flooding which may seriously affect wet season productivity.
Internal	Good	Fair to Good	Poor

Figure D.1.1 Land Management Unit Map
(the Study Area)

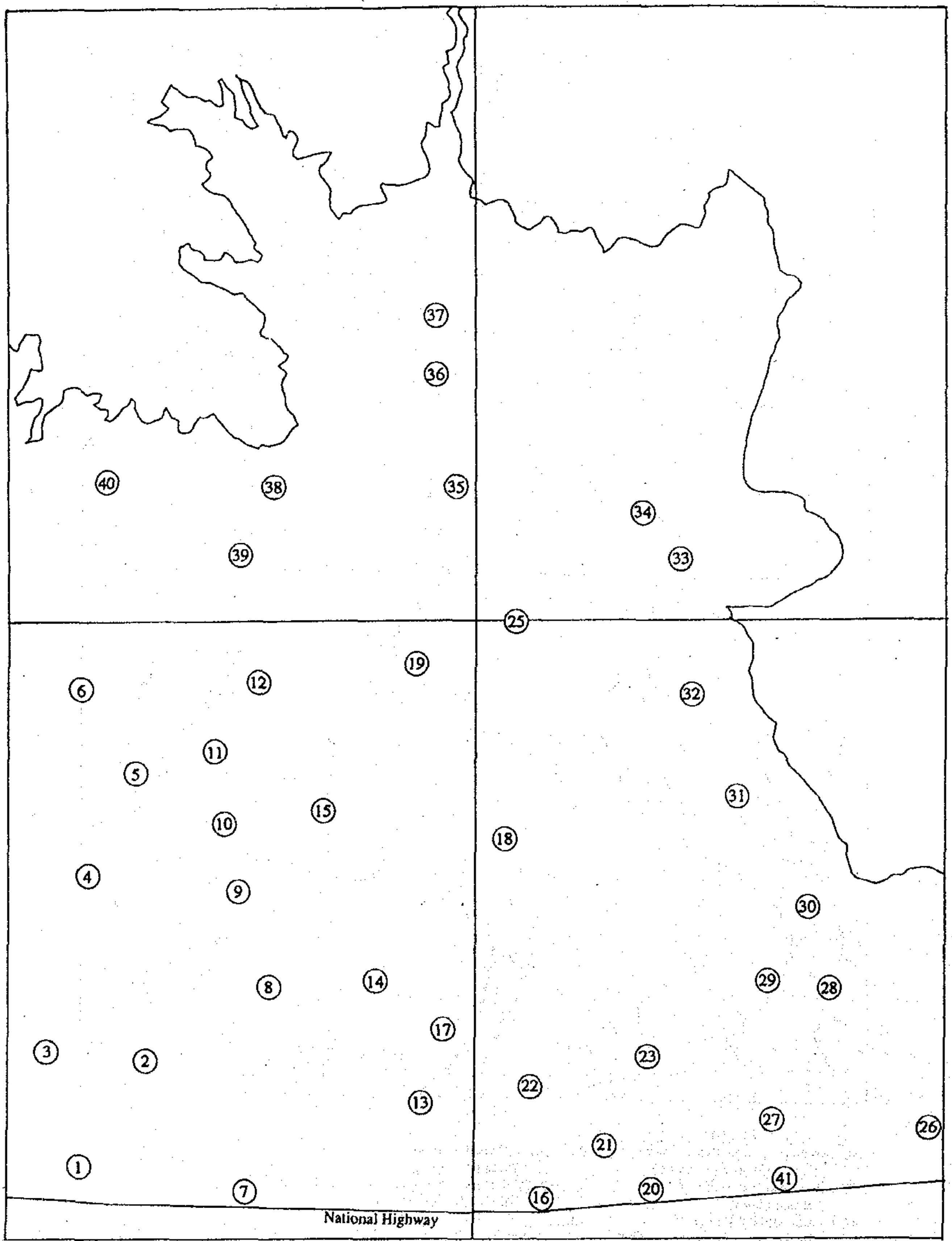


LEGEND

03 :Broad Landform Types Coastal
(Beach ridges and Swales)
09 :Broad Alluvial Plains
(Broad Plains)
16 :Minor Alluvial Plains
(Infilled valley/localized valley)
20 :Minor Alluvial Plains
(Broad alluvial valley)
23 :Terrace(Residual Soils)
(Sloping to undulating)
24 :Terrace(Residual Soils)
(Undulating to rolling)
89 :Hills(Volcanic)
(Ultrabasic hills, low relief)
90 :Hills(Volcanic)
(Ultrabasic hills, high relief)

