PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 49

Region : VIII | Province : WESTERN SAMAR | Catchment Area : 5,591.0 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Catbalogan City	11° 47'	124° 23'	1949 - 1990

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Catbalogan City	11° 47'	124° 23'	1971 - 1990

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Catbalogan (Penman)	11° 47'	124° 23'	1949 - 1973

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : II (No Dry Season)
ii) Annual Rainfall : 2,536.0 mm
- Rainy season : 1,837.5 mm (72%) from July to January
- Dry season : 698.5 mm (28%) from February to June

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Catbalogan City	218.2	147.6	133.9	100.9	169.4	206.7	246.0	219.5	247.7	292.4	312.0	301.7	2596.0

iv) Meteorological Features at Catbalogan Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	26.1	26.5	27.2	28.5	29.0	28.6	28.3	28.6	28.3	27.9	27.2	26.6	27.7
Mean R. humidity	(%)	82.1	80.3	77.2	75.4	77.5	79.4	79.0	78.4	81.0	82.3	83.7	83.7	80.0
Pan evaporation	(mm)	109.0	108.0	127.0	128.0	140.0	146.0	157.0	162.0	152.0	133.0	117.0	110.0	132.4
Wind Speed	(km/day)	129.6	146.9	146.6	155.5	155.5	138.2	164.2	181.4	146.9	146.9	121.0	121.0	146.1
Nos. of Typhoon	(Nos.)	3	0	0	4	7	7	6	1	1	8	18	13	68
Typhoon frequency	(%)	4	0	0	6	10	10	9	1	1	12	26	19	100

3. SURFACE RUNOFF

i) Water Region VIII
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.94 lit/sec/ha (485 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 50

Region : VIII | Province : EASTERN SAMAR | Catchment Area : 4,339.6 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Borongan	11° 27'	125° 26'	1949 - 1983
2	Oras	12° 09'	125° 26'	1954 - 1970

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	University of Eastern Samar			1966 - 1972

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Cabuwanan, Hinolaso	Jicontrol	95	1959 - 1975

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : II (No Dry Season)
ii) Annual Rainfall : 3,849.2 mm
- Rainy season : 2,230.0 mm (58%) from October to February
- Dry season : 1,619.2 mm (42%) from March to September

iii) Monthly rainfall at Major Stations — Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Borongan	611.5	402.1	326.5	261.6	303.8	235.1	219.7	216.0	206.7	305.5	523.4	674.7	4286.6
Oras	349.0	260.7	209.4	192.1	226.7	184.3	222.2	181.8	252.9	339.4	499.3	488.8	3406.6

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)	110.7	128.3	172.1	183.7	177.5	147.8	146.8	145.8	158.0	141.1	105.2	100.8	143.2
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	1	2	0	1	5	6	5	2	4	5	7	11	49
Typhoon frequency	(%)	2	4	0	2	10	12	10	4	8	10	14	22	100

3. SURFACE RUNOFF

i) Water Region VIII
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Jicontrol	Cabuwanan	95	309.37	0.10326

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Cabuwanan,Hinolaso	Jicontrol	95	16.06	9.58	6.55	4.49	6.19	5.53	4.44	3.64	4.33	8.58	22.67	25.67	9.81

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.94 lit/sec/ha (485 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 51

Region : VIII | Province : NORTHERN LEYTE | Catchment Area : 6,268.3 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Abuyog	10° 45'	125° 01'	1956 - 1974
2	Baybay	10° 41'	124° 48'	1971 - 1975
3	Inopacan	10° 30'	124° 44'	1956 - 1976
4	Jaro	11° 11'	124° 47'	1973 - 1976
5	Tacloban City	11° 15'	125° 00'	1949 - 1990
6	Poblacion, Tolosa	11° 04'	125° 02'	1970 - 1975

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Tacloban City, Tacloban	11° 15'	125° 00'	1949 - 1990

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Tacloban (Penman)			1950 - 1973

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Mas-in, Ormoc	Mas-in	22	1956 - 1980
	Valencia, Ormoc	Baleon	19	1956 - 1980
	Masarayao, Kamanga	Bao	65	1951 - 1980
	Calinacagun, Barugo	Calingcaguin	128	1948 - 1978
	Binongto-an, Alang-Alang	Mainit	98	1949 - 1980
	Lingayon, Alang-Alang	Lingayon	10	1945 - 1980

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record	
	Buenavista, Alang-Alang	Dapdap	30	1952	1980
	Inayopan, Abuyog	Bito	94	1957	1972
	Poblacion, Burawon	Daguitan	135	1957	1980

2. METEOROLOGY

i) Climate Type : II

ii) Annual Rainfall : 3,281.7 mm

- Rainy season : 2,354.1 mm (72%) from July to January
- Dry season : 927.6 mm (28%) from February to June

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Abuyog	483.8	357.7	319.8	298.1	249.3	176.6	165.1	173.3	146.2	262.9	498.5	542.0	3673.3
Baybay	287.0	178.5	147.0	205.5	117.7	142.6	1,102.5	469.3	614.9	955.0	649.7	644.0	5513.7
Inopacan	221.5	126.1	85.8	83.1	113.4	190.6	229.0	206.9	196.7	218.8	233.2	202.8	2107.9
Jaro	336.9	292.7	130.6	328.4	148.1	198.9	238.4	122.7	174.6	184.9	279.8	534.8	2970.8
Tacloban City	255.1	193.7	138.5	120.1	150.1	151.8	160.3	134.0	142.7	165.7	237.5	299.8	2149.3

iv) Meteorological Features at Tacloban Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	25.9	25.9	27.1	27.5	28.0	28.0	27.8	28.0	27.9	27.6	27.1	26.4	27.3
Mean R. humidity	(%)	84.7	83.9	82.2	81.3	81.4	82.3	81.0	80.1	81.6	83.5	85.1	85.5	82.7
Pan evaporation (P)	(mm)	131.0	124.0	162.0	170.0	172.0	154.0	153.0	152.0	147.0	150.0	134.0	125.0	147.8
Wind Speed	(km/day)	139.2	136.8	134.4	136.8	124.8	115.2	112.8	108.0	110.4	117.6	127.2	134.4	124.8
Nos. of Typhoon	(Nos.)	3	0	2	4	3	3	3	1	0	1	6	8	34
Typhoon frequency	(%)	8.82	0	5.9	11.76	8.82	8.82	8.82	2.94	0	2.94	17.65	23.53	100

3. SURFACE RUNOFF

i) Water Region VIII

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Mas-in	Mas-in	22	48.25	0.06955
Baleon	Valencia	19	32.48	0.05421
Bao	Masarayao	65	160.2	0.07815
Calingcaguin	Calingcaguin	128	253.86	0.06289
Mainit	Binongto-an	98	239.99	0.07765

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Mas-in, Ormoc	Mas-in	22	1.47	0.68	0.51	0.39	0.96	1.01	1.63	1.77	2.09	3.23	2.93	1.74	1.53
Valencia, Ormoc	Baleon	19	1.13	0.91	0.79	0.75	0.79	0.83	1.06	0.93	1.02	1.77	1.27	1.09	1.03
Masarayao,Kamanga	Bao	65	7.18	5.86	4.93	4.21	3.79	3.79	4.66	6.19	3.99	4.11	5.09	7.14	5.08
Barugo	Calingcaguin	128	11.09	10.08	9.02	7.42	6.86	5.83	6.12	5.68	5.03	6.60	10.43	12.42	8.05
Binonto-an,A.-Alang	Mainit	98	12.61	9.44	7.78	7.28	5.64	5.20	4.17	3.96	4.22	5.83	10.38	14.74	7.60
Lingayon,A.-Alang	Lingayon	10	1.91	1.44	1.31	1.03	0.87	0.83	0.96	0.88	0.81	0.87	1.79	2.31	1.25

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.75 lit/sec/ha (437 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 52

Region : VIII | Province : SOUTHERN LEYTE | Catchment Area : 1,734.8 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Anahawan	10° 17'	125° 15'	1972 - 1975
2	Maasim	10° 08'	124° 50'	1970 - 1990
3	Libangon			1969 - 1972

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Maasim, S. Leyte	10° 08'	124° 50'	1981 - 1990

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Catublian, Hinunangan	Das-ay	62	1958 - 1980
	Atuyan, St. Bernard	Lawigan	85	1958 - 1978

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : II

ii) Annual Rainfall : 3,483.7 mm

- Rainy season : 2,255.7 mm (65%) from October to March
- Dry season : 1,228.0 mm (35%) from April to September

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Anahawan	409.9	377.5	320.2	284.6	149.1	150.5	120.9	140.4	200.1	182.1	495.1	667.4	3497.8
Maasim	263.5	197.3	135.6	98.1	74.8	216.6	252.2	195.9	150.8	313.5	376.8	216.4	2491.5
Libangon	736.5	290.6	235.5	153.4	323.1	342.0	319.0	229.8	282.7	429.7	390.9	728.6	4461.8

iv) Meteorological Features at Maasim Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	25.8	26.3	26.8	28.5	28.7	28.2	27.4	27.6	27.7	27.4	26.9	26.3	27.3
Mean R. humidity	(%)	81.6	80.8	79.8	78.8	77.9	80.0	82.1	79.3	78.6	81.0	80.0	81.6	80.1
Pan evaporation (P)	(mm)													
Wind Speed	(km/day)	207.4	198.7	224.6	207.4	207.4	233.3	181.4	233.3	181.4	172.8	172.8	198.7	201.6
Nos. of Typhoon	(Nos.)	3	0	2	4	3	3	3	1	0	1	6	8	34
Typhoon frequency	(%)	9	0	6	12	9	9	9	3	0	3	18	24	100

3. SURFACE RUNOFF

i) Water Region VIII

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Das-ay	Catublian	62	198.05	0.10129
Lawigan	Atuyan	85	203.72	0.076

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Catublian,Hinunanga	Das-ay	62	14.45	11.40	6.76	4.56	3.96	3.64	3.41	2.37	2.23	3.34	8.66	10.53	6.28
Atuyan, St. Bernard	Lawigan	85	11.41	12.61	8.90	6.38	4.13	2.60	2.55	2.82	2.53	4.43	8.56	10.61	6.46

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.75 lit/sec/ha (437 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 53

Region : IX | Province : ZAMBOANGA DEL NORTE | Catchment Area : 6,618.1 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Dapitan City	08° 39'	123° 25'	1954-67, 1972
2	Dipolog City	08° 36'	123° 21'	1949 - 1990
3	Siocon	07° 42'	122° 09'	1954 - 1964

No.	Name of Station/Location	Coordinate		Period of Record	

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Dipolog City, Dipolog	08° 36'	123° 21'	1981 - 1990

No.	Name of Station/Location	Coordinate		Period of Record	

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record	

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Dapdap, Polanco	Layawan	152	1959 - 1974
	Siparok, Manukan	Disacan	113	1959 - 1972

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record	

2. METEOROLOGY

i) Climate Type : III

ii) Annual Rainfall : 2,550.0 mm

- Rainy season : 1,591.4 mm (62%) from May to October
- Dry season : 958.6 mm (38%) from November to April

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Dapitan City	107.8	40.5	85.7	91.2	182.9	205.9	207.1	212.5	215.0	292.0	319.2	406.2	2366.0
Dipolog City	139.7	67.0	80.6	78.4	181.6	252.7	237.3	221.7	211.4	281.9	345.5	246.6	2344.4
Siocon	56.9	62.0	105.2	149.9	259.1	333.9	393.8	351.8	364.7	368.7	308.6	184.7	2939.3

iv) Meteorological Features at Dipolog Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	26.9	27.1	28.0	28.5	28.7	28.2	28.0	28.3	28.1	27.9	27.7	27.0	27.9
Mean R. humidity	(%)	83.9	80.9	80.7	77.6	79.8	80.3	84.7	80.8	82.6	82.0	85.6	83.4	81.9
Pan evaporation	(mm)													
Wind Speed	(km/day)	172.8	164.1	172.8	164.1	129.6	129.6	138.2	155.5	146.9	121.0	121.0	138.2	146.2
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region IX

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Layawan	Dapdap	152	225.17	0.04697
Disacan	Siparok	113	146.96	0.04124

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Dapdap, Polanco	Layawan	152	7.76	4.86	4.99	3.68	5.17	6.11	7.91	7.07	8.17	8.30	11.14	10.49	7.14
Siparok, Manukan	Disacan	113	2.88	1.08	1.43	1.38	3.98	5.30	5.92	6.17	10.66	7.35	7.03	2.73	4.66

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.3 lit/sec/ha (325 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 54

Region : IX | Province : ZAMBOANGA DEL SUR | Catchment Area : 8,051.9 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Zamboanga City	06° 54'	122° 04'	1954 - 1973
2	Kabasalan	07° 48'	122° 45'	1954 - 1972

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Zamboanga City	06° 54'	122° 04'	1954 - 1973

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Bukong, Labangan	Labangan	430	1950 - 1972
	Pasobolong	Mercedes	39	1965 - 1972
	San Jose, Molave	Dipolo	313	1951 - 1972
	Mahayag	Salug-Dacu	375	1950 - 1989

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : III (Evenly distributed rainfall throughout the year)

ii) Annual Rainfall : 2,034.2 mm

- Rainy season : 1,296.8 mm (64%) from May to October
- Dry season : 737.4 mm (36%) from November to April

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Zamboanga City	48.6	33.0	49.6	65.9	95.6	134.3	126.1	135.4	147.4	177.1	115.0	78.2	1206.2
Kabasalan	117.4	98.3	178.6	183.3	287.4	308.7	284.9	338.4	270.0	288.4	263.5	243.6	2862.5

iv) Meteorological Features at Zamboanga City Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	26.6	26.8	27.2	27.6	27.7	27.2	26.5	27.0	27.1	27.0	27.1	26.9	27.1
Mean R. humidity	(%)	80.0	79.0	78.0	79.0	82.0	83.0	83.0	83.0	83.0	83.0	83.0	82.0	81.5
Pan evaporation	(mm)													
Wind Speed	(km/day)	172.8	172.8	172.8	172.8	172.8	172.8	172.8	172.8	172.8	172.8	96.0	165.6	165.8
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region IX

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Labangan	Bukong	430	965.95	0.07123
Mercedes	Pasobolong	39	80.42	0.06538
Dipolo	San Jose	313	529.8	0.05367
Salug-Dacu	Mahayag	375	549.36	0.04645

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Bukong,Labangan	Labangan	430	12.43	10.43	8.63	13.12	25.05	37.57	46.37	52.89	56.14	47.83	36.67	20.44	30.63
Pasobolong	Mercedes	39	0.84	1.25	1.04	0.74	1.36	1.61	1.96	1.78	14.54	2.51	1.75	1.20	2.55
San Jose, Molave	Dipolo	313	6.44	3.02	4.32	3.91	14.02	27.40	30.64	30.36	27.26	30.43	13.97	9.83	16.80
Mahayag	Salug-Dacu	375	13.76	10.59	9.55	9.54	13.07	18.26	20.34	22.15	26.28	25.99	22.63	16.91	17.42

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.61 lit/sec/ha (402 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 55

Region : IX | Province : BASILAN | Catchment Area : 1,372.2 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Isabela	06° 40'	122° 08'	1954 - 1973
2	Maluso	06° 33'	121° 53'	1954 - 1970
3	Mantarling	06° 41'	121° 58'	1960 - 1965

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV (Evenly distributed rainfall throughout the year)

ii) Annual Rainfall : 1,890.6 mm

- Rainy season : 1,256.4 mm (66%) from May to October
- Dry season : 634.2 mm (34%) from November to April

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Isabela	79.0	54.4	72.8	106.9	216.9	249.2	222.5	244.0	239.3	239.7	151.7	116.9	1993.3
Maluso	140.7	77.9	95.4	168.6	158.7	195.2	148.2	157.6	184.2	211.7	168.6	151.5	1858.3
Mantarling	40.7	60.5	73.9	117.5	250.7	246.3	224.7	173.2	192.1	214.9	140.1	85.2	1819.8

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhoon frequency	(%)	0	0	0	0	0	0	0	0	0	0	0	0	0

3. SURFACE RUNOFF

i) Water Region IX

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.61 lit/sec/ha (402 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 56

Region : IX | Province : SULU | Catchment Area : 1,600.4 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Jolo	06° 03'	121° 00'	1949 - 1973

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV

ii) Annual Rainfall : 2,090.0 mm

- Rainy season : 1,483.6 mm (71%) from May to November
- Dry season : 606.4 mm (29%) from December to April

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Jolo	111.6	110.0	89.8	156.6	240.7	247.6	190.4	166.7	183.3	238.2	216.7	138.4	2090.0

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhoon frequency	(%)	0	0	0	0	0	0	0	0	0	0	0	0	0

3. SURFACE RUNOFF

i) Water Region IX

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.61 lit/sec/ha (402 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 57

Region : IX | Province : TAWI - TAWI | Catchment Area : 1,087.4 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV

ii) Annual Rainfall : mm

- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Typhoon frequency	(%)	0	0	0	0	0	0	0	0	0	0	0	0	0

3. SURFACE RUNOFF

i) Water Region IX

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.61 lit/sec/ha (402 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 58

Region : X | Province : SURIGAO DEL NORTE | Catchment Area : 2,739.0 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Surigao City	09° 48'	125° 30'	1949 - 1984

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Quezon, Surigao	Surigao	101	1957 - 1980
	Matinao, Mainit	Mayag	41	1952 - 1980
	Tubod	Songkoy Cr.	2	1955 - 1980

