Figures

Fig. A.3. 1

INTERIM REPORT
Climate Zones

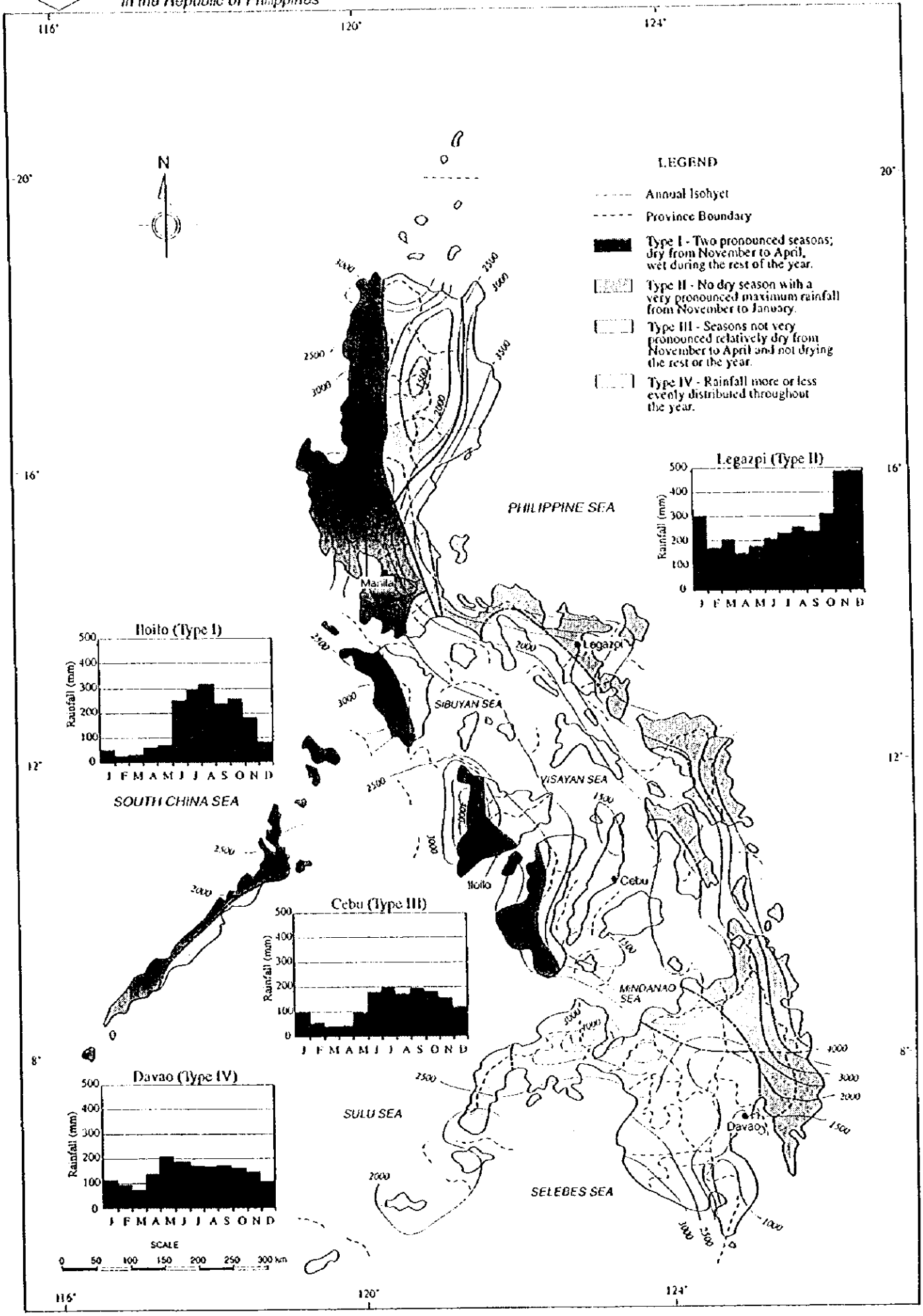


Fig. A.3. 2 **Thiessen Polygon**

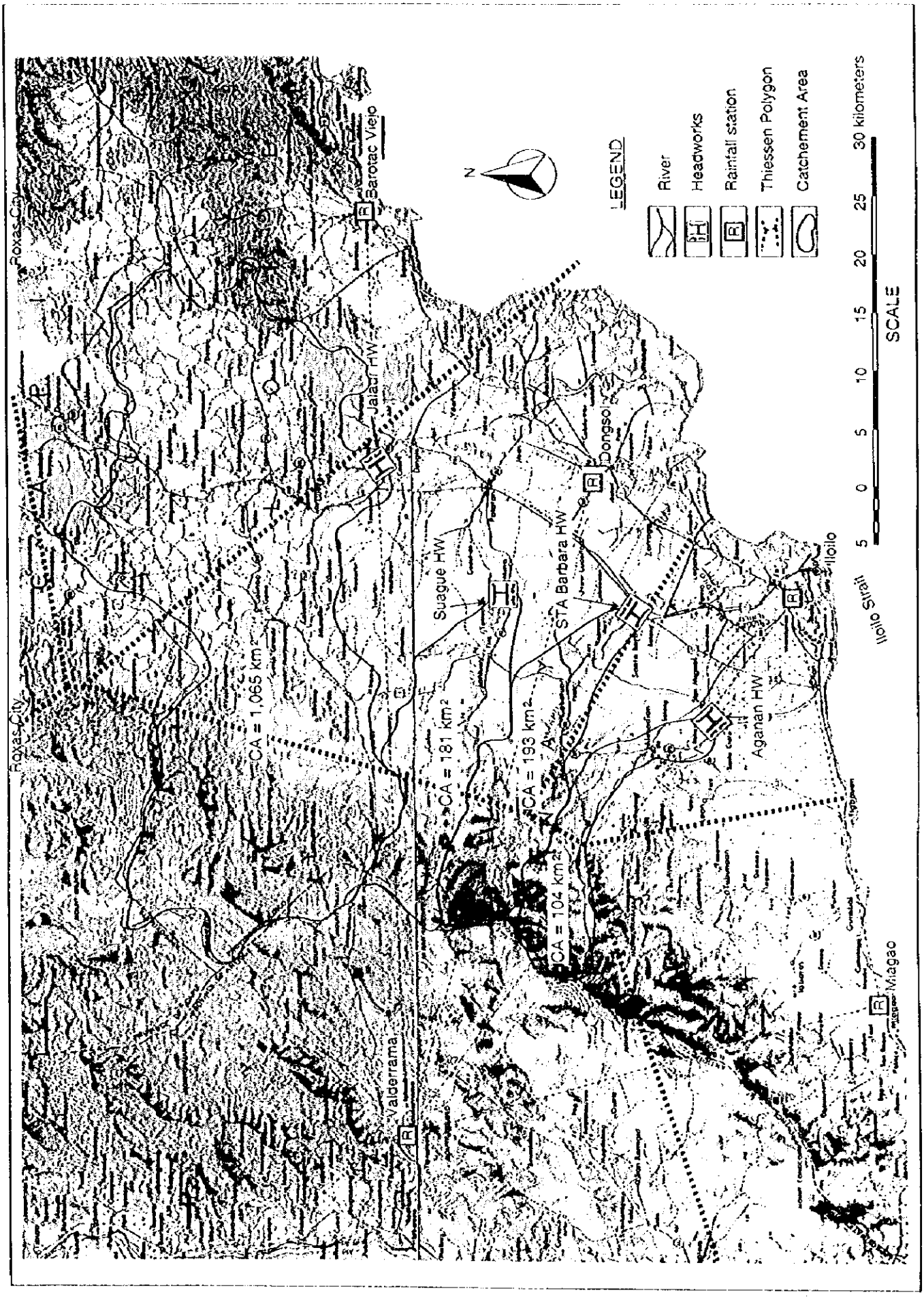
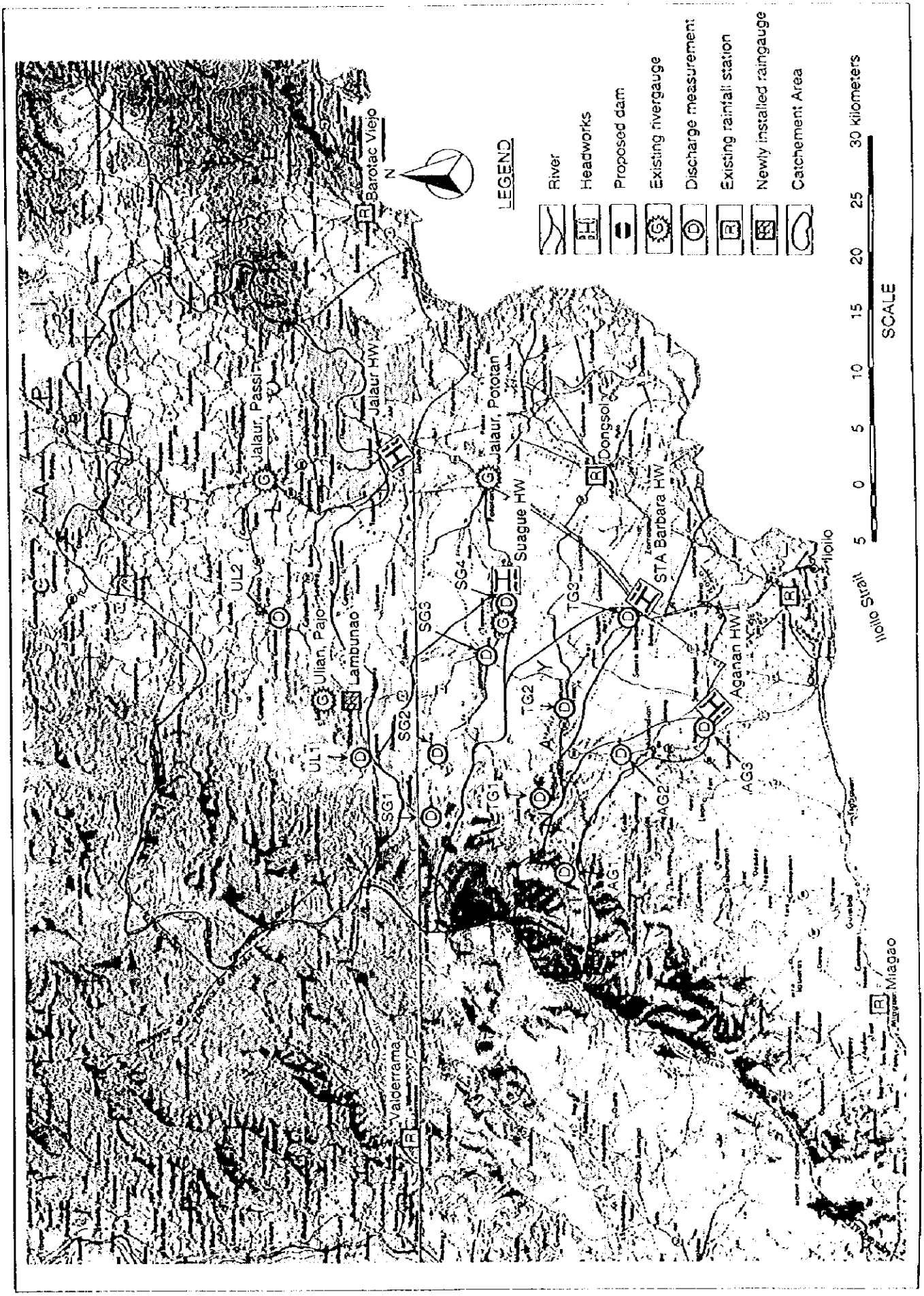
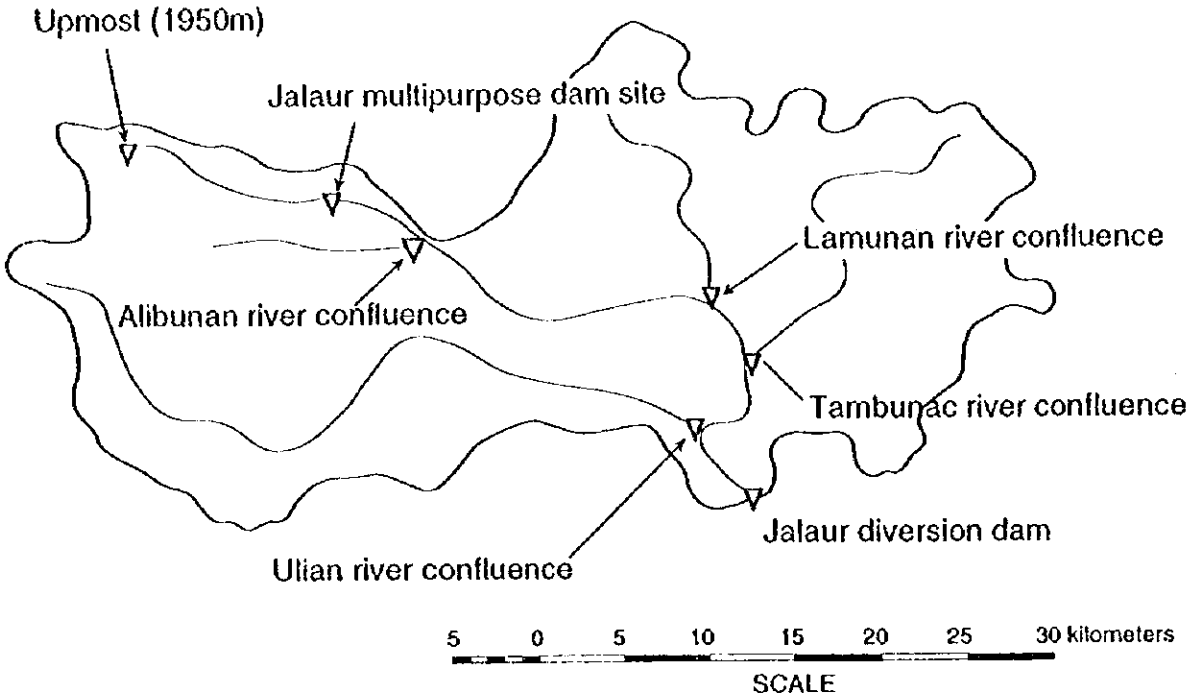
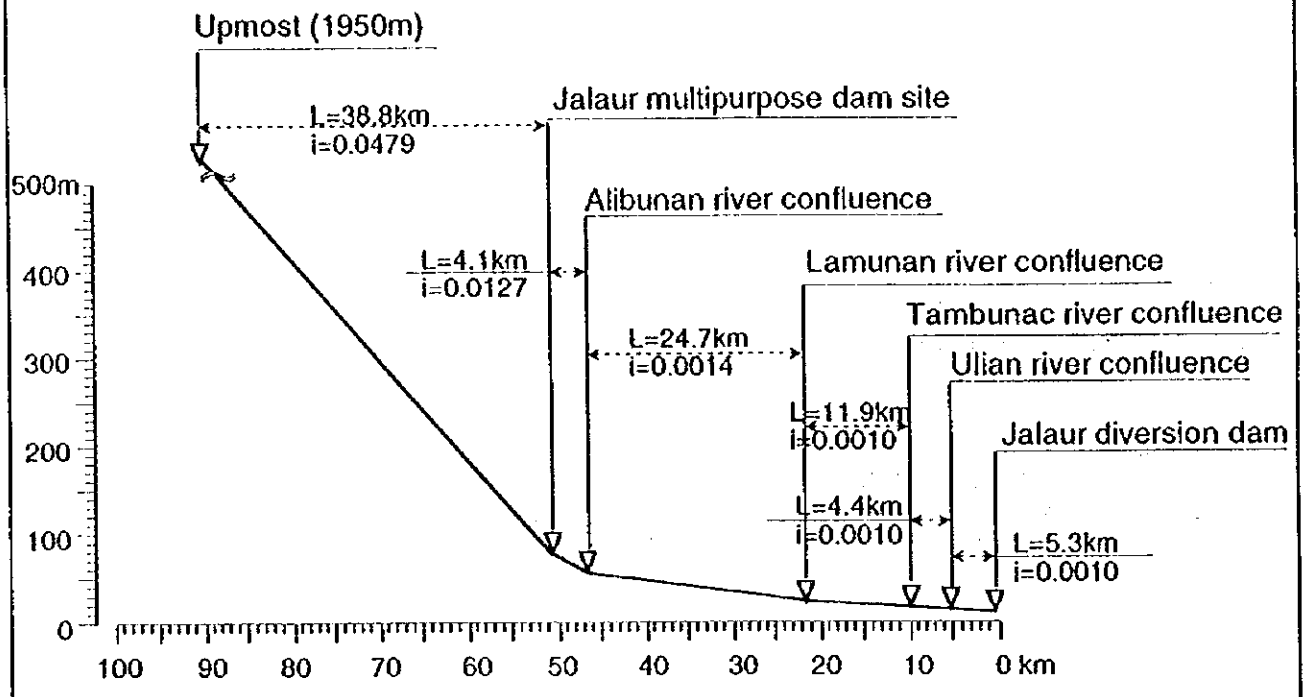
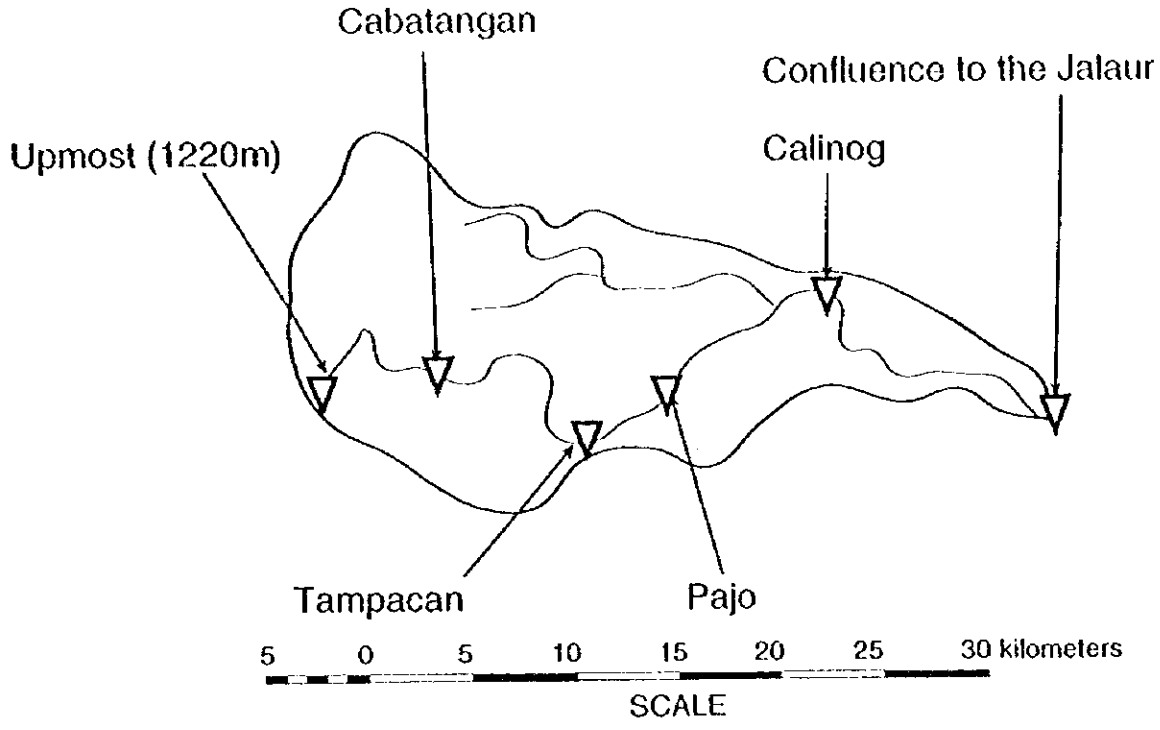


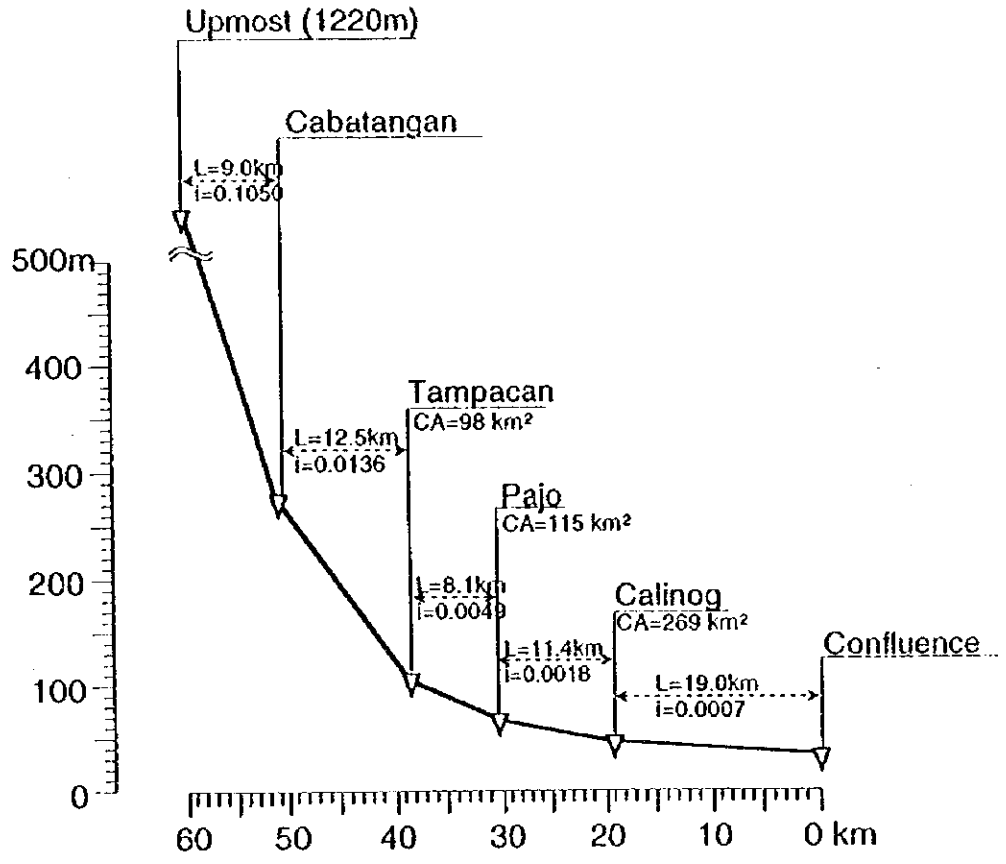
Fig. A.3. 3 Hydrological Stations

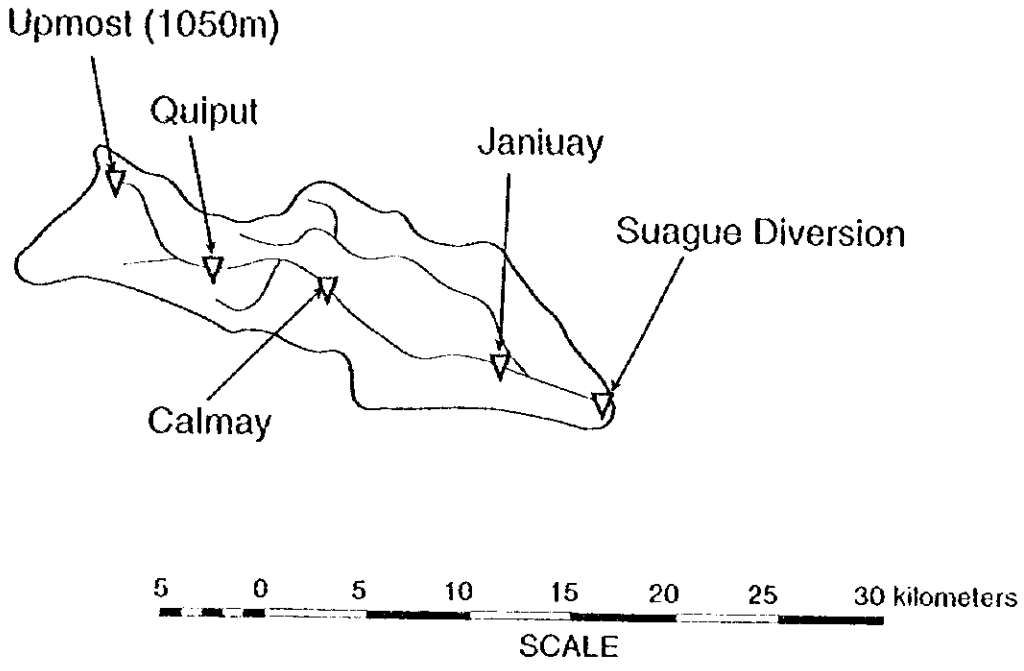


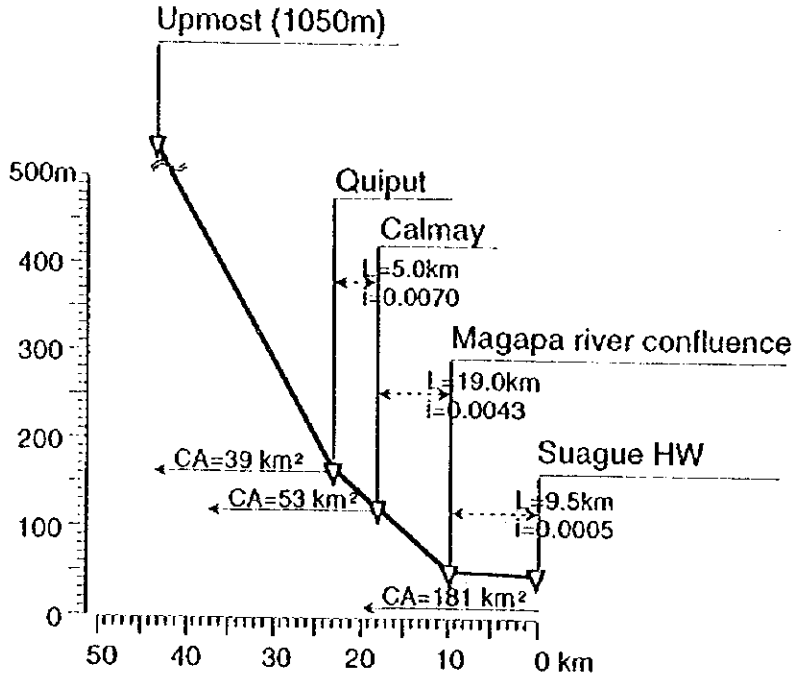

Upmost (1950m)
Jalaur multipurpose dam site
Lamunan river confluence
Alibunan river confluence
Tambunac river confluence
Jalaur diversion dam
Ulian river confluence
5 0 5 10 15 20 25 30 kilometers
SCALE

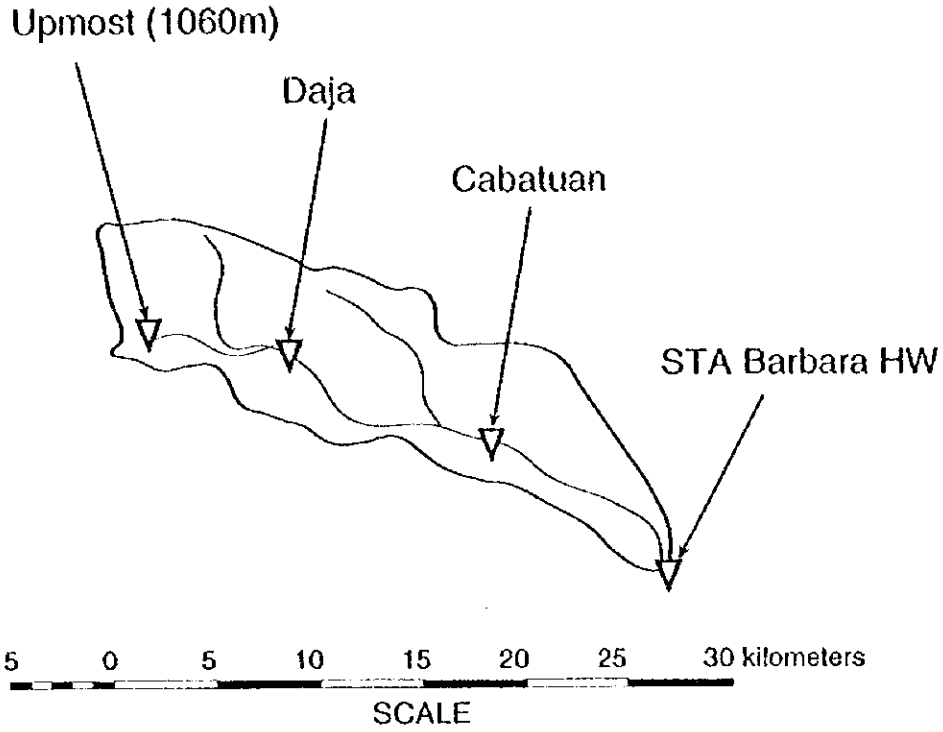

Upmost (1950m)
L=38.8km
i=0.0479
Jalaur multipurpose dam site
Alibunan river confluence
L=4.1km
i=0.0127
Lamunan river confluence
Tambunac river confluence
L=24.7km
i=0.0014
Ulian river confluence
L=11.9km
i=0.0010
Jalaur diversion dam
L=4.4km
i=0.0010
L=5.3km
i=0.0010
500m
400
300
200
100
0
100 90 80 70 60 50 40 30 20 10 0 km