Source: 1/50,000 map, BSWM, 1988

Figure D.1.2 Location of Soil Test Pits



Note : ○:Pit Site

Figure D.1.3 Land Classification Map of the Study Area

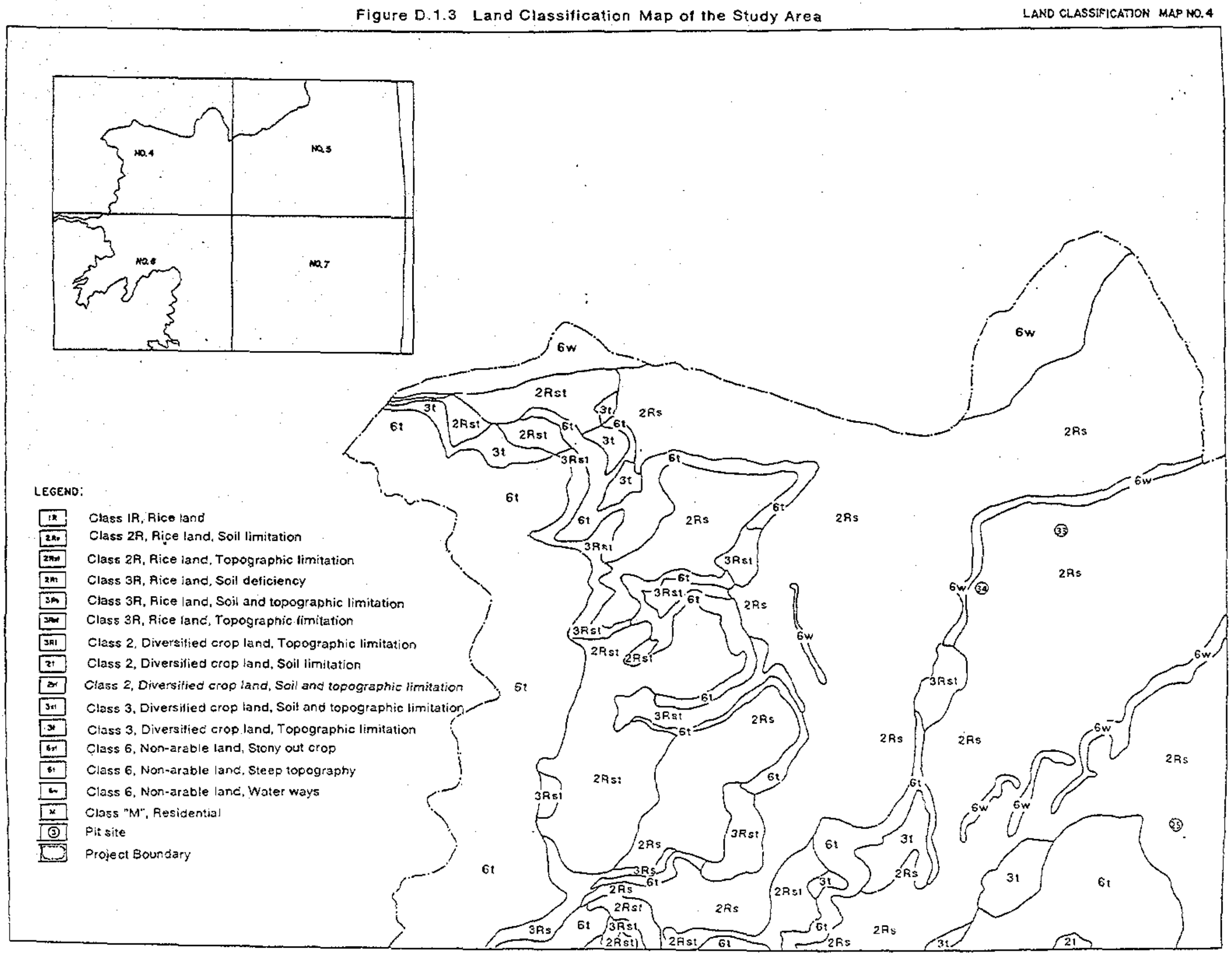


Figure D.1.3. (Cont'd)