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : II

ii) Annual Rainfall : 3,842.0 mm

- Rainy season : 2,770.6 mm (72%) from December to April
- Dry season : 1,071.4 mm (28%) from May to November

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Surigao City	618.6	486.0	374.0	243.8	166.5	135.5	172.2	150.8	164.0	282.1	423.5	619.7	3836.7

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	3	0	1	1	2	0	0	0	0	1	6	5	19
Typhoon frequency	(%)	16	0	5	5	11	0	0	0	0	5	32	26	100

3. SURFACE RUNOFF

i) Water Region X

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Surigao	Quezon	101	331.76	0.10416
Mayag	Matinao	41	119.21	0.0922
Songkoy Creek	Tubod	2	9.15	0.145

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Quezon, Surigao	Surigao	101	31.34	20.84	12.69	9.45	4.96	3.70	4.25	3.87	2.89	5.03	9.70	17.49	10.52
Matinao, Mainit	Mayag	41	4.97	4.78	4.39	3.19	2.25	2.22	4.16	2.98	2.83	3.09	4.53	5.94	3.78
Tubod	Songkoy Cr	2	0.40	0.35	0.29	0.28	0.27	0.25	0.24	0.23	0.24	0.28	0.28	0.33	0.29

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.75 lit/sec/ha (437 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 59

Region : X | Province : CAMIGUIN | Catchment Area : 229.8 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : I

ii) Annual Rainfall : mm

- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)													
Typhoon frequency	(%)													

3. SURFACE RUNOFF

i) Water Region X

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean

4. Reference Figures for Planning

i) Irrigation Water Requirement : lit/sec/ha (mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 60

Region : X | Province : AGUSAN DEL NORTE | Catchment Area : 2,590.3 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Butuan City	08° 56'	125° 31'	1956 - 1977

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Bayugan	Andanan	201	1967 - 1980
	Wawa, Esperanza	Wawa	396	1964 - 1989
	Milagros, Esperanza	Busilao	316	1967 - 1972
	San Isidro, Talacogon	Agusan	7390	1955 - 1972
	Baylo, Talacogon	Kasilayan	209	1968 - 1972
	Bah-Bah, Prosperidad	Gibong	427	1965 - 1975

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
		Kayawan	348	1967 - 1980
		Adgaoan	820	1967 - 1972
		Agusan	1599	1955 - 1972
		Ihaoan	667	1967 - 1972
		Panusugan	180	1967 - 1972

2. METEOROLOGY

i) Climate Type : II

ii) Annual Rainfall : 2,219.0 mm

- Rainy season : 1,342.8 mm (60%) from November to April
- Dry season : 876.2 mm (40%) from May to October

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Butuan City	291.4	267.6	195.5	119.2	116.7	155.0	146.3	154.6	142.1	161.5	213.4	255.7	2219.0

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)													
Typhoon frequency	(%)													

3. SURFACE RUNOFF

i) Water Region X

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Andanan	Bayugan	201	375.59	0.05925
Wawa	Wawa	396	717.44	0.05745
Busilao	Milagros	316	547.46	0.05494
Agusan	San Isidro	7390	12627.33	0.05418
Kasilayan	Baylo	209	402.4	0.06105

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Bayugan	Andanan	201	21.63	17.75	13.25	16.35	6.59	7.44	7.62	7.04	9.39	9.10	9.56	17.16	11.91
Wawa,Esperanza	Wawa	396	49.03	34.07	31.04	18.55	13.68	14.98	12.84	10.37	16.15	13.57	20.82	37.53	22.72
Milagros,Esperanza	Busilao	316	34.20	18.98	14.71	8.98	16.91	17.31	18.37	19.69	15.02	14.07	9.12	20.96	17.36
San Isidro,Talacogon	Agusan	7390	342.46	568.22	431.72	393.00	347.97	373.52	350.52	348.52	357.31	372.73	374.80	544.11	400.41
Baylo,Talacogon	Kasilayan	209	51.21	5.54	7.65	4.17	6.61	8.59	10.53	11.19	7.58	6.28	3.11	30.70	12.76
Bah-Bah,Prosperidad	Gibong	427	47.17	28.00	26.57	24.51	18.50	13.76	12.43	11.52	11.98	12.68	14.22	29.44	20.90

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.85 lit/sec/ha (463 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 61

Region : X | Province : MISAMIS ORIENTAL | Catchment Area : 3,570.1 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Cagayan de Oro City	08° 29'	124° 38'	1949 - 1973
2	Uquiaban	08° 24'	124° 36'	1956 - 1964
3	Mambajao	09° 15'	124° 43'	1954 - 1964

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Cagayan de Oro City	08° 29'	124° 38'	1951 - 1980

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Napaliran, Balingasag	Balatukan	114	1968 - 1972
	Munay, Alubihid	Alubihid	94	1950 - 1979
	Sta. Cruz, Tagoloan	Tagoloan	1656	1960 - 1980
	Cagayan de Oro City	Cagayan	1331	1954 - 1972
	Pagatpat, Cagayan	Iponan	351	1957 - 1978

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : III

ii) Annual Rainfall : 2,196.5 mm

- Rainy season : 1,246.5 mm (57%) from May to October
- Dry season : 950.1 mm (43%) from November to April

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Cagayan de Oro City	89.5	65.2	51.4	28.3	112.2	212.0	215.2	215.9	231.6	176.5	146.7	132.1	1676.6
Uquiabon	136.1	120.7	66.3	137.2	291.4	275.4	291.3	230.8	275.0	247.2	148.3	232.3	2452.0
Mambajao	335.0	249.9	156.3	56.1	96.0	146.5	180.6	163.1	165.0	213.7	326.1	372.6	2460.9

iv) Meteorological Features at Cagayan de Oro Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	26.0	26.2	26.7	27.7	28.3	27.8	27.5	27.6	27.6	27.4	27.2	26.6	326.6
Mean R. humidity	(%)	82.0	81.0	78.0	75.0	77.0	81.0	80.0	80.0	80.0	81.0	81.0	82.0	958.0
Pan evaporation	(mm)													
Wind Speed	(km/day)	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	86.4	1036.8
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3.0
Typhoon frequency	(%)	0	0	0	33.33	0	0	0	0	0	33.34	0	33.33	100.0

3. SURFACE RUNOFF

i) Water Region X

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Balatukan	Mapaliran	114	155.47	0.04325
Alubijid	Munay	94	34.06	0.01149
Tagoloan	Sta. Cruz	1656	3491.67	0.06686
Iponan	Pagatpat	351	364.87	0.03296

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Napaliran,Balingasag	Balatukan	114	7.79	7.91	4.15	3.05	3.34	3.53	3.61	2.05	5.09	4.98	5.41	8.20	4.93
Munay, Alubijid	Alubijid	94	1.59	0.92	0.63	0.56	0.41	0.83	1.29	1.44	1.16	1.33	1.33	1.44	1.08
Sta. Cruz,Tagoloan	Tagoloan	1656	106.89	114.12	98.93	78.12	82.14	109.29	119.29	133.02	134.52	133.54	112.28	106.47	110.72
Pagatpat, Cag de Oro	Iponan	351	12.86	9.74	7.83	5.61	8.30	14.86	15.65	14.79	14.57	12.32	10.43	11.89	11.57

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.85 lit/sec/ha (463 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 62

Region : X | Province : MISAMIS OCCIDENTAL | Catchment Area : 1,939.3 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Clarin	08° 12'	128° 54'	1956 - 1973

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Tipolo, Plaridel	Langaran	83	1959 - 1989
	Lambacongan, Oroquieta	Layawan	115	1949 - 1978
	Oroquieta	Pinis	27	1959 - 1988
	Mitazan, Aloran	Aloran	26	1959 - 1986
	Corrales, Jimenez	Jimenez	97	1956 - 1988
	Canicapan, Clarin	Clarin	139	1951 - 1978

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Masabod, Clarin	Paca	138	1959 - 1978
	Calabayan, Ozamis City	Labo	55	1952 - 1988

2. METEOROLOGY

i) Climate Type : IV (Evenly distributed)
ii) Annual Rainfall : 3,775.4 mm
- Rainy season : mm from July to December
- Dry season : mm from January to June

iii) Monthly rainfall at Major Stations — Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Clarin	409.9	193.8	208.2	132.8	197.2	337.2	256.5	290.9	287.9	338.5	514.5	608.1	3775.5

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region IX
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Langaran	Tipolo	83	250.08	0.09554
Layawan	Lambacongan	115	345.95	0.09539
Pinis	Oroquieta	27	51.09	0.06
Aloran	Mitazan	26	165.25	0.20154
Jimenez	Corrales	97	198.68	0.06495

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Tipolo, Plaridel	Langaran	83	7.52	9.34	5.59	5.42	7.10	6.64	5.16	5.33	6.27	9.11	12.12	15.50	7.93
Lambacongan,Oroq.	Layawan	115	15.10	14.71	9.94	8.65	8.85	8.72	10.13	9.55	9.42	10.76	12.65	13.14	10.97
Oroquieta	Pinis	27	2.50	2.19	1.20	0.92	0.92	0.96	1.21	1.26	1.19	2.38	1.90	2.79	1.62
Mitazan, Aloran	Aloran	26	8.24	8.25	5.41	3.39	3.85	3.75	5.34	2.87	3.47	4.25	6.70	7.32	5.24
Corrales, Jimenez	Jimenez	97	7.19	5.92	5.07	4.55	5.10	5.70	6.08	5.81	5.73	6.71	7.28	10.42	6.30
Canicapan, Clarin	Clarin	139	3.41	3.35	2.91	2.92	3.12	2.99	3.28	3.49	3.95	3.59	3.35	3.35	3.31

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.85 lit/sec/ha (463 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 63

Region : X | Province : BUKIDNON | Catchment Area : km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Impasugong	08° 16'	125° 02'	1954 - 1970
2	Philips M.Fortich	08° 20'	124° 49'	1954 - 1987
3	Menzi Nursery	08° 14'	124° 36'	1960-65, 1977
4	Cinchona Plantation	08° 04'	124° 58'	1954 - 1963
5	Valencia	08° 00'	125° 04'	1956 - 1967
6	Malaybalay	08° 09'	125° 05'	1954 - 1965

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	CMU, Musuan, Bukidnon			1967 - 1989

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	CMU, Musuan, Bukidnon			1967 - 1989

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Omonay, Kibawe	Muleta	736	1967 - 1971
	Sabakan, Panagtalan	Kulaman	144	1968 - 1973
	Guinoyoran, Valencia	Sagumata	10	1967 - 1973
	Musuan, Maramag	Taganibong	27	1967 - 1972
	Poblacion, Valencia	Pulangui	2730	1963 - 1980
	Colonia, Valencia	Manupali	487	1968 - 1978

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Linabo, Malaybalay	Suwaga	327	1956 - 1975

2. METEOROLOGY

i) Climate Type : IV (Evenly distributed)

ii) Annual Rainfall : 3,151.8 mm

- Rainy season : mm from July to December
- Dry season : mm from January to June

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Impasugong	147.8	152.9	142.6	150.7	282.6	326.9	310.4	305.1	279.5	266.2	213.4	175.0	2753.1
Philips M. Fortich	118.8	112.4	113.3	130.8	278.8	331.8	322.8	319.1	303.8	227.8	188.8	175.5	2623.7
Menzi Nursery	214.9	194.5	157.3	238.4	308.5	359.3	411.9	368.1	393.6	341.0	254.4	160.0	3401.9
Cinchona Plantation	179.7	202.1	142.6	156.3	342.5	400.9	446.3	488.8	404.8	448.5	180.7	251.5	3644.7
Valencia	288.4	203.0	184.7	118.9	400.4	363.9	361.5	434.9	465.9	210.7	151.7	106.8	3290.8

iv) Meteorological Features at C M U Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	25.4	25.8	26.8	27.7	27.3	27.6	25.8	25.8	26.1	26.1	26.3	25.9	316.6
Mean R. humidity	(%)	71.7	69.6	66.1	64.1	69.9	77.0	78.6	77.4	76.9	76.7	74.3	72.8	875.1
Pan evaporation	(mm)	160.4	177.7	232.7	235.5	191.1	137.9	133.3	136.6	139.5	139.1	141.3	145.6	1970.7
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3.0
Typhoon frequency	(%)	0	0	0	33.33	0	0	0	0	0	33.33	0	33.34	100.0

3. SURFACE RUNOFF

i) Water Region X

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Muleta	Omonay	736	740.15	0.03189
Kulaman	Sabakan	144	120.15	0.02646
Sagumata	Guinoyoran	10	14.82	0.047
Manupali	Valencia	487	476.19	0.03101
Pulangui	Valencia	2730	5345.35	0.06209

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Omonay, Kibawe	Muleta	736	15.85	16.33	11.62	11.99	20.15	33.32	46.66	28.99	31.21	29.34	17.18	19.04	23.47
Sabakan, Panagtalan	Kulaman	144	1.56	1.23	1.11	2.41	2.27	3.83	4.92	5.48	7.90	6.62	4.90	3.54	3.81
Guinoyoran, Valencia	Sagumata	10	0.39	0.36	0.26	0.17	0.27	0.27	0.60	0.68	0.90	0.86	0.51	0.38	0.47
Musuan, Maramag	Taganibong	27	0.12	0.08	0.02	0.01		0.07	0.53		0.49	0.50	0.29	0.18	0.19
Poblacion, Valencia	Pulangui	2730	162.22	176.51	134.86	110.30	137.81	182.08	171.61	190.62	204.23	202.79	195.05	165.64	169.48
Colonia, Valencia	Manupali	487	14.02	14.48	11.67	10.31	13.85	16.36	15.40	16.11	19.85	19.52	16.50	13.09	15.10

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.73 lit/sec/ha (432 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 64

Region : X | Province : AGUSAN DEL SUR | Catchment Area : 8,965.5 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Sta. Josefa, Bunawan			1957 - 1965
2	Cagbas, Bayugan 1			1977 - 1988

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Sta. Josefa			1957 - 1962

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Magsaysay,Agusan	Agusan	11,677	1957 - 1972
	Bayugan, Agusan	Andanan	201	1967 - 1980
	Esperanza, Agusan	Wawa	396	1964 - 1986
	Milagros, Esperanza	Buslao	316	1967 - 1970
	San Isidro, Talacogon	Agusan	7390	1955-62, 1972
	Prosperidad,Agusan	Gibong	427	1965 - 1975

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Langasian, La Paz	Kayawan	348	1967 - 1980
	Halapitan, La Paz	Adgaoan	820	1967 - 1970
	Sta. Josefa, Bunawan	Agusan	1599	1965 - 1970

2. METEOROLOGY

i) Climate Type : II (No dry season)

ii) Annual Rainfall : 3,147.2 mm

- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Sta. Josefa, Bunawan	888.3	605.1	249.5	249.3	155.5	172.6	282.3	144.2	309.1	289.9	400.0	422.6	4168.4
Cagbas, Bayugan 1	418.2	197.1	125.1	107.7	98.8	168.2	115.2	195.8	164.5	139.2	148.2	247.9	2125.9

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)	129.4	91.8	120.4	112.7	133.4	114.9	113.4	113.6	106.7	109.6	95.5	99.8	111.8
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region X

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Gibong	Prosperidad	427	659.1	0.04895
Andanan	Bayugon	201	375.59	0.05925
Wawa	Esperanza	396	717.44	0.05745
Kayawan	La Paz	348	1609.28	0.14664
Adgaoan	La Paz	820	2804.18	0.10844

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Prosperidad	Gibon	427	47.17	28.00	26.57	24.51	18.50	13.76	12.43	11.52	11.98	12.68	14.22	29.44	20.90
Bayugan	Andanan	201	21.63	17.75	13.23	16.35	6.59	7.44	7.62	7.04	9.39	9.10	9.56	17.16	11.91
Esperanza	Wawa	396	49.03	34.07	31.04	18.55	13.68	14.98	12.84	10.73	16.15	13.57	20.82	37.53	22.75
La Paz	Kayawan	348	69.41	55.26	33.93	28.45	29.26	37.66	66.33	69.45	53.87	50.13	52.14	66.53	51.04
La Paz	Adgaoan	820	178.96	110.27	93.07	25.76	35.52	56.16	78.98	113.65	87.07	119.29	79.12	89.14	88.92
Sta. Josefa	Agusan	1599	227.27	148.77	68.49	59.75	69.04	70.26	64.14	54.68	53.16	54.54	81.15	105.05	88.03

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.73 lit/sec/ha (432 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 65

Region : XI | Province : SURIGAO DEL SUR | Catchment Area : 4,552.2 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Aras-Asan, Cagwit	08° 53'	126° 19'	1956 - 1973
2	Cantilan	09° 20'	125° 59'	1956 - 1975
3	Hinatuan	08° 22'	126° 20'	1949 - 1973

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Lisob, Madrid	Boya-an	33	1956 - 1976
	Parang, Cantillan	Carac-an	240	1950 - 1973
	Libas, Tago	Tago	676	1959 - 1972

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : II (No dry season)

ii) Annual Rainfall : 4,664.4 mm

- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Aras-Asan, Caguit	679.1	588.6	442.3	307.8	265.5	175.4	198.4	156.2	173.7	205.3	439.3	605.3	4236.9
Cantilan	1,026.2	863.1	655.6	450.9	215.2	163.5	133.0	121.3	136.0	234.9	544.0	837.4	5381.1
Hinatuan	688.4	533.1	454.2	326.3	290.0	257.8	207.4	201.6	211.0	211.8	367.2	635.5	4384.3