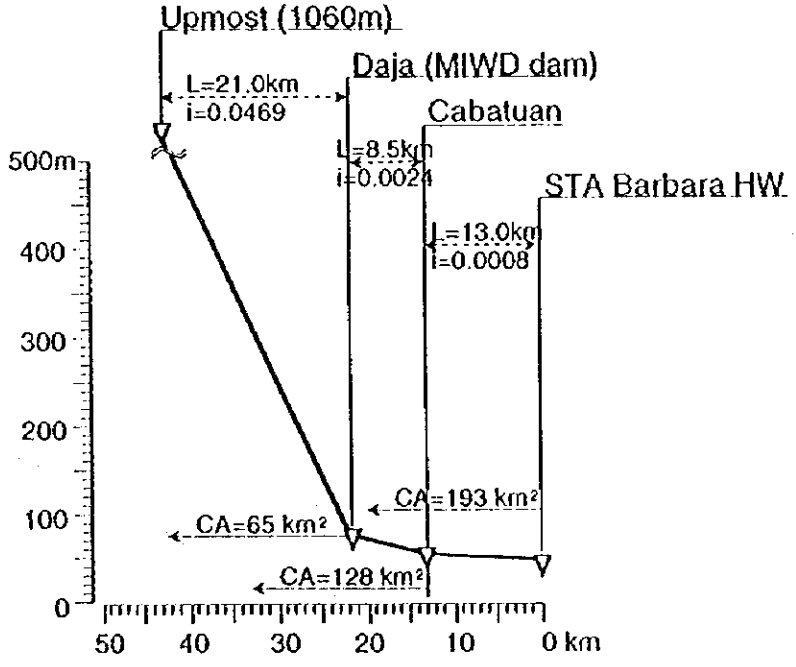

Cabatangan
Confluence to the Jalaur
Upmost (1220m)
Calinog
Tampacan
Pajo
5 0 5 10 15 20 25 30 kilometers
SCALE

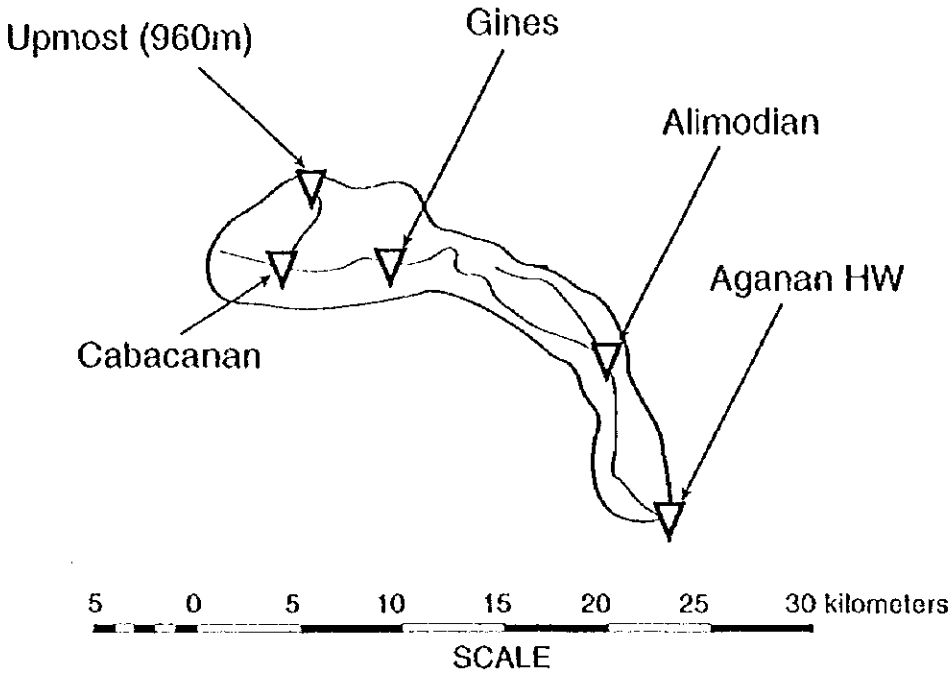

Upmost (1220m)
Cabatangan
L=9.0km
i=0.1050
500m
400
300
200
100
0
Tampacan
CA=98 km²
L=12.5km
i=0.0136
Pajo
CA=115 km²
L=8.1km
i=0.0049
Calinog
CA=269 km²
L=11.4km
i=0.0018
Confluence
L=19.0km
i=0.0007
60 50 40 30 20 10 0 km


Upmost (1050m)
Quiput
Janiuay
Suague Diversion
Calmay
5 0 5 10 15 20 25 30 kilometers
SCALE


Upmost (1050m)
500m
400
300
200
100
0
Quiput
Calmay
L=5.0km
i=0.0070
Magapa river confluence
L=19.0km
i=0.0043
Suague HW
L=9.5km
i=0.0005
CA=39 km²
CA=53 km²
CA=181 km²
50 40 30 20 10 0 km


Upmost (1060m)
Daja
Cabatuan
STA Barbara HW
5 0 5 10 15 20 25 30 kilometers
SCALE


Upmost (1060m)
Daja (MIWD dam)
Cabatuan
STA Barbara HW
L=21.0km
i=0.0469
L=8.5km
i=0.0024
L=13.0km
i=0.0008
500m
400
300
200
100
0
CA=65 km²
CA=193 km²
CA=128 km²
50 40 30 20 10 0 km


Upmost (960m)
Gines
Alimodian
Aganan HW
Cabacanan
5 0 5 10 15 20 25 30 kilometers
SCALE

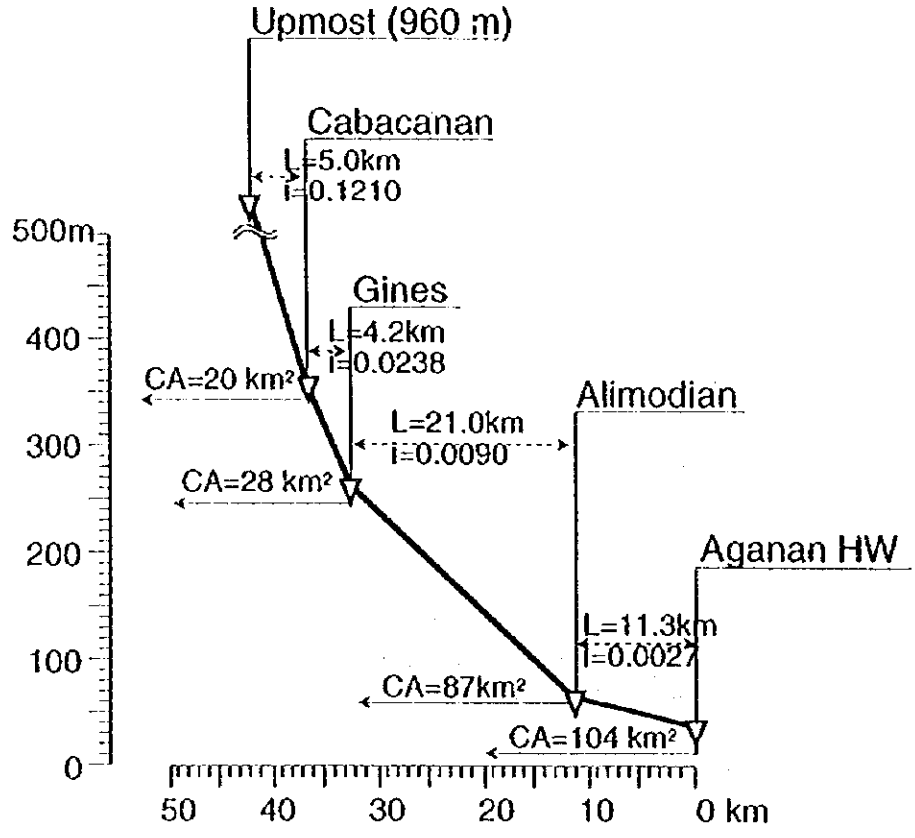
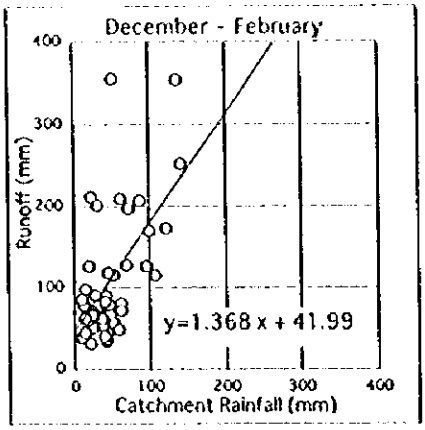
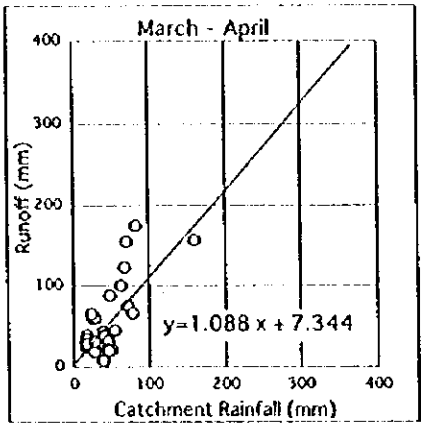

Upmost (960 m)
Cabacanan
L=5.0km
i=0.1210
Gines
L=4.2km
i=0.0238
CA=20 km²
Alimodian
L=21.0km
i=0.0090
CA=28 km²
Aganan HW
L=11.3km
i=0.0027
CA=87km²
CA=104 km²
500m
400
300
200
100
0
50 40 30 20 10 0 km

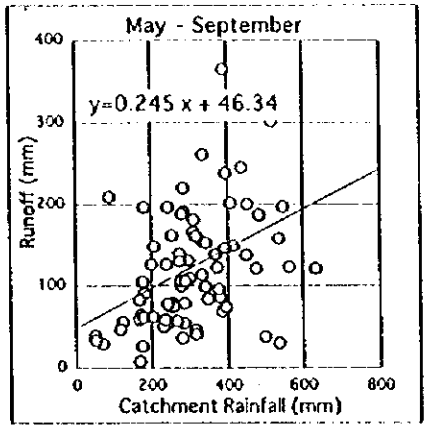
Fig. A.3. 9 (1/4) Runoff-Rainfall Correlation (Jalaur River)



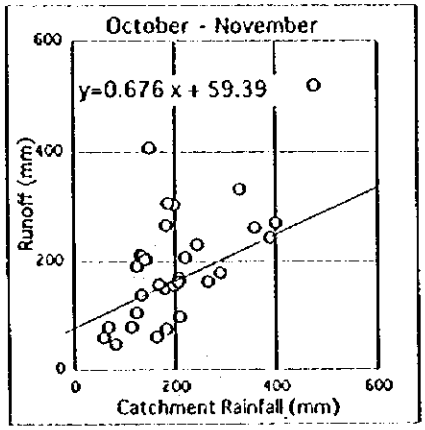
Correlation Coefficient (R) 0.587
Probability (P) P<0.001



Correlation Coefficient (R) 0.721
Probability (P) P<0.001

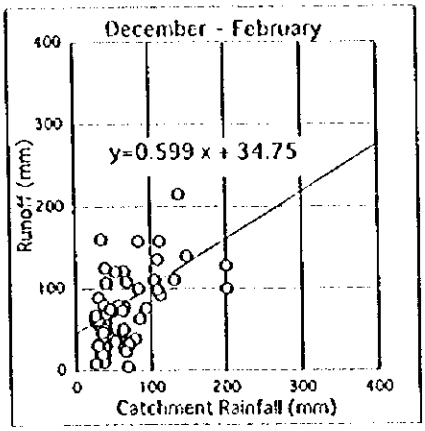


Correlation Coefficient (R) 0.418
Probability (P) P<0.001

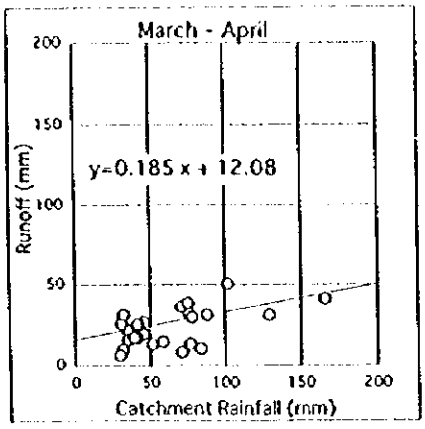


Correlation Coefficient (R) 0.637
Probability (P) P<0.001

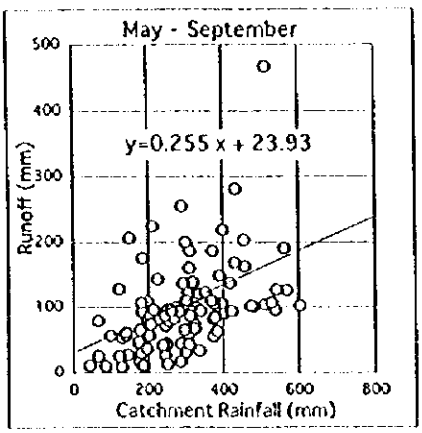
Fig. A.3. 9 (2/4) Runoff-Rainfall Correlation (Suague River)



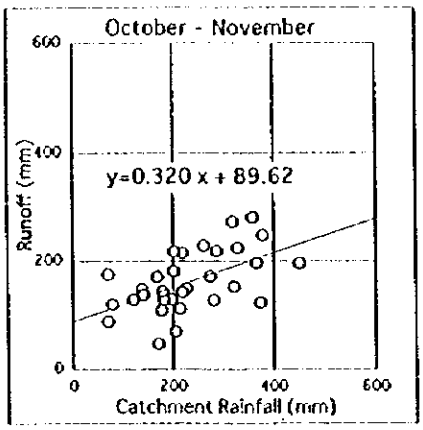
Correlation Coefficient (R) 0.542
Probability (P) P<0.001



Correlation Coefficient (R) 0.543
Probability (P) P<0.010

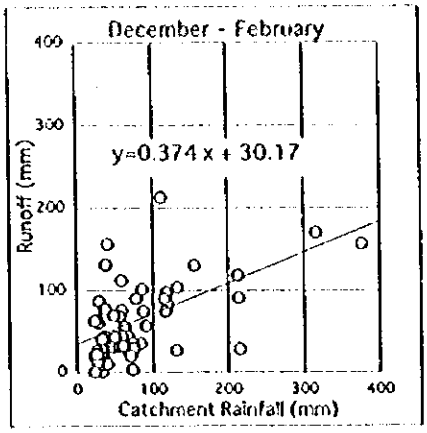


Correlation Coefficient (R) 0.465
Probability (P) P<0.001

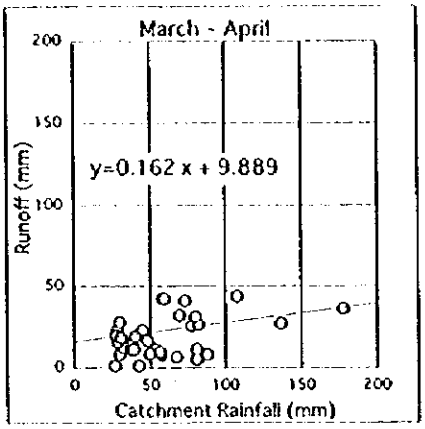


Correlation Coefficient (R) 0.548
Probability (P) P<0.001

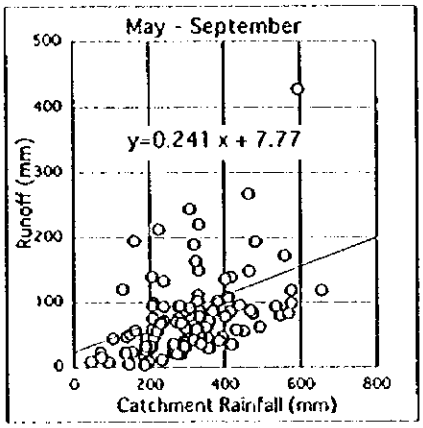
Fig. A.3. 9 (3/4) Runoff-Rainfall Correlation (Tigum River)



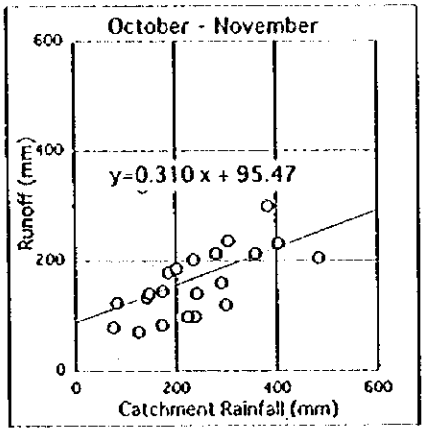
Correlation Coefficient (R) 0.557
Probability (P) P<0.001



Correlation Coefficient (R) 0.436
Probability (P) P<0.010

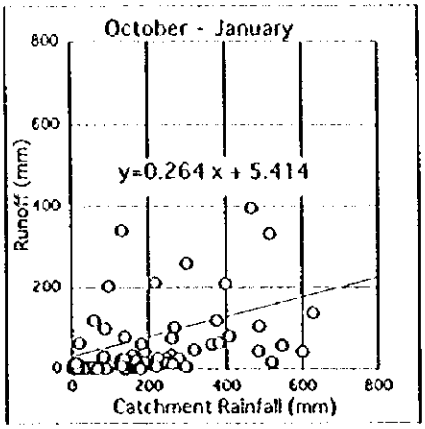


Correlation Coefficient (R) 0.436
Probability (P) P<0.001

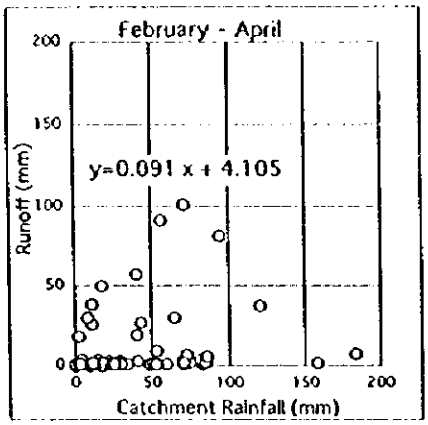


Correlation Coefficient (R) 0.475
Probability (P) P<0.050

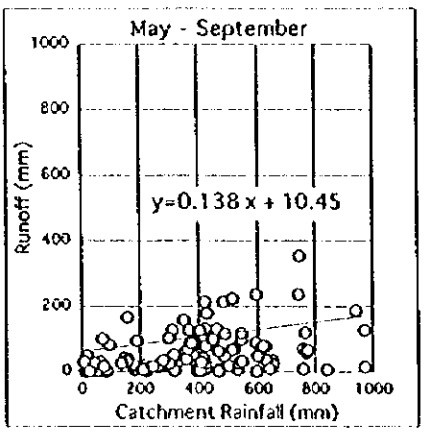
Fig. A.3. 9 (4/4) Runoff-Rainfall Correlation (Aganan River)



Correlation Coefficient (R)	0.454
Probability (P)	P<0.001
n	84



Correlation Coefficient (R)	0.186
Probability (P)	P<0.300
n	42



Correlation Coefficient (R)	0.388
Probability (P)	P<0.001
n	126

Fig. A.3. 10 (1/2) Water Use along Rivers (Jalaur)

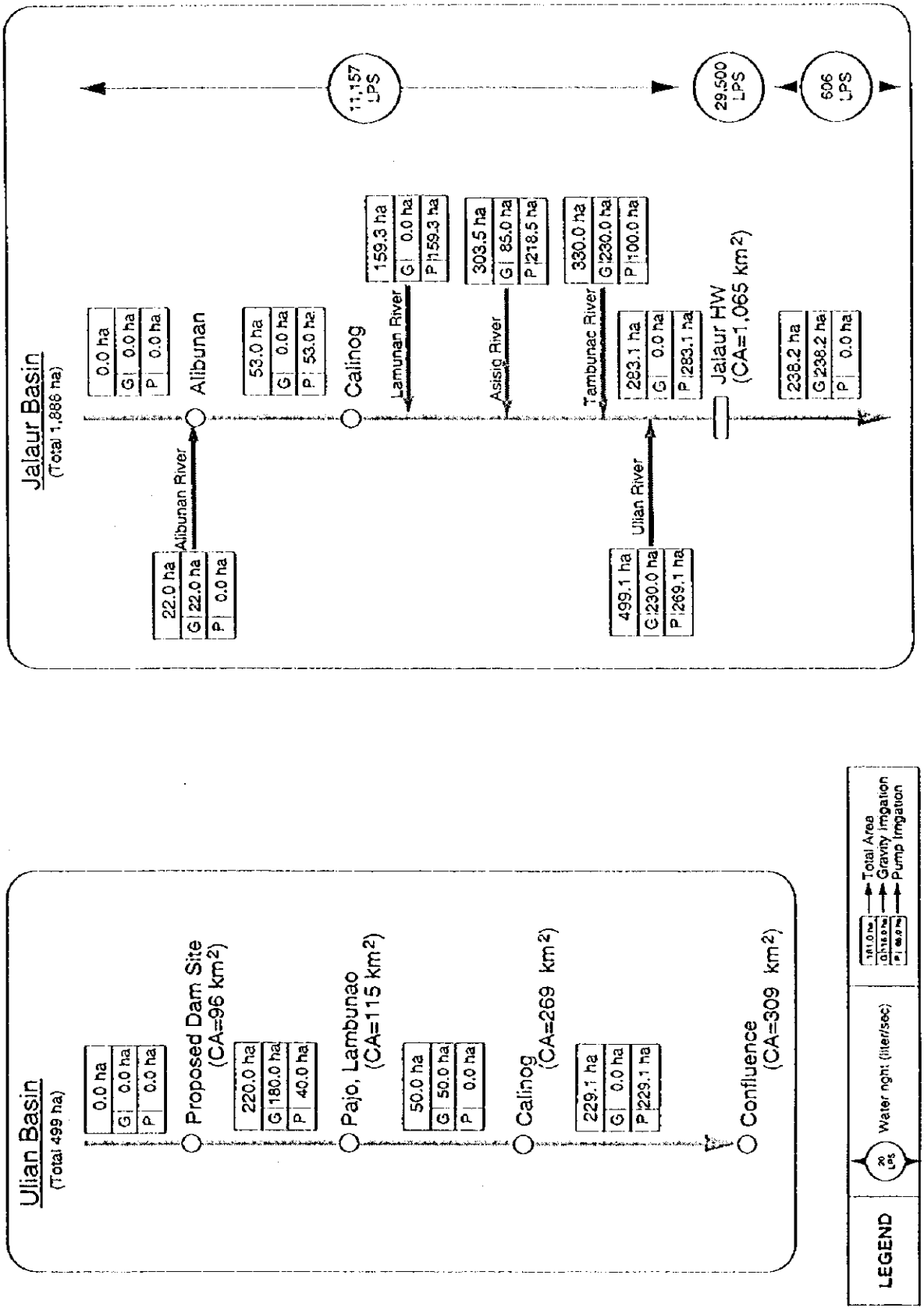


Fig. A.3. 10 (2/2) Water Use along Rivers (Suague, Tigum, Aganan)