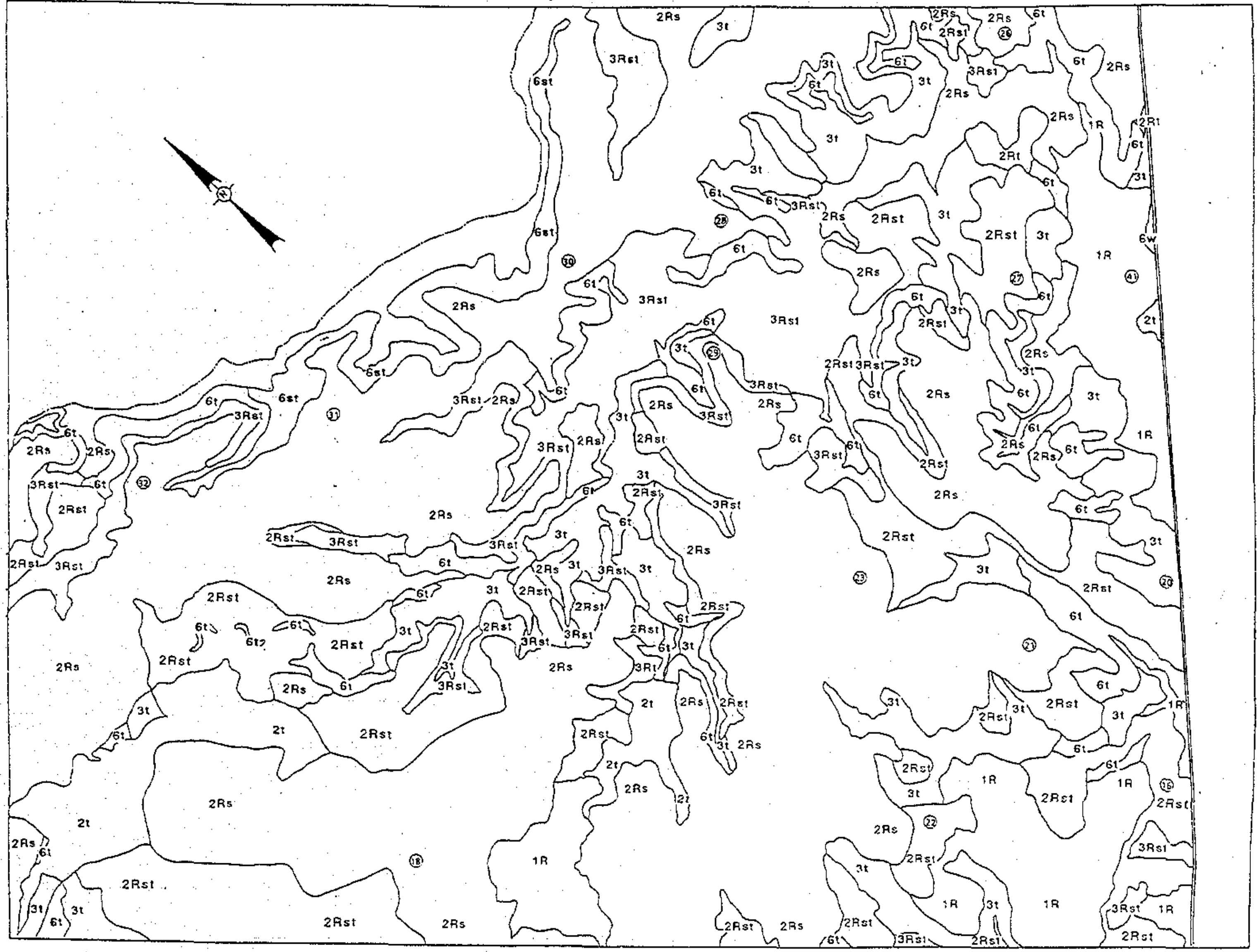


Figure D.1.3. (Cont'd)