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XI

ii) Hydrological Characteristics of Major Rivers

River		Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Boyo-an	Lisob	33	88.93	0.08545
Carac-an	Parang	240	1305.28	0.17246
Tago	Libas	676	4222.36	0.19806

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Lisob, Madrid	Boya-an	33	10.36	6.56	5.80	1.00	0.68	0.73	1.43	0.66	0.73	0.70	2.32	2.89	2.82
Parang,Cantillan	Carac-an	240	102.45	80.83	66.48	33.22	26.73	22.75	22.45	12.79	12.47	11.86	19.86	84.76	41.39
Libas, Tago	Tago	676	213.94	206.55	205.22	115.79	131.31	103.60	68.32	75.34	92.50	97.35	135.68	121.06	130.56

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.73 lit/sec/ha (432 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 66

Region : XI | Province : DAVAO ORIENTAL | Catchment Area : 5,164.5 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Magrico, Mati	06° 57'	126° 13'	1956 - 1972

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	San Pedro,Caraga	Caraga	468	1966 - 1970
	San Ildefonso, Cateel	Cateel	264	1958 - 1972

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : II (No dry season)

ii) Annual Rainfall : 1,461.1 mm

- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Magrico, Mati	209.5	179.0	93.8	71.7	106.0	128.5	109.5	115.1	92.8	126.4	102.8	126.1	1461.2

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XI

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Caraga	Caraga	468		
Cateel	San Ildefonso	264		

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
San Pedro, Caraga	Caraga	468													
San Ildefonso,Cateel	Cateel	264													

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.73 lit/sec/ha (432 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 67

Region : XI | Province : DAVAO DEL NORTE | Catchment Area : 8,129.8 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Mabini, Tagnanan	07° 17'	125° 51'	1954 - 1970
2	Tagum RGS, Pansabangan	07° 23'	125° 48'	1950 - 1960
3	Hijo Plantation, Tagum	07° 23'	125° 50'	1956 - 1976

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Twin R. Research Center			1977 - 1988

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Camanlangan, Campostela	Agusan	343	1967 - 1985
	Kalaw Bridge, Monkayo	Agusan	1355	1958 - 1972
	Tipas, Tagum	Hijo	617	1949 - 1972
	Pansabangan, Tagum	Tagum	2326	1949 - 1972
	Pangi, Davao City	Matina	48	1959 - 1978

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV (Rainfall evenly distributed throughout the year)
ii) Annual Rainfall : 2,165.0 mm
- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar.	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mabini, Tagnanan	225.5	152.3	120.7	137.6	206.4	167.3	153.0	157.1	172.2	189.5	183.6	147.4	2012.6
Tagum RGS, Pansabangan	172.8	143.3	98.2	211.6	204.2	230.2	154.6	169.5	199.4	164.7	174.1	194.1	2116.7
Hijo Plantation, Tagum	210.2	195.7	135.7	197.9	244.2	212.3	186.3	184.5	206.5	200.8	219.9	172.6	2366.6

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	26.4	26.6	27.4	28.0	28.0	27.5	27.2	27.4	27.5	27.6	27.3	27.9	328.8
Mean R. humidity	(%)	82.1	81.7	79.0	78.6	80.6	81.7	82.2	80.9	81.1	81.4	80.4	81.7	971.4
Pan evaporation	(mm)	97.9	95.6	129.8	139.3	135.1	111.7	115.8	127.4	121.3	117.6	109.7	112.6	1413.8
Wind Speed	(km/day)	240.0	240.0	240.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	2277.0
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region X & XI
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Agusan	Camanlangan	343	382.53	0.03536
Agusan	Kalaw Br.	1355	2691.91	0.06299
Hijo	Tipas	617	599.18	0.03079
Tagum	Pansabangan	2326	3803.56	0.05185
Matina	Pangi	48	26.81	0.01771

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Camanlangan,Campo	Agusan	343	17.38	16.39	14.51	9.82	11.67	12.29	12.63	11.01	10.06	10.06	9.93	9.84	12.13
Kalaw Br,Monkayo	Agusan	1355	206.45	241.77	97.26	56.30	53.11	53.95	56.34	51.07	44.40	53.35	59.90	50.35	85.35
Tipas, Tagum	Hijo	617	22.83	18.18	13.85	13.14	19.13	24.75	21.14	16.84	17.92	19.49	23.73	16.99	19.00
Pansabangan, Tagum	Tagum	2326	165.43	124.30	85.97	69.11	122.96	162.03	130.35	101.66	136.64	118.47	101.25	129.19	120.61
Pangi, Davao City	Matina	48	1.20	0.77	0.69	0.79	0.79	1.11	0.90	0.89	0.80	0.99	0.70	0.60	0.85

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.73 lit/sec/ha (432 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 68

Region : XI | Province : DAVAO DEL SUR | Catchment Area : 6,377.6 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Davao City	07° 04'	125° 36'	1949 - 1983
2	Bago-Oshiro	07° 02'	125° 31'	1956 - 1970
3	Malita	06° 25'	125° 37'	1956 - 1969
4	Sta. Cruz	06° 50'	125° 24'	1956 - 1973
5	Padada River Damsite			1952 - 1980

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Davao City, Davao	07° 04'	125° 36'	1949 - 1983

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Twin R. Research Center			1977 - 1988

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Pangi	Matina	48	1959 - 1978
	Sibulan, Sta. Cruz	Sibulan	128	1955 - 1977
	Lapulabao, Hagonoy	Padada	821	1949 - 1978
	Dongangpilong, Matanao	Mal	188	1956 - 1978

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV (Rainfall evenly distributed throughout the year)
ii) Annual Rainfall : 1,787.2 mm
- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations — Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Davao City	114.5	100.1	81.1	141.0	211.8	194.8	176.7	173.1	179.3	167.0	149.4	108.4	1797.2
Bago-Oshiro	136.3	179.6	120.1	181.4	254.2	226.7	202.9	240.5	244.9	194.7	196.3	137.6	2315.2
Malita	221.8	166.2	109.1	109.9	157.9	104.6	98.7	92.4	70.6	114.9	130.4	133.1	1509.6
Sta. Cruz	85.9	113.4	95.4	149.9	263.8	231.8	153.6	211.6	198.3	175.7	153.7	158.5	1991.6
Padada River Damsite	76.8	66.1	37.9	79.9	128.1	153.1	141.8	163.3	148.2	132.8	107.8	86.2	1322.0

iv) Meteorological Features at Davao City Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(Å6)	26.4	26.6	27.4	28.0	28.0	27.5	27.2	27.4	27.5	27.6	27.3	27.9	328.8
Mean R. humidity	(%)	82.1	81.7	79.0	78.6	80.6	81.7	82.2	80.9	81.1	81.4	80.8	81.7	971.8
Pan evaporation	(mm)	97.9	95.6	129.8	139.3	135.1	111.7	115.8	127.4	121.3	117.6	109.7	112.6	1413.8
Wind Speed	(km/day)	240.0	240.0	240.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	2277.0
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XI
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Sibulan	Sibulan	128	211.29	0.05234
Padada	Lapulabao	821	569.86	0.02201
Mal	Dongangpilong	188	203.09	0.03426

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Sibulan, Sta.Cruz	Sibulan	128	6.71	6.83	5.94	6.01	6.54	6.71	6.71	6.67	6.61	7.04	7.27	7.36	6.70
Lapulabao,Hagonoy	Padada	821	12.64	13.66	13.19	13.21	17.07	19.80	20.56	22.36	27.52	21.92	19.91	14.99	18.07
Dongangpilong,Mata	Mal	188	4.56	5.38	3.67	3.49	5.84	8.69	7.99	9.29	8.97	8.00	6.31	5.12	6.44

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.73 lit/sec/ha (432 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 69

Region : XI | Province : SOUTH COTABATO | Catchment Area : 7,468.8 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Gen Santos City	06° 07'	125° 14'	1949 - 1980
2	Dadiangas			1959 - 1965
3	Kling-Kiamba	05° 58'	124° 42'	1956 - 1964
4	Marbel 8,Koronadal	06° 30'	124° 51'	1950-60, 1972-77

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Gen.Santos, S.Cotabato	06° 07'	125° 14'	1951 - 1980

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Bula,Gen.Santos			1957-65, 1970-73
2	Dadiangas			1959 - 1965

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Kiblat, Malandag	Buayan	208	1957 - 1973
	Upper Clinan, Polomolok	Clinan	85	1950 - 1975
	Lagao, Gen Santos	Siluay	65	1956 - 1976
	Marbel, Kornadal	Marbel	290	1950 - 1977
	Poblacion, Banga	Banga	324	1959 - 1976
	Camahay, Surala	Lonon	125	1966 - 1978

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV (Rainfall evenly distributed throughout the year)
ii) Annual Rainfall : 1,307.8 mm
- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations — Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Gen.Santos City	63.0	65.1	44.7	51.3	89.5	99.8	95.2	84.8	82.6	93.5	87.0	78.2	934.7
Dadiangas	63.0	73.7	29.7	63.1	69.3	69.2	106.4	64.6	87.7	90.4	79.3	64.6	861.0
Kling-Kiamba	114.7	172.2	139.2	175.4	229.0	207.3	218.0	345.7	183.0	184.1	165.7	159.1	2293.4
Marbel 8, Koronadal	22.3	46.8	33.5	72.6	145.8	175.5	120.0	117.1	146.6	107.8	95.2	59.8	1143.0

iv) Meteorological Features at Gen. Santos Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	27.0	27.2	27.7	28.0	27.6	26.8	26.4	26.4	26.6	26.9	27.1	27.1	27.1
Mean R. humidity	(%)	77.0	76.0	75.0	76.0	81.0	83.0	84.0	83.0	83.0	82.0	81.0	80.0	80.1
Pan evaporation	(mm)	198.0	193.2	222.6	240.5	235.6	201.1	192.8	211.6	199.1	203.1	195.4	196.3	207.4
Wind Speed	(km/day)	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0	259.0
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XI & XII
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Buayan	Kiblat	208	83.57	0.01274
Clinan	Upper Clinan	85	59.29	0.02212
Siluay	Lagao	65	143.49	0.07
Marbel	Marbel	290	190.79	0.02086
Banga	Poblacion	324	293.6	0.02873

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Kiblat, Malandag	Buayan	208	2.58	2.75	2.17	1.96	2.40	3.03	3.16	2.92	2.78	2.99	2.61	2.41	2.65
Upper Clinan,Polom	Clinan	85	1.47	1.46	1.35	1.39	1.55	1.92	2.39	2.22	2.44	2.35	1.75	2.32	1.88
Lagao,Gen Santos	Siluay	65	3.61	3.03	2.70	2.76	4.31	6.20	6.42	5.25	5.20	5.95	5.21	3.92	4.55
Marbel,Koronadal	Marbel	290	5.20	4.82	3.89	4.22	6.44	6.38	5.97	6.30	8.48	6.99	7.06	6.90	6.05
Poblacion, Banga	Banga	324	8.15	7.64	6.22	6.55	9.20	9.31	11.27	11.62	11.47	11.14	9.98	9.13	9.31
Canahay,Surala	Lonon	125	4.52	4.48	3.84	3.98	4.89	5.40	4.95	4.56	4.67	4.67	4.14	3.93	4.50

4. Reference Figures for Planning

i) Irrigation Water Requirement : 2 lit/sec/ha (499 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 70

Region : XII | Province : LANAO DEL NORTE | Catchment Area : 3,092.0 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Iligan City	08° 11'	124° 12'	1954 - 1965

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Taparac, Iligan City	Mandulog	576	1959 - 1978
	Balagtasa,Kolambungan	Maigo	74	1951 - 1972
	Rebe, Lala	Maranding	345	1951 - 1972

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV (Rainfall more or less evenly distributed throughout the year)
ii) Annual Rainfall : 2,044.5 mm
- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Iligan City	223.7	164.3	97.6	56.2	145.5	164.6	175.5	190.0	152.9	166.4	255.8	251.9	2044.4

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XII
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Mandulog	Taparac	576	1414.76	0.07783
Maigo	Balagtasa	74	151.37	0.06486
Maranding	Rebe	345	772.32	0.07099

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Taparac, Iligan	Mandulog	576	36.01	39.56	44.32	27.97	43.42	64.54	51.57	45.75	45.36	51.68	47.59	40.23	44.83
Balagtasa,Kolambun	Maigo	74	9.32	5.01	5.53	4.14	3.05	3.42	5.00	4.77	4.62	3.18	3.75	5.85	4.80
Rebe, Lala	Maranding	345	22.15	20.24	19.20	18.71	20.44	28.76	27.49	28.04	27.70	27.25	27.68	26.19	24.49

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.36 lit/sec/ha (340 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 71

Region : XII | Province : LANAO DEL SUR | Catchment Area : 3,872.9 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Taraka, Lanao del Sur			1973 - 1987

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV (Rainfall more or less evenly distributed throughout the year)
ii) Annual Rainfall : 2,135.8 mm
- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations — Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Taraka	144.4	106.9	79.6	99.7	194.2	273.5	220.8	206.0	215.3	239.2	214.2	142.0	2135.8

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XII
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.36 lit/sec/ha (340 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 72

Region : XII | Province : NORTH COTABATO | Catchment Area : 6,565.9 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Kabakan	07° 07'	124° 50'	1954 - 1976
2	Kidapawan	07° 01'	125° 05'	1956 - 1983
3	Midsayap	07° 14'	124° 31'	1956 - 1983

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	M I T, Cotabato			1957-65, 1970-73

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Abaya,Libungan	Libungan	534	1950 - 1973
	Bagontapay,M'lang	Malasila	145	1952 - 1973
	Ogpay,M'lang	M'lang	164	1952 - 1975
	Perez,Kidapawan	Saguing	9	1955 - 1973
	Inug-ug, Pikit	Rio Grande	12,999	1955 - 1976
	Titutulan, Pikit	Maridagao	1,333	1959 - 1973

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Mateo, Matalam	Kabakan	698	1955 - 1972
	Lumayong, Carmen	Pulangui	6752	1959 - 1973

2. METEOROLOGY

i) Climate Type : IV (Rainfall more or less evenly distributed throughout the year)

ii) Annual Rainfall : 2,091.0 mm

- Rainy season : 1,271.6 mm (61%) from May to October
- Dry season : 819.4 mm (29%) from November to April

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Kabakan	80.2	86.0	87.1	129.6	201.7	218.9	176.9	156.9	165.2	205.9	148.5	171.6	1828.5
Kidapawan	184.5	177.0	87.3	153.8	243.9	276.5	229.1	252.5	242.5	260.7	237.5	180.3	2525.6
Midsayap	104.3	107.8	98.4	132.6	224.1	251.6	160.0	167.1	159.2	221.8	191.5	124.1	1942.5

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)	155.8	152.5	170.0	175.5	164.2	150.8	140.4	152.7	150.2	148.5	144.8	139.5	153.7
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XII

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Libungan	Abaya	534	609.59	0.0362
Malasila	Bagontapay	145	268.06	0.05862
M'lang	Ogpay	164	234.31	0.0453
Maridagao	Titutulan	1333	3052.68	0.07262
Pulangui	Lumayong	6752	8399.3	0.03945

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Abaya,Libungan	Libungan	534	11.88	11.19	8.74	9.70	17.37	24.86	23.75	22.99	23.64	29.06	29.67	19.09	19.33
Bagontapay,M'lang	Malasila	145	6.05	5.67	5.15	5.85	8.12	9.36	10.24	11.13	11.11	10.86	9.31	8.90	8.48
Ogpay,M'lang	M'lang	164	4.28	4.16	3.74	4.00	7.83	8.91	9.03	9.33	11.33	11.80	8.90	5.86	7.43
Lumayong, Carmen	Pulangui	6752	227.70	247.69	207.76	164.07	236.34	321.74	321.40	316.21	348.40	349.37	249.09	206.87	266.39
Inug-ug,Pikit	Rio Grande	12,999	372.18	354.02	292.98	258.28	383.19	514.38	532.13	472.67	526.12	538.57	456.40	372.33	422.77
Titutulan, Pikit	Maridagao	1,333	70.50	67.37	67.63	66.86	83.35	121.94	116.05	108.68	115.83	140.43	122.55	80.40	96.80

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.92 lit/sec/ha (478 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 73

Region : XII | Province : MAGUINDANAO | Catchment Area : 5,474.1 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Cotabato City	07° 14'	124° 15'	1945 - 1965

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Cotabato City,Maguindanap	07° 14'	124° 15'	1949 - 1965

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	M I T, Kabakan		124° 15'	1957 - 1973

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Alip, Buluan	Alip	380	1955 - 1986
	Poblacion,Datu Piang	Mindanao	17,744	1964 - 1973
	Sapakan,Sultan sa Barongis	Dansalan	3749	1955 - 1972
	Allah Ampatuan	Allah	1496	1959 - 1976
	Kapingkong,S. sa Barongis	Kapingkong	559	1968 - 1976

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Alip, Buluan	Alip	380	1955 - 1986
		Tamontaka	583	