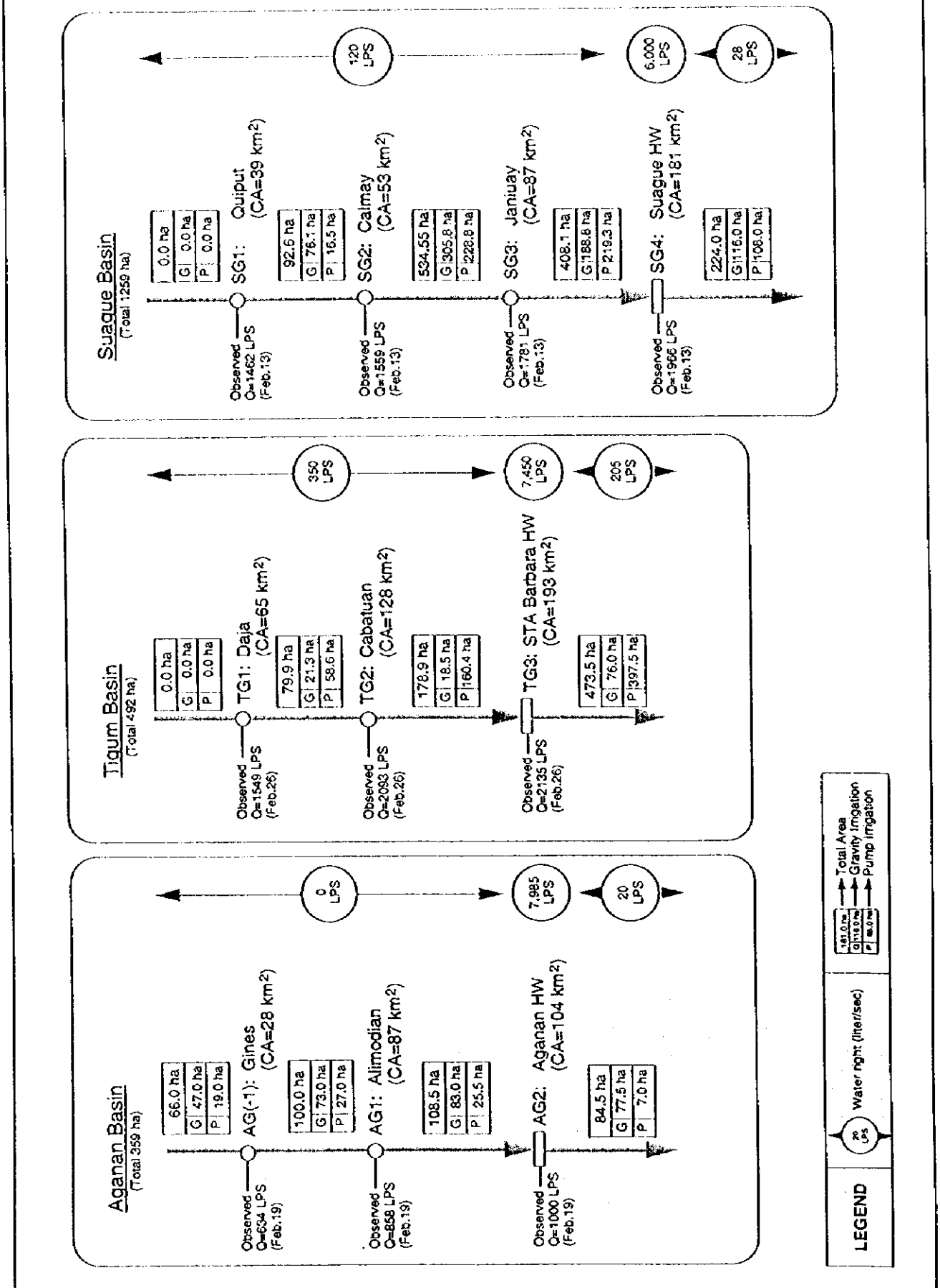


Fig. A.3. 11 MIWD Water Supply System

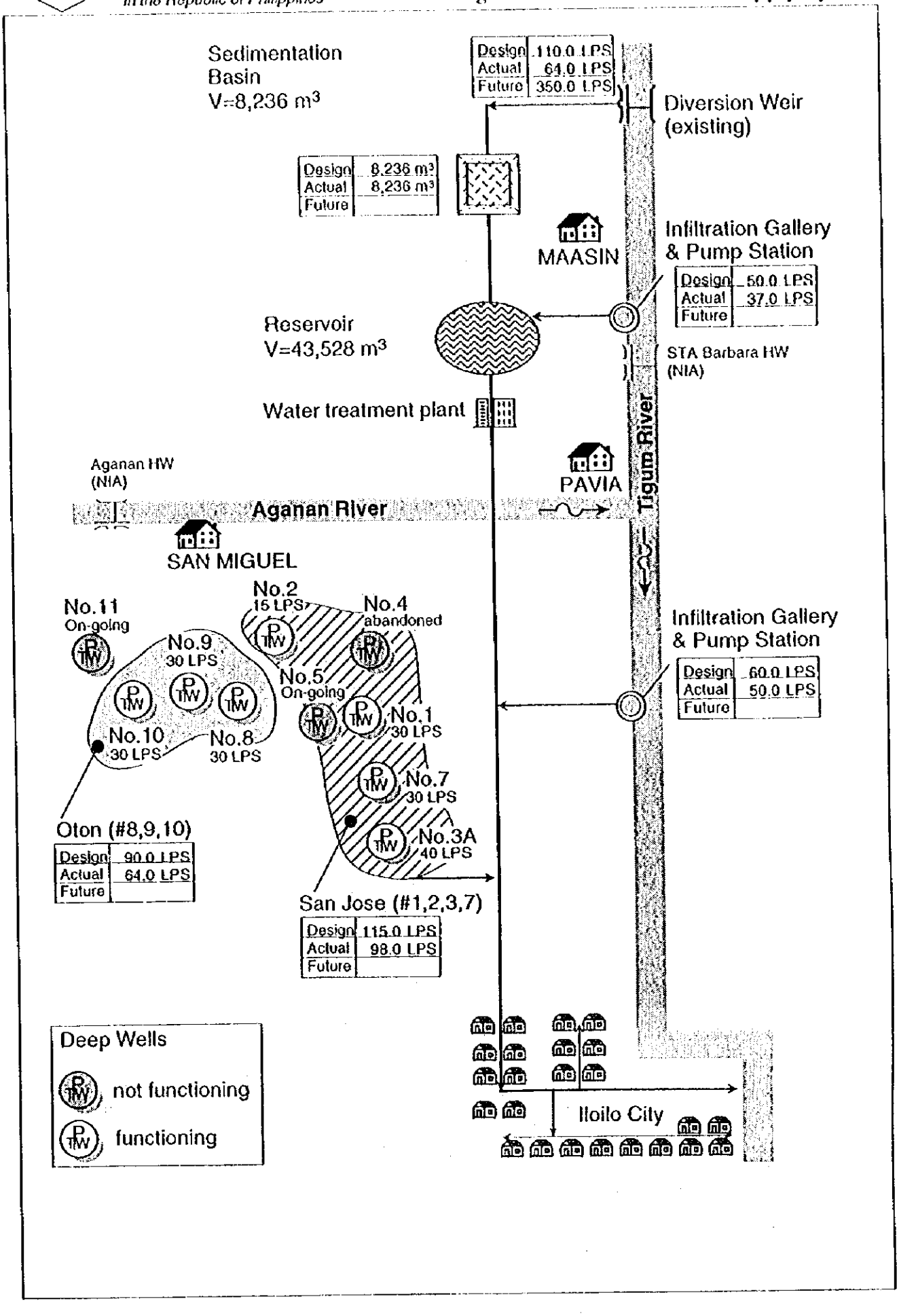
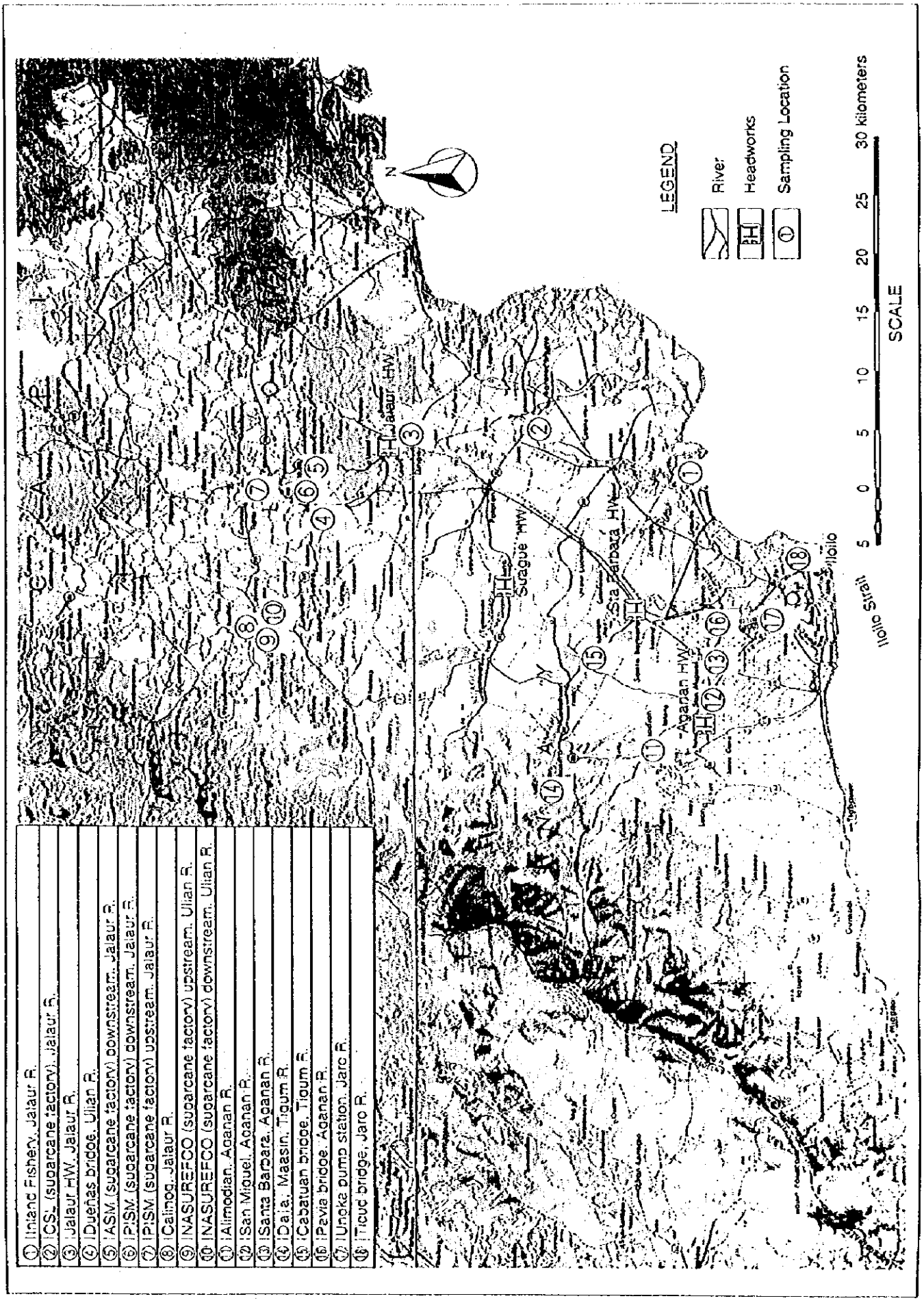


Fig. A.3. 12 Location of Water Quality Sampling



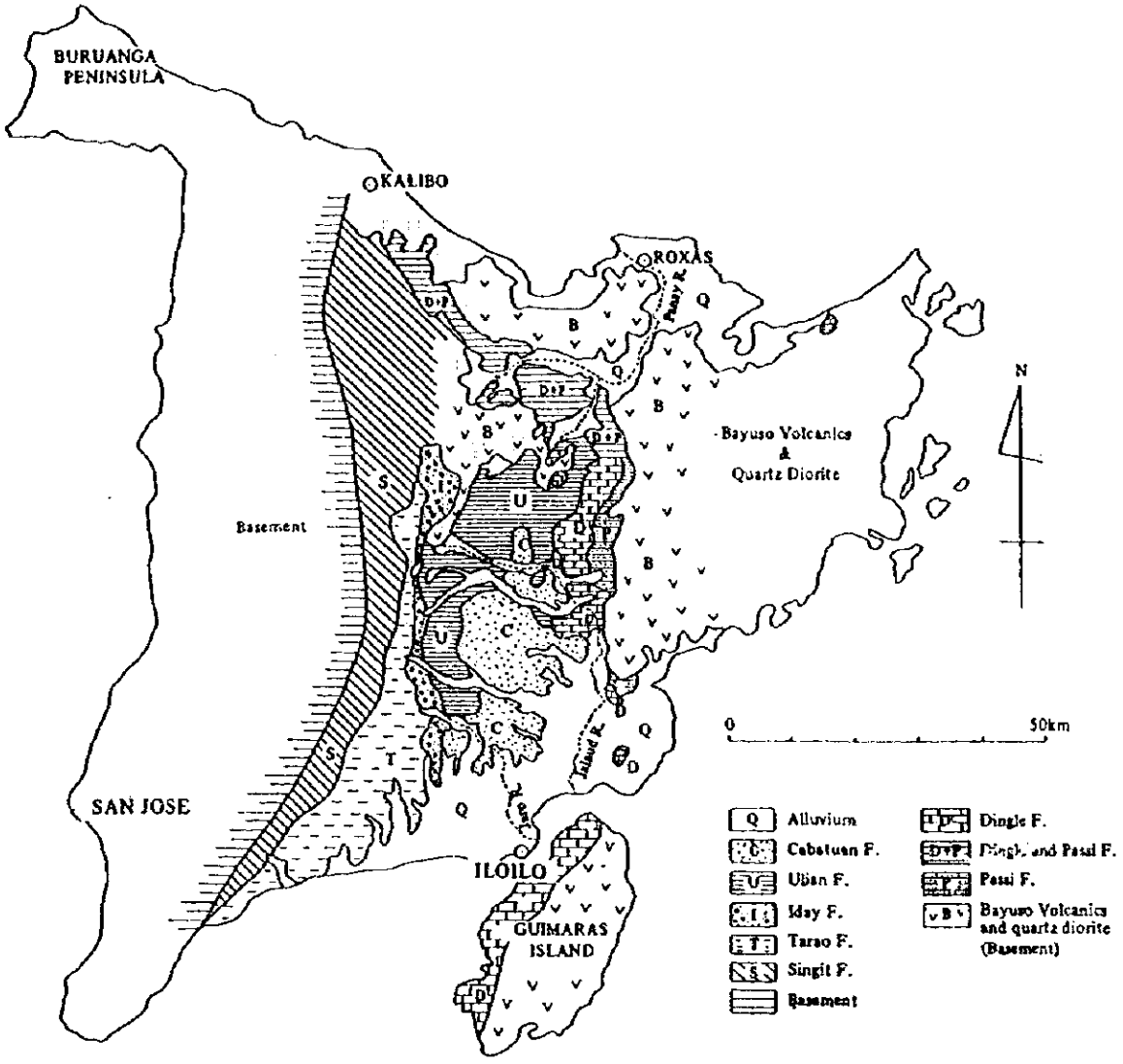


Fig. A.3. 13 Geologic map of Panay Island

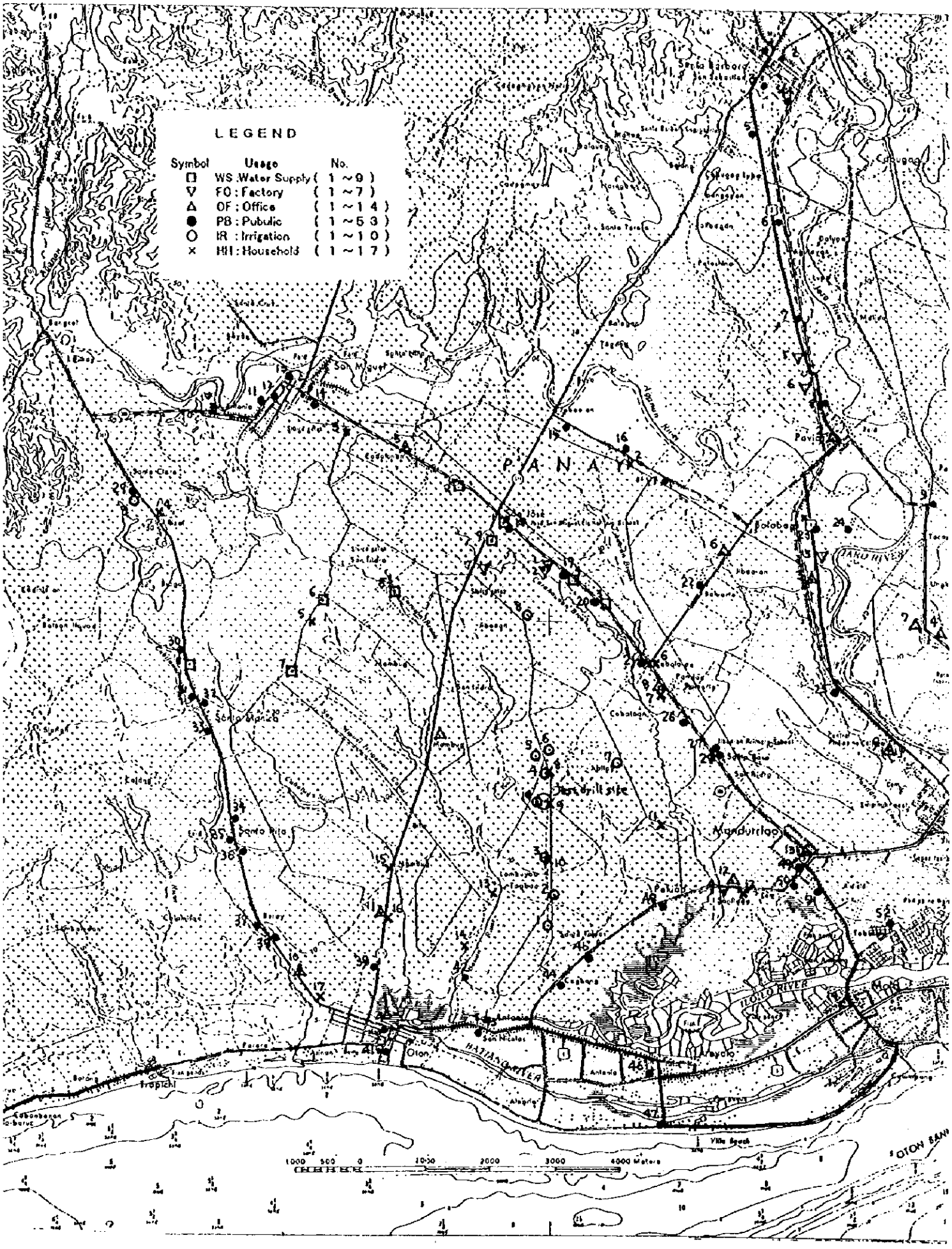


Fig. A.3. 14 Location Map of Existing wells

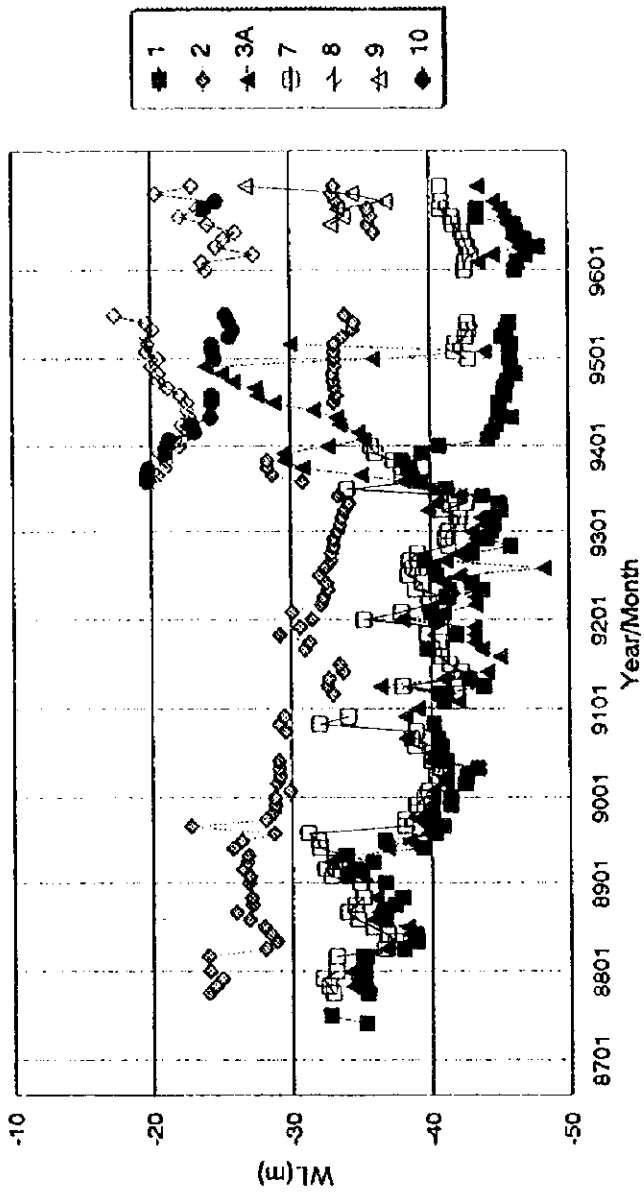


Fig. A.3. 15 Fluctuation of Static Water Level at MIWD's Wells from 1987 to 1996

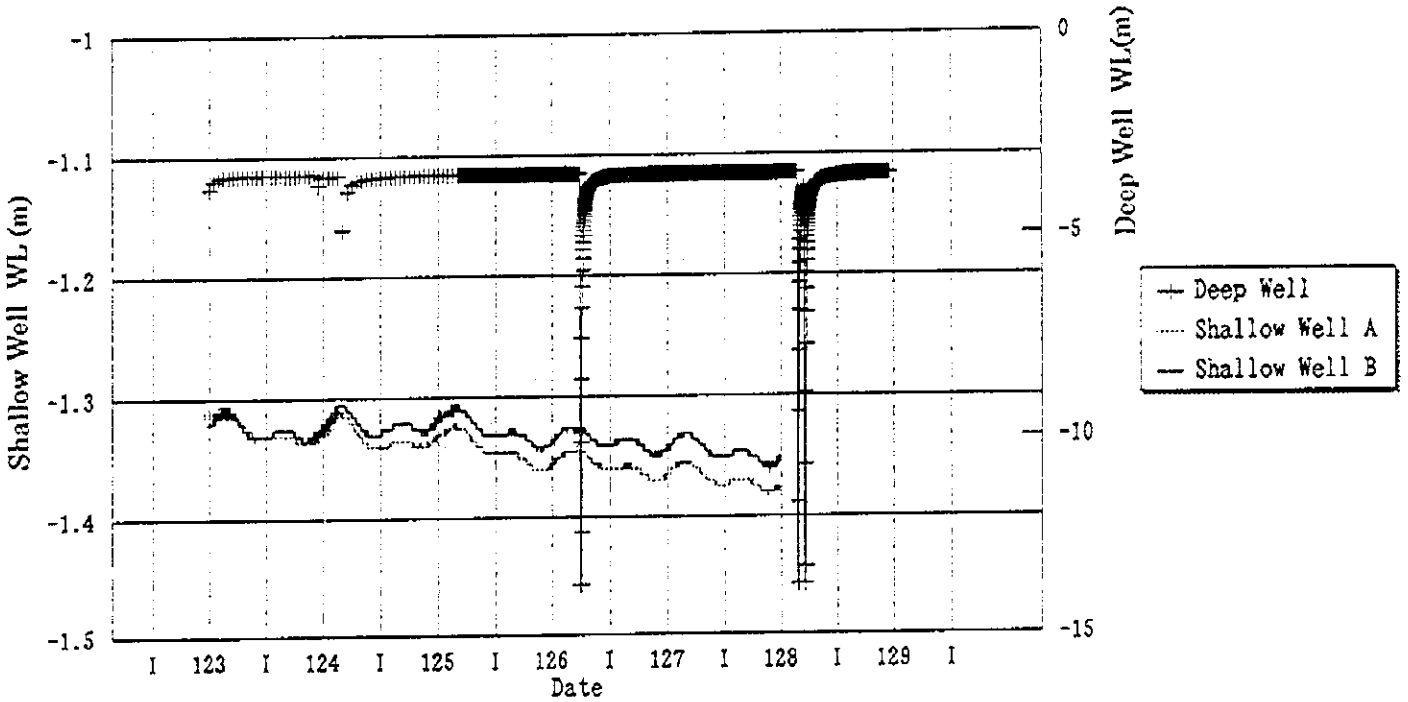


Fig. A.3. 16 Fluctuation of Groundwater Level at Post Harvest Facility

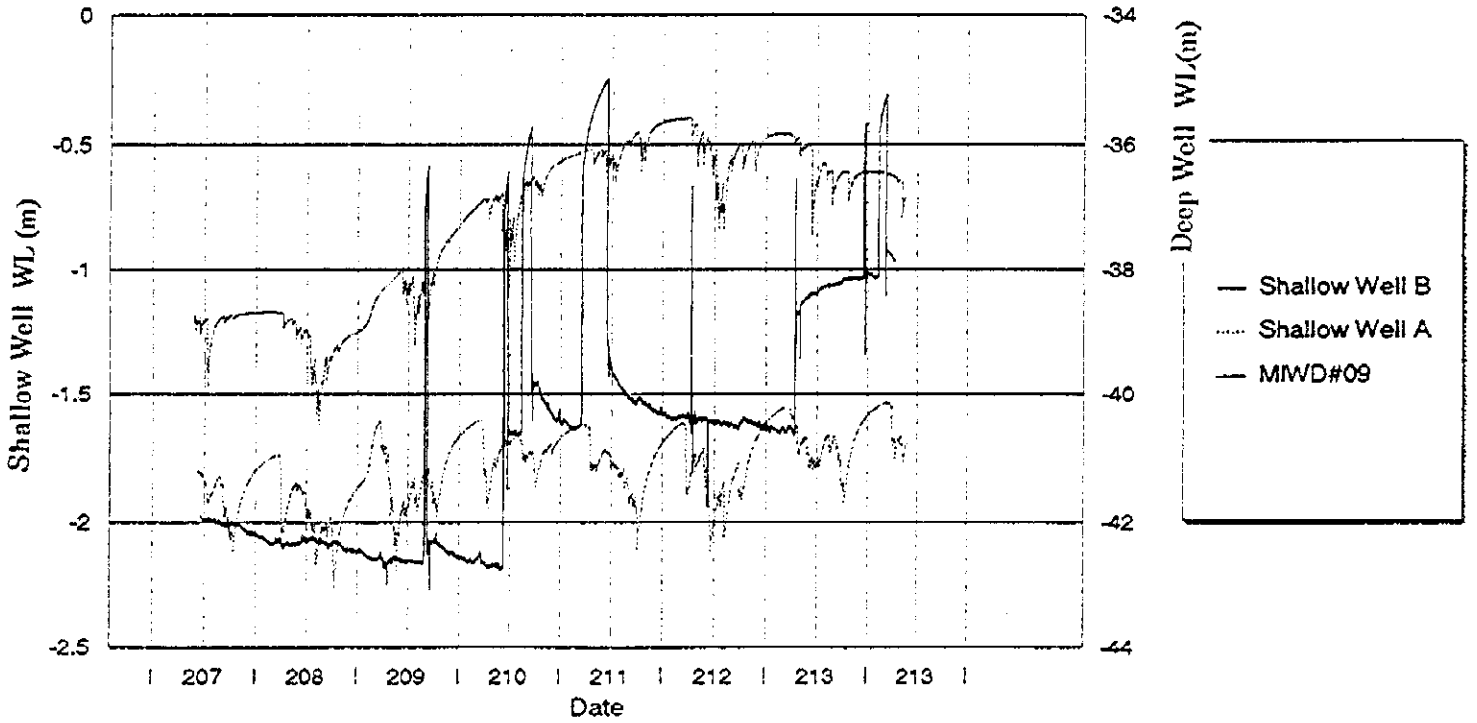


Fig. A.3. 17 Fluctuation of Groundwater Level at MIWD's Well and Shallow Well

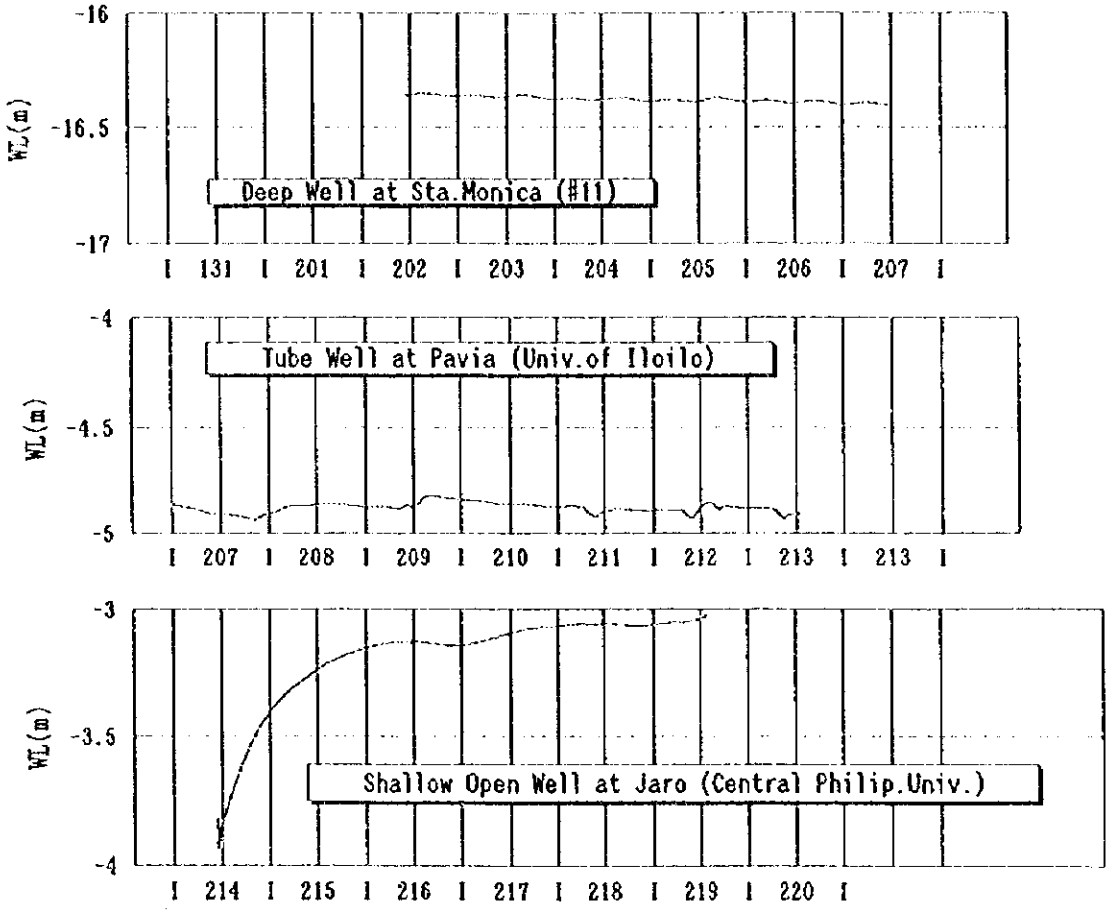


Fig. A.3. 18 Fluctuation of Groundwater of Level at Other Wells

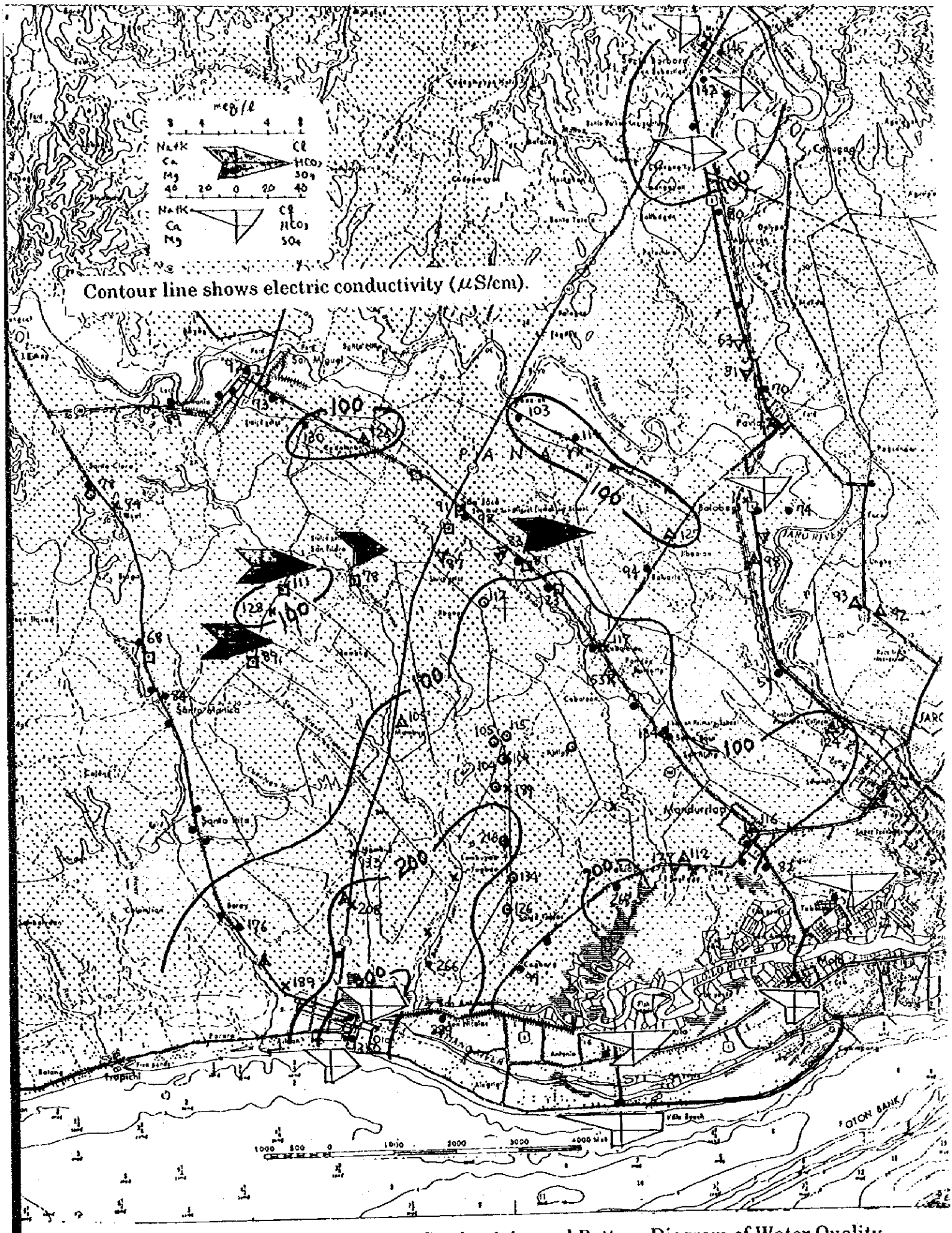


Fig. A.3. 19 Contour Map of Electric Conductivity and Pattern Diagram of Water Quality