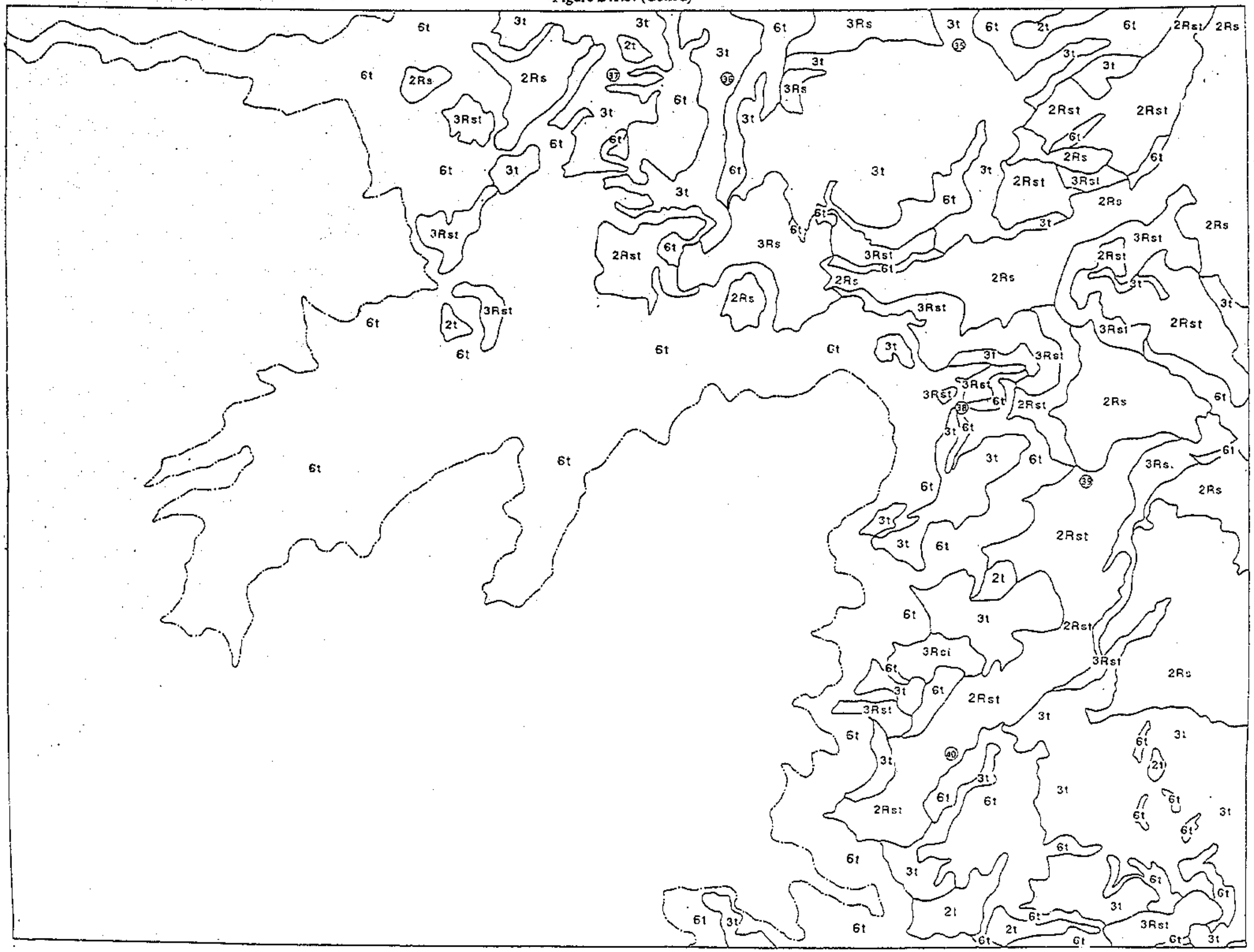