2. METEOROLOGY

i) Climate Type : IV (Rainfall more or less evenly distributed throughout the year)

ii) Annual Rainfall : 2,219.7 mm

- Rainy season : 1,539.5 mm (69%) from May to October
- Dry season : 680.2 mm (31%) from November to April

iii) Monthly rainfall at Major Stations

Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Cotabato City	66.3	94.6	96.2	136.0	253.5	237.9	240.2	319.4	237.6	250.9	177.2	109.9	2219.7

iv) Meteorological Features at Cotabato City Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)	27.0	27.3	27.9	28.3	27.9	26.9	27.0	26.9	27.0	27.3	27.3	27.2	27.3
Mean R. humidity	(%)	79.8	78.8	76.7	78.8	82.3	83.6	84.2	84.4	84.1	83.5	83.1	81.8	81.8
Pan evaporation	(mm)	155.8	152.5	170.0	175.5	164.2	148.8	140.4	152.7	150.2	148.5	144.8	139.5	153.6
Wind Speed	(km/day)	134.0	134.0	134.0	178.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	134.0	137.7
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XII

ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Kapingkong	Kapingkong	559		0.03555
Alip	Buluan	380	515.3	0.043
Mindanao	Datu Piang	17744	20718.21	0.03702
Dansalan	Sapakan	3749	3002.86	0.0254
Allah	Allah	1496	1961.22	0.041571

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Buluan,Cotabato	Alip	380	9.54	9.95	13.25	9.52	10.76	17.70	23.02	19.78	26.34	25.08	19.58	11.54	16.34
Poblacion,D.Piang	Mindanao	17744	576.36	552.03	578.63	412.97	535.73	693.22	824.36	693.96	733.58	906.66	727.91	648.18	656.97
Sapakan,S sa Barong	Dansalan	3749	58.55	59.00	59.42	61.72	86.80	130.70	130.54	108.12	105.45	133.73	121.44	87.22	95.22
Allah,Ampatuan	Allah	1496	49.87	49.63	43.65	41.67	70.50	69.65	76.86	68.72	74.62	80.12	67.75	53.21	62.19
Kapingkong,S sa Barongis	Kapingkong	559	17.47	15.22	15.68	13.25	18.72	22.43	21.15	23.51	26.15	23.05	22.47	19.37	19.87

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.9 lit/sec/ha (474 mm/month)

PROVINCIAL METEORO-HYDROLOGICAL PROFILE

File No. 74

Region : XII | Province : SULTAN KUDARAT | Catchment Area : 636.0 km2

1. STATIONS

i) Rainfall Stations

No.	Name of Station/Location	Coordinate		Period of Record
1	Tacurong	06° 47'	124° 37'	1969 - 1983
2	Kenram Plantation			1959 - 1981

No.	Name of Station/Location	Coordinate		Period of Record

ii) Meteorological Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iii) Evaporation Stations

No.	Name of Station/Location	Coordinate		Period of Record

No.	Name of Station/Location	Coordinate		Period of Record

iv) Gauging Stations

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record
	Kolambog,Isulan	Allah	936	1951 - 1975
	Simuay,S.Kudarat	Simuay	664	1969 - 1972

Sta. ID	Name of Station/Location	River	DA(km2)	Period of Record

2. METEOROLOGY

i) Climate Type : IV (Rainfall more or less evenly distributed throughout the year)
ii) Annual Rainfall : 1,364.0 mm
- Rainy season : mm from to
- Dry season : mm from to

iii) Monthly rainfall at Major Stations — Unit : mm

Station Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Tacurong	42.9	65.4	37.1	53.4	101.4	138.4	121.4	133.9	98.8	110.0	87.0	70.8	1060.5
Kenram Plantation	72.2	63.2	71.2	95.2	194.9	227.2	183.8	186.2	170.5	178.2	131.6	92.7	1666.9

iv) Meteorological Features at Station

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean temp.	(°C)													
Mean R. humidity	(%)													
Pan evaporation	(mm)													
Wind Speed	(km/day)													
Nos. of Typhoon	(Nos.)	0	0	0	1	0	0	0	0	0	1	0	1	3
Typhoon frequency	(%)	0	0	0	33	0	0	0	0	0	33	0	33	100

3. SURFACE RUNOFF

i) Water Region XII
ii) Hydrological Characteristics of Major Rivers

River	Station	Drainage Area (km2)	Annual Runoff (MCM)	Specific Discharge (m3/sec/km2)
Allah	Kolambog	936	1478.09	0.05007
Simuay	Simuay	664	1958.39	0.09352

iii) Monthly Runoff at Major Stations

Station	River	DA(km2)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
Kolambog,Isulan	Allah	936	33.60	33.49	28.97	30.42	48.57	62.27	61.76	52.39	51.21	57.80	53.31	45.67	46.62
Simuay,S.Kudarat	Simuay	664	53.04	46.51	38.10	35.89	37.50	75.52	94.51	71.11	83.85	81.86	81.22	46.13	62.10

4. Reference Figures for Planning

i) Irrigation Water Requirement : 1.9 lit/sec/ha (474 mm/month)

PART-IV

PROVINCIAL IRRIGATION PROFILES

PROVINCIAL IRRIGATION PROFILES

Table of Profiles

Profile No.	Region	Province	Profile No.	Region	Province
1	I	ILOCOS NORTE	38	VI	AKLAN
2		ABRA	39		CAPIZ
3		ILOCOS SUR	40		ANTIQUE
4		MOUNTAIN PROVINCE	41		ILOILO
5		LA UNION	42		NEGROS OCCIDENTAL
6		BENGUET	43		NEGROS DEL NORTE
7		PANGASINAN			
			44	VII	CEBU
8	II	BATANES	45		NEGROS ORIENTAL
9		CAGAYAN	46		BOHOL
10		KALINGA APAYAO	47		SIQUIJOR
11		ISABELA	48		NORTHERN SAMAR
12		IFUGAO	49		SAMAR
13		NUEVA VISCAYA	50		EASTERN SAMAR
14		QUIRINO	51		NORTHERN LEYTE
			52		SOUTHERN LEYTE
15	III	NUEVA ECIJA			
16		TARLAC	53	IX	ZAMBOANGA DEL NORTE
17		ZAMBALES	54		ZAMBOANGA DEL SUR
18		PAMPANGA	55		BASILAN
19		BULACAN	56		SULU
20		BATAAN	57		TAWI-TAWI
21	IV	AURORA	58	X	SURIGAO DEL NORTE
22		QUEZON	59		CAMIGUIN
23		RIZAL	60		AGUSAN DEL NORTE
24		CAVITE	61		MISAMIS ORIENTAL
25		LAGUNA	62		MISAMIS OCCIDENTAL
26		BATANGAS	63		BUKIDNON
27		MARINDUQUE	64		AGUSAN DEL SUR
28		MINDORO ORIENTAL			
29		MINDORO OCCIDENTAL	65	XI	SURIGAO DEL SUR
30		ROMBLON	66		DAVAO ORIENTAL
31		PALAWAN	67		DAVAO DEL NORTE
			68		DAVAO DEL SUR
32	V	CAMARINES NORTE	69		SOUTH COTABATO
33		CAMARINES SUR			
34		CATANDUANES	70	XII	LANAO DEL NORTE
35		ALBAY	71		LANAO DEL SUR
36		SORSOGON	72		NORTH COTABATO
37		MASBATE	73		MAGUINDANAO
			74		SULTAN KUDARAT

DATA SOURCE OF EACH ITEM IN PROVINCIAL IRRIGATION PROFILE

SOCIO-ECONOMIC BACKGROUND

1. Land Area: 1989 Philippines Statistical Yearbook, Oct. 1989 National Statistical Coordination Board

2. Population 1990: The figures are based on the preliminary results of the census made in 1990. These figures should be considered tentative as they may change after the final review is completed.

3. Population 2000: The figures are estimated based on the generated population in the Provincial Irrigation Profile prepared by NIA in Dec. 1988.

$$(\text{Population 2000}) = (\text{Population 1990}) \times \frac{(\text{Generated Pop 2000})}{(\text{Generated Pop 1990})}$$

4. Population Growth Rate: Growth Rate between 1980 to 1990

5. Rural/Urban Population: The figures are estimated at based on the ratio of the Regional urban-rural population in 1980. (1989 Philippines Statistical Yearbook)

6. Nos. of Household: (Same as Population 1990)

7. Nos. of Farm Household:

$$(\text{Farm Household}) = (\text{Total Household}) \times \frac{(\text{Rural Population 1990})}{(\text{Population 1990})}$$

8. RGDP (1989): Revised estimate in June 1990, Economic and Social Statistics Office, National Statistical Coordination Board. (RGDP is estimated at current prices by 14 Regions; CAR, NCR and Region I to XII.)

9. RGDP Rural: The figures show the RGDP in Agriculture, Fishery and Forestry Sector.

10. RGDP Urban: The figures show the RGDP in Industry and Service Sectors.

11. Income Class of Province: Provincial Profiles Philippines, March 1988, Department of Agriculture

RELATION WITH CARP

1. CARP Priority Province: Executive Order No. 406

2. Area for distribution under CARP & Status of Issuance of Emancipation Patents: Data of Department of Agurarian Reform

3. Nos. of CISs/CIPs for implementation under CARP-IC: Proposed CARP Irrigation Projects, NIA CARP-IC Office

PHYSICAL PROFILE

1. Topography: Provincial Irrigation Profile, Dec. 1988, NIA
2. Soils: Provincial irrigation Profile, Dec. 1988, NIA
3. Climate: Philippines Almanac Book of Facts 1990

AGRICULTURE

1. Agricultural Land Use (1989): Data of Bureau of Agricultural Statistics, Department of Agriculture
2. Ratio of Agricultural Land against Total Land: $\frac{\text{(Arable Land)}}{\text{(Land Area)}}$
3. Average Cropping Intensity: $\frac{\text{(Total Cultivated Area)}}{\text{(Arable Land)}}$
4. Average Farm Size: $\frac{\text{(Arable Land)}}{\text{(Nos. of Farm Household)}}$
5. Total Agricultural Production Values: Revised estimate in June 1990, Economic and Social Statistics Office, National Statistical Coordination Board
6. Supply and Demand Condition of Rice:
   1) 1989 Total Gross Paddy Production: Data estimated by DA in 1990
   2) 2000 Total Gross Paddy Production: Average value of 1985 to 1989's data estimated by DA in 1990
   3) Seeds, Feeds & Wastes: 9.5% of paddy production
   4) Milling Recovery: 65%
   5) Per Capita Availability of Rice: $\frac{\text{(Availability of Rice for Consumption)}}{\text{(Population)}}$
   6) Total Demand for Rice: (Population) x (Per Capita Consumption of Rice)
      Per capital consumption of rice is projected by Region based on BAS figures.

IRRIGATION

1. Potential Irrigable Area, Status of Irrigation Development, % of Irrigation Development: Provincial Irrigation Profile, Dec. 1988, NIA
2. Status of Inventoried Sub-projects under SSIDP:

The results of inventory survey carried out by JICA Study Team.

PROVINCIAL IRRIGATION OFFICE

The results of inventory survey carried out by JICA Study Team.

PROVINCIAL IRRIGATION PROFILE

Province: ILOCOS NORTE

Region: I

File No: 1

SOCIO-ECONOMIC BACKGROUND

Land Area		3,399.30	sq.km	
Population	1990	461,000	persons	
	2000	484,000	persons	
Population Density (1990)		136	persons /sq.km	
Population Growth Rate		1.7	%	
Rural population (1990)		351,000	persons	76.1 %
Urban population (1990)		110,000	persons	23.9 %
No. of Households (1990)		92,000	no.	
No. of Farm Households (1990)		70,000	no.	
% of farm household		76.1	%	
RGDP (1989)		28,263 M	Pesos	
Per Capita RGDP (1989)		7,966	Pesos	
	Rural	12,346 M	Pesos	43.7 %
	Urban	15,917 M	Pesos	56.3 %
Rural Per Capita RGDP		4,566	Pesos	
(Above or Below National Average per capita RGDP)				
	Above +		%	
	Below -	24.5	%	
Income Class of Province		2nd		

RELATION WITH CARP

CARP Priority Province	No		
Area for distribution under CARP			ha
Status of Issuance of Emancipation Patents (1990)			%
No. of Units		6,816	unit
Total Area		628	ha
Total No. of Farmer-Beneficiaries		1,593	no.
no. of CISs/CIPs for implementation under CARP-IC			
CISs	11 no.	2,530	ha
CIPs	36 no.	2,508	ha
Total	47 no.	5,038	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	-	%	Type:	I	
undulating/rolling	-	%	Annual Rainfall	2,554.7	mm
hilly/mountaneous	-	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	-	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	912.6	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy	52	%	dry season	-	MCM
diversified crops	32	%	Annual flooded area	-	sq.km
others (uncultivated)	16	%			

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	39,200	ha	91,064	tons	2.32	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	71,960	ha	66,884	tons	0.93	tons/ha
Leguminous crops	2,854	ha	1,622	tons	0.57	tons/ha
Tuber crops	589	ha	2,101	tons	3.57	tons/ha
Vegetables/fruits	6,852	ha	20,087	tons	2.93	tons/ha
Tobacco	3,550	ha	2,890	tons	0.81	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	125,005	ha				
Permanent Crops	1,575	ha	2,087	tons	1.33	tons/ha
Total	126,580	ha				

Ratio of Agricultural Land against Total Land	26.8	%
Average Cropping Intensity	13.9	%
Average Farm Size	1.3	ha

Total Agricultural Production Values (1989)

Crop Production	9,066 M	Pesos	73.5 %
Forestry	18 M	Pesos	0.1 %
Fishery	736 M	Pesos	7.3 %
Livestock	2,063 M	Pesos	19.1 %
Total	12,347 M	Pesos	100.0 %

Share of Agricultural Sector in RGDP	43.7	%

Supply and Demand Condition of Rice

1989		
Total Gross Paddy Production	91,064	tons
Seeds, Feeds&Wastes	8,651	tons
Total Net Paddy Production	82,413	tons
Milling Recovery	65	%
Availability of Rice for Consumption	53,568	tons
Per capita Availability of Rice	116	Kg
Total Demand for Rice	59,437	tons
Surplus	+	tons
Deficit	- 5,868	tons
2000		
Total Gross Paddy Production	89,042	tons
Seeds, Feeds&Wastes	8,459	tons
Total Net Paddy Production	80,583	tons
Milling Recovery	65	%
Availability of Rice for Consumption	52,379	tons
Per capita Availability of Rice	108	Kg
Total Demand for Rice	65,424	tons
Surplus	+	tons
Deficit	- 13,045	tons

IRRIGATION

Potential Irrigable Area		57,134	ha				
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
No. of Systems		8	no.				
Irrigation Service Area		6,104	ha				
Actually Irrigated Area		5,454	ha	wet	5,454	ha	dry 4,090 ha
Cropping Intensity		156	%				
No. of Beneficiary Farmers		24,595	no.				
Communal Irrigation System (CIS)							
No. of Systems		784	no.				
Irrigation Service Area		25,357	ha				
Actually Irrigated Area		23,803	ha	wet	23,803	ha	dry 6,646 ha
Cropping Intensity		120	%				
No. of Beneficiary Farmers			no.				
Pump Irrigation System (PIS)							
No. of Systems		141	no.				
Irrigation Service Area		1,081	ha				
Actually Irrigated Area			ha	wet		ha	dry ha
Cropping Intensity			%				
No. of Beneficiary Farmers			no.				
% of Irrigation Development (1989)		57.0	%				
Status of Inventoried Sub-projects under SSIDP							
Existing System							
No. of Systems		119	no.				
Irrigation Service Area		13,630	ha				
Actually Irrigated Area		12,976	ha	wet	12,976	ha	dry 9,001 ha
Cropping Intensity		161	%				
No. of Beneficiary Farmers		144	no.				
New Projects							
No. of Projects		0	no.				
Irrigation Service Area		0	ha	wet	0	ha	dry 0 ha
Cropping Intensity		-	%				
No. of Beneficiary Farmers			no.				
All of Inventoried Sub-projects							
No. of Systems/projects		119	no.				
Irrigation Service Area		13,630	ha				
No. of Beneficiary Farmers			no.				
Average Size of Inventoried Sub-projects			ha				
Existing system		115	ha				
New projects		0	ha				

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	ILOCOS NORTE PIO	
No. of Permanent Staff	20	persons
Technical/engineering staff	13	persons
Administrative staff	7	persons
No. of Contractual Staff	37	persons
Total	57	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: ABRA | Region: I (CAR) | File No: 2

SOCIO-ECONOMIC BACKGROUND

Land Area	397,555.00	sq.km		
Population 1990	185,000	persons		
2000	198,000	persons		
Population Density (1990)	47	persons /sq.km		
Population Growth Rate	1.5	%		
Rural population (1990)	141,000	persons	76.2	%
Urban population (1990)	44,000	persons	23.8	%
No. of Households	34,000	no.		
No. of Farm Households	26,000	no.		
% of farm household	76.5	%		
RGDP (1989)	15,151 M	Pesos		
Per Capita RGDP (1989)	13,175	Pesos		
Rural	3,952 M	Pesos	26.1	%
Urban	11,199 M	Pesos	73.9	%
Rural Per Capita RGDP	4,362	Pesos		
(Above or Below National Average per capita RGDP)				
Above +		%		
Below -	27.8	%		
Income Class of Province	4th			