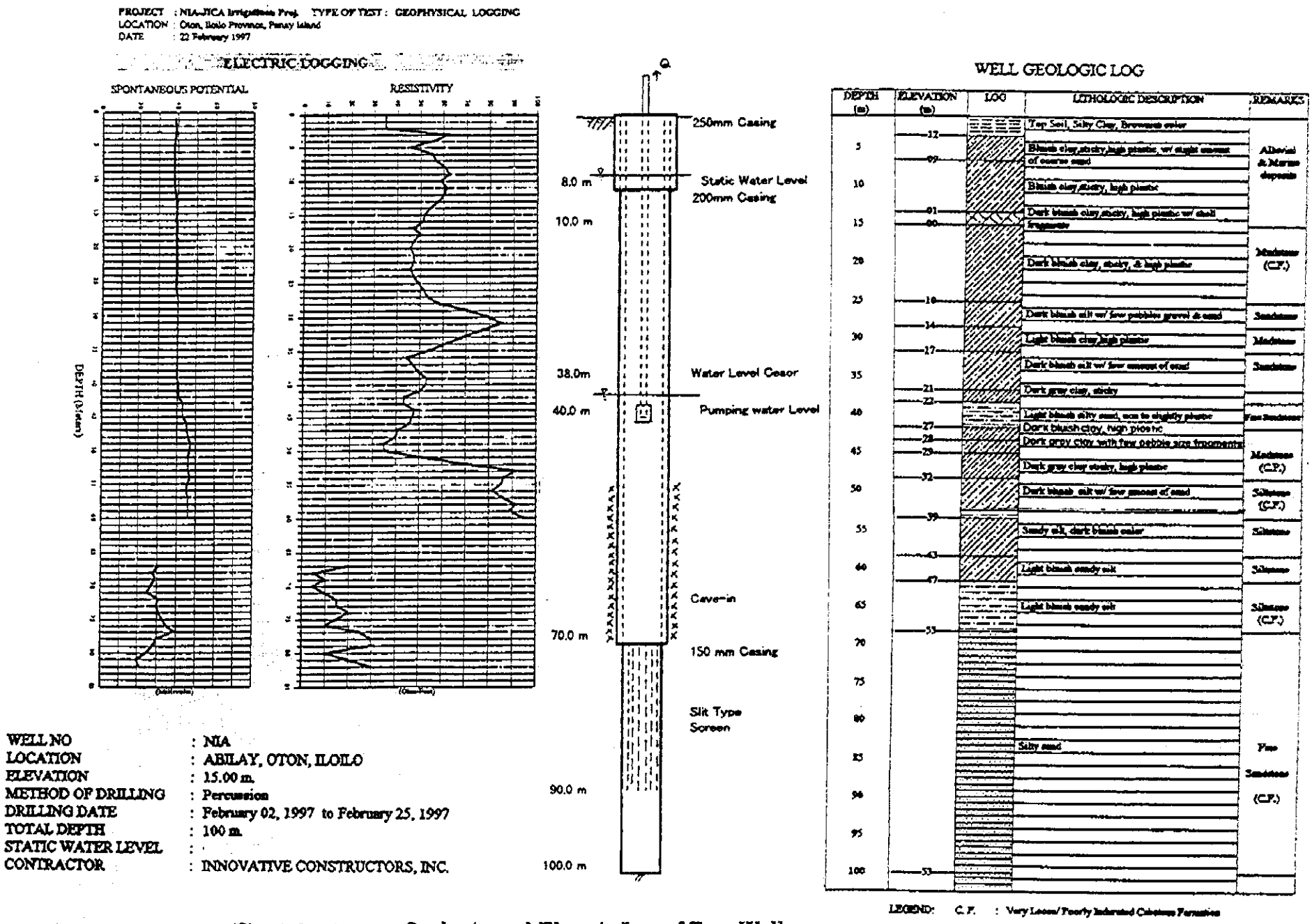


Fig. A.3. 20 Geologic and Electric Log of Test Well

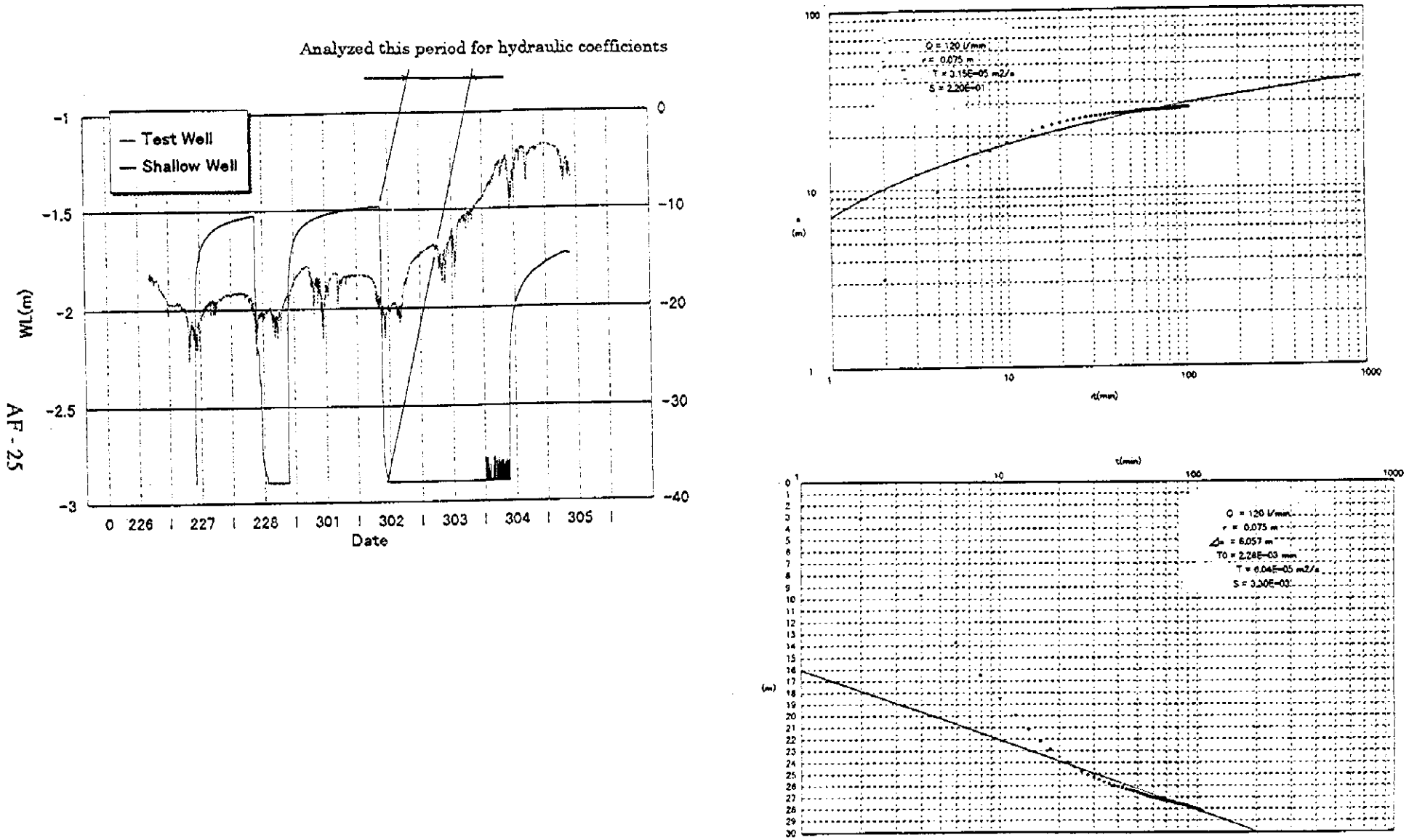


Fig. A.3. 21 Fluctuation of Groundwater Level and Calculation of Hydraulic Coefficient

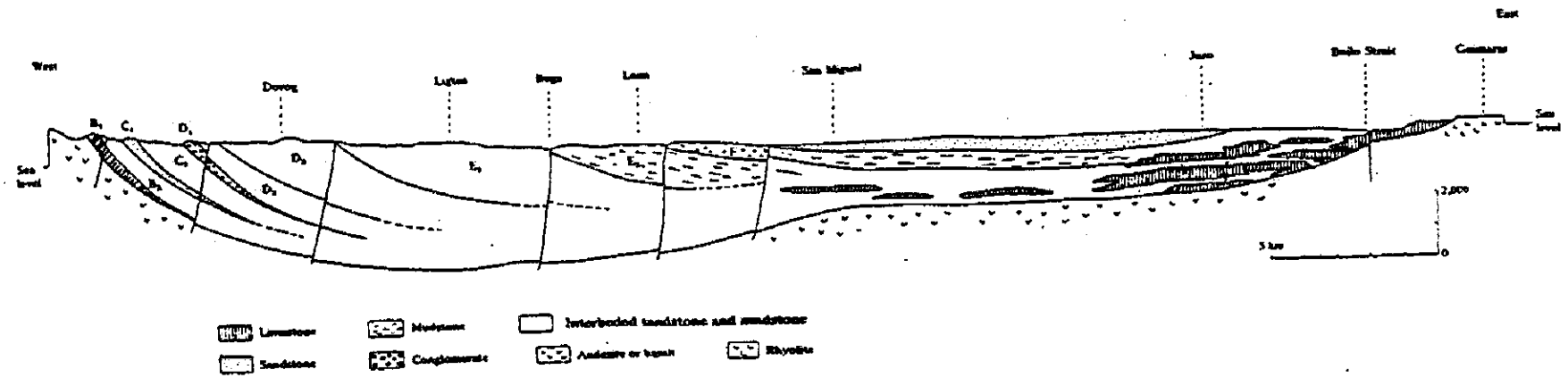


Fig. A.3. 22 Geological Cross Section in the Southern Part of Iloilo Basin (East- West)

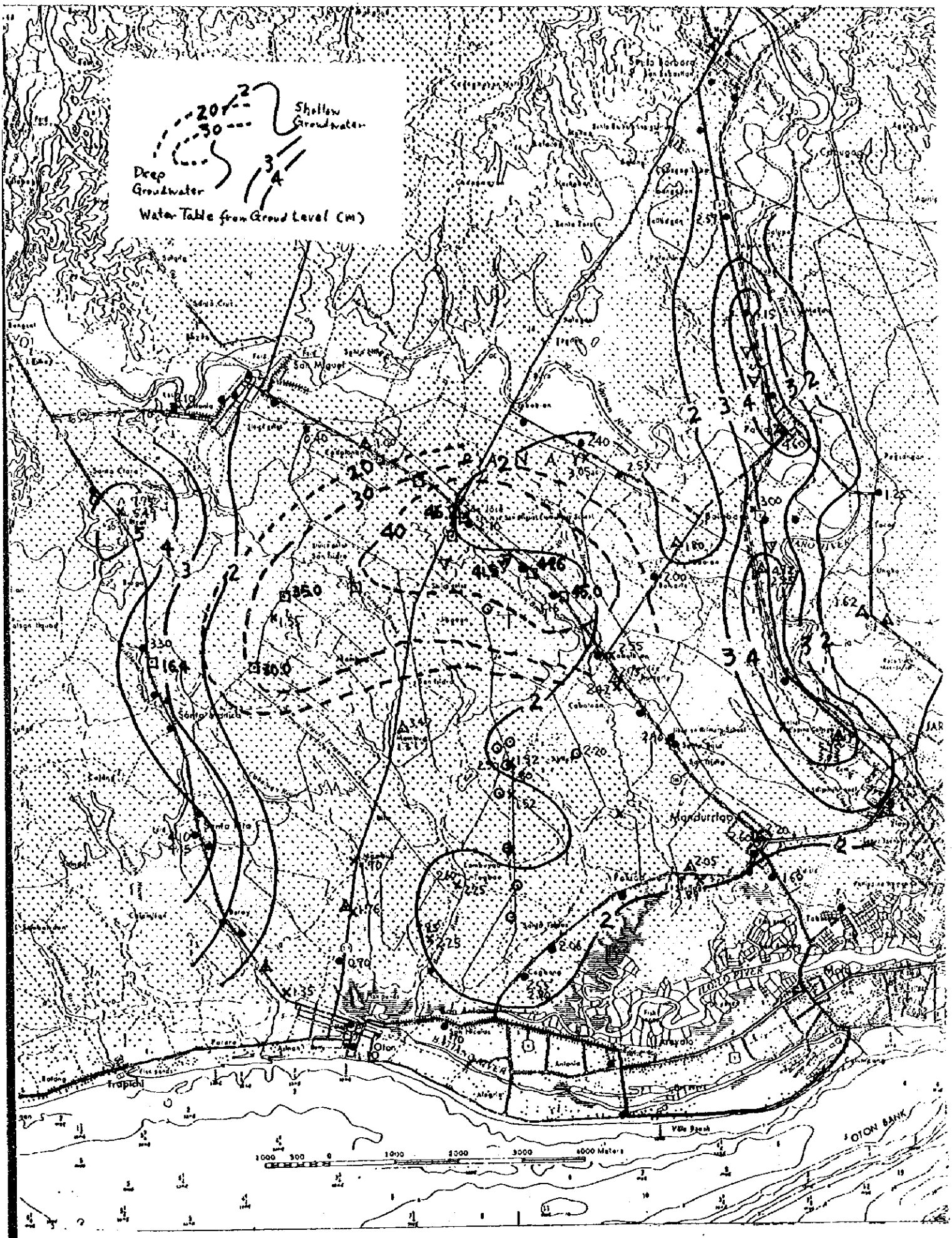
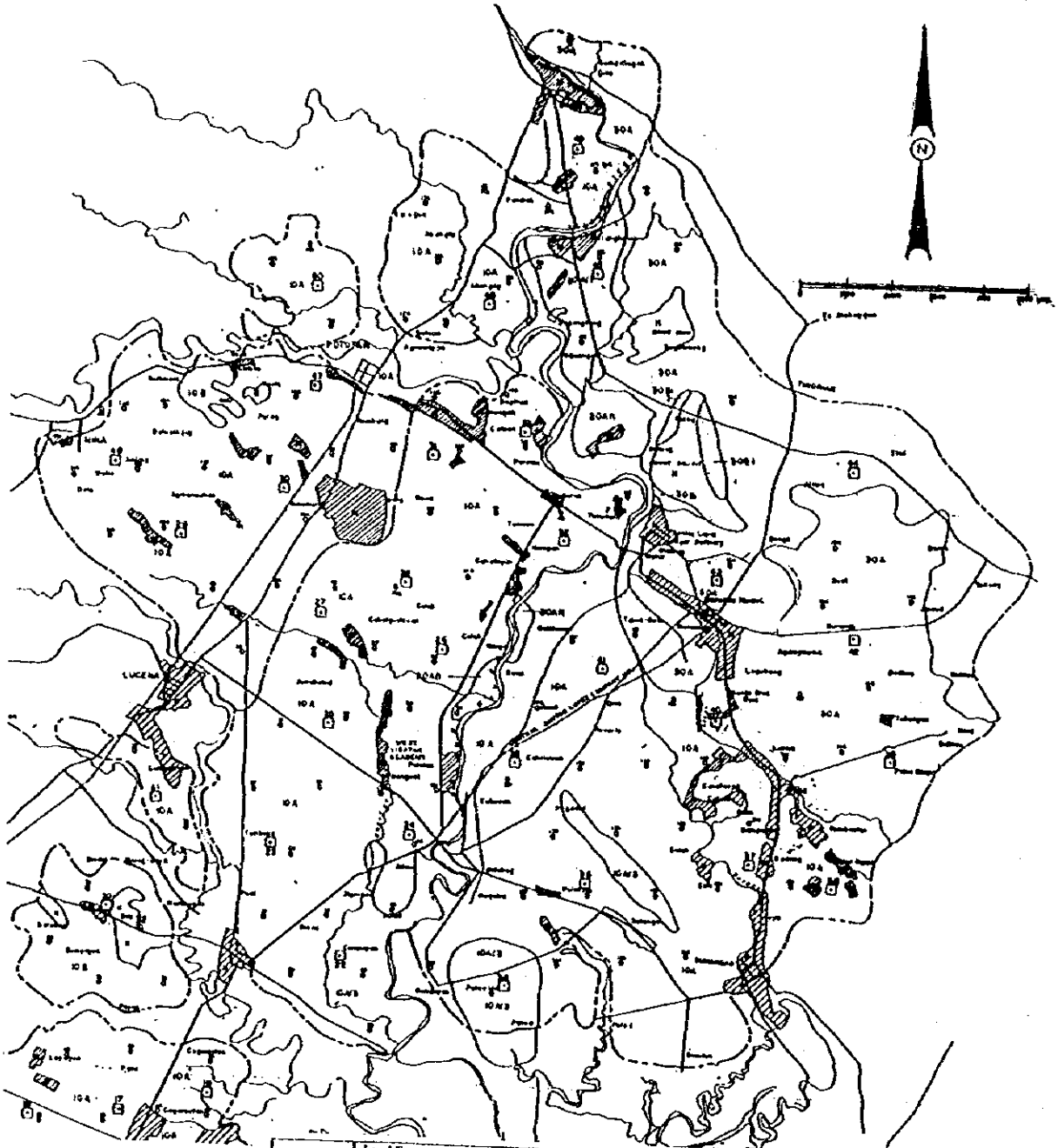


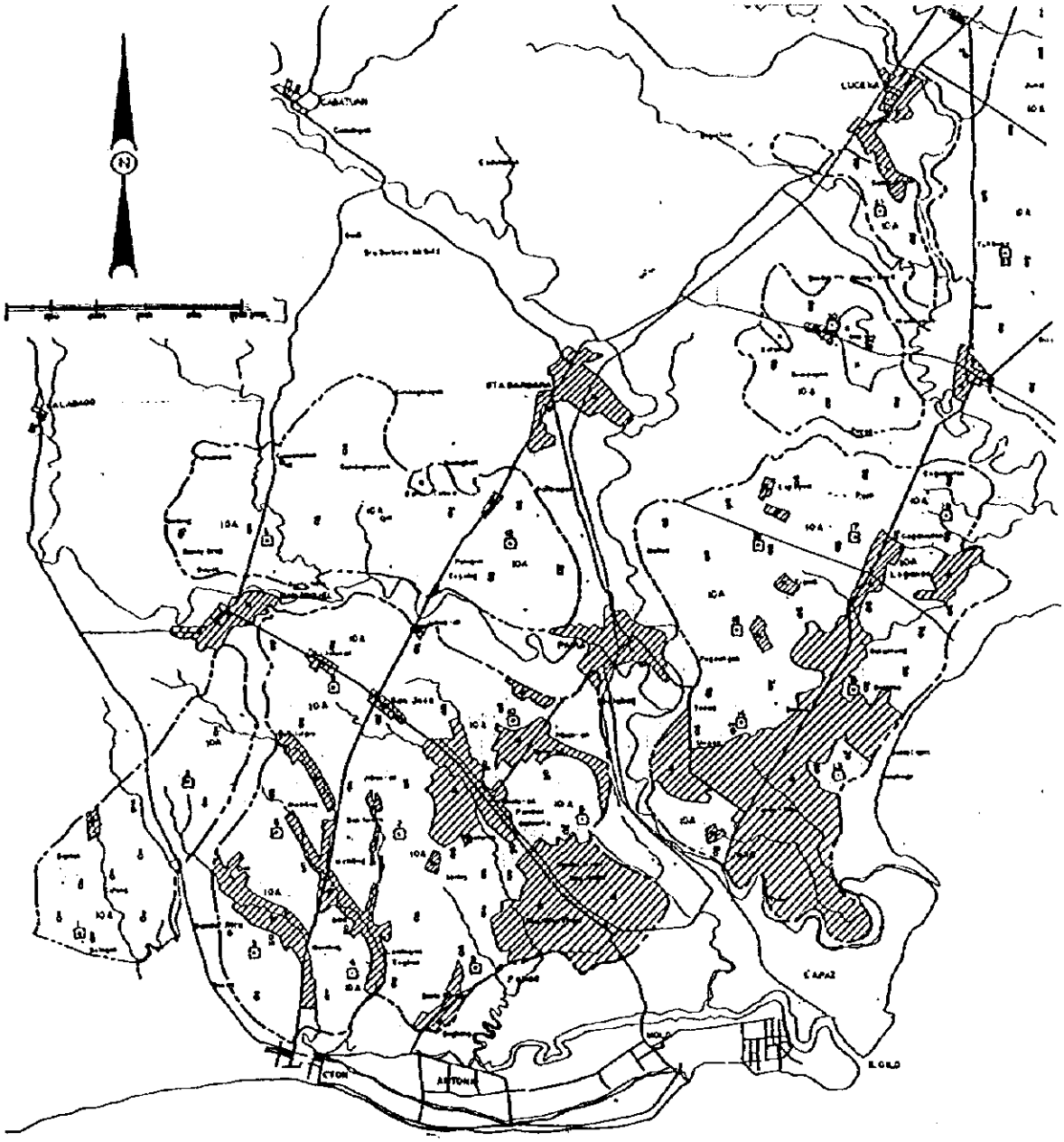
Fig. A.3. 23 Contour Map of Static Water Level



Symbol	Land Forms / Physiographic Unit	Soil Series (Symbol)	Drainage	Slope (%)	Parent Material	Soil Taxonomy
Alluvial Lowland						
10A	Level to very gently sloping	Sta. Rita (10A)	Poorly drained	0 - 3	Silt & clayey alluvium	Fine clayey, Montmorillonitic Isohyperthermic, Typic Epiaquerts
10A/3	do	Sta. Rita (10A/3)	Very poorly drained	0 - 3	do	Fine clayey, Montmorillonitic Isohyperthermic, Typic Epiaquerts
10B	Slightly elevated and terrace, gently sloping to undulating	Sta. Rita (10B)	Poorly drained	3 - 8	do	Fine clayey, Montmorillonitic Isohyperthermic, Typic Epiaquerts
20A/1	Level to very gentle sloping, recent flood plain	Umingan (20A/1)	Well drained	0 - 3	Recent river sediments	Fine loamy, Mixed Isohyperthermic Fluventic Eutropepts
Residual Upland						
30A	Level to very gently sloping plain	Faraon (30A)	Well drained	0 - 3	Limestone residium	Fine clayey, Montmorillonitic Isohyperthermic, Typic Hapludalfs
30B1	Gently sloping to undulating	Faraon (30B1)	Well drained	3 - 8	do	Fine clayey, Montmorillonitic Isohyperthermic, Typic Hapludalfs
M	Miscellaneous Land Type (Residential, Hills, Rivers/creeks)					

(1/2)
(2/2)

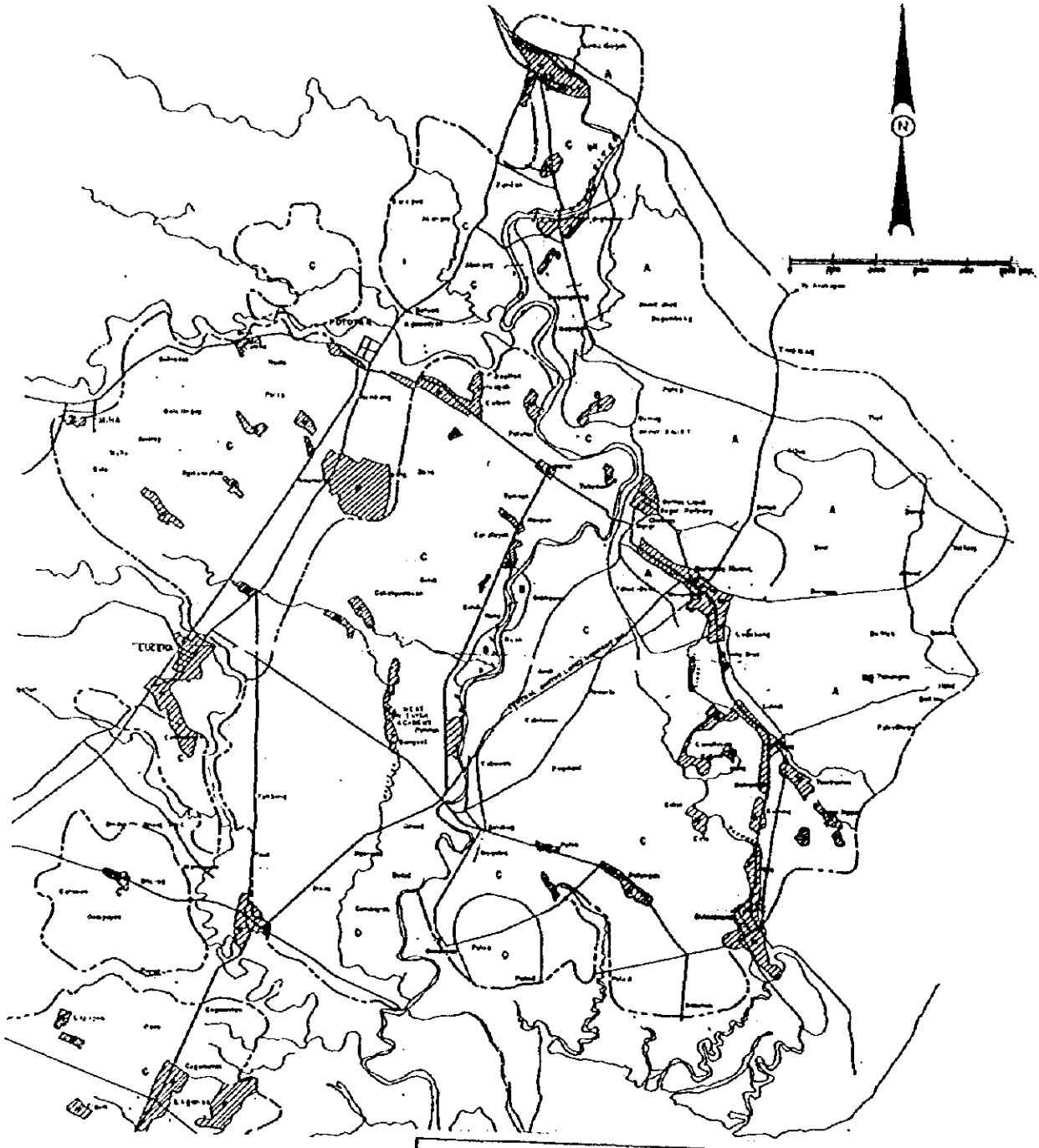
Fig. A.3. 24 Soil Classification Map (1/2)



Symbol	Land Forms / Physiographic Unit	Soil Series (Symbol)	Drainage	Slope (%)	Parent Material	Soil Taxonomy
Alluvial Lowland						
10A	Level to very gently sloping	Sta. Rita (10A)	Poorly drained	0 - 3	Silt & clayey alluvium	Fine clayey, Montmorillonitic Isohyperthermic, Typic Epiaquerts
10Af3	do	Sta. Rita (10Af3)	Very poorly drained	0 - 3	do	Fine clayey, Montmorillonitic Isohyperthermic, Typic Epiaquerts
10B	Slightly elevated and terrace, gently sloping to undulating	Sta. Rita (10B)	Poorly drained	3 - 8	do	Fine clayey, Montmorillonitic Isohyperthermic, Typic Epiaquerts
30Af1	Level to very gentle sloping, recent flood plain	Umingan (30Af1)	Well drained	0 - 3	Recent river sediments	Fine loamy, Mixed Isohyperthermic Fluventic Eutropepts
Residual Upland						
30A	Level to very gently sloping plain	Faraon (30A)	Well drained	0 - 3	Limestone residium	Fine clayey, Montmorillonitic Isohyperthermic, Typic Hapludalfs
30B1	Gently sloping to undulating	Faraon (30B1)	Well drained	3 - 8	do	Fine clayey, Montmorillonitic Isohyperthermic, Typic Hapludalfs
M	Miscellaneous Land Type (Residential, Hills, River/creek)					