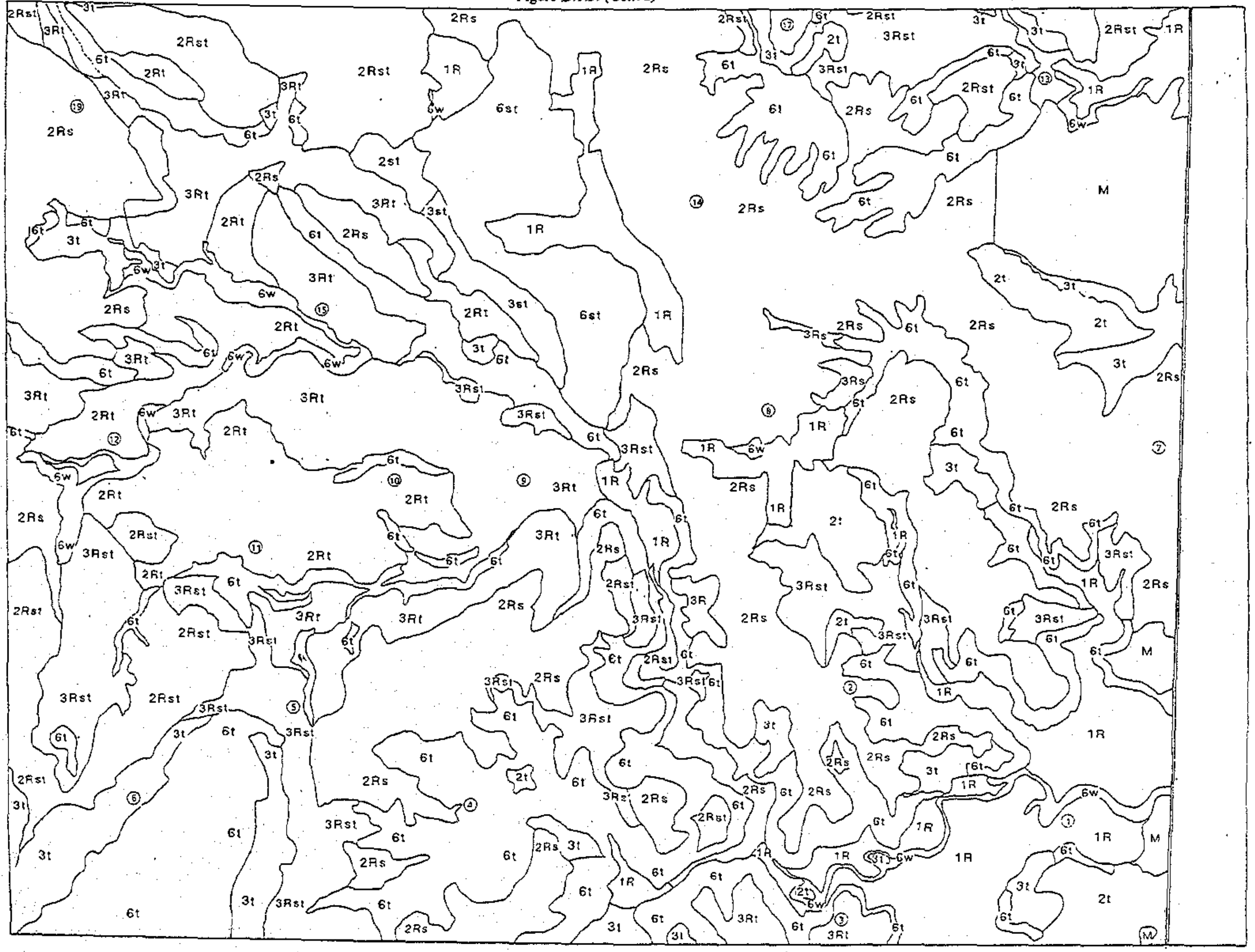