RELATION WITH CARP

CARP Priority Province	No			
Area for distribution under CARP				ha
Status of Issuance of Emancipation Patents (1990)				%
No. of Units			1,161	unit
Total Area			384	ha
No. of Farmer-Beneficiaries			686	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs	30	no.	1,366	ha
CIPs	18	no.	744	ha
Total	48	no.	2,110	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	-	%	Type:	I	
undulating/rolling	-	%	Annual Rainfall	3,228.3	mm
hilly/mountaneous	-	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	-	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	838.88	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy	61	%	dry season	-	MCM
diversified crops	39	%	Annual flooded area	-	sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	16,580	ha	27,509	tons	1.66	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	9,040	ha	6,841	tons	0.76	tons/ha
Leguminous crops		ha		tons		tons/ha
Tuber crops	86	ha	972	tons	11.30	tons/ha
Vegetables/fruits	772	ha	6,228	tons	8.07	tons/ha
Tobacco	3,125	ha	832	tons	0.27	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	29,603	ha				
Permanent Crops	300	ha	373	tons	1.24	tons/ha
Total	29,903	ha				

Ratio of Agricultural Land against Total Land	0.2	%		
Average Cropping Intensity	35.6	%		
Average Farm Size	3.2	ha		
Total Agricultural Production Values (1989)				
Crop Production	2,954 M	Pesos	74.8	%
Forestry	261 M	Pesos	6.6	%
Fishery	16 M	Pesos	0.4	%
Livestock	721 M	Pesos	18.2	%
Total	3,952 M	Pesos	100.0	%
Share of Agricultural Sector in RGDP	26.1	%		

Supply and Demand Condition of Rice		
1989		
Total Gross Paddy Production	91,064	tons
Seeds, Feeds&Wastes	8,651	tons
Total Net Paddy Production	82,413	tons
Milling Recovery	65	%
Availability of Rice for Consumption	53,568	tons
Per capita Availability of Rice	116	Kg
Total Demand for Rice	59,437	tons
Surplus	+	tons
Deficit	- 5,868	tons
2000		
Total Gross Paddy Production	30,032	tons
Seeds, Feeds&Wastes	2,853	tons
Total Net Paddy Production	27,179	tons
Milling Recovery	65	%
Availability of Rice for Consumption	17,666	tons
Per capita Availability of Rice	89	Kg
Total Demand for Rice	26,820	tons
Surplus	+	tons
Deficit	- 9,154	tons

IRRIGATION

Potential Irrigable Area	20,200	ha					
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
No. of Systems	None	no.					
Irrigation Service Area	-	ha					
Actually Irrigated Area	-	ha	wet	-	ha	dry	- ha
Cropping Intensity	-	%					
No. of Beneficiary Farmers	-	no.					
Communal Irrigation System (CIS)							
No. of Systems	171	no.					
Irrigation Service Area	10,831	ha					
Actually Irrigated Area	8,644	ha	wet	8,644	ha	dry	7,104 ha
Cropping Intensity	145	%					
No. of Beneficiary Farmers		no.					
Pump Irrigation System (PIS)							
No. of Systems	40	no.					
Irrigation Service Area	2,136	ha					
Actually Irrigated Area	73	ha	wet	73	ha	dry	73 ha
Cropping Intensity	7	%					
No. of Beneficiary Farmers		no.					
% of Irrigation Development (1989)	64.2	%					
Status of Inventoried Sub-projects under SSIDP							
Existing System							
No. of Systems	37	no.					
Irrigation Service Area	5,266	ha					
Actually Irrigated Area	4,739	ha	wet	4,739	ha	dry	3,692 ha
Cropping Intensity	175	%					
No. of Beneficiary Farmers		no.					
New Projects							
No. of Projects	17	no.					
Irrigation Service Area	1,806	ha	wet	1,806	ha	dry	1,787 ha
Cropping Intensity	113	%					
No. of Beneficiary Farmers		no.					
All of Inventoried Sub-projects							
No. of Systems/projects	54	no.					
Irrigation Service Area	7,072	ha					
No. of Beneficiary Farmers		no.					
Average Size of Inventoried Sub-projects		ha					
Existing system	142.3	ha					
New projects	106.2	ha					

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	ABRA PIO	
No. of Permanent Staff		persons
Technical/engineering staff	8	persons
Administrative staff	9	persons
No. of Contractual Staff	44	persons
Total	61	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: ILOCOS SUR | **Region:** I | **File No:** 3

SOCIO-ECONOMIC BACKGROUND

Land Area	2,579.58	sq.km		
Population 1990	520,000	persons		
2000	548,000	persons		
Population Density (1990)	202	persons /sq.km		
Population Growth Rate	1.6	%		
Rural population (1990)	396,000	persons	76	%
Urban population (1990)	124,000	persons	24	%
No. of Households	99,000	no.		
No. of Farm Households	75,000	no.		
% of farm household	76	%		
RGDP (1989)	28,263 M	Pesos		
Per Capita RGDP (1989)	7,966	Pesos		
Rural	12,346 M	Pesos	43.7	%
Urban	15,917 M	Pesos	56.3	%
Rural Per Capita RGDP	4,566	Pesos		
(Above or Below National Average per capita RGDP)				
Above +		%		
Below -	24.5	%		
Income Class of Province	3rd			

RELATION WITH CARP

CARP Priority Province	No			
Area for distribution under CARP			560	ha
Status of Issuance of Emancipation Patents (1990)			226	%
No. of Units			5,053	unit
Total Area			1,265	ha
No. of Farmer-Beneficiaries			3,047	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs	10	no.	1,686	ha
CIPs	26	no.	2,591	ha
Total	36	no.	4,277	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	-	%	Type:	I	
undulating/rolling	-	%	Annual Rainfall	2,554.7	mm
hilly/mountaneous	-	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	-	%	Frequency of Typoon		%

Soils			Hydrology		
		*6			
Arable land	665.95	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy	65	%	dry season	-	MCM
diversified crops	35	%	Annual flooded area	-	sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	32,110	ha	68,452	tons	2.13	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	5,710	ha	6,059	tons	1.06	tons/ha
Leguminous crops	1,215	ha	833	tons	0.69	tons/ha
Tuber crops	280	ha	728	tons	2.60	tons/ha
Vegetables/fruits	2,295	ha	16,891	tons	7.36	tons/ha
Tobacco	16,170	ha	22,366	tons	1.38	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	57,780	ha				
Permanent Crops	1,523	ha	2,060	tons	1.35	tons/ha
Total	59,303	ha				

Ratio of Agricultural Land against Total Land	25.8	%
Average Cropping Intensity	89.1	%
Average Farm Size	0.9	ha

Total Agricultural Production Values (1989)

Crop Production	9,066 M	Pesos	73.5	%
Forestry	18 M	Pesos	0.1	%
Fishery	736 M	Pesos	7.3	%
Livestock	2,063 M	Pesos	19.1	%
Total	12,347 M	Pesos	100.0	%

Share of Agricultural Sector in RGDP	25.8	%

Supply and Demand Condition of Rice

1989			
Total Gross Paddy Production		68,452	tons
Seeds, Feeds&Wastes		6,503	tons
Total Net Paddy Production		61,949	tons
Milling Recovery		65	%
Availability of Rice for Consumption		40,267	tons
Per capita Availability of Rice		77	Kg
Total Demand for Rice		67,044	tons
Surplus	+		tons
Deficit	-	26,777	tons
2000			
Total Gross Paddy Production		77,494	tons
Seeds, Feeds&Wastes		7,362	tons
Total Net Paddy Production		70,132	tons
Milling Recovery		65	%
Availability of Rice for Consumption		45,586	tons
Per capita Availability of Rice		83	Kg
Total Demand for Rice		74,094	tons
Surplus	+		tons
Deficit	-	28,508	tons

IRRIGATION

Potential Irrigable Area	45,497	ha					
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
No. of Systems	4	no.					
Irrigation Service Area	5,650	ha					
Actually Irrigated Area		ha	wet		ha	dry	ha
Cropping Intensity		%					
No. of Beneficiary Farmers	5,454	no.					
Communal Irrigation System (CIS)							
No. of Systems	208	no.					
Irrigation Service Area	11,611	ha					
Actually Irrigated Area	10,145	ha	wet	10,145	ha	dry	1,568 ha
Cropping Intensity	101	%					
No. of Beneficiary Farmers		no.					
Pump Irrigation System (PIS)							
No. of Systems	200	no.					
Irrigation Service Area	1,302	ha					
Actually Irrigated Area	752	ha	wet	752	ha	dry	752 ha
Cropping Intensity	116	%					
No. of Beneficiary Farmers		no.					
% of Irrigation Development (1989)	40.8	%					
Status of Inventoried Sub-projects under SSIDP							
Existing System							
No. of Systems	70	no.					
Irrigation Service Area	8,183	ha					
Actually Irrigated Area	7,447	ha	wet	7,447	ha	dry	4,240 ha
Cropping Intensity	130	%					
No. of Beneficiary Farmers		no.					
New Projects							
No. of Projects	51	no.					
Irrigation Service Area	5,081	ha	wet	5,081	ha	dry	3,915 ha
Cropping Intensity	143	%					
No. of Beneficiary Farmers		no.					
All of Inventoried Sub-projects							
No. of Systems/projects	121	no.					
Irrigation Service Area	13264	ha					
No. of Beneficiary Farmers		no.					
Average Size of Inventoried Sub-projects		ha					
Existing system	116.9	ha					
New projects	99.6	ha					

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	ILOCOS SUR PIO	
No. of Permanent Staff		persons
Technical/engineering staff	11	persons
Administrative staff	6	persons
No. of Contractual Staff	40	persons
Total	57	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: MOUNTAIN PROVINCE | Region: I (CAR) | File No: 4

SOCIO-ECONOMIC BACKGROUND

Land Area	2,097.30	sq.km		
Population 1990	116,000	persons		
2000	128,000	persons		
Population Density (1990)	55	persons /sq.km		
Population Growth Rate	1.2	%		
Rural population (1990)	88,000	persons	76	%
Urban population (1990)	28,000	persons	24	%
No. of Households	24,000	no.		
No. of Farm Households	18,000	no.		
% of farm household	75	%		
RGDP (1989)	15,151 M	Pesos		
Per Capita RGDP (1989)	13,175	Pesos		
Rural	3,952 M	Pesos	26.1	%
Urban	11,199 M	Pesos	73.9	%
Rural Per Capita RGDP	4,362	Pesos		
(Above or Below National Average per capita RGDP)				
Above +		%		
Below -	27.8	%		
Income Class of Province	5th			

RELATION WITH CARP

CARP Priority Province	No			
Area for distribution under CARP			87	ha
Status of Issuance of Emancipation Patents (1990)			12	%
No. of Units			13	unit
Total Area			10	ha
Total No. of Farmer-Beneficiaries			13	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs	4	no.	46	ha
CIPs	93	no.	5,620	ha
Total	97	no.	5,666	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	20	%	Type:	I, III	
undulating/rolling	-	%	Annual Rainfall	2,336.8	mm
hilly/mountaneous	80	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	100	%	Frequency of Typoon		%

Soils			Hydrology		
		*6			
Arable land	341.83	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy	26	%	dry season	-	MCM
diversified crops	17	%	Annual flooded area	-	sq.km
others (uncultivated)	57	%			

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	9,180	ha	17,510	tons	1.91	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	1,200	ha	1,953	tons	1.63	tons/ha
Leguminous crops	65	ha	52	tons	0.80	tons/ha
Tuber crops	1,413	ha	9,089	tons	6.43	tons/ha
Vegetables/fruits	677	ha	6,790	tons	10.03	tons/ha
Tobacco	55	ha	27	tons	0.49	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	12,590	ha				
Permanent Crops	1,139	ha	879	tons	0.77	tons/ha
Total	13,729	ha				

Ratio of Agricultural Land against Total Land	16.3	%
Average Cropping Intensity	40.2	%
Average Farm Size	1.9	ha

Total Agricultural Production Values (1989)				
Crop Production	2,954 M	Pesos	74.8	%
Forestry	261 M	Pesos	6.6	%
Fishery	16 M	Pesos	0.4	%
Livestock	721 M	Pesos	18.2	%
Total	3,952 M	Pesos	100.0	%

Share of Agricultural Sector in RGDP	26.1	%

Supply and Demand Condition of Rice		
1989		
Total Gross Paddy Production	17,510	tons
Seeds, Feeds&Wastes	1,663	tons
Total Net Paddy Production	15,847	tons
Milling Recovery	65	%
Availability of Rice for Consumption	10,300	tons
Per capita Availability of Rice	89	Kg
Total Demand for Rice	14,956	tons
Surplus	+	tons
Deficit	- 4,656	tons
2000		
Total Gross Paddy Production	18,268	tons
Seeds, Feeds&Wastes	1,735	tons
Total Net Paddy Production	16,533	tons
Milling Recovery	65	%
Availability of Rice for Consumption	10,746	tons
Per capita Availability of Rice	84	Kg
Total Demand for Rice	17,266	tons
Surplus	+	tons
Deficit	- 6,519	tons

IRRIGATION

Potential Irrigable Area	36,058	ha					
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
No. of Systems	None	No.					
Irrigation Service Area	-	ha					
Actually Irrigated Area	-	ha	wet	-	ha	dry	- ha
Cropping Intensity	-	%					
No. of Beneficiary Farmers	-	no.					
Communal Irrigation System (CIS)							
No. of Systems	857	no.					
Irrigation Service Area	5,963	ha					
Actually Irrigated Area	5,713	ha	wet	5,265	ha	dry	5,713 ha
Cropping Intensity	184	%					
No. of Beneficiary Farmers		no.					
Pump Irrigation System (PIS)							
No. of Systems	None	no.					
Irrigation Service Area	-	ha					
Actually Irrigated Area	-	ha	wet	-	ha	dry	- ha
Cropping Intensity	-	%					
No. of Beneficiary Farmers	-	no.					
% of Irrigation Development (1989)	16.5	%					
Status of Inventoried Sub-projects under SSIDP							
Existing System							
No. of Systems	8	no.					
Irrigation Service Area	914	ha					
Actually Irrigated Area	720	ha	wet	720	ha	dry	651 ha
Cropping Intensity	192	%					
No. of Beneficiary Farmers		no.					
New Projects							
No. of Projects	44	no.					
Irrigation Service Area	7,120	ha	wet	7,120	ha	dry	7,120 ha
Cropping Intensity	52	%					
No. of Beneficiary Farmers		no.					
All of Inventoried Sub-projects							
No. of Systems/projects	52	no.					
Irrigation Service Area	8,034	ha					
No. of Beneficiary Farmers		no.					
Average Size of Inventoried Sub-projects		ha					
Existing system	114.25	ha					
New projects	161.81	ha					

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	Mountain Province PIO	
No. of Permanent Staff		persons
Technical/engineering staff	16	persons
Administrative staff		persons
No. of Contractual Staff	126	persons
Total	142	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: LA UNION

Region: I

File No: 5

SOCIO-ECONOMIC BACKGROUND

Land Area		1,493.09	sq.km	
Population	1990	549,000	persons	
	2000	587,000	persons	
Population Density (1990)		368	persons /sq.km	
Population Growth Rate		1.9	%	
Rural population (1990)		418,000	persons	76 %
Urban population (1990)		131,000	persons	24 %
No. of Households		102,000	no.	
No. of Farm Households		77,000	no.	
% of farm household		75	%	
RGDP (1989)		28,263 M	Pesos	
Per Capita RGDP (1989)		7,966	Pesos	
Rural		12,346 M	Pesos	43.7 %
Urban		15,917 M	Pesos	56.3 %
Rural Per Capita RGDP		4,566	Pesos	
(Above or Below National Average per capita RGDP)				
Above	+		%	
Below	-	24.5	%	
Income Class of Province		3rd		

RELATION WITH CARP

CARP Priority Province		No		
Area for distribution under CARP			1,290	ha
Status of Issuance of Emancipation Patents (1990)			79.8	%
No. of Units			2,577	unit
Total Area			1,030	ha
Total No. of Farmer-Beneficiaries			1,802	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs	7	no.	3,186	ha
CIPs	8	no.	1,135	ha
Total	15	no.	4,321	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	-	%	Type:	I	
undulating/rolling	-	%	Annual Rainfall	2,743	mm
hilly/mountaneous	-	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	-	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	354.50	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy	58	%	dry season	-	MCM
diversified crops	35	%	Annual flooded area	-	sq.km
others	7	%			

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	31,170	ha	78,427	tons	2.52	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	1,780	ha	1,128	tons	0.63	tons/ha
Leguminous crops	1,159	ha	1,379	tons	1.19	tons/ha
Tuber crops	775	ha	3,635	tons	4.69	tons/ha
Vegetables/fruits	2,426	ha	12,444	tons	5.13	tons/ha
Tobacco	9,490	ha	19,175	tons	2.02	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	46,800	ha				
Permanent Crops	1,259	ha	5,347	tons	4.25	tons/ha
Total	48,059	ha				

Ratio of Agricultural Land against Total Land	23.7	%
Average Cropping Intensity	135.6	%
Average Farm Size	0.5	ha

Total Agricultural Production Values (1989)

Crop Production	9,066 M	Pesos	73.5 %
Forestry	18 M	Pesos	0.1 %
Fishery	736 M	Pesos	7.3 %
Livestock	2,063 M	Pesos	19.1 %
Total	12,347 M	Pesos	100.0 %