(1/2)

Fig. A.3. 24 Soil Classification Map (2/2)



Suitability Group/Symbol	Soil Mapping Unit	Land Class	
		Wetland Rice	Diversified Crops
A	30A and 30B1	S1	S1
B	20Af1	S3s	S1
C	10A and 10B	S1	S3d
D	10Af3	S2f	N
	Miscellaneous Land		

Limitation : s - texture, t - slope, d - drainage, f - flooding
Suitability class : S1 - Highly suitable, S2 - Moderately suitable
S2 - Marginally suitable, N - Not suitable

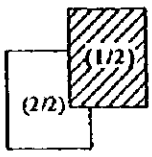
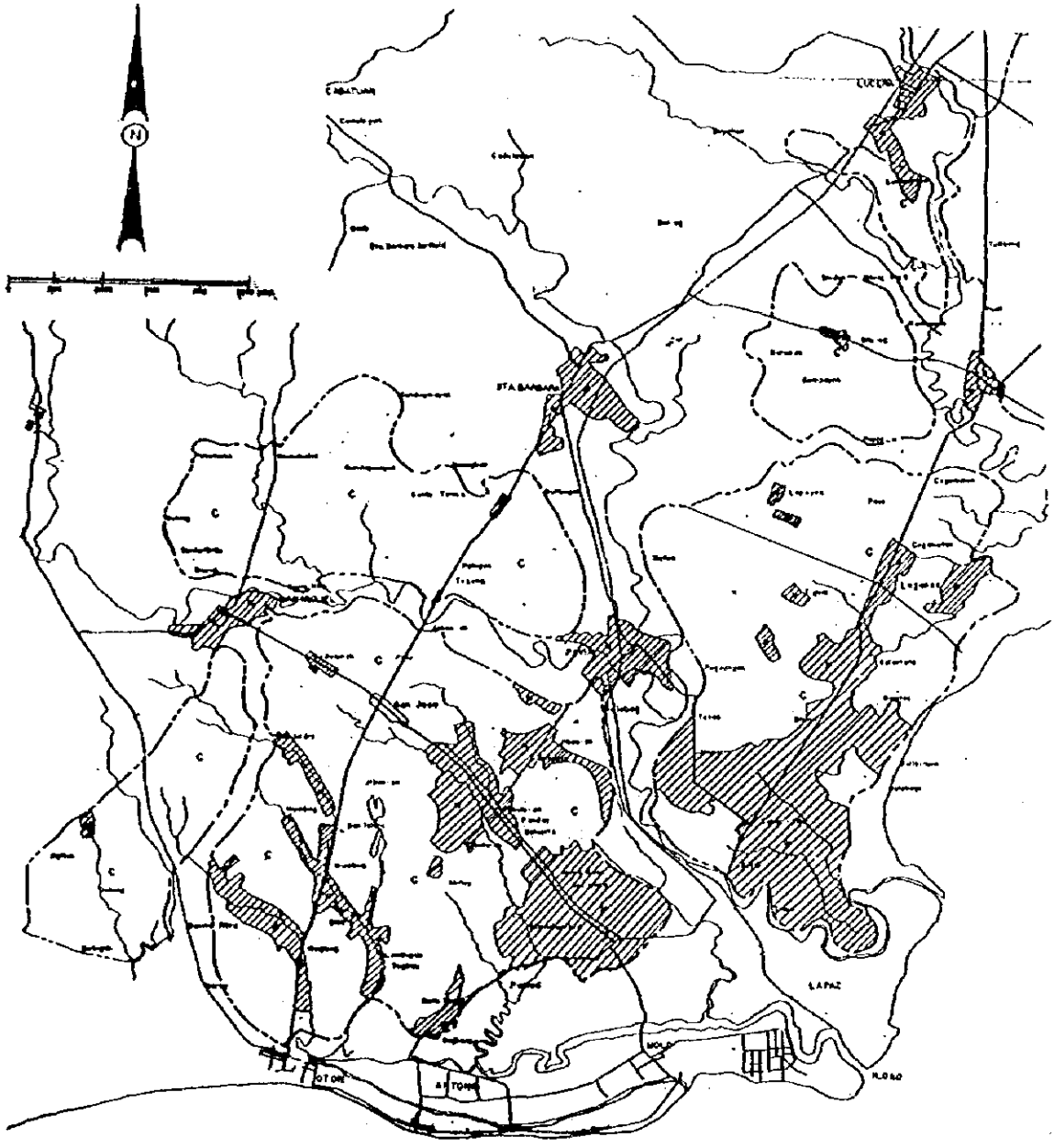


Fig. A.3. 25 Land Suitability Map (1/2)



Suitability Group/Symbol	Soil Mapping Unit	Land Class	
		Wetland Rice	Diversified Crops
A	30A and 30B1	S1	S1
B	20Af1	S3s	S1
C	10A and 10B	S1	S3d
D	10Af3	S2f	N
	Miscellaneous Land		

Limitation : s - texture, t - slope, d - drainage, f - flooding

Suitability class : S1 - Highly suitable, S2 - Moderately suitable
S2 - Marginally suitable, N - Not suitable

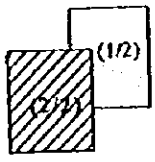
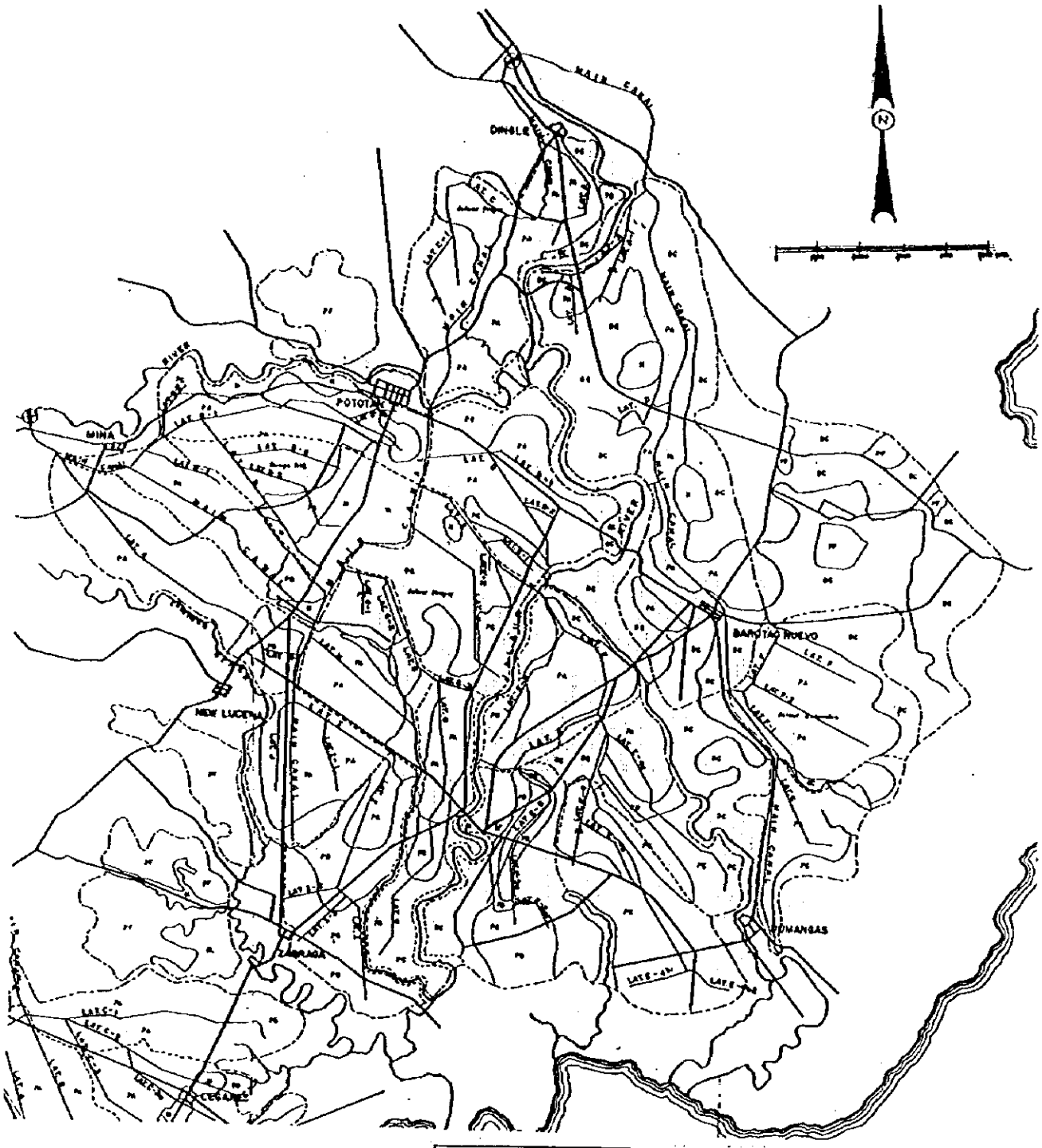
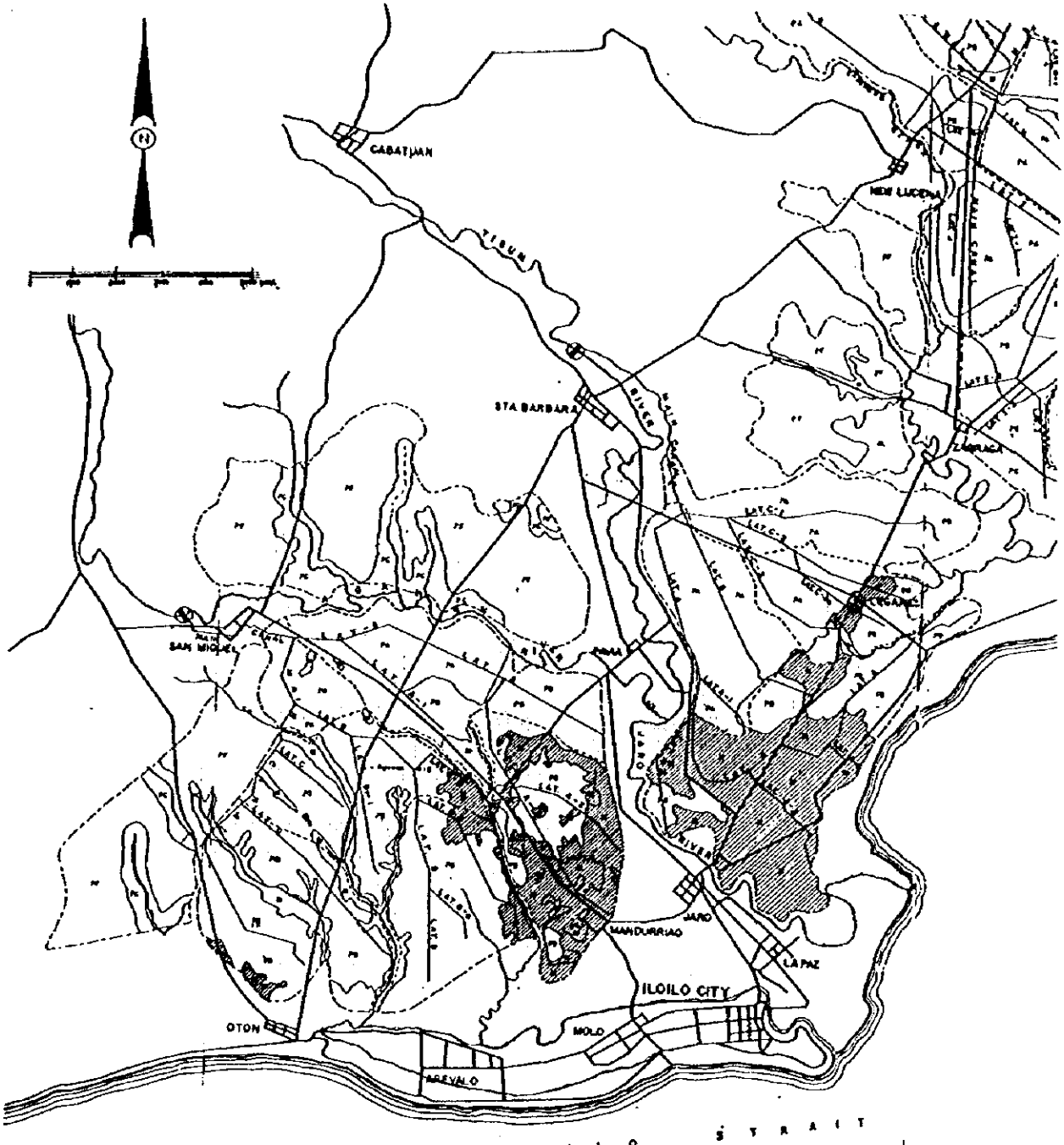


Fig. A.3. 25 Land Suitability Map (2/2)



Symbol	Wet Season	Dry Season
PA	Paddy Rice Irrigated	Paddy Rice Irrigated
PB	Paddy Rice Irrigated	Paddy Rice Irrigated by Pumps
PC	Paddy Rice Rainfed	Paddy Rice Irrigated by Pumps
PF	Paddy Rice Rainfed	Fallow
SC	Sugarcane	
TC	Tree Crops	
GL	Grazing Land/Pasture	
H	Hills Hummoks	
M	Residential, Built up	
	Urbanization Area	

Fig. A.3. 26 Present Land Use Map (1/2)



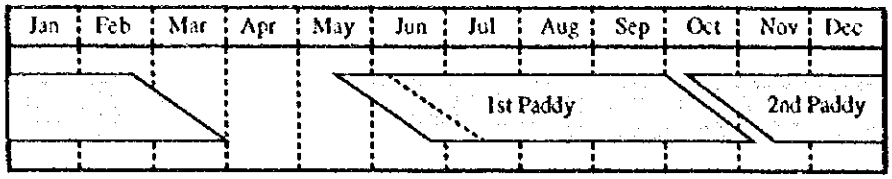
Symbol	Wet Season	Dry Season
PA	Paddy Rice Irrigated	Paddy Rice Irrigated
PB	Paddy Rice Irrigated	Paddy Rice Irrigated by Pumps
PC	Paddy Rice Rainfed	Paddy Rice Irrigated by Pumps
PF	Paddy Rice Rainfed	Fallow
SC	Sugarcane	
TC	Tree Crops	
GL	Grazing Land/Pasture	
H	Hills Hummocks	
M	Residential, Built up	
	Urbanization Area	

(1/2)

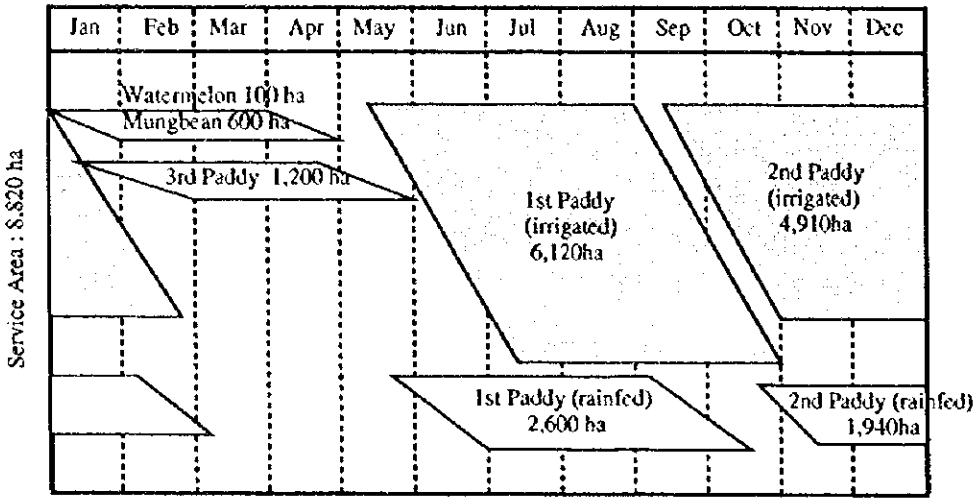
(1/2)

Fig. A.3. 26 Present Land Use Map (2/2)

Jalaur Proper RIS

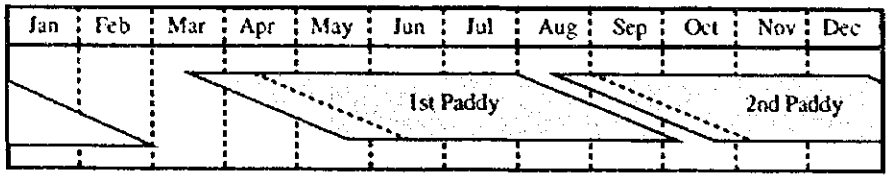


Cropping Calender prepared by NIA

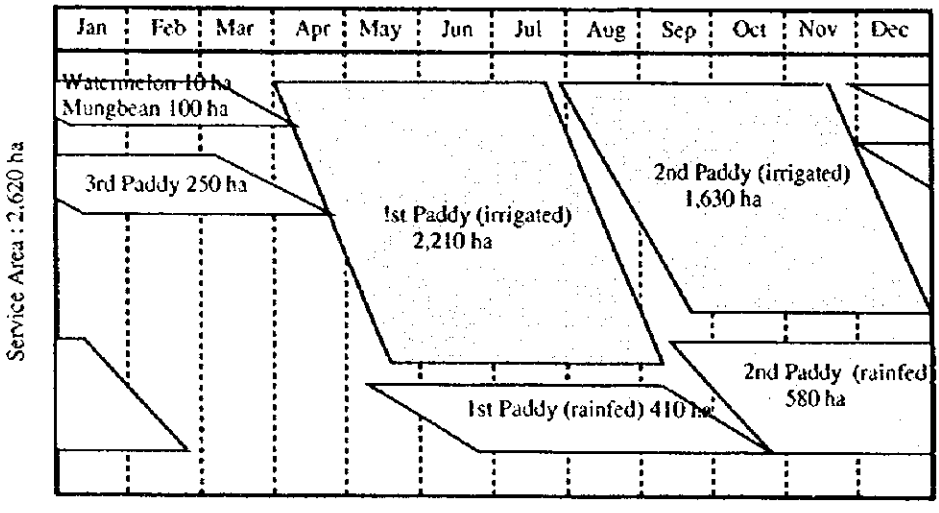


Actual Cropping Pattern

Jalaur Extension RIS



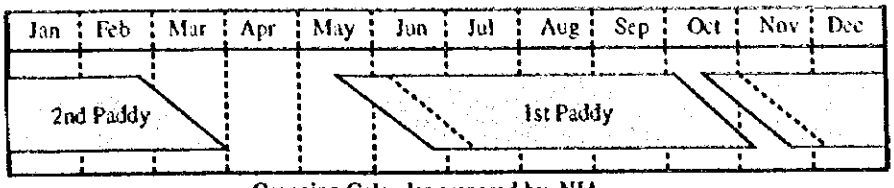
Cropping Calender prepared by NIA



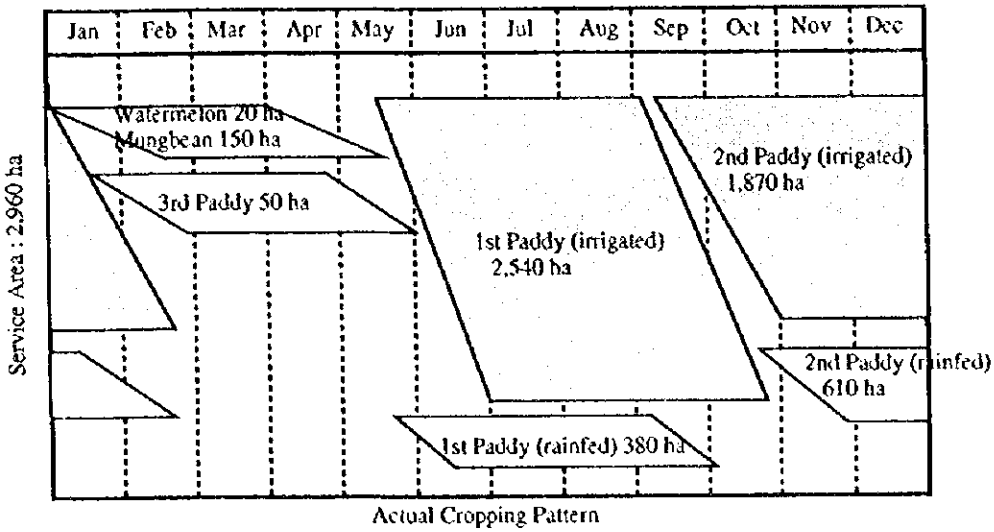
Actual Cropping Pattern

Fig. A.3. 27 Present Cropping Patttern (1/3)

Suague RIS

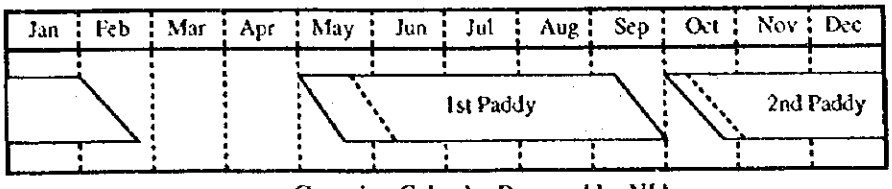


Cropping Calender prepared by NIA

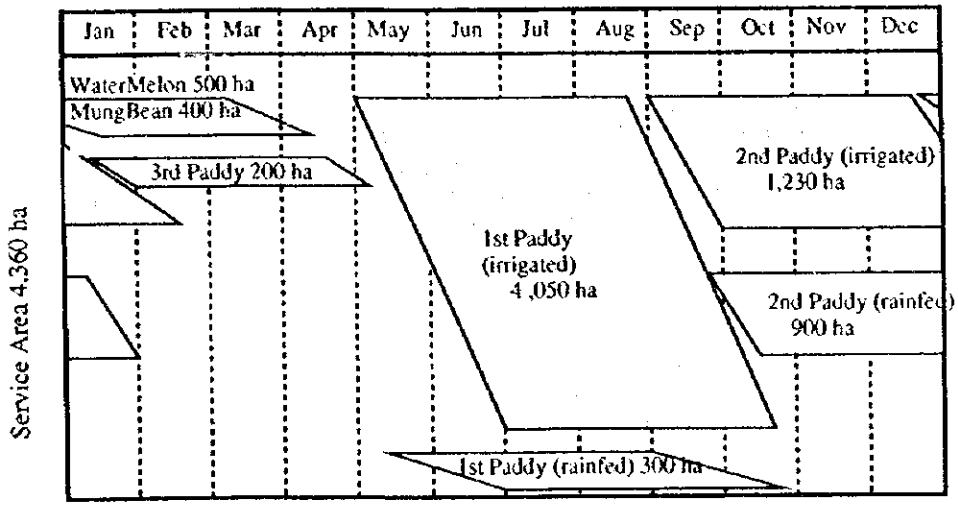


Actual Cropping Pattern

Aganan RIS



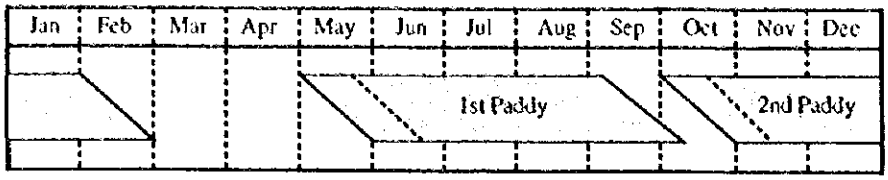
Cropping Calender Prepared by NIA



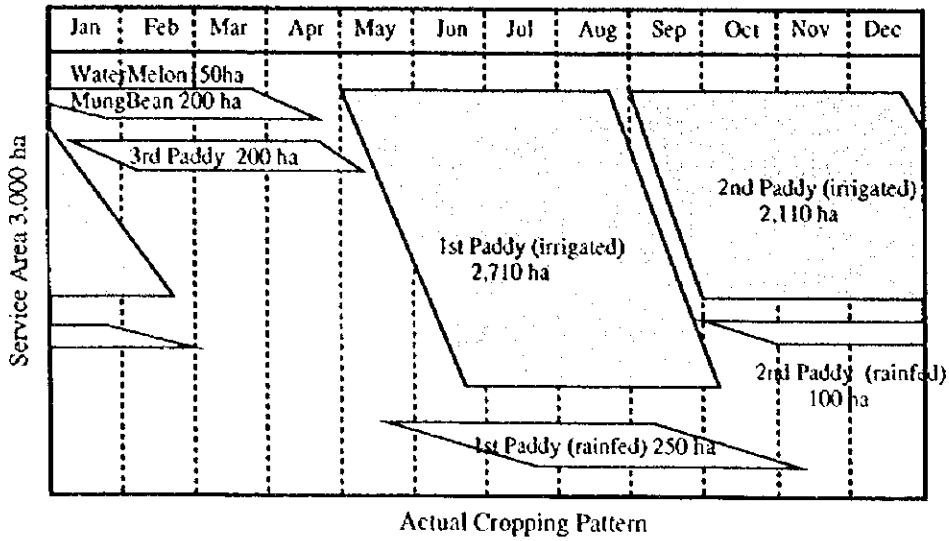
Actual Cropping Pattern

Fig. A.3. 27 Present Cropping Patern (2/3)

Sta. Barbara RIS



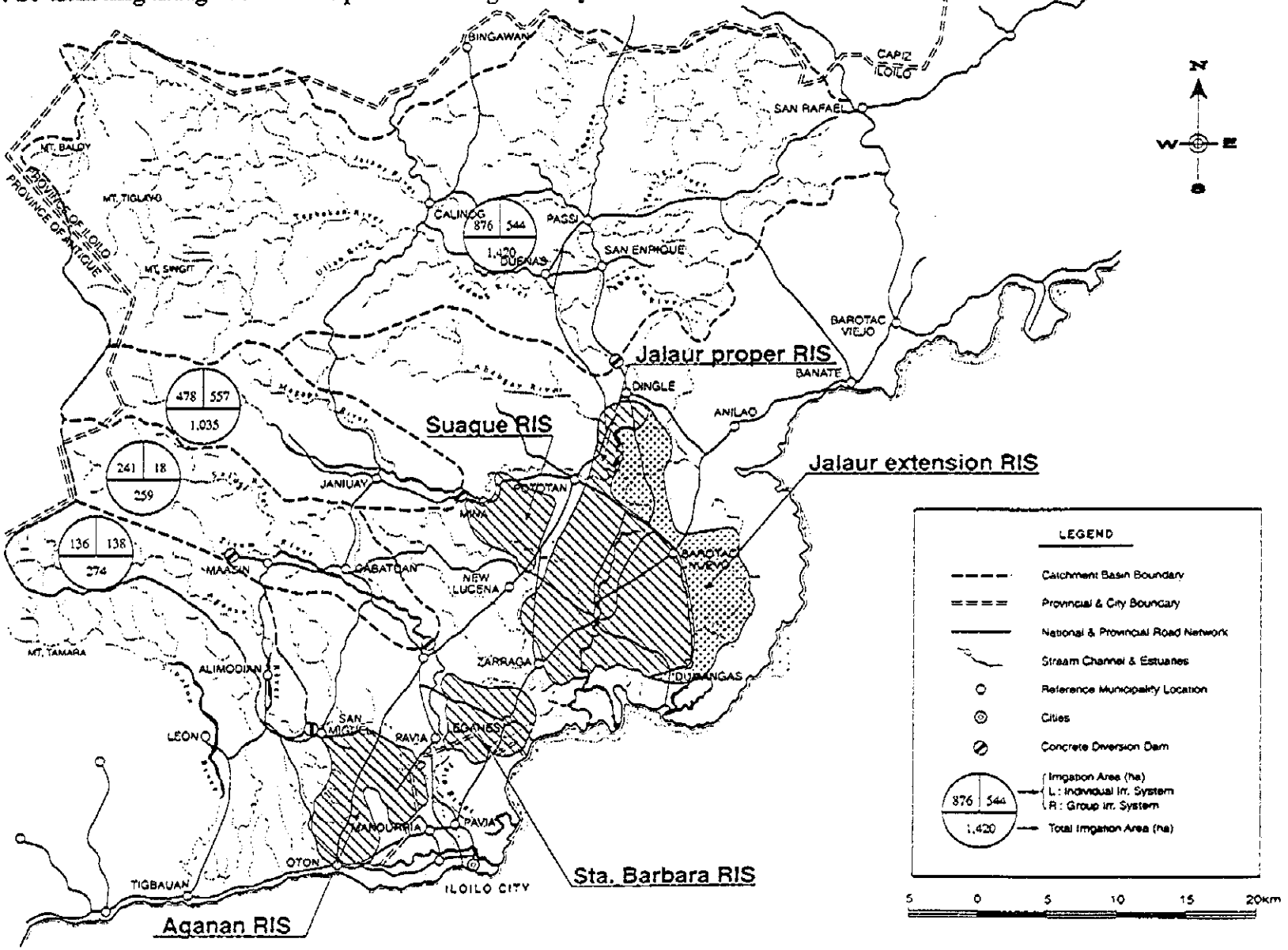
Cropping Calender Preparedby NIA



Actual Cropping Pattern

Fig. A.3. 27 Present Cropping Pattern (3/3)