Figure D.1.3. (Cont'd)

LAND CLASSIFICATION MAP NO.7



D. 2 LAND USE

Based on the 1 : 4,000 topo-map, which were undertaken during the dry season, in February 1994, forest and shrubs form about 65% of land in the Area, while grass lands and others, about 30%. Land utilized for farm cultivation is only about four 4% in dry season. Flat and low level lands along the national highway are mostly utilized for paddy cultivation. In areas where spring water are available, even double cropping is practiced, but to a very limited extent. (See Table D.2.1)

Around the gently sloping land in the Study area with a ground level of less than 50 m, slash-and-burn agriculture, so-called kaingin, is generally practiced. However, during the dry season, most areas are fallow and practically covered with gramineous grasses like cogon (Imperata cylindrica L.) and parang.

On the other hand, at higher level land in the western and northern parts of the Study Area are located the forest areas. Dominant trees found are ipil (Instia bijuga), kamagong (Diospyros philipinensis), bangkal (Nauclea orientalis L.), etc. This area extends to the mountainous forest where traces of illegal cutting of trees are evident. After settlement in the Study area, farmers should be educated to preserve forests.

In the rainy season, some rainfed paddy are observed around the center of the Study Area, on the terrace, and besides the low level lands along the national highway. Some grain fields like upland rice and corn are also observed around the houses. Compared with the dry season, it is a matter of course that the cultivated areas are more, but the land under utilization is limited except for some young cashew and mango orchards.

Table D.2.1 Present Land Use of the Study Area

as of Sept., 1994

Land Categories	Land Use	Study Area (ha)		Ratio to Total (%)		Remarks
		Wet Season	Dry Season	Wet Season	Dry Season	
Farm Land	Paddy F.	48.2	48.2	2.5	2.5	
	Upland P.F.	74.8	0.0	3.9	0.0	
	Upland F.	296.0	9.6	15.3	0.5	
	Coconut	14.3	14.3	0.8	0.8	
	Cashewnut	8.4	8.4	0.4	0.4	
Sub-Total		441.7	80.5	22.9	4.2	
Forest	Broad Leaf	605.3	605.3	31.4	31.4	
	Bush/shrub	648.5	648.5	33.6	33.6	
Sub-Total		1,253.8	1,253.8	65.0	65.0	
Grassland etc.	Grassland	186.2	547.4	9.7	28.4	
	Bamboo	26.6	26.6	1.4	1.4	
	Swamp/Marsh	0.5	0.5	0.0	0.0	
	Rivers	12.2	12.2	0.6	0.6	
	Roads	3.9	3.9	0.2	0.2	
	Home Lot*	4.1	4.1	0.2	0.2	
Sub-Total		233.4	594.7	12.1	30.8	
Total		1,929.0	1,929.0	100.0	100.0	

Note: * mark means the actual housing area.

Based on the Topo-map with a scale of 1/4,000

D. 3 AGRICULTURE

D. 3. 1 The Project Area

a) Present Agriculture

Present agriculture in the Study Area is underdeveloped, namely slash-and-burn agriculture. It depends mainly on the natural rainfall, hence, farming is not stable for farmers. With the occurrence of rain, farmers commence to plow and plant seeds, wait for the crops to mature then start harvesting. Farmers involve in dry cropping are very limited because of no irrigation water.

Based on the top-map prepared by JICA on July, 1994, total farmland in the Study Area is merely 80.5 ha in dry season. This value occupies less than 4% of the total area. Among 80.5 ha of farmland, paddy field consists of 48.2 ha. This paddy field lies along national high way or tributaries of Isog and Isaub River, where the land is relatively low or the water is available. At the upland field, coconut and cashew nut are planted. But the area is very limited and the trees are still young to bear fruits. Around the farmers' houses, they also cultivate some vegetables like eggplant, string beans etc., mainly for home consumption. (See Table D.3.1.)

During the rainy season, rainfed rice, upland rice, corn and cassava, which rely only on rainfall, are also planted. These upland fields, planted during rainy season are fallow and covered by weeds and grasses during be dry season.

The following six cropping patterns are practiced in the Study Area.

Rainy Season	Dry Season Crops
Paddy	Legumes (mango, Peanut)
Paddy	Fallow
Cashew (inter-cropped with Upland Rice)	Root Crops (Cassava)
Upland Rice	Fallow
Corn	Legumes (Mango, Peanut)
Corn	Fallow

Double cropping is practiced in some areas where water are available during the dry season. But the double cropping areas are very limited. Planting season is also not fixed because of the limited supply of draft animals and seed and because of the farmers' dependency on rainfall.

According to the inquiry survey in the Study Area, yield of rainfed and upland paddy are very low, only about 1.7 and 0.4 ton/ha, respectively. At the Dumanguena Settlement Area where agrarian reform activities has already been conducted and irrigation facilities introduced, the rainy season yield is 2.97 ton/ha while the dry season yield is 2.6 ton/ha. Average yield of corn is only 1.21 ton/ha, lower than the provincial average of 1.83 ton/ha, for the last 9 years, 1983 - 1991. Vegetables are usually planted at the backyard for home consumption, hence there are no data available on vegetable production.

b) Research and Extension

There are provincial and city government agricultural offices concerned with agriculture and four identified research institutions in the province. These institutions are the Palawan Agricultural Experimental Station (PAES), Palawan National Agriculture College (PNAC), Philrice and Agricultural Training Institute (ATI). (see Figure D.3.1 ~D.3.7)

PAES is located in Puerto Princesa City, and carries out technical researches on cropping soil, animal husbandry, fishery, etc. Other activities, such as, distribution of nursery tree and training of farmers are also implemented.