Share of Agricultural Sector in RGDP	43.7	%

Supply and Demand Condition of Rice

1989			
Total Gross Paddy Production		78,427	tons
Seeds, Feeds&Wastes		7,451	tons
Total Net Paddy Production		70,976	tons
Milling Recovery		65	%
Availability of Rice for Consumption		46,135	tons
Per capita Availability of Rice		84	Kg
Total Demand for Rice		70,783	tons
Surplus	+		tons
Deficit	-	24,648	tons
2000			
Total Gross Paddy Production		77,970	tons
Seeds, Feeds&Wastes		7,407	tons
Total Net Paddy Production		70,563	tons
Milling Recovery		65	%
Availability of Rice for Consumption		45,866	tons
Per capita Availability of Rice		78	Kg
Total Demand for Rice		79,471	tons
Surplus	+		tons
Deficit	-	38,606	tons

IRRIGATION

Potential Irrigable Area		35,000	ha				
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
No. of Systems		2	no.				
Irrigation Service Area		5,648	ha				
Actually Irrigated Area			ha	wet		ha	dry ha
Cropping Intensity			%				
No. of Beneficiary Farmers		12,412	no.				
Communal Irrigation System (CIS)							
No. of Systems		187	no.				
Irrigation Service Area		8,921	ha				
Actually Irrigated Area		3,201	ha	wet	7,795	ha	dry 3,201 ha
Cropping Intensity		123	%				
No. of Beneficiary Farmers			no.				
Pump Irrigation System (PIS)							
No. of Systems		121	no.				
Irrigation Service Area		664	ha				
Actually Irrigated Area		-	ha	wet	-	ha	dry - ha
Cropping Intensity		-	%				
No. of Beneficiary Farmers		-	no.				
% of Irrigation Development (1989)		43.5	%				
Status of Inventoried Sub-projects under SSIDP							
Existing System							
No. of Systems		39	no.				
Irrigation Service Area		5,071	ha				
Actually Irrigated Area		4,736	ha	wet	4,736	ha	dry 3,793 ha
Cropping Intensity		152	%				
No. of Beneficiary Farmers			no.				
New Projects							
No. of Projects		27	no.				
Irrigation Service Area		2,713	ha	wet	2,713	ha	dry 2,713 ha
Cropping Intensity		100	%				
No. of Beneficiary Farmers			no.				
All of Inventoried Sub-projects							
No. of Systems/projects		66	no.				
Irrigation Service Area		7,784	ha				
No. of Beneficiary Farmers			no.				
Average Size of Inventoried Sub-projects			ha				
Existing system		130	ha				
New projects		100	ha				

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	LA UNION PIO	
No. of Permanent Staff	18	persons
Technical/engineering staff		persons
Administrative staff		persons
No. of Contractual Staff	2	persons
Total	20	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: BENGUET **Region:** I (CAR) **File No:** 6

SOCIO-ECONOMIC BACKGROUND

Land Area	2,655.40	sq.km		
Population 1990	486,000	persons		
2000	497,000	persons		
Population Density (1990)	183	persons /sq.km		
Population Growth Rate	3.2	%		
Rural population (1990)	370,000	persons	76	%
Urban population (1990)	116,000	persons	24	%
No. of Households	95,000	no.		
No. of Farm Households	73,000	no.		
% of farm household	77	%		
RGDP (1989)	15,151 M	Pesos		
Per Capita RGDP (1989)	13,175	Pesos		
Rural	3,952 M	Pesos	26.1	%
Urban	11,199 M	Pesos	73.9	%
Rural Per Capita RGDP	4,362	Pesos		
(Above or Below National Average per capita RGDP)				
Above +		%		
Below -	27.8	%		
Income Class of Province	3rd			

RELATION WITH CARP

CARP Priority Province	No			
Area for distribution under CARP			66	ha
Status of Issuance of Emancipation Patents (1990)			242	%
No. of Units			1,169	unit
Total Area			160	ha
Total No. of Farmer-Beneficiaries			796	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs	5	no.	285	ha
CIPs	39	no.	1,003	ha
Total	44	no.	1,288	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	1.42	%	Type:	I	
undulating/rolling	0.38	%	Annual Rainfall	3,228	mm
hilly/mountaneous	98.20	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	100	%	Frequency of Typoon		%

Soils			Hydrology		
	*6				
Arable land	318.75	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy	5	%	dry season	-	MCM
diversified crops	95	%	Annual flooded area	-	sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	3,960	ha	6,562	tons	1.66	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	1,340	ha	1,008	tons	0.75	tons/ha
Leguminous crops	16	ha	7	tons	0.44	tons/ha
Tuber crops	6,955	ha	94,741	tons	13.62	tons/ha
Vegetables/fruits	5,364	ha	67,548	tons	12.59	tons/ha
Tobacco		ha		tons		tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	17,635	ha				
Permanent Crops	830	ha	1,207	tons	1.45	tons/ha
Total	18,465	ha				

Ratio of Agricultural Land against Total Land	12.0	%	
Average Cropping Intensity	57.9	%	
Average Farm Size	0.4	ha	
Total Agricultural Production Values (1989)			
Crop Production	2,954 M	Pesos	74.8 %
Forestry	261 M	Pesos	6.6 %
Fishery	16 M	Pesos	0.4 %
Livestock	721 M	Pesos	18.2 %
Total	3,952 M	Pesos	100.0 %
Share of Agricultural Sector in RGDP	26.1	%	

Supply and Demand Condition of Rice

1989		
Total Gross Paddy Production	6,562	tons
Seeds, Feeds&Wastes	623	tons
Total Net Paddy Production	5,939	tons
Milling Recovery	65	%
Availability of Rice for Consumption	3,860	tons
Per capita Availability of Rice	8	Kg
Total Demand for Rice	62,660	tons
Surplus	+	tons
Deficit	- 58,800	tons
2000		
Total Gross Paddy Production	7,656	tons
Seeds, Feeds&Wastes	727	tons
Total Net Paddy Production	6,929	tons
Milling Recovery	65	%
Availability of Rice for Consumption	4,504	tons
Per capita Availability of Rice	9	Kg
Total Demand for Rice	67,305	tons
Surplus	+	tons
Deficit	- 62,802	tons

IRRIGATION

Potential Irrigable Area	25,444	ha				
Status of Irrigation Development (1989)						
National Irrigation System (NIS)						
No. of Systems	None	no.				
Irrigation Service Area	-	ha				
Actually Irrigated Area	-	ha	wet -	ha	dry -	ha
Cropping Intensity	-	%				
No. of Beneficiary Farmers	-	no.				
Communal Irrigation System (CIS)						
No. of Systems	431	no.				
Irrigation Service Area	7,068	ha				
Actually Irrigated Area	5,041	ha	wet	ha	dry	ha
Cropping Intensity		%				
No. of Beneficiary Farmers		no.				
Pump Irrigation System (PIS)						
No. of Systems	2	no.				
Irrigation Service Area	84	ha				
Actually Irrigated Area	80	ha	wet -	ha	dry -	ha
Cropping Intensity	-	%				
No. of Beneficiary Farmers	-	no.				
% of Irrigation Development (1989)	28.1	%				
Status of Inventoried Sub-projects under SSIDP						
Existing System						
No. of Systems	9	no.				
Irrigation Service Area	617	ha				
Actually Irrigated Area	383	ha	wet 383	ha	dry 366	ha
Cropping Intensity	194	%				
No. of Beneficiary Farmers		no.				
New Projects						
No. of Projects	42	no.				
Irrigation Service Area	2,853	ha	wet 2,853	ha	dry 2,814	ha
Cropping Intensity	164	%				
No. of Beneficiary Farmers		no.				
All of Inventoried Sub-projects						
No. of Systems/projects	51	no.				
Irrigation Service Area	3,470	ha				
No. of Beneficiary Farmers		no.				
Average Size of Inventoried Sub-projects		ha				
Existing system	69	ha				
New projects	68	ha				

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	BENGUET	
No. of Permanent Staff	17	persons
Technical/engineering staff		persons
Administrative staff		persons
No. of Contractual Staff	61	persons
Total	78	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: PANGASINAN **Region:** I **File No:** 7

SOCIO-ECONOMIC BACKGROUND

Land Area		5,368.18	sq.km	
Population	1990	2,018,000	persons	
	2000	2,168,000	persons	
Population Density (1990)		376	persons /sq.km	
Population Growth Rate		2.1	%	
Rural population (1990)		1,538,000	persons	76 %
Urban population (1990)		480,000	persons	24 %
Nos. of Households		367,000	no.	
Nos. of Farm Households		280,000	no.	
% of farm household		76	%	
RGDP (1989)		28,263 M	Pesos	
Per Capita RGDP (1989)		7,966	Pesos	
Rural		12,346 M	Pesos	43.7 %
Urban		15,917 M	Pesos	56.3 %
Rural Per Capita RGDP		4,566	Pesos	
(Above or Below National Average per capita RGDP)				
Above	+		%	
Below	-	27.8	%	
Income Class of Province		1st		

RELATION WITH CARP

CARP Priority Province	Yes			
Area for distribution under CARP			21,625	ha
Status of Issuance of Emancipation Patents (1990)			82	%
No. of Units			31,014	unit
Total Area			17,735	ha
Total No. of Farmer-Beneficiaries			23,685	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs	41	no.	13,661	ha
CIPs	3	no.	630	ha
Total	44	no.	14,291	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat		%	Type:	I	
undulating/rolling		%	Annual Rainfall	2,337	mm
hilly/mountaneous		%	wet season		mm
swamp/others	-	%	dry season		mm
Total		%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	2,380.45	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy	88	%	dry season	-	MCM
diversified crops	12	%	Annual flooded area	-	sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	98,580	ha	286,089	tons	2.90	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy	97,470	ha	261,781	tons	2.69	tons/ha
Corn	53,440	ha	54,415	tons	1.02	tons/ha
Leguminous crops	12,950	ha	15,004	tons	1.16	tons/ha
Tuber crops	3,408	ha	18,014	tons	5.29	tons/ha
Vegetables/fruits	22,963	ha	150,107	tons	6.54	tons/ha
Tobacco	6,142	ha	12,441	tons	2.03	tons/ha
Sugar Cane	1,924	ha	126	tons	0.07	tons/ha
Others		ha		tons		tons/ha
sub-total	296,877	ha				
Permanent Crops	10,467	ha	76,899	tons	7.35	tons/ha
Total	307,344	ha				

Ratio of Agricultural Land against Total Land	44.3	%
Average Cropping Intensity	129.1	%
Average Farm Size	8.5	ha

Total Agricultural Production Values (1989)

Crop Production	9,066 M	Pesos	73.5 %
Forestry	18 M	Pesos	0.1 %
Fishery	736 M	Pesos	7.3 %
Livestock	2,063 M	Pesos	19.1 %
Total	12,347 M	Pesos	100.0 %

Share of Agricultural Sector in RGDP	43.7	%

Supply and Demand Condition of Rice

1989			
Total Gross Paddy Production		547,880	tons
Seeds, Feeds&Wastes		52,049	tons
Total Net Paddy Production		495,831	tons
Milling Recovery		65	%
Availability of Rice for Consumption		322,290	tons
Per capita Availability of Rice		160	Kg
Total Demand for Rice		260,181	tons
Surplus	+	62,110	tons
Deficit	-		tons
2000			
Total Gross Paddy Production		535,844	tons
Seeds, Feeds&Wastes		50,905	tons
Total Net Paddy Production		484,939	tons
Milling Recovery		65	%
Availability of Rice for Consumption		315,210	tons
Per capita Availability of Rice		145	Kg
Total Demand for Rice		293,364	tons
Surplus	+	21,846	tons
Deficit	-		tons

IRRIGATION

Potential Irrigable Area		181,261	ha				
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
No. of Systems		7	no.				
Irrigation Service Area		38,240	ha				
Actually Irrigated Area		14,494	ha	wet	14,494 ha	dry	9,257 ha
Cropping Intensity		62	%				
No. of Beneficiary Farmers		18,298	no.				
Communal Irrigation System (CIS)							
No. of Systems		373	no.				
Irrigation Service Area		55,446	ha				
Actually Irrigated Area		48,918	ha	wet	ha	dry	ha
Cropping Intensity			%				
No. of Beneficiary Farmers		7,355	no.				
Pump Irrigation System (PIS)							
No. of Systems		767	no.				
Irrigation Service Area		5,231	ha				
Actually Irrigated Area			ha	wet	- ha	dry	- ha
Cropping Intensity		-	%				
No. of Beneficiary Farmers		-	no.				
% of Irrigation Development (1989)		54.57	%				
Status of Inventoried Sub-projects under SSIDP							
Existing System							
No. of Systems		178	no.				
Irrigation Service Area		27,409	ha				
Actually Irrigated Area		19,406	ha	wet	19,406 ha	dry	9,131 ha
Cropping Intensity		152	%				
No. of Beneficiary Farmers			no.				
New Projects							
No. of Projects		3	no.				
Irrigation Service Area		230	ha	wet	230 ha	dry	171 ha
Cropping Intensity		100	%				
No. of Beneficiary Farmers			no.				
All of Inventoried Sub-projects							
No. of Systems/projects		181	no.				
Irrigation Service Area		27,639	ha				
No. of Beneficiary Farmers			no.				
Average Size of Inventoried Sub-projects			ha				
Existing system		153.98	ha				
New projects		76.67	ha				

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	PANGASINAN PIO
No. of Permanent Staff	persons
Technical/engineering staff	persons
Administrative staff	persons
No. of Contractual Staff	persons
Total	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: BATANES **Region:** II **File No:** 8

SOCIO-ECONOMIC BACKGROUND

Land Area	209.30	sq.km	
Population 1990	15,000	persons	
2000	19,000	persons	
Population Density (1990)	72	persons /sq.km	
Population Growth Rate	2.3	%	
Rural population (1990)	13,000	persons	87 %
Urban population (1990)	2,000	persons	13 %
No. of Households	3,000	no.	
No. of Farm Households	2,000	no.	
% of farm household	67	%	
RGDP (1989)		Pesos	
Per Capita RGDP (1989)		Pesos	
Rural		Pesos	%
Urban		Pesos	%
Rural Per Capita RGDP		Pesos	
(Above or Below National Average per capita RGDP)			
Above +		%	
Below -		%	
Income Class of Province	6th		

RELATION WITH CARP

CARP Priority Province	No	
Area for distribution under CARP		ha
Status of Issuance of Emancipation Patents (1990)		%
No. of Units		unit
Total Area		ha
Total No. of Farmer-Beneficiaries		no.
No. of CISs/CIPs for implementation under CARP-IC		
CISs	no.	ha
CIPs	no.	ha
Total	no.	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat		%	Type:		
undulating/rolling		%	Annual Rainfall	2,298	mm
hilly/mountaneous		%	wet season		mm
swamp/others	-	%	dry season		mm
Total		%	Frequency of Typoon		%

Soils			Hydrology		
Arable land		sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy		%	dry season	-	MCM
diversified crops		%	Annual flooded area	-	sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy		ha		tons		tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn		ha		tons		tons/ha
Leguminous crops		ha		tons		tons/ha
Tuber crops	2.0	ha	4.0	tons	2.0	tons/ha
Vegetables/fruits	2.0	ha	2.0	tons	1.0	tons/ha
Tobacco		ha		tons		tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	4.0	ha				
Permanent Crops		ha		tons		tons/ha
Total	4.0	ha				

Ratio of Agricultural Land against Total Land		%
Average Cropping Intensity		%
Average Farm Size		ha

Total Agricultural Production Values (1989)			
Crop Production		Pesos	%
Forestry		Pesos	%
Fishery		Pesos	%
Livestock		Pesos	%
Total		Pesos	%

Share of Agricultural Sector in RGDP		%

Supply and Demand Condition of Rice		
1989		
Total Gross Paddy Production		tons
Seeds, Feeds&Wastes		tons
Total Net Paddy Production		tons
Milling Recovery	65	%
Availability of Rice for Consumption		tons
Per capita Availability of Rice		Kg
Total Demand for Rice	1,588	tons
Surplus	+	tons
Deficit	- 1,588	tons
2000		
Total Gross Paddy Production		tons
Seeds, Feeds&Wastes		tons
Total Net Paddy Production		tons
Milling Recovery	65	%
Availability of Rice for Consumption		tons
Per capita Availability of Rice		Kg
Total Demand for Rice	2,083	tons
Surplus	+	tons
Deficit	- 2,083	tons

IRRIGATION

Potential Irrigable Area		ha				
Status of Irrigation Development (1989)						
National Irrigation System (NIS)						
No. of Systems		no.				
Irrigation Service Area		ha				
Actually Irrigated Area		ha	wet	ha	dry	ha
Cropping Intensity		%				
No. of Beneficiary Farmers		no.				
Communal Irrigation System (CIS)						
No. of Systems		no.				
Irrigation Service Area		ha				
Actually Irrigated Area		ha	wet	ha	dry	ha
Cropping Intensity		%				
No. of Beneficiary Farmers		no.				
Pump Irrigation System (PIS)						
No. of Systems		no.				
Irrigation Service Area		ha				
Actually Irrigated Area		ha	wet	ha	dry	ha
Cropping Intensity		%				
No. of Beneficiary Farmers		no.				
% of Irrigation Development (1989)		%				
Status of Inventoried Sub-projects under SSIDP						
Existing System						
No. of Systems	0	no.				
Irrigation Service Area	-	ha				
Actually Irrigated Area	-	ha	wet	- ha	dry	- ha
Cropping Intensity	-	%				
No. of Beneficiary Farmers		no.				
New Projects						
No. of Projects	0	no.				
Irrigation Service Area	0	ha	wet	0 ha	dry	0 ha
Cropping Intensity		%				
No. of Beneficiary Farmers		no.				
All of Inventoried Sub-projects						
No. of Systems/projects	0	no.				
Irrigation Service Area	-	ha				
No. of Beneficiary Farmers		no.				
Average Size of Inventoried Sub-projects		ha				
Existing system	-	ha				
New projects	0	ha				