Fig. A.3. 28 Existing Irrigation and Upstream Irrigation System



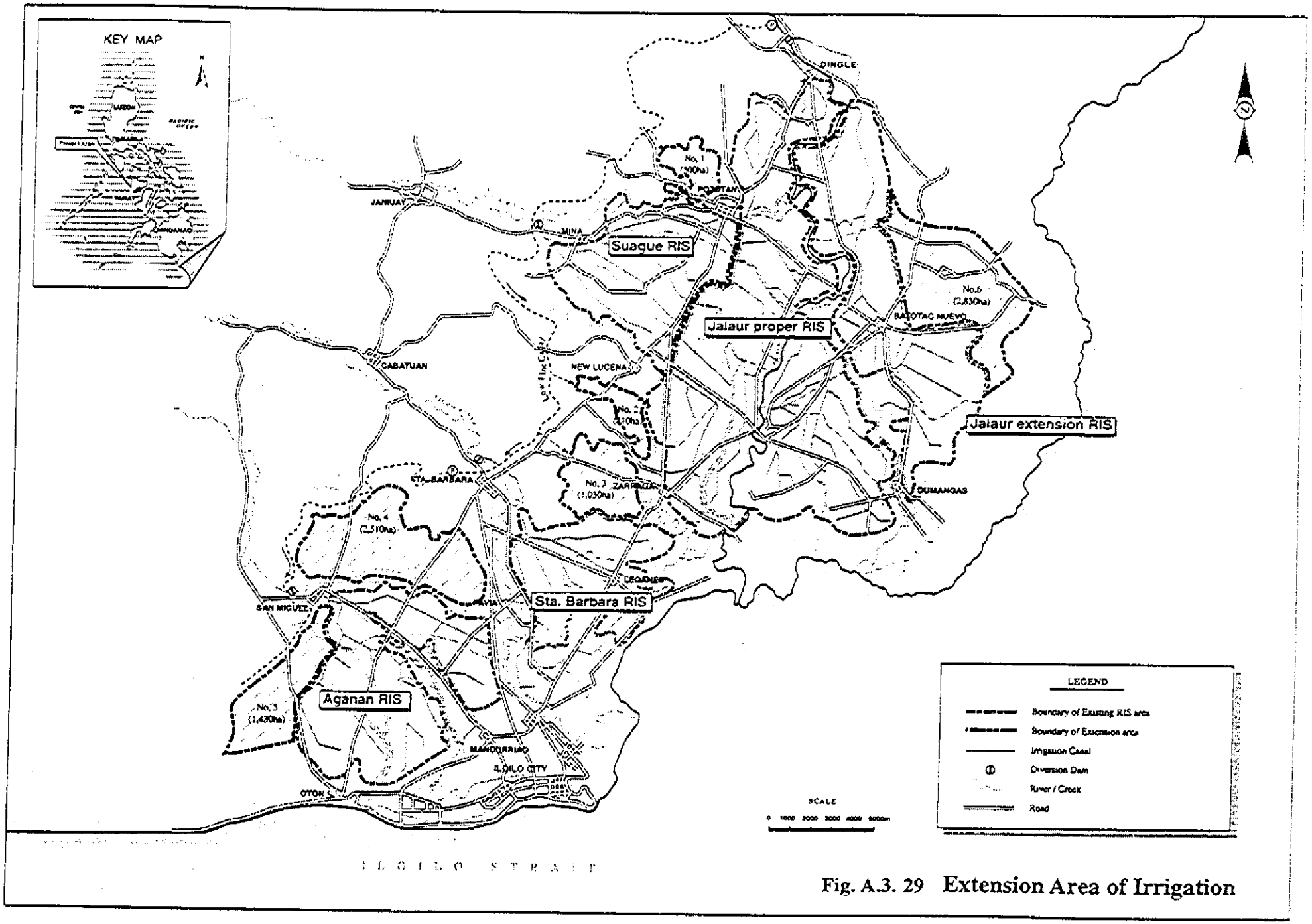
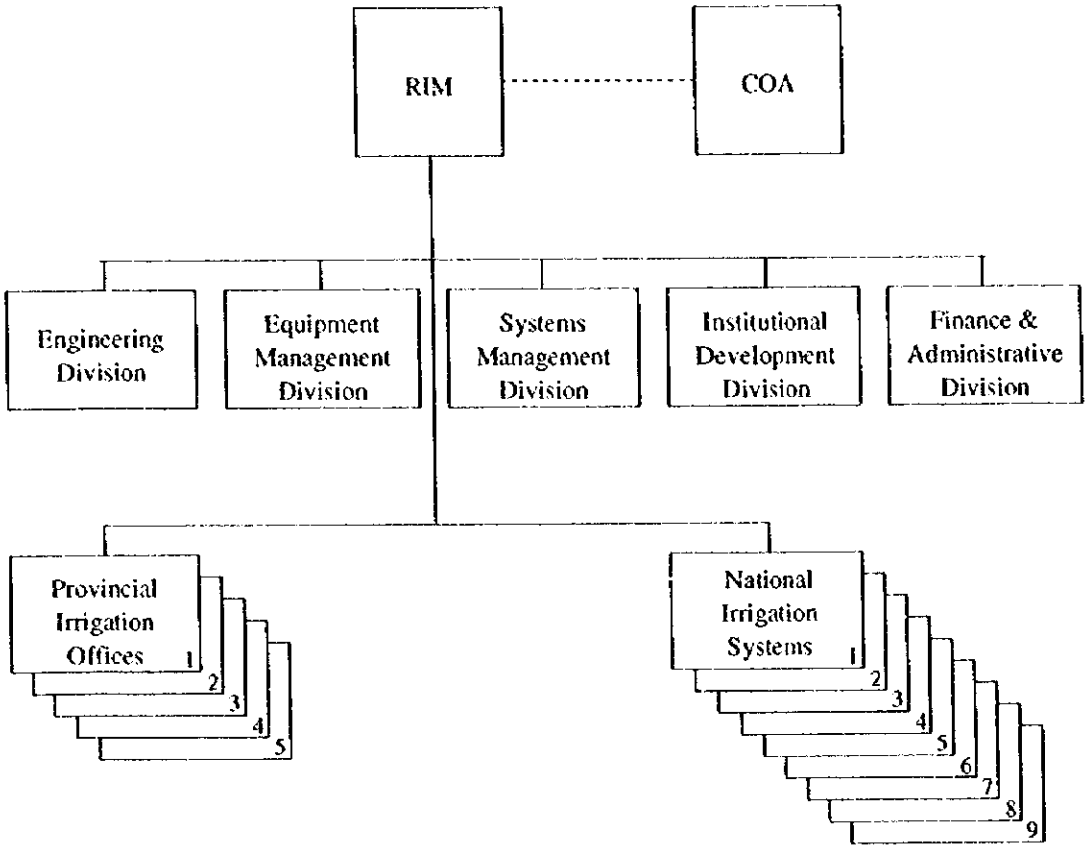


Fig. A.3. 29 Extension Area of Irrigation

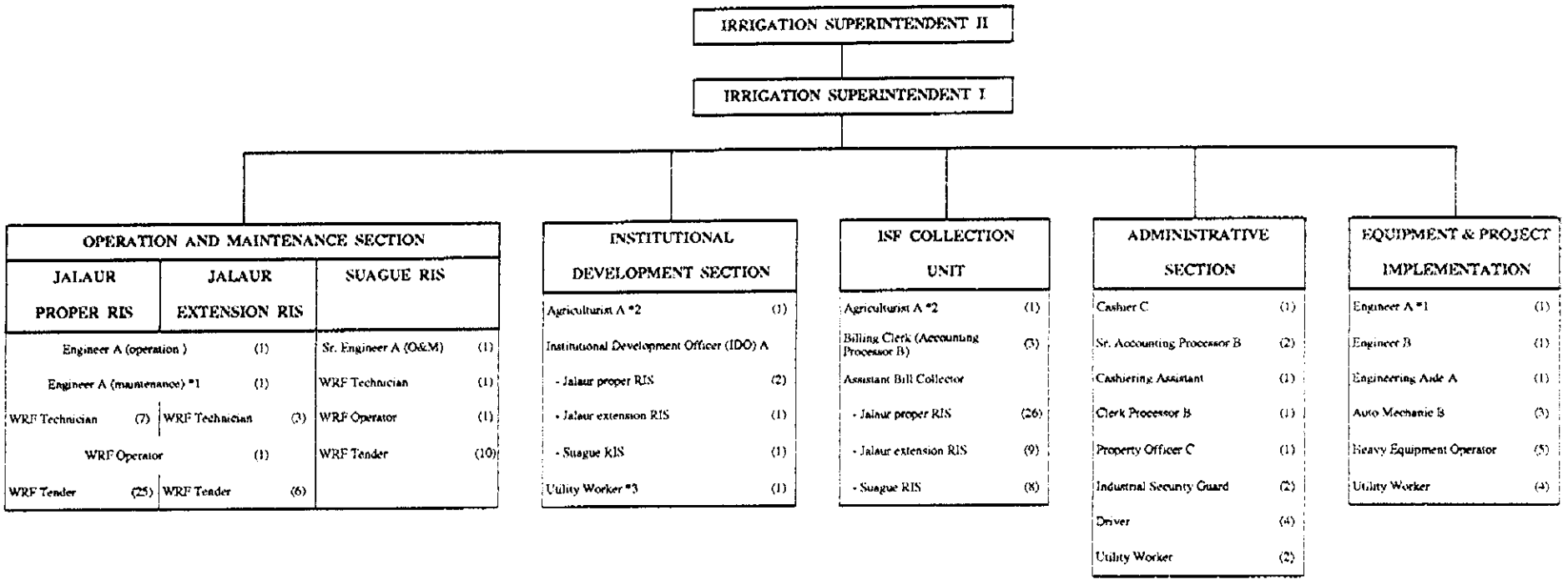


Notes : RIM : Regional Irrigation Manager

COA : Commission on Audit

Source : NIA Region VI Office

Fig. A.3. 30 Organizational Chart of NIA Region VI Office



Notes : WRF : Water Resources Facilities

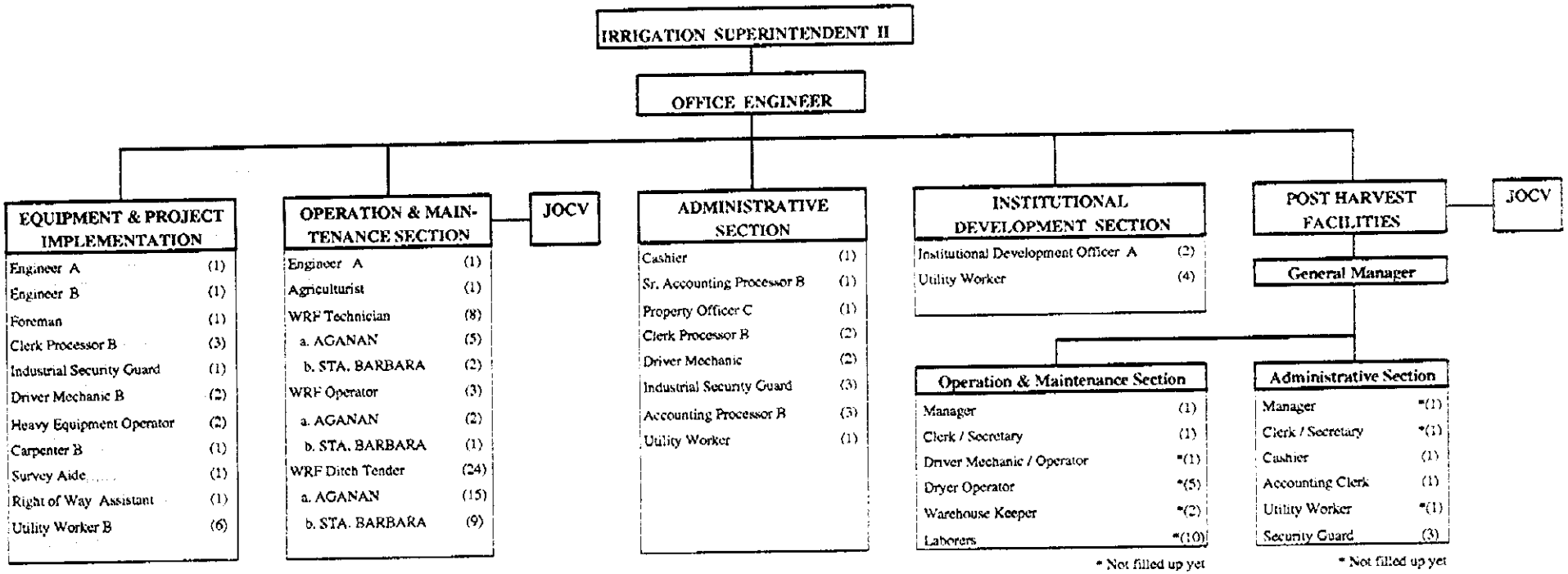
*1 : Engineer A (Maintenance) for Jalaur proper & extension RIS is holding the same position in Equipment & Project Implementation Section.

*2 : Agriculturist A in the Institutional Development Section is holding the same position in ISF Collection Section.

*3 : The Utility Worker in the Institutional Development Section is designated as IDO to augment the two IDOs in Jalaur proper RIS.

Source : NIA JSRIS Office

Figure A.3.31 Present Organizational Chart of Jalaur - Suague River Irrigation System Office



Note : WRF : Water Resources Facilities

Figure A.3.32 Organizational Chart of Aganan - Sta. Barbara River Irrigation System Office

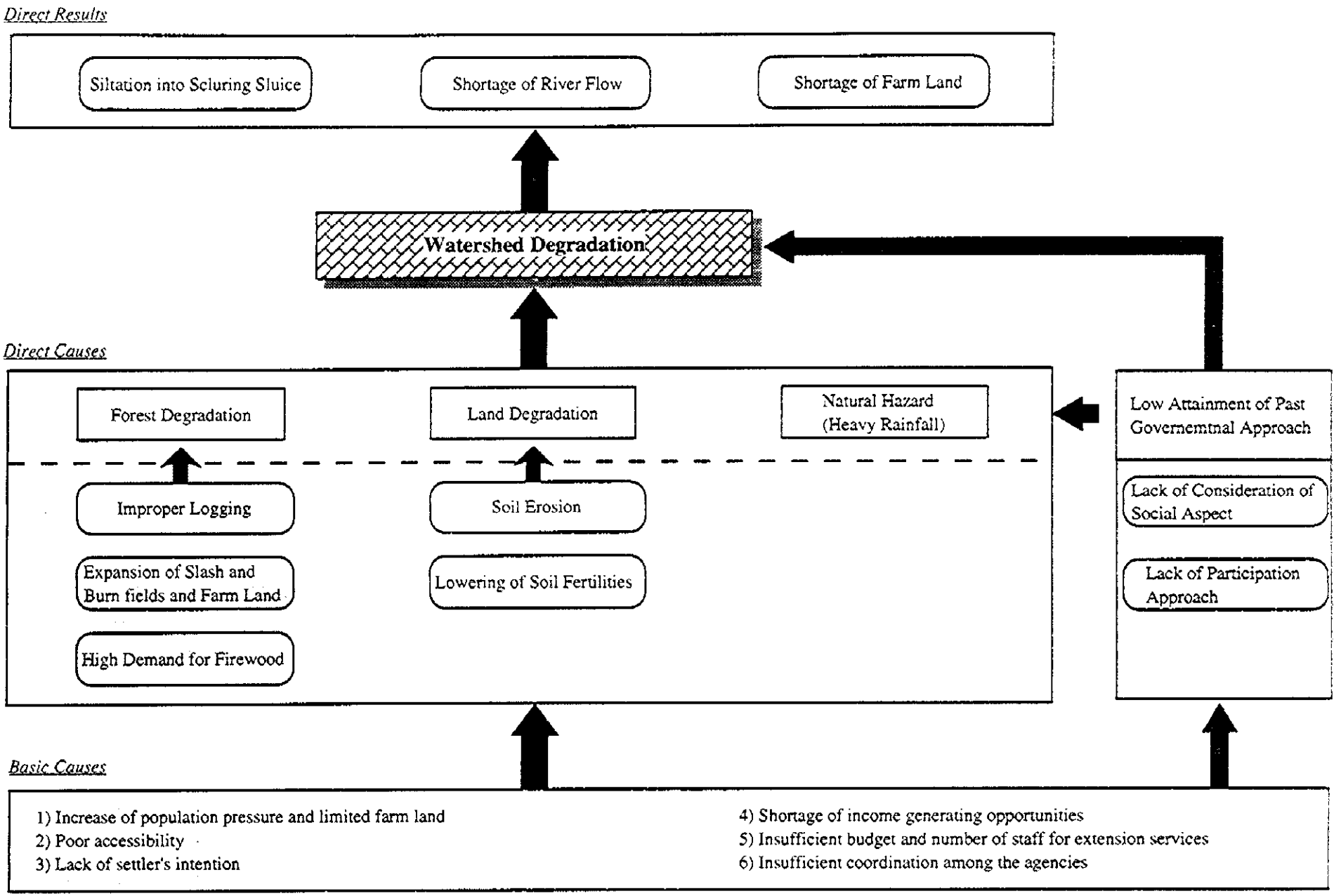


Figure A.3. 33 Causes of Watershed Degradation

Fig. A.4. 1 Proposed Small Reservoirs

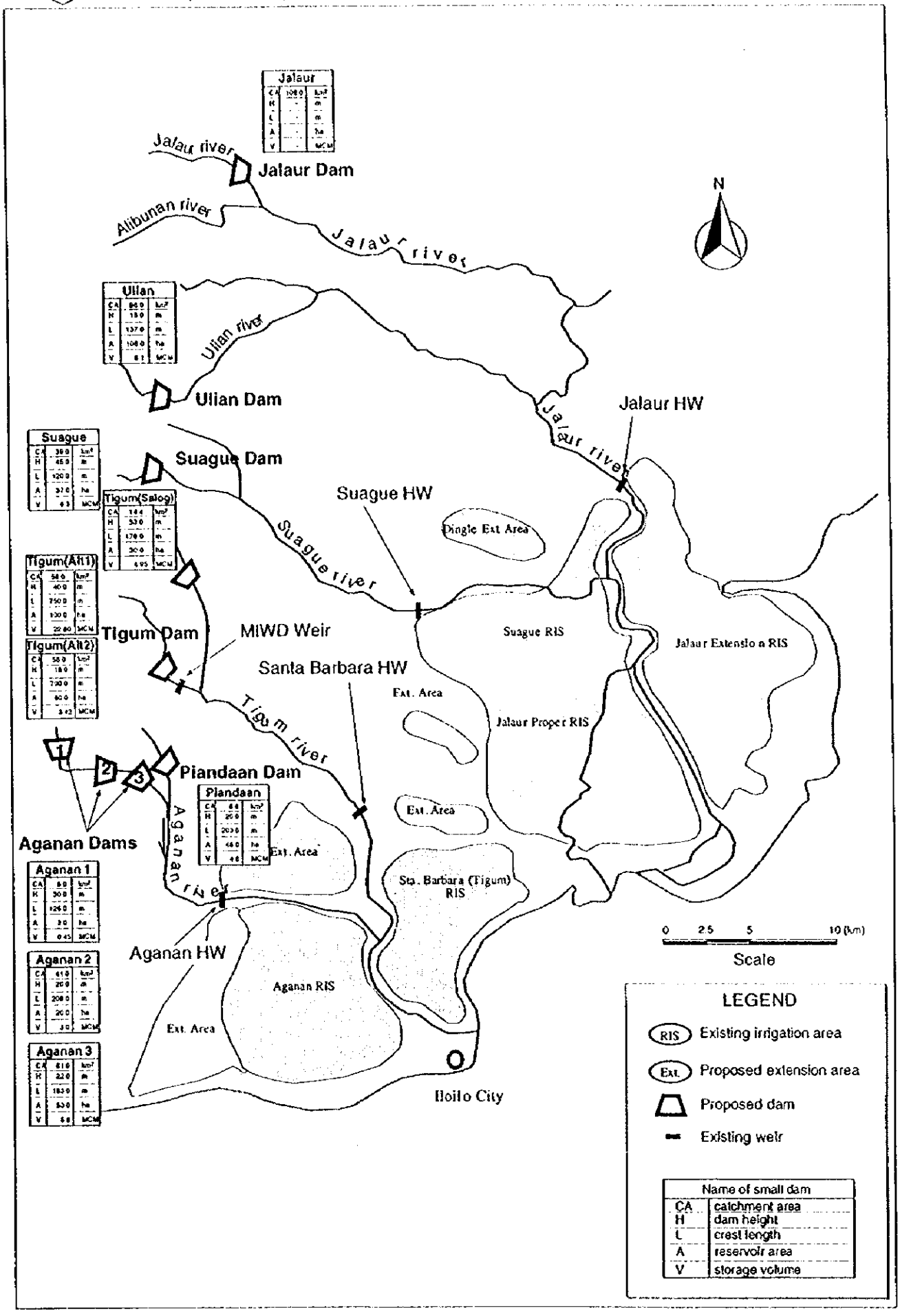


Fig. A.4. 2 (1/4) Runoff Simulation (Jalaur)

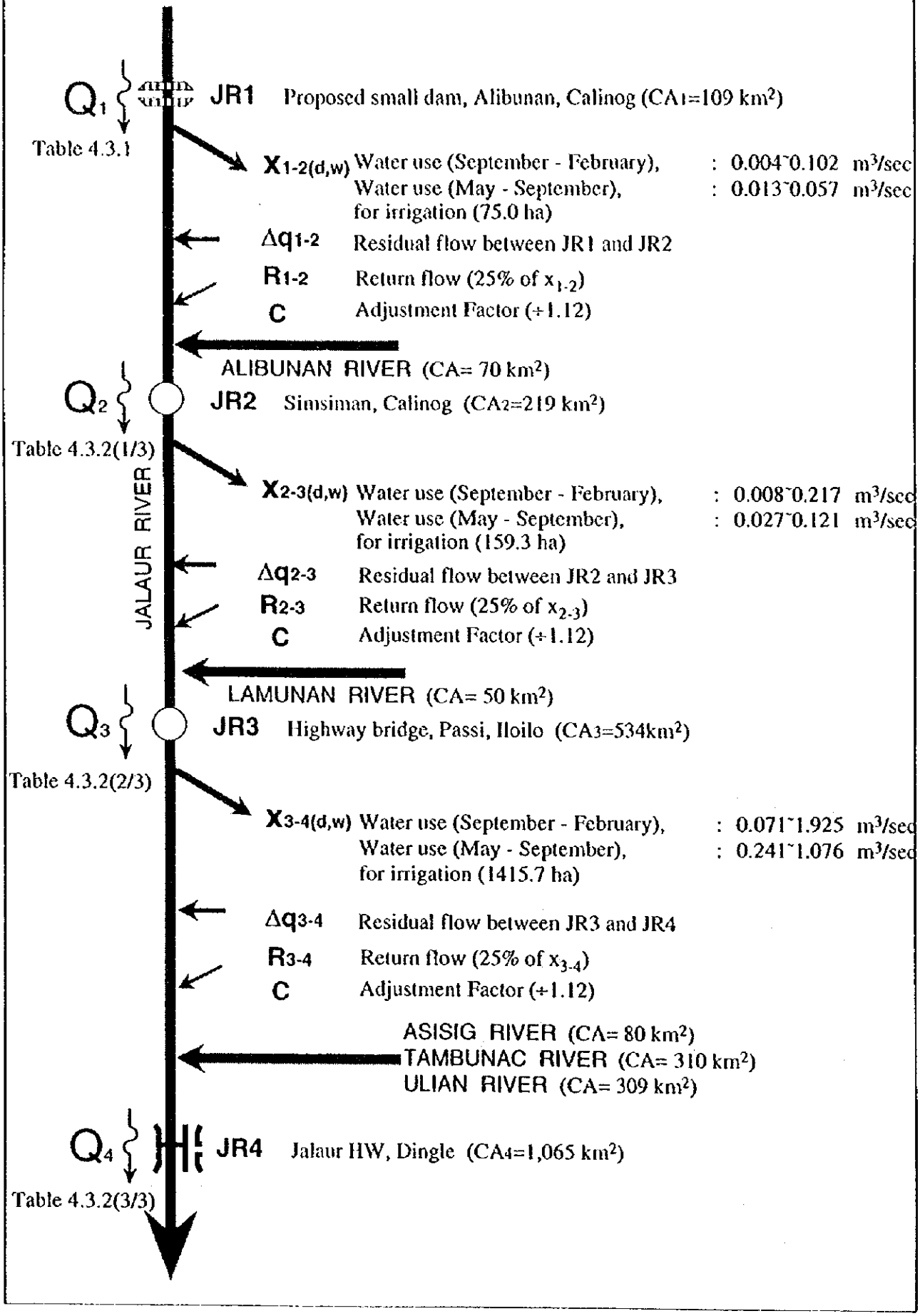


Fig. A.4. 2 (2/4) Runoff Simulation (Suague)

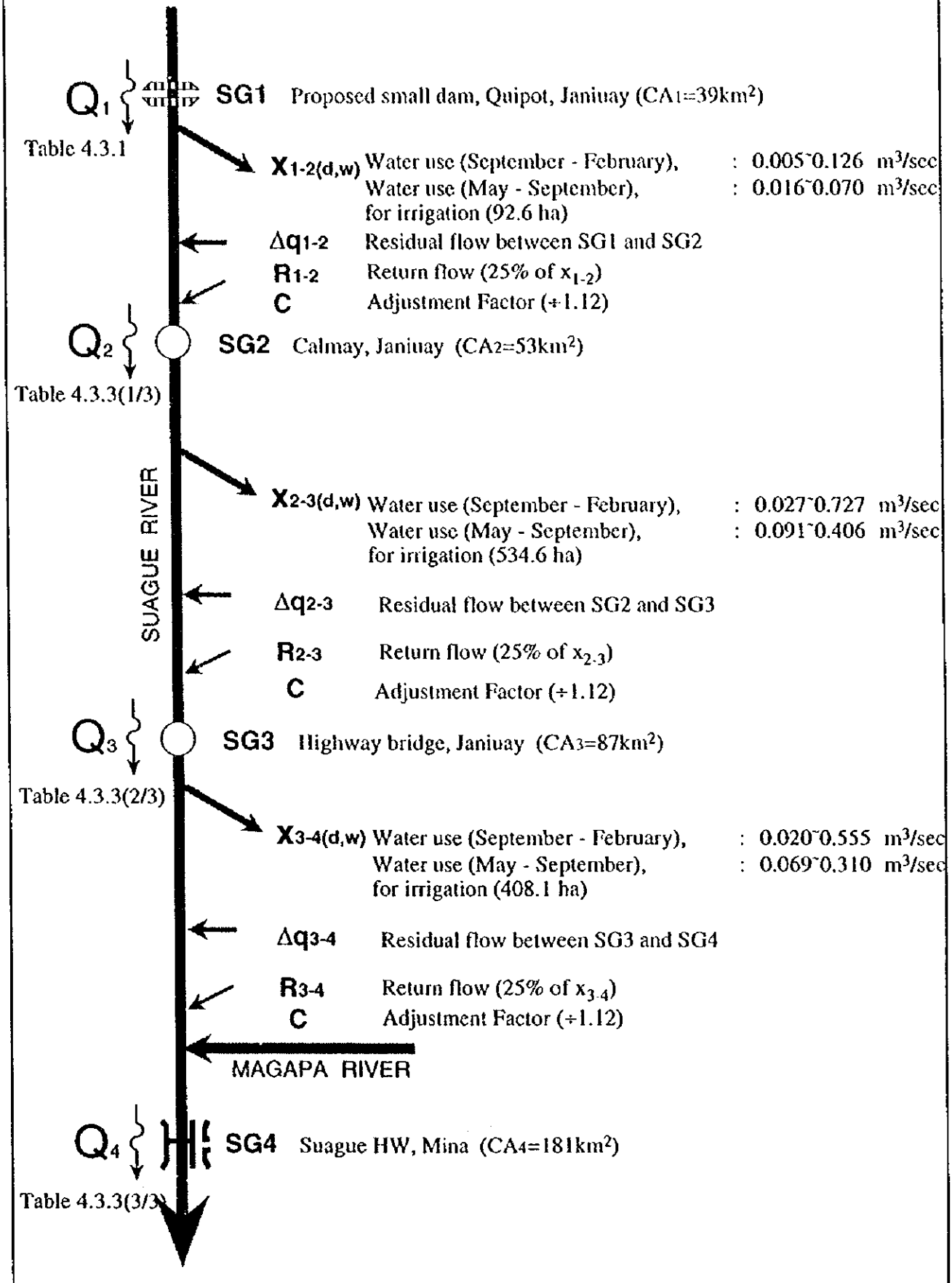


Fig. A.4. 2 (3/4) Runoff Simulation (Tigum)