PNAC is located in Aborlan adjacent to the Study area. This college, with its own experimental fields and 21 Bayanihan Centers scattered in Palawan, extend improved agricultural techniques and livelihood opportunities to farmers.

Philrice conducts research / studies on crops, animal husbandry, post-harvest, agricultural processing and marketing in the province. This national institution has extension and guidance activity called "Action Research", distribute seeds and provide know-how on methods of fertilizer usage.

All has three sections: research and technology development section, farm operation and production section and training and information section. The first one includes not only crop research but also livestock and fishery research. The last one, Pliel-Rice has another subsection for technology packaging.

All the above-mentioned institutions have programs and activities useful to the farmers, though, none of them has been conducted in the Study area.

The Study Area belongs to Puerto Princesa City, and the extension office for agriculture which covers the Study area is in Inagawan. Only one extension worker covers both Barangays Inagawan and Kamuning. His activity is mainly focused on paddy crop. There are no other extension workers for vegetables, fruits or animal husbandry.

After implementation of the agricultural land development of the Study Area, many crops are expected to be grown and farmers in the Study Area have to adopt to agricultural techniques suitable to the local climate and topography. Proper agricultural techniques on fertilizer application, irrigation use, insect and diseases control, weeding and proper post harvest activities shall be provided to the farmers through education and training.

The presence of only one extension worker may be insufficient for such activities. To get maximum effect, it is necessary that extension services be expanded with the implementation of the Project. Also, there is a need for farmers to learn land conservation measures as farmers in the area make ridges without considering land slope.

c) Post Harvest Conditions

In the Study Area, there is only one solar drier located in the home lot area. It has a concrete provement with an area of 38.4 sq.m. Next to the solar drier, is a warehouse, about 70 q.m. ware incomplete roof.

There is a another solar drier located in the study area usually used as a basketball court. Except for the above mentioned facilities, there are no other post harvest facilities in the Study Area.facility far from their field. During the process of transporting from their field to the drying areas (roads/drying facility) losses occur. Unexpected rain reduces the quality and lowers the selling price of the produce. These situations being about decrease in the farmer's income.

For milling, mobile type milling machines owned by farmers from other areas come to the Study Area or the nearest rice mill at Barangay Kamuning is used.

d) Food Balance

In 1990, there were a total of 459 official residents and 102 households in the Tagumpay settlement. Originally, the land was distributed to 332 beneficiaries. To date population have decreased due to the absence of basic facilities and utilities.

According to the inquiry survey, the average farm size is 5.4. Hence, if all beneficiaries will settle at the Tagumpay Settlement, the population will total to about 1,800. Based on the data from the Food Balance Sheet of the Philippines, daily rice consumption per capita is 303 grams. It is equivalent to 110.6 kilograms as annual consumption per capita. Hence whole rice consumption will be about 200 tons for Tagumpay Settlement. In the future, an area of about 1,000 ha adjacent to Tagumpay Settlement will be distributed to farmers. The Study Area will then have about a total of 3,600 population. It will then need 400 tons of rice, converted to about 620 tons of palay for self consumption. (refer to Table D.3.2)

However, in the Study Area, there are only less than 50 ha of paddy field in the dry season. Based on the results of field survey by DAR in 1992, there were 123 ha of rice field including upland rice. To make a safer projection, the DAR's data will be used for present paddy field area. Therefore the present production is calculated at 209 tons (123 ha × 1.7 tons/ha).

If the population therefore in the Study Area will grow without field expansion and no yield improvement, there will occur a deficit of rice for home consumption.

e) Livestock Conditions

Small-scale livestock and poultry raising are conducted in the Study Area at the farmer's backyard. There are no commercialized livestock farming activities at present. Some farmers raise animals such as pigs and chicken. According to the inquiry-survey, about 28% of the farmers have carabaos, used not only for plowing but also for transporting produce and others. Carabaos are valuable labor for the farmers. Farmers without carabaos are compelled to borrow and/or hire from other farmers.