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO: CAGAYAN PIO

No. of Permanent Staff	28	persons
Technical/engineering staff		persons
Administrative staff		persons
No. of Contractual Staff	43	persons
Total	71	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: CAGAYAN | **Region:** II | **File No:** 9

SOCIO-ECONOMIC BACKGROUND

Land Area		9,002.70	sq.km	
Population	1990	833,000	persons	
	2000	1,065,000	persons	
Population Density (1990)		93	persons /sq.km	
Population Growth Rate		1.6	%	
Rural population (1990)		704,000	persons	89 %
Urban population (1990)		129,000	persons	11 %
No. of Households		161,000	no.	
No. of Farm Households		135,000	no.	
% of farm household		84	%	
RGDP (1989)		18,311 M	Pesos	
Per Capita RGDP (1989)		7,822	Pesos	
	Rural	10,339 M	Pesos	56.5 %
	Urban	7,972 M	Pesos	43.5 %
Rural Per Capita RGDP		5,227 M	Pesos	
(Above or Below National Average per capita RGDP)				
	Above +		%	
	Below -	13.5	%	
Income Class of Province		1st		

RELATION WITH CARP

CARP Priority Province	No		
Area for distribution under CARP		13,372	ha
Status of Issuance of Emancipation Patents (1990)		127.45	%
No. of Units		21,914	unit
Total Area		17,043	ha
Total No. of Farmer-Beneficiaries		16,162	no.
No. of CISs/CIPs for implementation under CARP-IC			
CISs	11 no.	3,751	ha
CIPs	19 no.	4,015	ha
Total	30 no.	7,766	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	18.37	%	Type:	III, IV	
undulating/rolling	9.63	%	Annual Rainfall	2,083	mm
hilly/mountaneous	25.00	%	wet season		mm
swamp/others	47.00	%	dry season		mm
Total	100.00	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	288.24	sq.km	Estimated annual runoff	-	MCM
Suitable for:			wet season	-	MCM
paddy		%	dry season	-	MCM
diversified crops		%	Annual flooded area	-	sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	77,550	ha	204,045	tons	2.63	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy	30,110	ha	46,579	tons	1.55	tons/ha
Corn	45,660	ha	49,632	tons	1.09	tons/ha
Leguminous crops	5,329	ha	2,391	tons	0.45	tons/ha
Tuber crops	701	ha	4,741	tons	6.76	tons/ha
Vegetables/fruits	2,513	ha	7,226	tons	2.88	tons/ha
Tobacco	1,090	ha	1,906	tons	1.75	tons/ha
Sugar Cane	2,268	ha	76	tons	0.03	tons/ha
Others		ha		tons		tons/ha
sub-total	165,221	ha				
Permanent Crops	5,218	ha	15,591	tons	2.99	tons/ha
Total	170,439	ha				

Ratio of Agricultural Land against Total Land	3.2	%
Average Cropping Intensity	591.3	%
Average Farm Size	0.2	ha

Total Agricultural Production Values (1989)

Crop Production	6,078 M	Pesos	64.9 %
Forestry	1,536 M	Pesos	14.9 %
Fishery	80 M	Pesos	0.8 %
Livestock	2,015 M	Pesos	19.4 %
Total	10,339 M	Pesos	100.0 %

Share of Agricultural Sector in RGDP	56.5	%

Supply and Demand Condition of Rice

1989		
Total Gross Paddy Production	250,624	tons
Seeds, Feeds&Wastes	23,809	tons
Total Net Paddy Production	226,815	tons
Milling Recovery	65	%
Availability of Rice for Consumption	147,430	tons
Per capita Availability of Rice	97.69	Kg
Total Demand for Rice	81,376	tons
Surplus	+ 59,240	tons
Deficit	-	tons
2000		
Total Gross Paddy Production	275,553	tons
Seeds, Feeds&Wastes	26,178	tons
Total Net Paddy Production	249,375	tons
Milling Recovery	65	%
Availability of Rice for Consumption	152	tons
Per capita Availability of Rice	102.52	Kg
Total Demand for Rice	111,644	tons
Surplus	+ 43,794	tons
Deficit	-	tons

IRRIGATION

Potential Irrigable Area		114,553	ha			
Status of Irrigation Development (1989)						
National Irrigation System (NIS)						
No. of Systems		11	no.			
Irrigation Service Area		36,036	ha			
Actually Irrigated Area		41,643	ha	wet	22,520 ha	dry 19,123 ha
Cropping Intensity		116	%			
No. of Beneficiary Farmers		(13,596)	no.			
Communal Irrigation System (CIS)						
No. of Systems		154	no.			
Irrigation Service Area		16,212	ha			
Actually Irrigated Area		17,730	ha	wet	9,485 ha	dry 8,245 ha
Cropping Intensity		109	%			
No. of Beneficiary Farmers		(9,785)	no.			
Pump Irrigation System (PIS)						
No. of Systems		986	no.			
Irrigation Service Area		3,258	ha			
Actually Irrigated Area			ha	wet	ha	dry ha
Cropping Intensity			%			
No. of Beneficiary Farmers			no.			
% of Irrigation Development (1989)		48.70	%			
Status of Inventoried Sub-projects under SPIDP						
Existing System						
No. of Systems		105	no.			
Irrigation Service Area		14,511	ha			
Actually Irrigated Area		11,362	ha	wet	11,362 ha	dry 10,060 ha
Cropping Intensity		190	%			
No. of Beneficiary Farmers			no.			
New Projects						
No. of Projects		66	no.			
Irrigation Service Area		9,462	ha	wet	9,462 ha	dry 9,532 ha
Cropping Intensity		100	%			
No. of Beneficiary Farmers			no.			
All of Inventoried Sub-projects						
No. of Systems/projects		171	no.			
Irrigation Service Area		23,973	ha			
No. of Beneficiary Farmers			no.			
Average Size of Inventoried Sub-projects			ha			
Existing system		138	ha			
New projects		143	ha			

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	Cagayan PIO	
No. of Permanent Staff	28	persons
Technical/engineering staff		persons
Administrative staff		persons
No. of Contractual Staff	43	persons
Total	71	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: KALINGA - APAYAO **Region:** II (CAR) **File No:** 10

SOCIO-ECONOMIC BACKGROUND

Land Area		7,046.60	sq.km	
Population	1990	214,000	persons	
	2000	256,000	persons	
Population Density (1990)		30	persons /sq.km	
Population Growth Rate		1.5	%	
Rural population (1990)		181,000	persons	84 %
Urban population (1990)		33,000	persons	16 %
No. of Households		38,000	no.	
No. of Farm Households		32,000	no.	
% of farm household		84	%	
RGDP (1989)		15,151 M	Pesos	
Per Capita RGDP (1989)		13,175	Pesos	
	Rural	3,952 M	Pesos	26.1 %
	Urban	11,199 M	Pesos	73.9 %
Rural Per Capita RGDP		4,362	Pesos	
(Above or Below National Average per capita RGDP)				
	Above +		%	
	Below -	27.8	%	
Income Class of Province		4th		

RELATION WITH CARP

CARP Priority Province	Yes		
Area for distribution under CARP		1,414	ha
Status of Issuance of Emancipation Patents (1990)		52	%
No. of Units		734	unit
Total Area		738	ha
Total No. of Farmer-Beneficiaries		577	no.
No. of CISs/CIPs for implementation under CARP-IC			
CISs	5 no.	321	ha
CIPs	51 no.	2,491	ha
Total	56 no.	2,812	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	-	%	Type:	III, (1)	
undulating/rolling	-	%	Annual Rainfall	2,687	mm
hilly/mountaneous	-	%	wet season	2,210	mm
swamp/others	-	%	dry season	477	mm
Total	-	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	43,495	sq.km	Estimated annual runoff		MCM
Suitable for:			wet season		MCM
paddy	89	%	dry season		MCM
diversified crops	11	%	Annual flooded area		sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	25,310	ha	84,324	tons	3.33	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	5,010	ha	7,787	tons	1.55	tons/ha
Leguminous crops	97	ha	46	tons	0.47	tons/ha
Tuber crops	136	ha	539	tons	3.96	tons/ha
Vegetables/fruits	847	ha	4,625	tons	5.46	tons/ha
Tobacco	22	ha	22	tons	1.00	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	31,422	ha				
Permanent Crops	2,025	ha	6,639	tons	3.29	tons/ha
Total	33,447	ha				

Ratio of Agricultural Land against Total Land	61.7	%
Average Cropping Intensity	769.0	%
Average Farm Size	0.1	ha

Total Agricultural Production Values (1989)

Crop Production	2,954 M	Pesos	74.8 %
Forestry	261 M	Pesos	6.6 %
Fishery	16 M	Pesos	0.4 %
Livestock	721 M	Pesos	18.2 %
Total	3,952 M	Pesos	100.0 %

Share of Agricultural Sector in RGDP	26.1	%

Supply and Demand Condition of Rice

1989		
Total Gross Paddy Production	84,324	tons
Seeds, Feeds&Wastes	8,011	tons
Total Net Paddy Production	76,313	tons
Milling Recovery	65	%
Availability of Rice for Consumption	49,604	tons
Per capita Availability of Rice	232	Kg
Total Demand for Rice	22,656	tons
Surplus	+ 26,947	tons
Deficit	-	tons
2000		
Total Gross Paddy Production	88,460	tons
Seeds, Feeds&Wastes	8,404	tons
Total Net Paddy Production	80,056	tons
Milling Recovery	65	%
Availability of Rice for Consumption	52,037	tons
Per capita Availability of Rice	203.00	Kg
Total Demand for Rice	28,473	tons
Surplus	+ 23,563	tons
Deficit	-	tons

IRRIGATION

Potential Irrigable Area		37,048	ha			
Status of Irrigation Development (1989)						
National Irrigation System (NIS)						
No. of Systems		2	no.			
Irrigation Service Area		10,916	ha			
Actually Irrigated Area			ha	wet	ha	dry ha
Cropping Intensity			%			
No. of Beneficiary Farmers		4,461	no.			
Communal Irrigation System (CIS)						
No. of Systems		157	no.			
Irrigation Service Area		7,918	ha			
Actually Irrigated Area		4,857	ha	wet	ha	dry ha
Cropping Intensity			%			
No. of Beneficiary Farmers			no.			
Pump Irrigation System (PIS)						
No. of Systems		287	no.			
Irrigation Service Area		370	ha			
Actually Irrigated Area		243	ha	wet	ha	dry ha
Cropping Intensity			%			
No. of Beneficiary Farmers			no.			
% of Irrigation Development (1989)		51.80	%			
Status of Inventoried Sub-projects under SSIDP						
Existing System						
No. of Systems		64	no.			
Irrigation Service Area		5,602	ha			
Actually Irrigated Area		3,540	ha	wet	3,540 ha	dry 3,657 ha
Cropping Intensity		176	%			
No. of Beneficiary Farmers			no.			
New Projects						
No. of Projects		43	no.			
Irrigation Service Area		5,562	ha	wet	5,562 ha	dry 4,532 ha
Cropping Intensity		116	%			
No. of Beneficiary Farmers			no.			
All of Inventoried Sub-projects						
No. of Systems/projects		107	no.			
Irrigation Service Area		11,164	ha			
No. of Beneficiary Farmers			no.			
Average Size of Inventoried Sub-projects			ha			
Existing system		88	ha			
New projects		129	ha			

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	Kalinga-Apayao PIO	
No. of Permanent Staff	14	persons
Technical/engineering staff		persons
Administrative staff		persons
No. of Contractual Staff	3	persons
Total	17	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: ISABELA **Region:** II **File No:** 11

SOCIO-ECONOMIC BACKGROUND

Land Area	10,664.60	sq.km		
Population 1990	1,078,000	persons		
2000	1,271,000	persons		
Population Density (1990)	101	persons /sq.km		
Population Growth Rate	2.2	%		
Rural population (1990)	911,000	persons	84	%
Urban population (1990)	167,000	persons	16	%
No. of Households	202,000	no.		
No. of Farm Households	172,000	no.		
% of farm household	85	%		
RGDP (1989)	18,311 M	Pesos		
Per Capita RGDP (1989)	7,822	Pesos		
Rural	10,339 M	Pesos	56.5	%
Urban	7,972 M	Pesos	43.5	%
Rural Per Capita RGDP	5,227	Pesos		
(Above or Below National Average per capita RGDP)				
Above +		%		
Below -	13.5	%		
Income Class of Province	1st			

RELATION WITH CARP

CARP Priority Province	Yes			
Area for distribution under CARP			22,580	ha
Status of Issuance of Emancipation Patents (1990)			179	%
No. of Units			58,858	unit
Total Area			40,523	ha
Total No. of Farmer-Beneficiaries			42,685	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs	4	no.	440	ha
CIPs	8	no.	5,420	ha
Total	12	no.	5,860	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	-	%	Type:	III & IV	
undulating/rolling	-	%	Annual Rainfall	2,105	mm
hilly/mountaneous	-	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	-	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	1,859.4	sq.km	Estimated annual runoff		MCM
Suitable for:			wet season		MCM
paddy	47	%	dry season		MCM
diversified crops	53	%	Annual flooded area		sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	173,990	ha	633,226	tons	3.64	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy	23,190	ha	45,511	tons	1.96	tons/ha
Corn	285,930	ha	372,896	tons	1.30	tons/ha
Leguminous crops	21,362	ha	15,035	tons	0.70	tons/ha
Tuber crops	734	ha	1,670	tons	2.28	tons/ha
Vegetables/fruits	3,111	ha	16,749	tons	5.38	tons/ha
Tobacco	11,762	ha	9,567	tons	0.81	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	520,079	ha				
Permanent Crops	1,379	ha	2,789	tons	1.9	tons/ha
Total	521,458	ha				

Ratio of Agricultural Land against Total Land	17.4	%	
Average Cropping Intensity	280.4	%	
Average Farm Size	1.1	ha	
Total Agricultural Production Values (1989)			
Crop Production	6,708 M	Pesos	64.9 %
Forestry	1,536 M	Pesos	14.9 %
Fishery	80 M	Pesos	0.8 %
Livestock	2,015 M	Pesos	19.4 %
Total	10,339 M	Pesos	100 %
Share of Agricultural Sector in RGDP	56.5	%	

Supply and Demand Condition of Rice

1989		
Total Gross Paddy Production	678,737	tons
Seeds, Feeds&Wastes	64,480	tons
Total Net Paddy Production	614,257	tons
Milling Recovery	65	%
Availability of Rice for Consumption	399,267	tons
Per capita Availability of Rice	97.69	Kg
Total Demand for Rice	114,128	tons
Surplus	+ 285,139	tons
Deficit	-	tons
2000		
Total Gross Paddy Production	622,438	tons
Seeds, Feeds&Wastes	59,132	tons
Total Net Paddy Production	563,306	tons
Milling Recovery	65	%
Availability of Rice for Consumption	366,149	tons
Per capita Availability of Rice	102.52	Kg
Total Demand for Rice	141,205	tons
Surplus	+ 224,945	tons
Deficit	-	tons

IRRIGATION

Potential Irrigable Area	204,156	ha					
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
No. of Systems	5	no.					
Irrigation Service Area	111,534	ha					
Actually Irrigated Area		ha	wet	ha	dry	ha	
Cropping Intensity		%					
No. of Beneficiary Farmers	(45,708)	no.					
Communal Irrigation System (CIS)							
No. of Systems	35	no.					
Irrigation Service Area	5,266	ha					
Actually Irrigated Area	3,036	ha	wet 3,036	ha	dry 1,724	ha	
Cropping Intensity	90	%					
No. of Beneficiary Farmers	2,864	no.					
Pump Irrigation System (PIS)							
No. of Systems	848	no.					
Irrigation Service Area	2,910	ha					
Actually Irrigated Area		ha	wet	ha	dry	ha	
Cropping Intensity		%					
No. of Beneficiary Farmers		no.					
% of Irrigation Development (1989)	58.6	%					
Status of Inventoried Sub-projects under SSIDP							
Existing System							
No. of Systems	47	no.					
Irrigation Service Area	9,775	ha					
Actually Irrigated Area	5,435	ha	wet 5,435	ha	dry 3,924	ha	
Cropping Intensity	172	%					
No. of Beneficiary Farmers		no.					
New Projects							
No. of Projects	44	no.					
Irrigation Service Area	6,820	ha	wet 6,820	ha	dry 6,734	ha	
Cropping Intensity	89	%					
No. of Beneficiary Farmers		no.					
All of Inventoried Sub-projects							
No. of Systems/projects	91	no.					
Irrigation Service Area	16,595	ha					
No. of Beneficiary Farmers		no.					
Average Size of Inventoried Sub-projects		ha					
Existing system	208	ha					
New projects	155	ha					

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	Isabela PIO	
No. of Permanent Staff	24	persons
Technical/engineering staff		persons
Administrative staff		persons
No. of Contractual Staff	35	persons
Total	59	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: IFUGAO | Region: II (CAR) | File No: 12