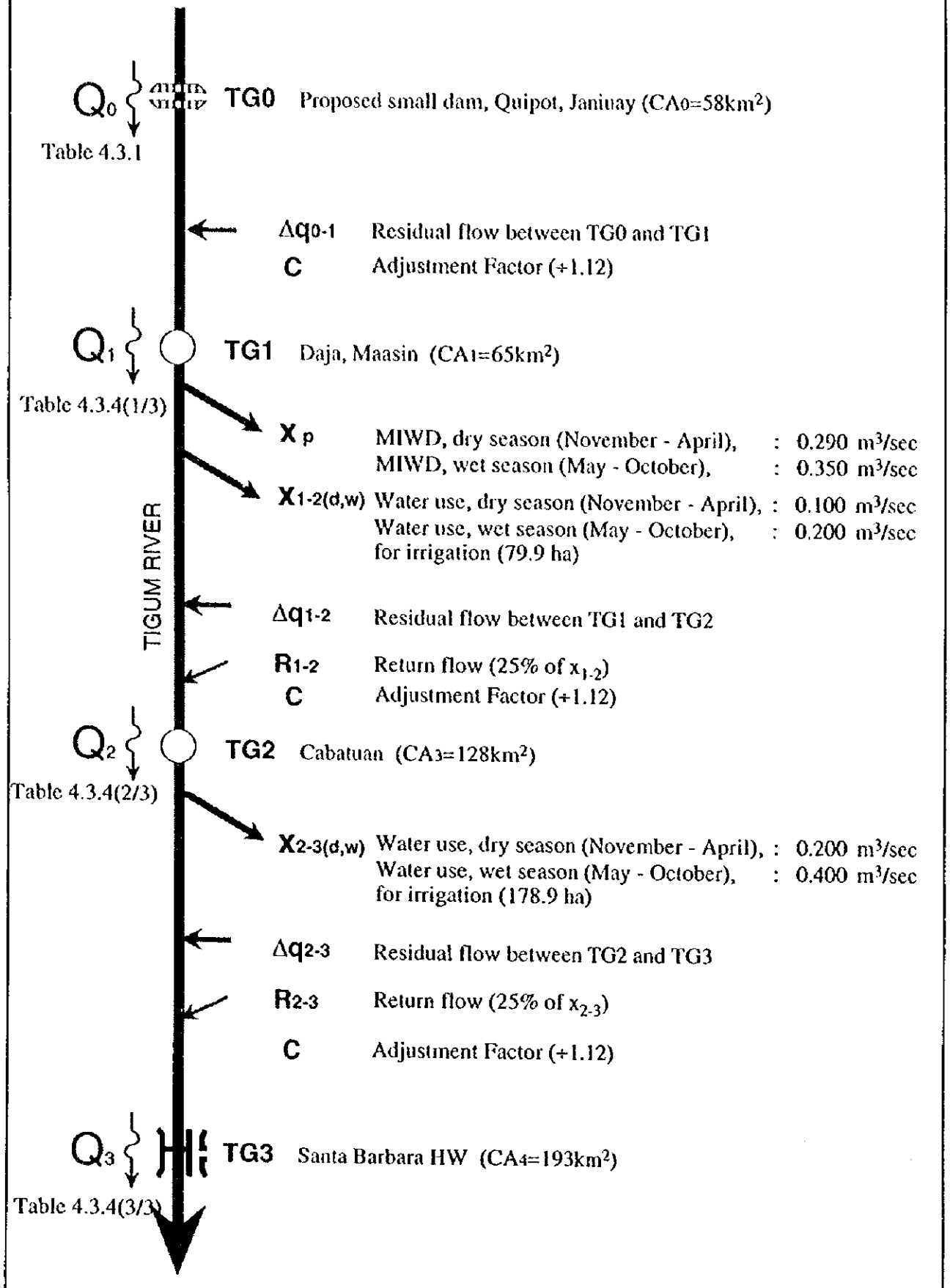


Fig. A.4. 2 (4/4) Runoff Simulation (Aganan)

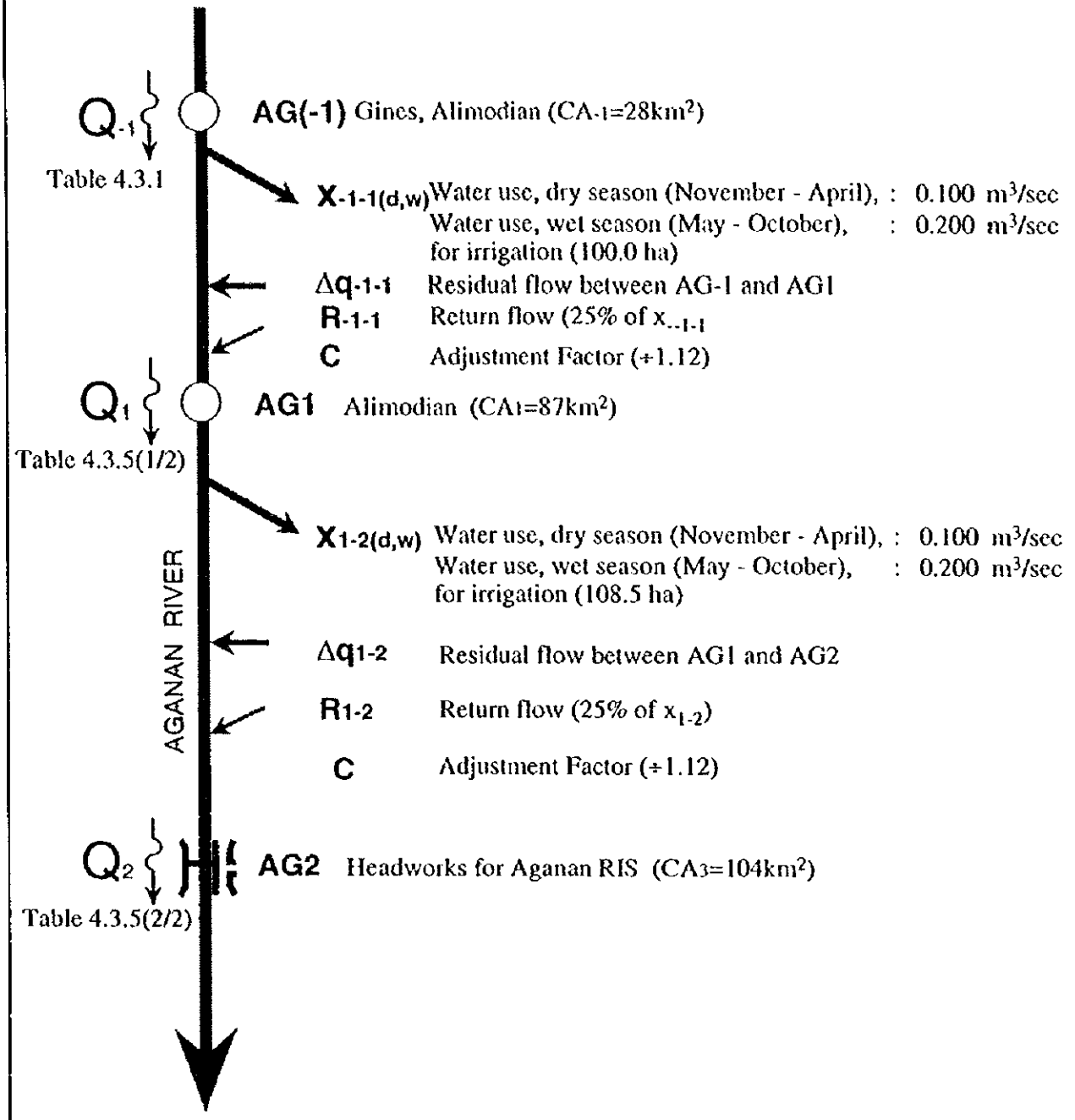
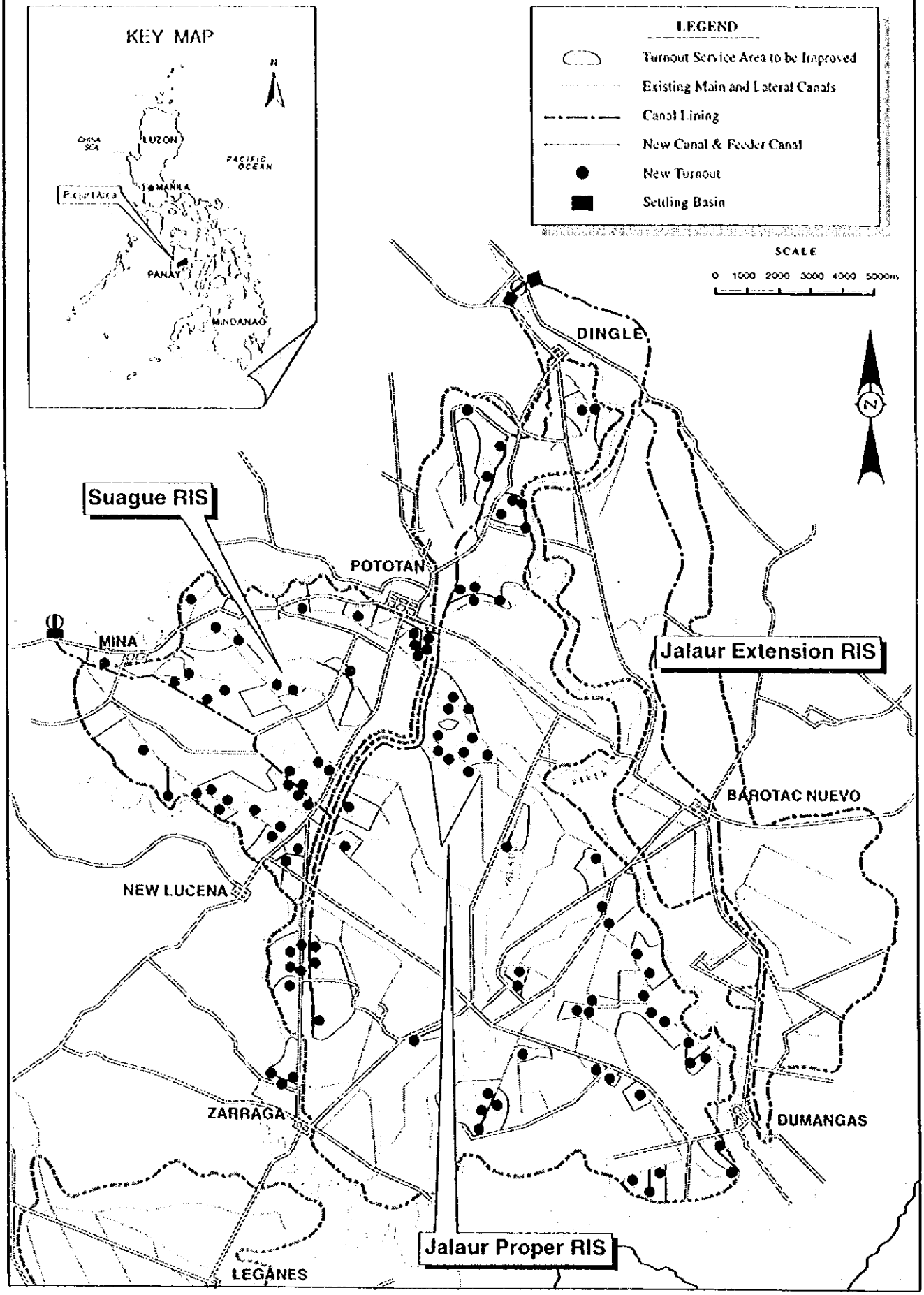


Fig. A.4. 3 Improvement Work of Irrigation Canal Jalaur Proper, extension and Suague RISs



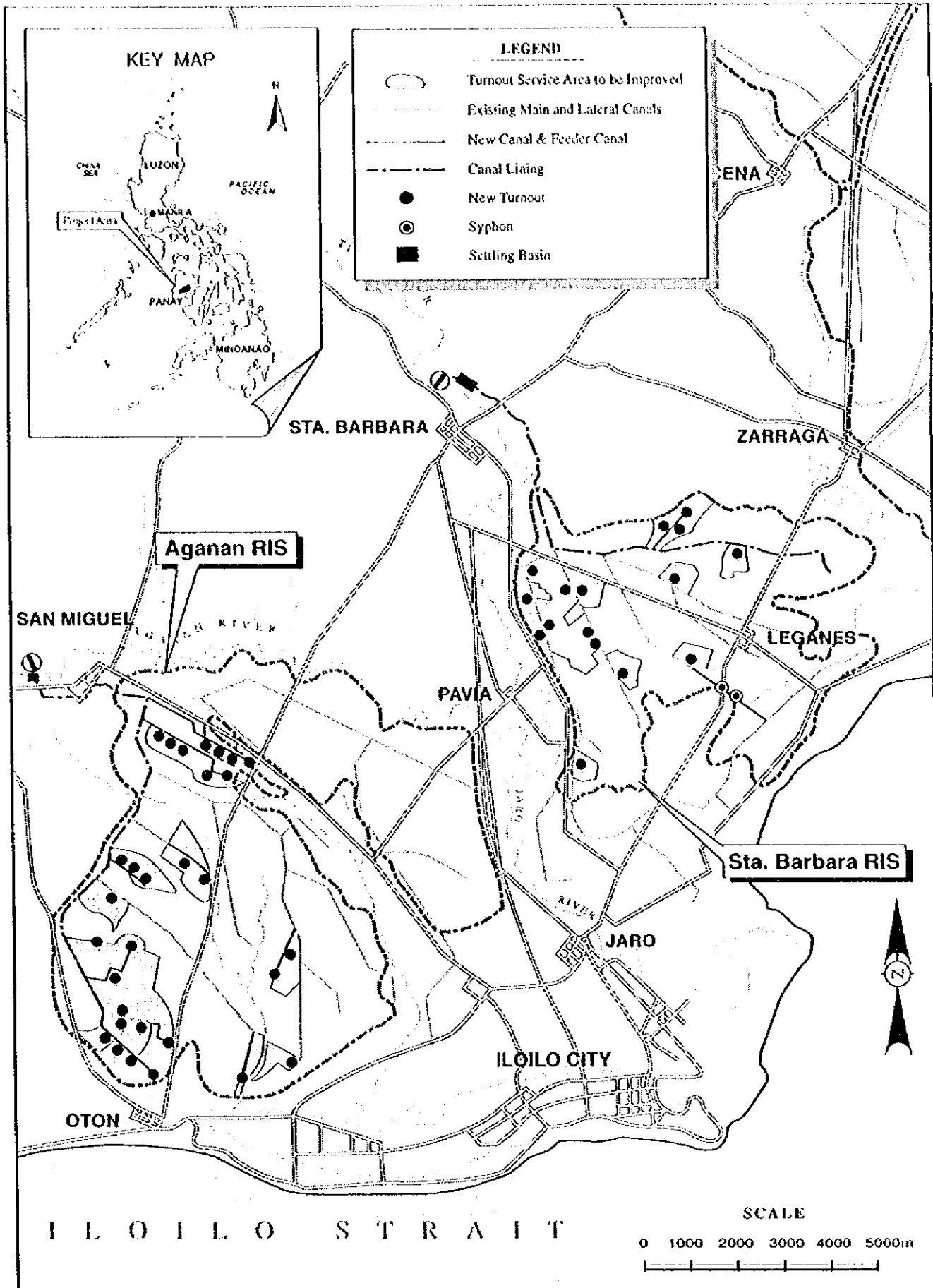


Fig. A.4. 4 Improvement Work of Irrigation Canal (Sta. Barbara & Aganan RISs)

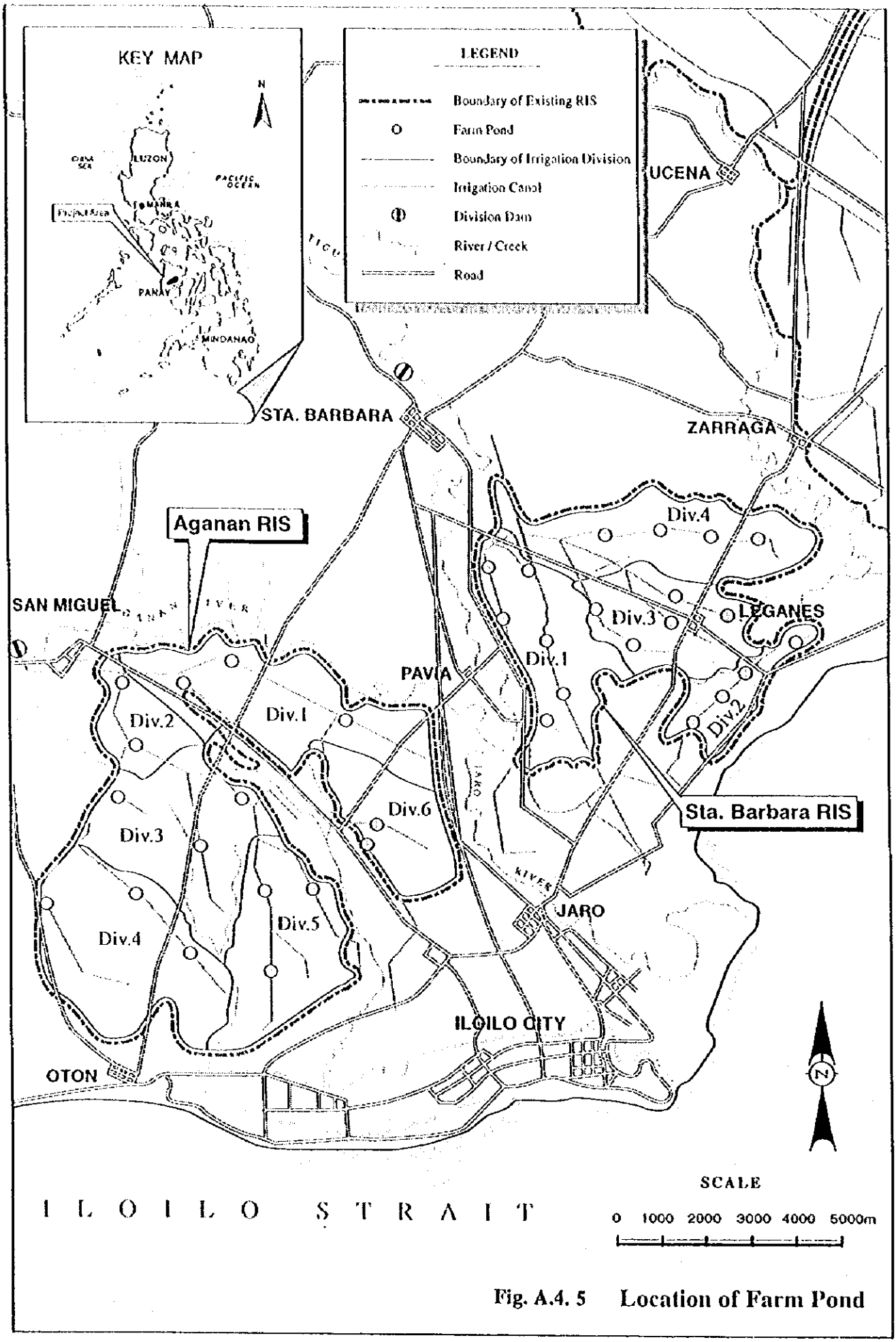
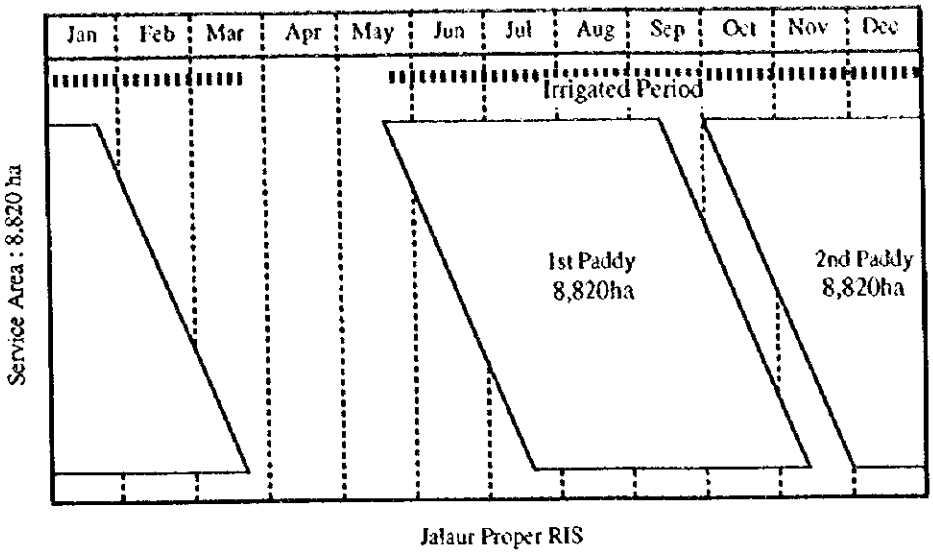
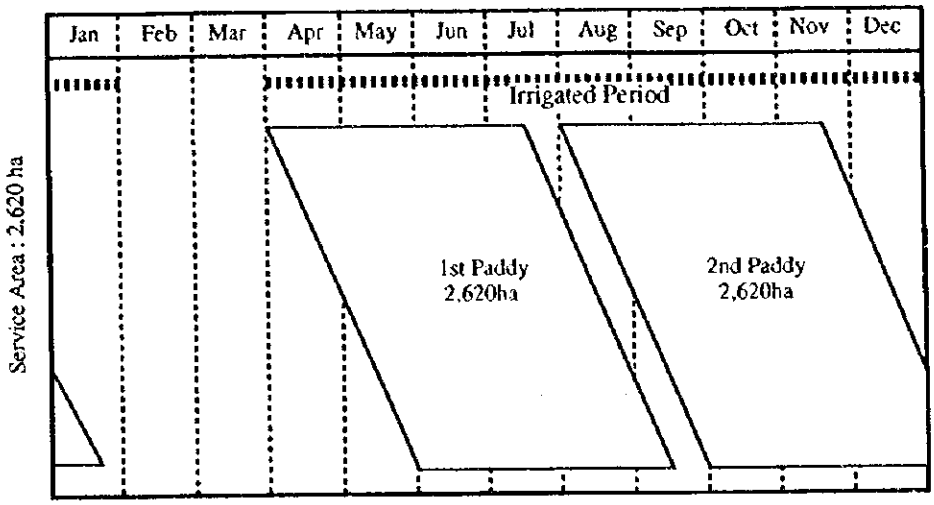


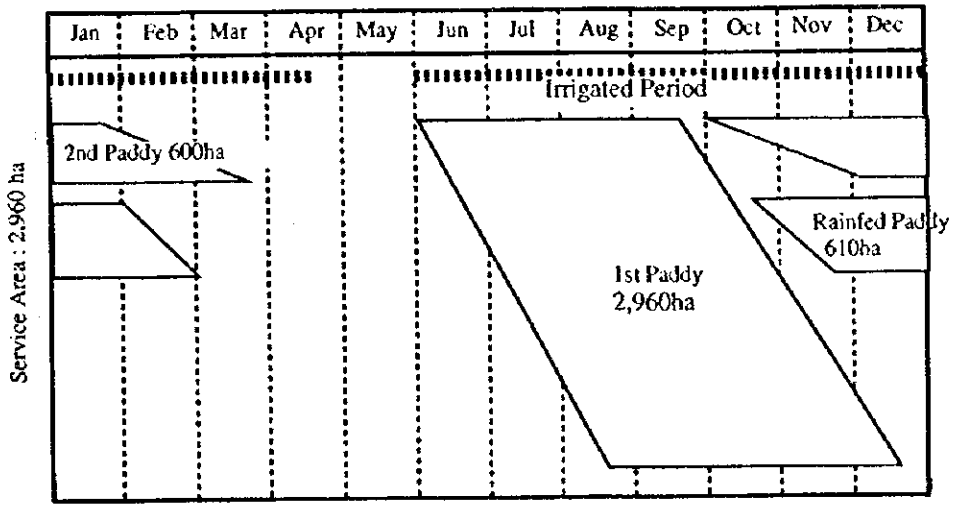
Fig. A.4. 5 Location of Farm Pond



Jalaur Proper RIS

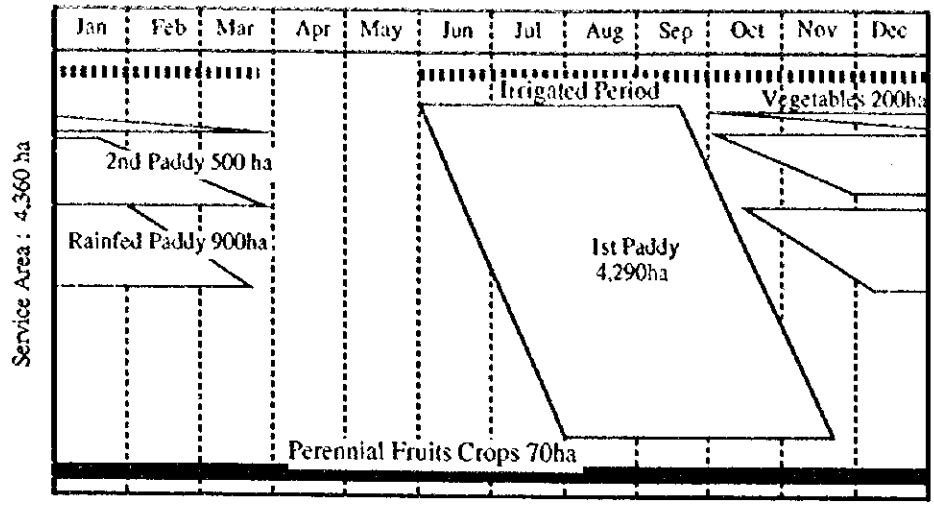


Jalaur ExtensionRIS

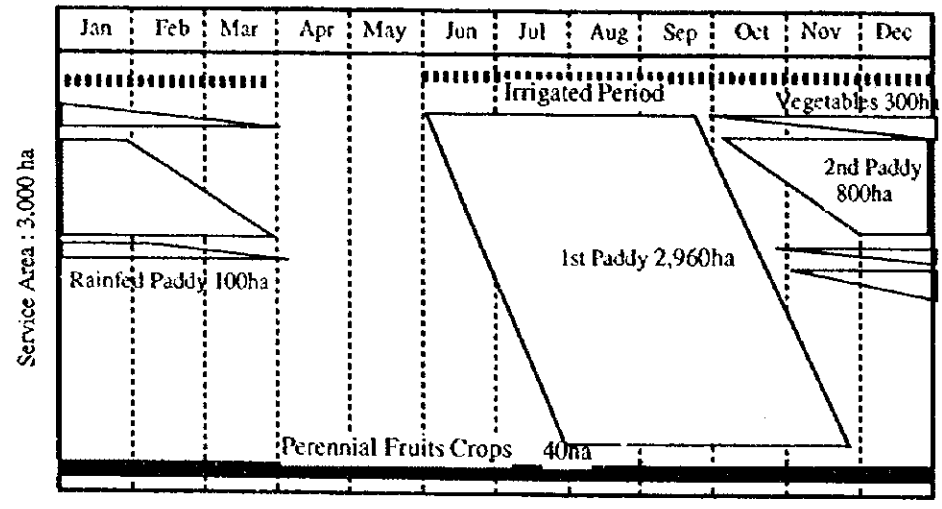


Suague RIS

Figure A.4.6 Proposed Cropping Pattern (1/2)