Carabaos are very useful to the farmers as they not only serve as draft animals but can also provide milk for sustenance and cheese production and when old and becomes useless can be killed and its meat sold to the market. Maintenance is low as it feeds on plain food and problems like parasites which live on their skin can easily be removed by bathing them on ponds along the fields.

The price of carabao ready for farm work costs about 10,000 to 15,000 pesos per head, which corresponds nearly to the annual household income in the area. This resulted to the shortage of carabao in the study area. In order to increase the number of carabaos , it is very necessary for the government agencies concerned, to assist the farmers on this matter by providing superior breed and assisting them in the improvement of the breed by artificial fertilization.

Contrary to carabao, chicken and pigs are considered as animals easily to raise at the backyard but raising these animals are not extensive in the Study Area. There are auto saving groups whose income-generating projects are raising pigs.

Taking into consideration the present condition, increase of carabao and raising of pigs and chicken will be proposed to secure draft animals and increase income source from animals.

f) Marketing and Credit

Agricultural production in the Study Area depends on the availability of rainfall, hence, only small areas are cultivated for paddy and upland crops. As a consequence, only small amount of products are presently sold to the market due to low productivity. In addition, there is an amount of product set aside for home consumption. The major market for agricultural products are Puerto Princesa City and Aborlan. (refer to Figure D.3.8)

The following are the marketing channel of the selected crops;

Paddy	:	Farmer - Middleman
Corn	:	Brought by farmers themselves to aborlan, Puerto Princesa City
Cashew Nut	:	Brought by farmers themselves to Aborlan and Puerto Princesa City and/or collected by middleman
Banana	:	Mostly for home consumption
Agricultural inputs:		
		Purchased by farmers themselves at Puerto Princesa City and Aborlan

Paddy is sold to the middlemen/traders, not to NFA for the following reasons; ① NFA's criteria are very strict on moisture content of grains, ② Payment by NFA takes several days, and ③ Procurement by NFA takes a long time.

Paddy is transported to the collecting point along the national highway from the field but the farmers who do not own carabao have to pay five (5) pesos per bag (50 kg), for hire of the cart. The farmgate price of paddy varies with moisture content of the grains from three (3) pesos to six (6) pesos per kg. This shows the serious need for drying facilities since the income from paddy will depend on the moisture condition at the time it is sold.

It is therefore very important to organize and/or strengthen the farmers' association to deal with functions dealing with marketing of agricultural products, purchasing of inputs to obtain more collective bargaining power, control of product quality and management of post harvest facilities to help farmers maintain a high quality standard product, lessen losses due to post harvest problems and eventually increase the value and price of product sold by the farmers. For the above-mentioned cooperative, the technical and financial assistance of the government agencies concerned are indispensable.

Agricultural credits such as production loan are available to farmers through the LBP. Based on the results of the inquiry survey in the Study Area, farmers do not have sufficient capital to buy agricultural inputs. Crop productivity is therefore affected due to the shortage of dosage of fertilizers and agri-chemicals. The following credits are provided to the farmers;

Type	Objectives	Repayment	Interest
short term loan	Crop production/livestock	120 to 180 days	12+2%
medium/long term loan	agri-machinery warehouse, drier etc.	3 to 10 years	14+2%

Farmers in the Study area who are members of the cooperative and/or those with bank deposits are provided loans under the guarantee of the cooperative. As of 1993, the total amount of short term credits provided to 28 farmers in the Study Area amounted to 243,000 pesos, averaging 8,700 pesos per farm. Repayment by farmers is reported to be good.

Since agricultural credits through public banks require the guarantee of the cooperative and some bank deposits, it becomes difficult for farmers who are not members of the cooperative and do not have bank deposits to avail of credit. These farmers are compelled to borrow money from traders, relatives, neighbors, wholesalers etc., at higher interest rate. The repayment is usually done in-kind, as paddy, during the harvest season.

As mentioned before, agricultural production in the Study Area is small in scale and unstable due to limited cultivation areas, lack of irrigation system etc. Under these conditions, it becomes more difficult for farmers to meet the bank's requirement to be able to avail of credit. At present, not all the farmers are members of the cooperative. It is important in the future to encourage the farmers to become members of the cooperative to be able to avail of agricultural loans from public banks.