SOCIO-ECONOMIC BACKGROUND

Land Area	2,517.8	sq.km		
Population 1990	149,000	persons		
2000	254,000	persons		
Population Density (1990)	59	persons /sq.km		
Population Growth Rate	3.0	%		
Rural population (1990)	126,000	persons	84	%
Urban population (1990)	23,000	persons	16	%
No. of Households	28,000	no.		
No. of Farm Households	23,000	no.		
% of farm household	82	%		
RGDP (1989)	15,151 M	Pesos		
Per Capita RGDP (1989)	13,175	Pesos		
Rural	3,952 M	Pesos	26.1	%
Urban	11,199 M	Pesos	73.9	%
Rural Per Capita RGDP	4,362	Pesos		
(Above or Below National Average per capita RGDP)				
Above +		%		
Below -	27.8	%		
Income Class of Province	5th			

RELATION WITH CARP

CARP Priority Province	Yes			
Area for distribution under CARP				ha
Status of Issuance of Emancipation Patents (1990)				%
No. of Units			347	unit
Total Area			278	ha
Total No. of Farmer-Beneficiaries			254	no.
No. of CISs/CIPs for implementation under CARP-IC				
CISs		no.		ha
CIPs	7	no.	5,685	ha
Total	7	no.	5,685	ha

PHYSICAL PROFILE

Topography			Climate		
			III, (1)		
plain/flat	-	%	Type:	TEMPERATE CLIMATE	
undulating/rolling	-	%	Annual Rainfall	1,864	mm
hilly/mountaneous	-	%	wet season		mm
swamp/others	-	%	dry season		mm
Total	-	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	87.6	sq.km	Estimated annual runoff		MCM
Suitable for:			wet season		MCM
paddy	72	%	dry season		MCM
diversified crops (CORN ONLY)	14	%	Annual flooded area		sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	9,570	ha	27,344	tons	2.86	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	4,610	ha	6,088	tons	1.32	tons/ha
Leguminous crops	300	ha	114	tons	0.38	tons/ha
Tuber crops	939	ha	3,151	tons	3.36	tons/ha
Vegetables/fruits	1,123	ha	8,897	tons	7.92	tons/ha
Tobacco	70	ha	43	tons	0.61	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	16,612	ha				
Permanent Crops	2,767	ha	2,591	tons	0.94	tons/ha
Total	19,379	ha				

Ratio of Agricultural Land against Total Land	3.5	%		
Average Cropping Intensity	221.2	%		
Average Farm Size	0.4	ha		
Total Agricultural Production Values (1989)				
Crop Production	2,954 M	Pesos	74.8	%
Forestry	261 M	Pesos	6.6	%
Fishery	16 M	Pesos	0.4	%
Livestock	721 M	Pesos	18.2	%
Total	3,952 M	Pesos	100	%
Share of Agricultural Sector in RGDP	26.1	%		

Supply and Demand Condition of Rice		
1989		
Total Gross Paddy Production	27,344	tons
Seeds, Feeds&Wastes	2,598	tons
Total Net Paddy Production	24,746	tons
Milling Recovery	65	%
Availability of Rice for Consumption	16,085	tons
Per capita Availability of Rice	108.00	Kg
Total Demand for Rice	15,775	tons
Surplus	+ 310	tons
Deficit	-	tons
2000		
Total Gross Paddy Production	27,541	tons
Seeds, Feeds&Wastes	2,616	tons
Total Net Paddy Production	24,925	tons
Milling Recovery	65	%
Availability of Rice for Consumption	16,201	tons
Per capita Availability of Rice	64.00	Kg
Total Demand for Rice	28,268	tons
Surplus	+	tons
Deficit	- 12,067	tons

IRRIGATION

Potential Irrigable Area	25,829	ha				
Status of Irrigation Development (1989)						
National Irrigation System (NIS)						
No. of Systems	1	no.				
Irrigation Service Area	800	ha				
Actually Irrigated Area	220	ha	wet	ha	dry	ha
Cropping Intensity		%				
No. of Beneficiary Farmers		no.				
Communal Irrigation System (CIS)						
No. of Systems	139	no.				
Irrigation Service Area	5,841	ha				
Actually Irrigated Area	3,234	ha	wet	ha	dry	ha
Cropping Intensity		%				
No. of Beneficiary Farmers	11,811	no.				
Pump Irrigation System (PIS)						
No. of Systems	82	no.				
Irrigation Service Area	386	ha				
Actually Irrigated Area		ha	wet	ha	dry	ha
Cropping Intensity		%				
No. of Beneficiary Farmers		no.				
% of Irrigation Development (1989)	27.2	%				
Status of Inventoried Sub-projects under SSIDP						
Existing System						
No. of Systems	35	no.				
Irrigation Service Area	3,279	ha				
Actually Irrigated Area	2,318	ha	wet	2,318 ha	dry	2,024 ha
Cropping Intensity	188	%				
No. of Beneficiary Farmers		no.				
New Projects						
No. of Projects	46	no.				
Irrigation Service Area	4,980	ha	wet	4,980 ha	dry	4,705 ha
Cropping Intensity	90	%				
No. of Beneficiary Farmers		no.				
All of Inventoried Sub-projects						
No. of Systems/projects	81	no.				
Irrigation Service Area	8,259	ha				
No. of Beneficiary Farmers		no.				
Average Size of Inventoried Sub-projects		ha				
Existing system	94	ha				
New projects	108	ha				

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	Ifugao PIO	
No. of Permanent Staff	19	persons
Technical/engineering staff		persons
Administrative staff		persons
No. of Contractual Staff	30	persons
Total	49	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: NUEVA VISCAYA | **Region:** II | **File No:** 13

SOCIO-ECONOMIC BACKGROUND

Land Area		3,903.89	sq.km	
Population	1990	301,000	persons	
	2000	365,000	persons	
Population Density (1990)		77	persons /sq.km	
Population Growth Rate		2.2	%	
Rural population (1990)		254,000	persons	84 %
Urban population (1990)		47,000	persons	16 %
No. of Households		59,000	nos.	
No. of Farm Households		50,000	nos.	
% of farm household		84	%	
RGDP (1989)		18,311 M	Pesos	
Per Capita RGDP (1989)		7,822	Pesos	
Rural		10,339 M	Pesos	56.5 %
Urban		7,972 M	Pesos	43.5 %
Rural Per Capita RGDP		5,227	Pesos	
(Above or Below National Average per capita RGDP)				
Above	+		%	
Below	-	13.5	%	
Income Class of Province		4th		

RELATION WITH CARP

CARP Priority Province		No	
Area for distribution under CARP		211	ha
Status of Issuance of Emancipation Patents (1990)		526	%
Nos. of Units		1,882	unit
Total Area		1,111	ha
Total No. of Farmer-Beneficiaries		854	no.
Nos. of CISs/CIPs for implementation under CARP-IC			
CISs	5 nos.	1,650	ha
CIPs	10 nos.	1,470	ha
Total	15 nos.	3,120	ha

PHYSICAL PROFILE

Topography			Climate		
plain/flat	16.73	%	Type:	III, (I)	
undulating/rolling	10.50	%	Annual Rainfall	1,524	mm
hilly/mountaneous	63.20	%	wet season		mm
swamp/others	9.57	%	dry season		mm
Total	100.00	%	Frequency of Typoon		%

Soils			Hydrology		
Arable land	491.1	sq.km	Estimated annual runoff		MCM
Suitable for:			wet season		MCM
paddy		%	dry season		MCM
diversified crops		%	Annual flooded area		sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	33,820	ha	109,331	tons	3.23	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy	3,320	ha	7,728	tons	2.33	tons/ha
Corn	9,290	ha	9,856	tons	1.06	tons/ha
Leguminous crops	181	ha	102	tons	0.56	tons/ha
Tuber crops	2,341	ha	8,675	tons	3.71	tons/ha
Vegetables/fruits		ha		tons		tons/ha
Tobacco	20	ha	19	tons	0.95	tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	48,972	ha				
Permanent Crops	889	ha	1,837	tons	2.07	tons/ha
Total	49,861	ha				

Ratio of Agricultural Land against Total Land	12.6	%
Average Cropping Intensity	101.5	%
Average Farm Size	1.0	ha

Total Agricultural Production Values (1989)

Crop Production	6,708 M	Pesos	64.9 %
Forestry	1,536 M	Pesos	14.9 %
Fishery	80 M	Pesos	0.8 %
Livestock	2,015 M	Pesos	19.4 %
Total	10,339 M	Pesos	100.0 %

Share of Agricultural Sector in RGDP	56.5	%

Supply and Demand Condition of Rice

1989			
Total Gross Paddy Production		117,058	tons
Seeds, Feeds&Wastes		11,121	tons
Total Net Paddy Production		105,937	tons
Milling Recovery		65	%
Availability of Rice for Consumption		68,859	tons
Per capita Availability of Rice		229	Kg
Total Demand for Rice		31,867	tons
Surplus	+	36,992	tons
Deficit	-		tons
2000			
Total Gross Paddy Production		111,326	tons
Seeds, Feeds&Wastes		10,576	tons
Total Net Paddy Production		100,750	tons
Milling Recovery		65	%
Availability of Rice for Consumption		65,488	tons
Per capita Availability of Rice		179	Kg
Total Demand for Rice		40,558	tons
Surplus	+	24,930	tons
Deficit	-		tons

IRRIGATION

Potential Irrigable Area		48,176	ha			
Status of Irrigation Development (1989)						
National Irrigation System (NIS)						
Nos. of Systems		NONE	nos.			
Irrigation Service Area			ha			
Actually Irrigated Area			ha	wet	ha	dry ha
Cropping Intensity			%			
Nos. of Beneficiary Farmers			nos.			
Communal Irrigation System (CIS)						
Nos. of Systems		256	nos.			
Irrigation Service Area		21,284	ha			
Actually Irrigated Area		18,635	ha	wet	ha	dry ha
Cropping Intensity			%			
Nos. of Beneficiary Farmers		17,858	nos.			
Pump Irrigation System (PIS)						
Nos. of Systems		90	nos.			
Irrigation Service Area		515	ha			
Actually Irrigated Area		41	ha	wet	ha	dry ha
Cropping Intensity			%			
Nos. of Beneficiary Farmers		90	nos.			
% of Irrigation Development (1989)		45.2	%			
Status of Inventoried Sub-projects under SSIDP						
Existing System						
Nos. of Systems		131	nos.			
Irrigation Service Area		18,118	ha			
Actually Irrigated Area		15,636	ha	wet 15,636	ha	dry 14,712 ha
Cropping Intensity		189	%			
Nos. of Beneficiary Farmers			nos.			
New Projects						
Nos. of Projects		13	nos.			
Irrigation Service Area		1,980	ha	wet 2,120	###	dry 1,428 ha
Cropping Intensity		122	%			
Nos. of Beneficiary Farmers			nos.			
All of Inventoried Sub-projects						
Nos. of Systems/projects		144	nos.			
Irrigation Service Area		20,098	ha			
Nos. of Beneficiary Farmers			nos.			
Average Size of Inventoried Sub-projects			ha			
Existing system		138	ha			
New projects		152	ha			

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO:	NUEVA VISCAYA PIO	
No. of Permanent Staff		persons
Technical/engineering staff	14	persons
Administrative staff	13	persons
No. of Contractual Staff	52	persons
Total	79	persons

REMARKS

PROVINCIAL IRRIGATION PROFILE

Province: QUIRINO | **Region:** II | **File No:** 14

SOCIO-ECONOMIC BACKGROUND

Land Area		3,057.2	sq.km	
Population	1990	114,000	persons	
	2000	166,000	persons	
Population Density (1990)		37	persons /sq.km	
Population Growth Rate		3.2	%	
Rural population (1990)		96,000	persons	84 %
Urban population (1990)		18,000	persons	16 %
No. of Households		22,000	no.	
No. of Farm Households		19,000	no.	
% of farm household		86	%	
RGDP (1989)		18,311 M	Pesos	
Per Capita RGDP (1989)		7,822	Pesos	
	Rural	10,339 M	Pesos	56.5 %
	Urban	7,972 M	Pesos	43.5 %
Rural Per Capita RGDP		5,227	Pesos	
(Above or Below National Average per capita RGDP)				
	Above +		%	
	Below -	13.5	%	
Income Class of Province		5th		

RELATION WITH CARP

CARP Priority Province		No	
Area for distribution under CARP		487	ha
Status of Issuance of Emancipation Patents (1990)		363	%
	No. of Units	2,018	unit
	Total Area	1,769	ha
	Total of Farmer-Beneficiaries	1,516	
No. of CISs/CIPs for implementation under CARP-IC			
	CISs	- no.	- ha
	CIPs	20 no.	1,860 ha
	Total	20 no.	1,860 ha

PHYSICAL PROFILE

Topography

plain/flat	10.15	%
undulating/rolling		%
hilly/mountaneous	89.85	%
swamp/others		%
Total	100.00	%

Climate

	III	
Type:	CONT.RAINFALL YEAR ROUND	
Annual Rainfall	1,372	mm
wet season		mm
dry season		mm
Frequency of Typoon		%

Soils

Arable land	246.17	sq.km
Suitable for:		
paddy	56	%
diversified crops	44	%

Hydrology

Estimated annual runoff		MCM
wet season		MCM
dry season		MCM
Annual flooded area		sq.km

AGRICULTURE

Agricultural Land Use (1989)

Crops	Cultivated Area		Production		Unit Yield	
Irrigated Paddy	16,910	ha	48,450	tons	2.87	tons/ha
Wet Season		ha		tons		tons/ha
Dry Season		ha		tons		tons/ha
Rainfed paddy		ha		tons		tons/ha
Corn	6,810	ha	16,308	tons	2.39	tons/ha
Leguminous crops	2,031	ha	1,646	tons	0.81	tons/ha
Tuber crops	148	ha	334	tons	2.26	tons/ha
Vegetables/fruits	2,825	ha	9,082	tons	3.21	tons/ha
Tobacco		ha		tons		tons/ha
Sugar Cane		ha		tons		tons/ha
Others		ha		tons		tons/ha
sub-total	28,724	ha				
Permanent Crops	357	ha	69	tons	0.91	tons/ha
Total	29,081	ha				

Ratio of Agricultural Land against Total Land	8.1	%
Average Cropping Intensity	118.1	%
Average Farm Size	1.3	ha

Total Agricultural Production Values (1989)

Crop Production	6,708 M	Pesos	64.9 %
Forestry	1,536 M	Pesos	14.9 %
Fishery	80 M	Pesos	0.8 %
Livestock	2,015 M	Pesos	19.4 %
Total	10,339 M	Pesos	100.0 %

Share of Agricultural Sector in RGDP	56.5	%

Supply and Demand Condition of Rice

1989		
Total Gross Paddy Production	48,450	tons
Seeds, Feeds&Wastes	4,603	tons
Total Net Paddy Production	43,847	tons
Milling Recovery	65	%
Availability of Rice for Consumption	28,501	tons
Per capita Availability of Rice	250	Kg
Total Demand for Rice	12,069	tons
Surplus	+ 16,432	tons
Deficit	-	tons
2000		
Total Gross Paddy Production	43,481	tons
Seeds, Feeds&Wastes	4,131	tons
Total Net Paddy Production	39,350	tons
Milling Recovery	65	%
Availability of Rice for Consumption	25,578	tons
Per capita Availability of Rice	154	Kg
Total Demand for Rice	18,424	tons
Surplus	+ 7,154	tons
Deficit	-	tons

IRRIGATION

Potential Irrigable Area		31,074	ha				
Status of Irrigation Development (1989)							
National Irrigation System (NIS)							
	No. of Systems	1	no.				
	Irrigation Service Area	3,300	ha				
	Actually Irrigated Area	2,300	ha	wet	ha	dry	ha
	Cropping Intensity		%				
	No. of Beneficiary Farmers	2,132	no.				
Communal Irrigation System (CIS)							
	No. of Systems	55	no.				
	Irrigation Service Area	3,780	ha				
	Actually Irrigated Area	1,297	ha	wet	ha	dry	ha
	Cropping Intensity		%				
	No. of Beneficiary Farmers	1,612	no.				
Pump Irrigation System (PIS)							
	No. of Systems	153	no.				
	Irrigation Service Area	1,186	ha				
	Actually Irrigated Area		ha	wet	ha	dry	ha
	Cropping Intensity		%				
	No. of Beneficiary Farmers		no.				
% of Irrigation Development (1989)		26.6	%				
Status of Inventoried Sub-projects under SSIDP							
Existing System							
	No. of Systems	29	no.				
	Irrigation Service Area	3,460	ha				
	Actually Irrigated Area	1,436	ha	wet 1,436	ha	dry 1,102	ha
	Cropping Intensity	186	%				
	No. of Beneficiary Farmers		no.				
New Projects							
	No. of Projects	41	no.				
	Irrigation Service Area	4,570	ha	wet 4,570	ha	dry 4,587	ha
	Cropping Intensity	-	%				
	No. of Beneficiary Farmers		no.				
All of Inventoried Sub-projects							
	No. of Systems/projects	70	no.				
	Irrigation Service Area	8,030	ha				
	No. of Beneficiary Farmers		no.				
Average Size of Inventoried Sub-projects			ha				
	Exsiting system	119	ha				
	New projects	111	ha				

PROVINCIAL IRRIGATION OFFICE (PIO)

Name of responsible PIO: QUIRINO PIO

of Permanent Staff		persons
Technical/engineering staff	14	persons
Administrative staff		persons
of Contractual Staff	22	persons
Total	36	persons

REMARKS