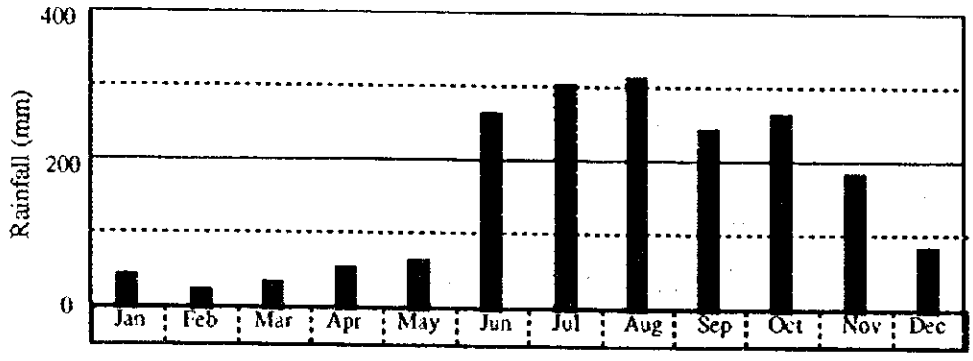


Aganan RIS



Sta. Barbara RIS

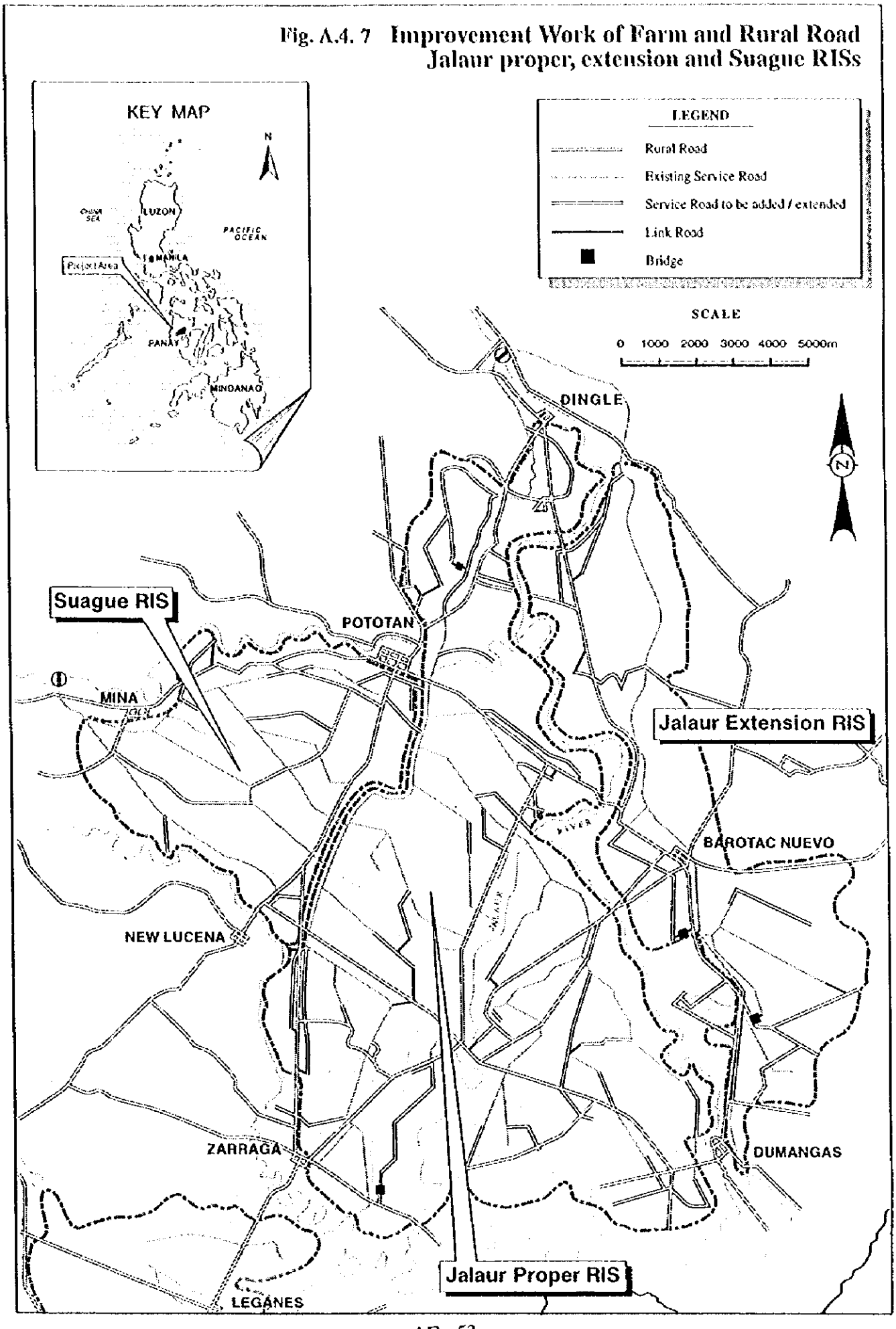
Watermelon: including Muskmelon
Vegetables: Ampalaya, Cabbage, Cauliflower, Chili, Cucumber, Eggplant, Garlic, Okra, Onion, Squash, Stringbean, Sweet corn, Baby corn, Sweet pepper, Tomato, Cut flower
Perenial Fruits Crops: Mango, Durian, Papaya, Mangosteen, Banana, Citrus, Rambutan,



Monthly Rainfall

Figure A.4.6 Proposed Cropping Pattern (2/2)

Fig. A.4. 7 Improvement Work of Farm and Rural Road
Jalaur proper, extension and Suague RISs



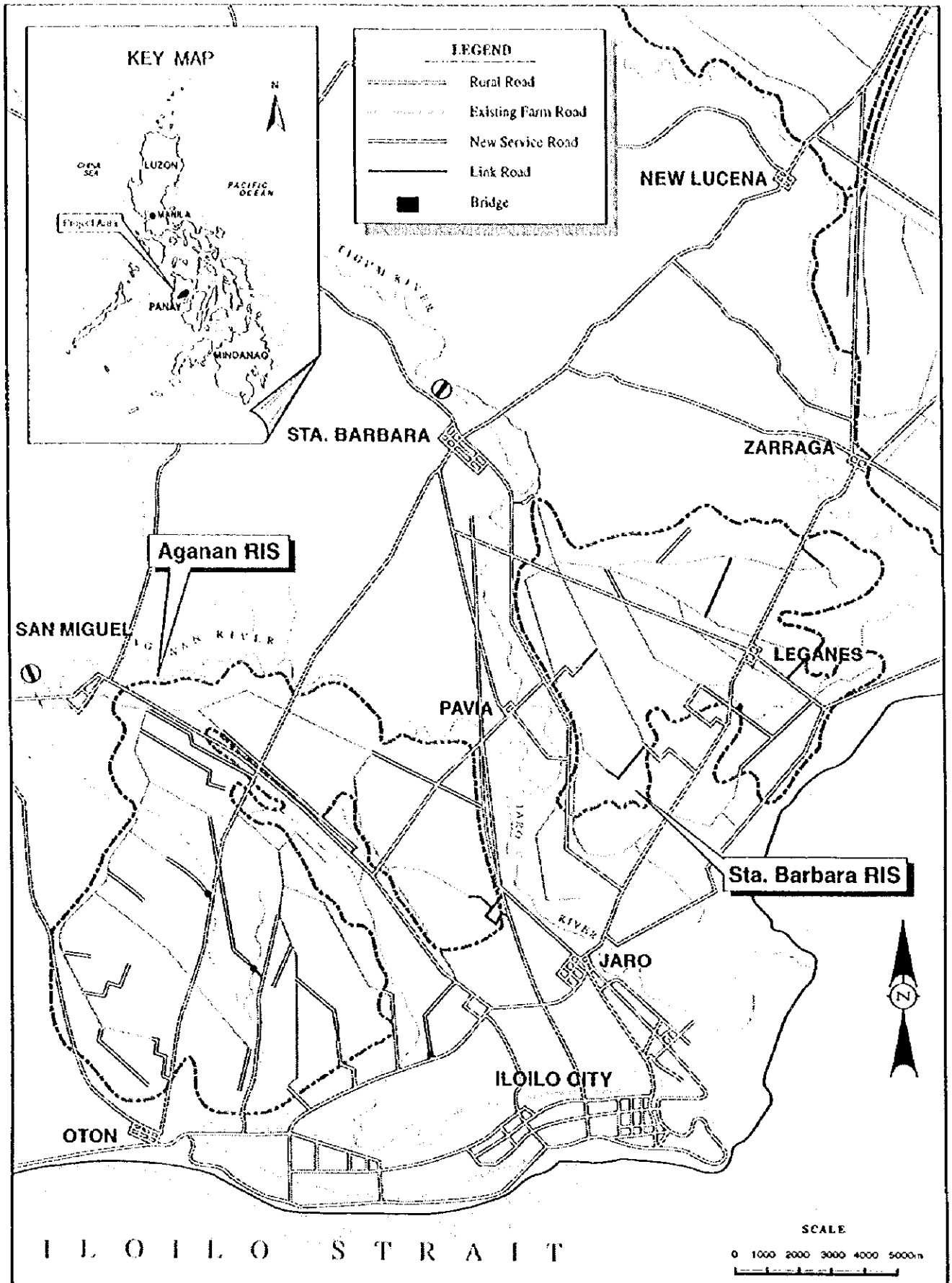


Fig. A.4. 8 Improvement Work of Farm and Rural Road Sta. Barbara & Aganan RISs

Fig. A.4. 9 IMPLEMENTATION SCHEDULE FOR STRENGTHENING OF FARMERS' ORGANIZATIONS IN THE JALAUR-SUAGUE RIS

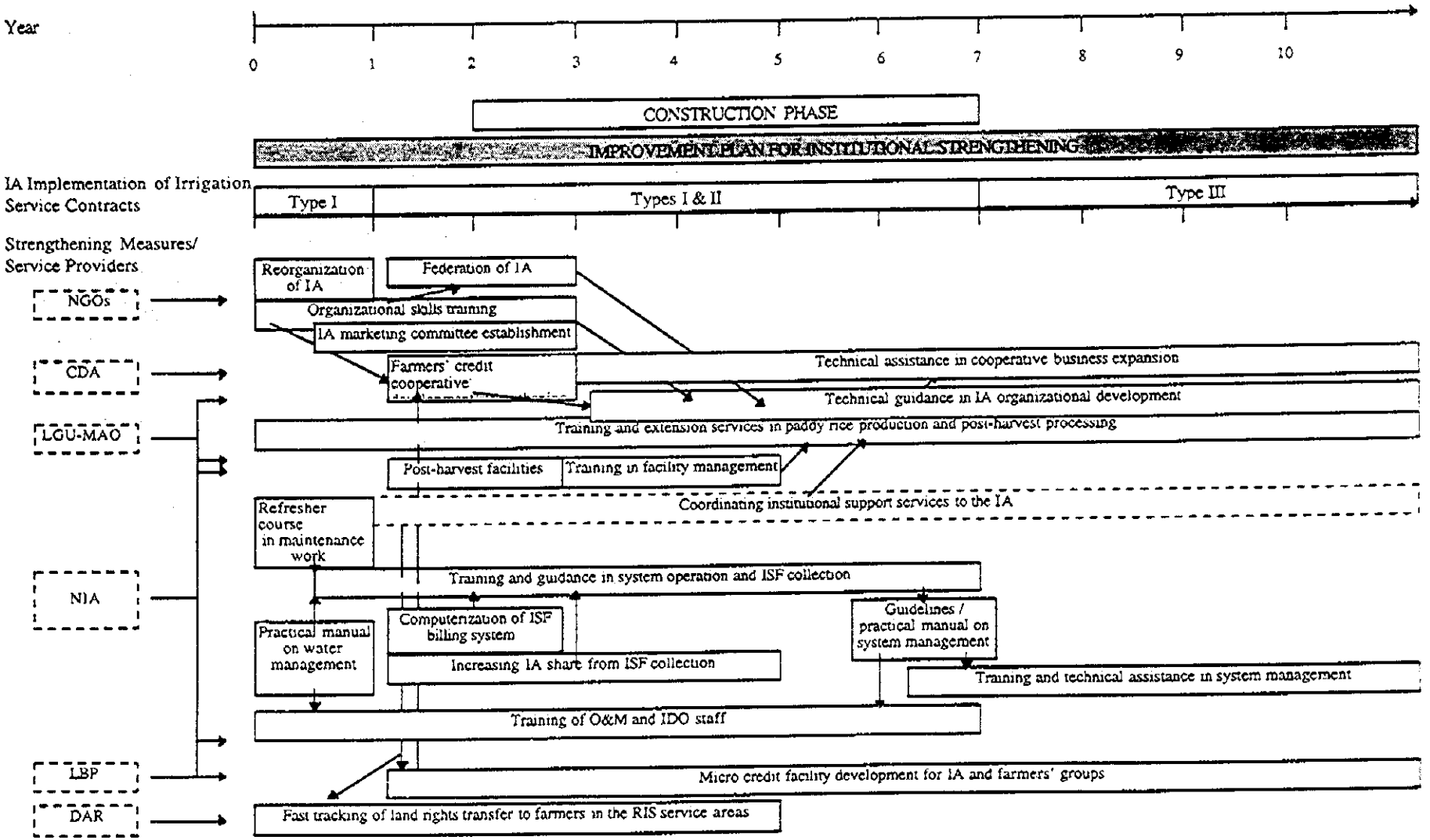


Fig. A.4. 9 IMPLEMENTATION SCHEDULE FOR STRENGTHENING OF FARMERS' ORGANIZATIONS IN THE JALAUR-SUAGUE RIS

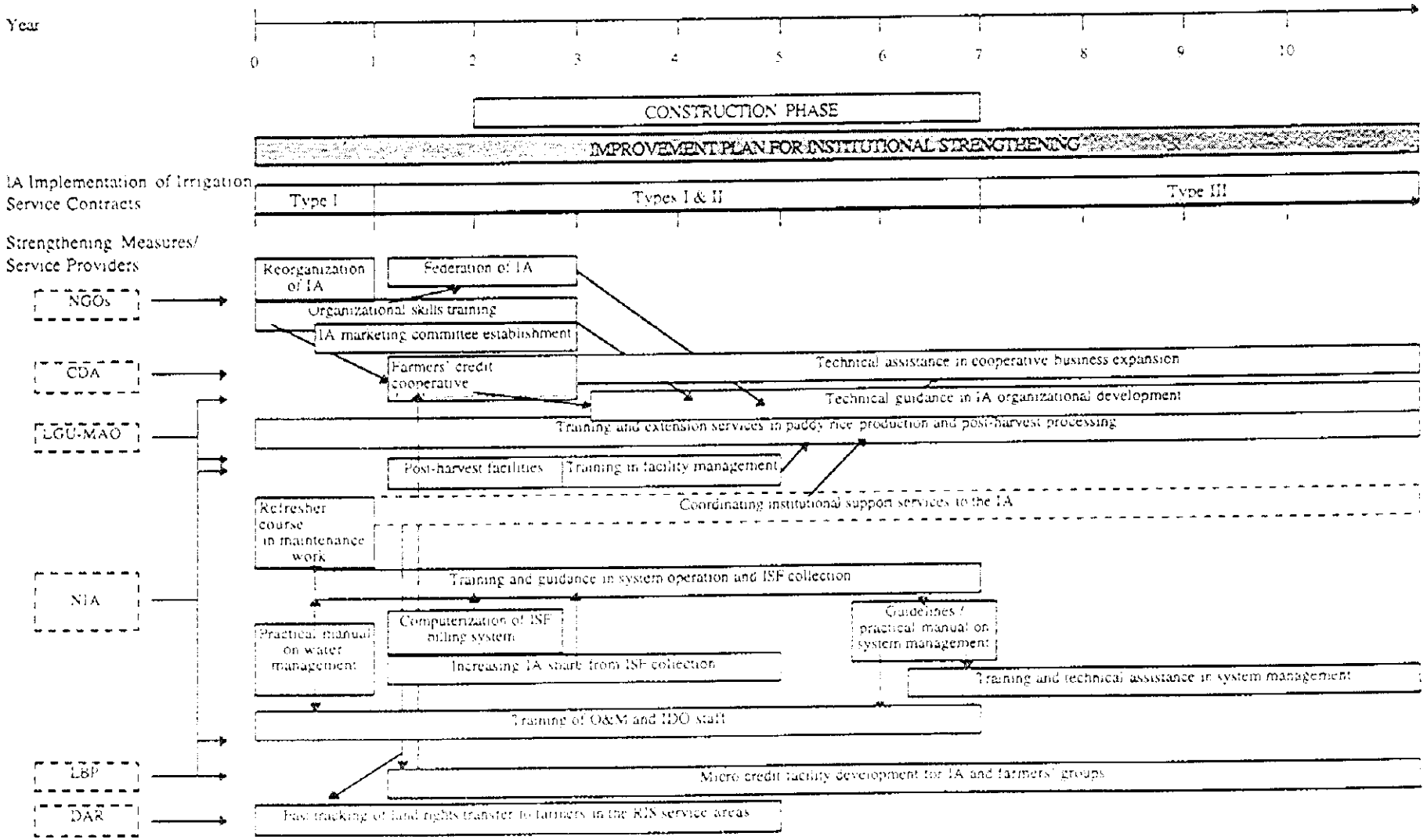


Fig. A.4. 10 IMPLEMENTATION SCHEDULE FOR STRENGTHENING OF FARMERS' ORGANIZATIONS IN THE AGANAN-STA. BARBARA RIS

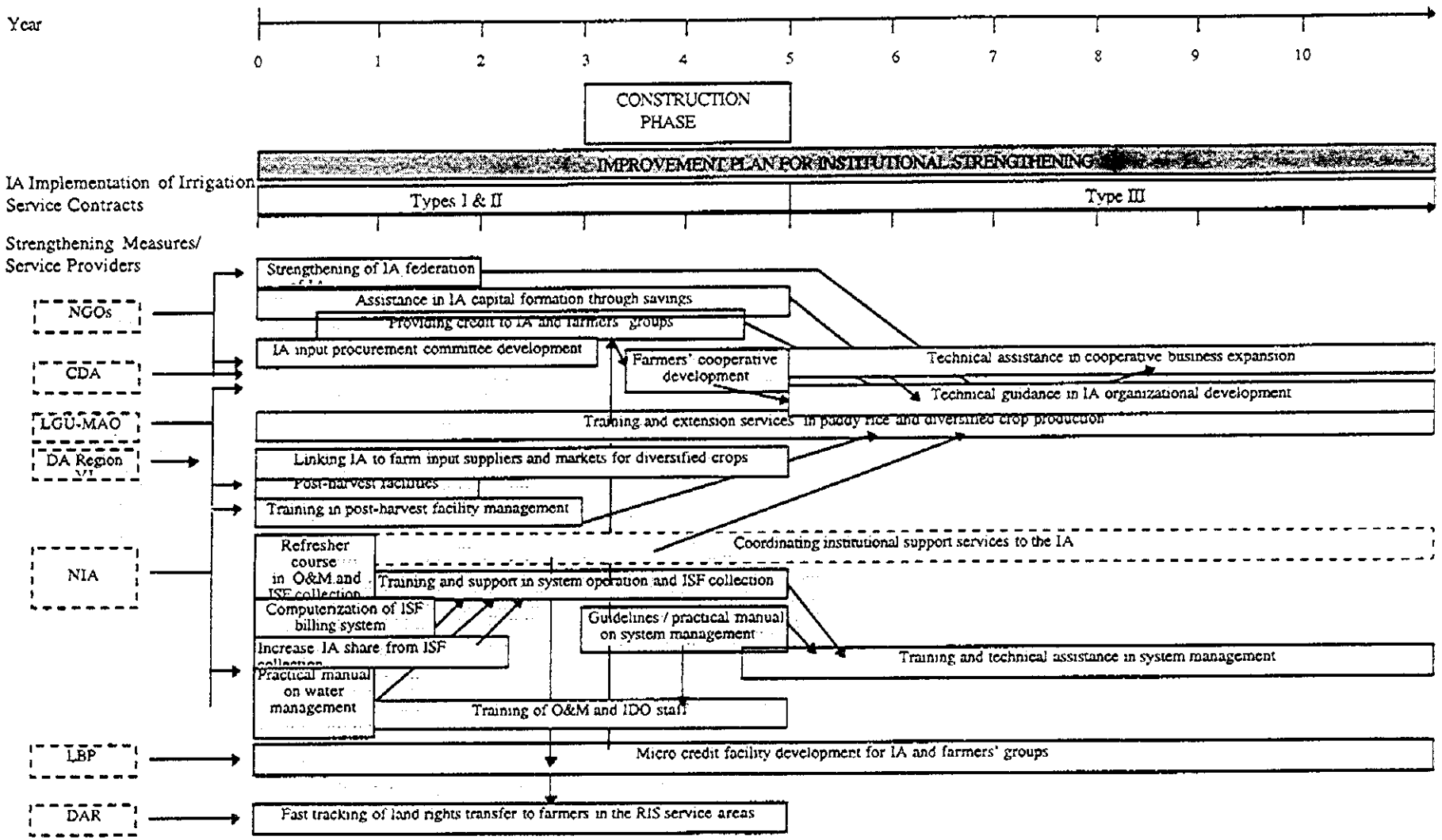
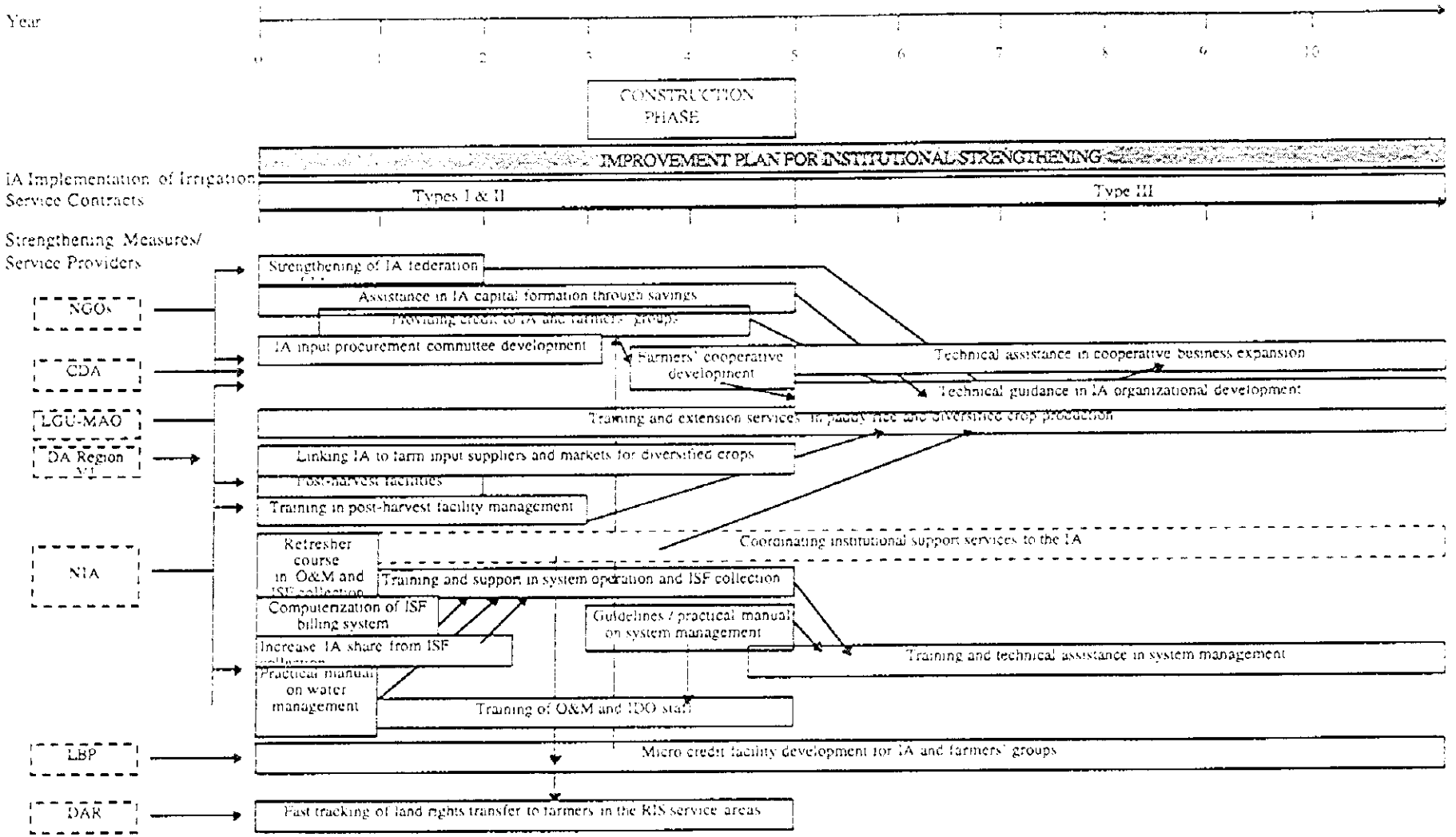
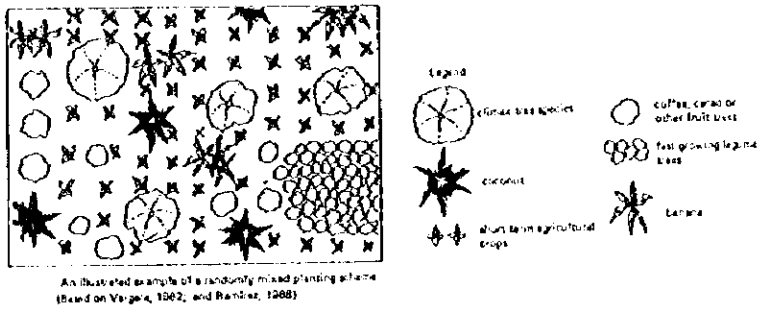
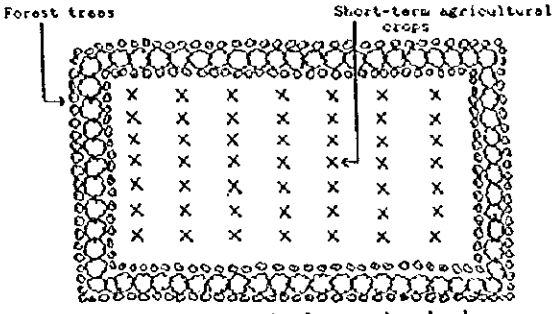


Fig. A.4. 10 IMPLEMENTATION SCHEDULE FOR STRENGTHENING OF FARMERS' ORGANIZATIONS IN THE AGANAN-STA. BARBARA RIS

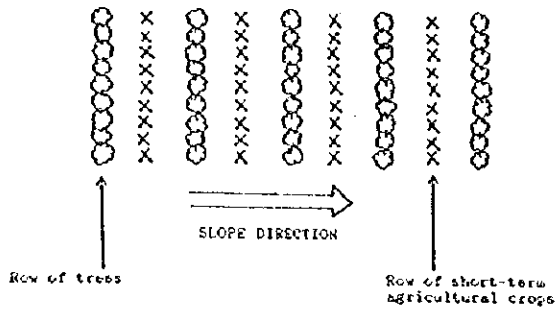




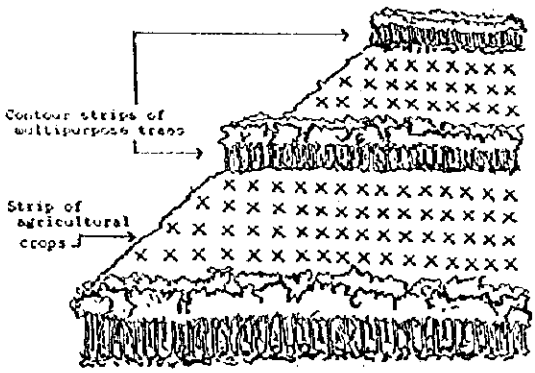
Randomized Mixed Planting



A illustrated example of a trees along border

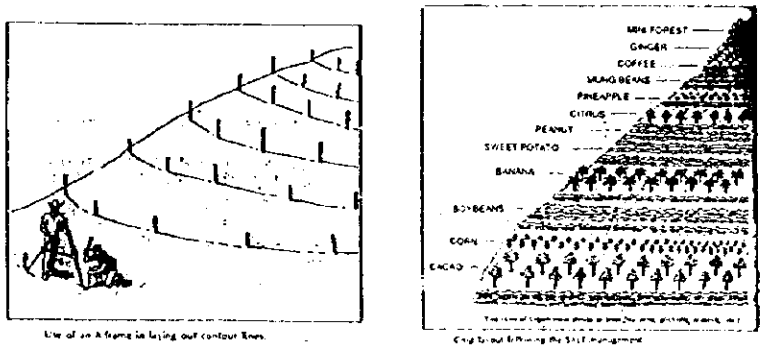


A illustrated example of an alternative row



A illustrated example of an alternate strips

Row-inter crop agro forestry



SALT (Sloping Agricultural Land Technology)

Figure A.4.11 Recommended Agro-Forestry System

Fig. A.5. 1 Temtative Implementation Schedule

Description	Irrigation Area (ha)	1	2	3	4	5	6	7
Pre-construction Stage								
Detailed Design								
Tender and Evaluation								
Construction Stage								
- Phase I								
<Improvement / Rehabilitation works>								
Jalaur proper RIS	8,820							
Suague RIS	2,960							
<Strengthening of Aganan Federation>								
- Phase II								
<Improvement / Rehabilitation works>								
Sta. Barbara RIS	3,000							
Aganan RIS	4,360							
- Phase III								
<Improvement / Rehabilitation works>								
Jalaur extension RIS	2,620							
Total	21,760							