







**Basalt Volcanoes of the Macolod Corridor (ca. 2 Ma to 1969 A.D.)**

-  (M-1) Basalt and basaltic andesite: lava flows and tephra deposits (e.g. Mt. Macolod, Mt. Atimbia, ...), ash and scoria cones (e.g. Imoc Hill, Mt. Mayabobo, ...), on Taal area partly covered by base surge deposits

**Mt. Banahaw (ca. 1.6 Ma to 1743 A.D.)**

-  (B-1) Andesitic lava flows and tephra deposits of the main cone
-  (B-2) Andesitic lava domes (secondary cones, e.g. Mt. San Cristobal, Mt. Banahaw de Lucban, ...)
-  (B-3) Ash-flow and lahar deposits
-  (B-4) Debris avalanche deposits (Mt. Banahaw de Lucban). Debris avalanche deposits of the central crater

**Laguna de Bay Caldera – Caliraya Plateau (ca. 2.3 to 0.9 Ma.)**

-  (L-1) Andesitic to rhyolitic tephra deposits, mainly large scale ignimbrite and lahar deposits. Andesitic lava flows

Source: Geological Map of Macolod Corridor

図 3.5.1 調査対象地域の地質図

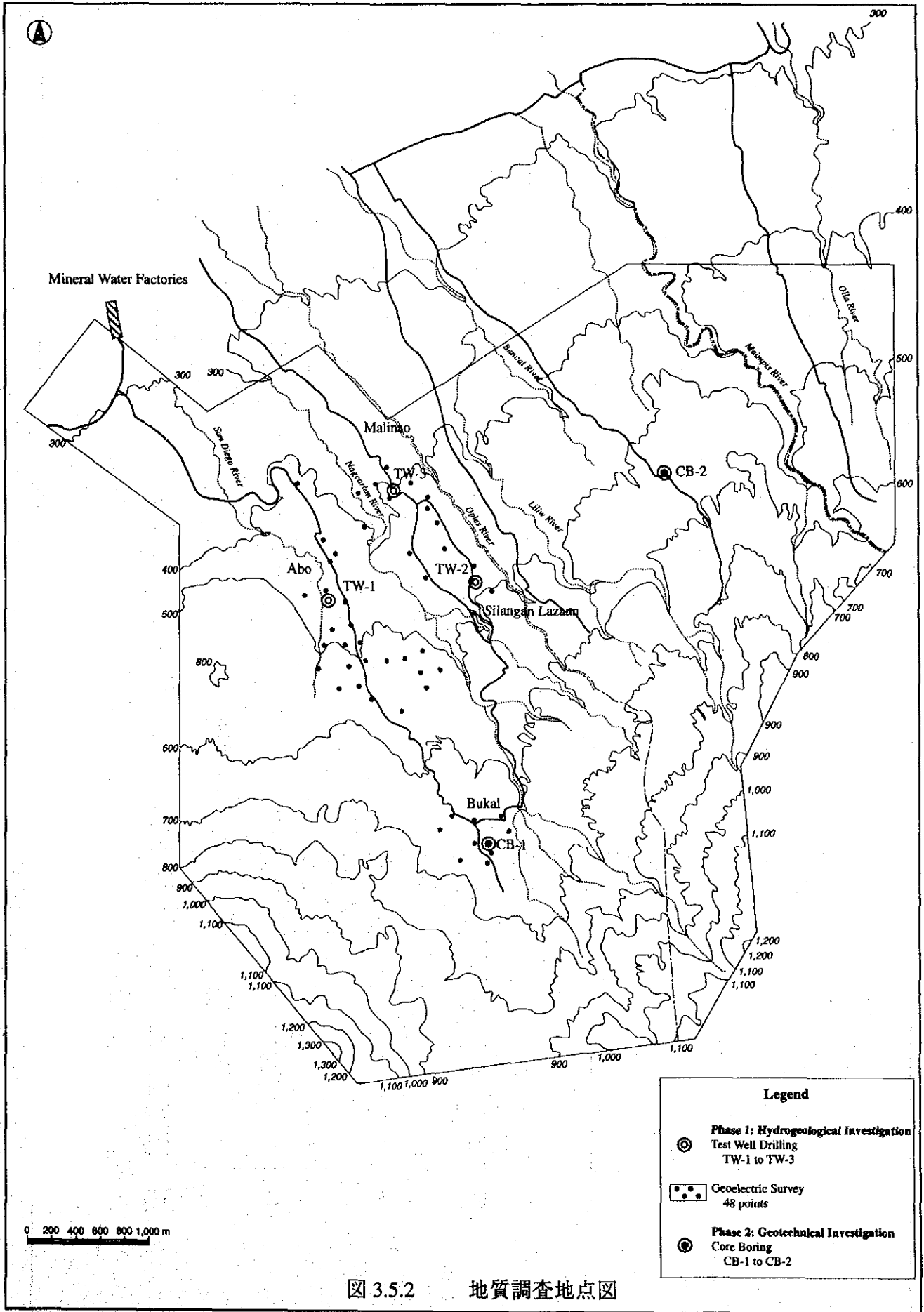


图 3.5.2 地質調査地点図

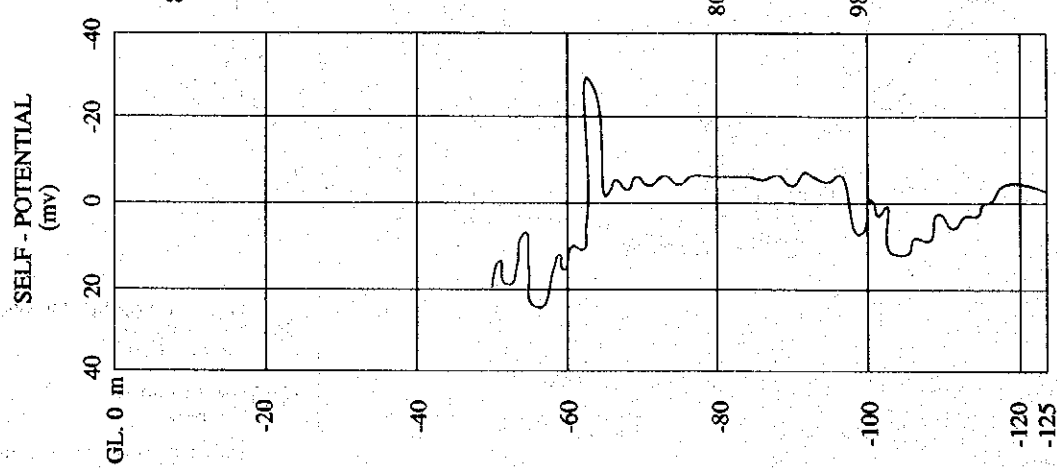
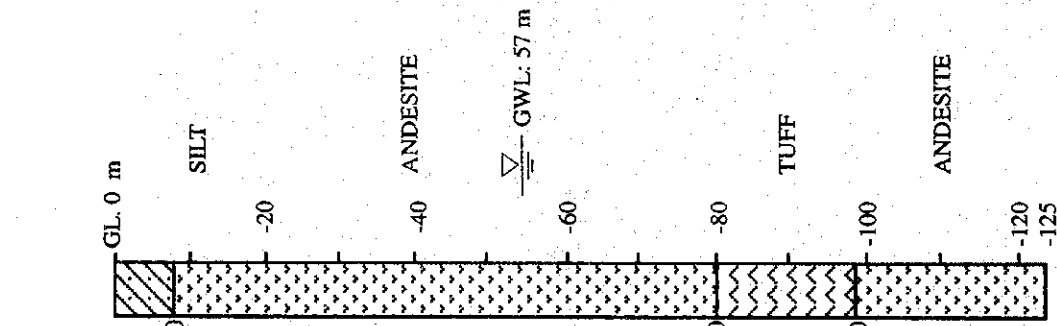
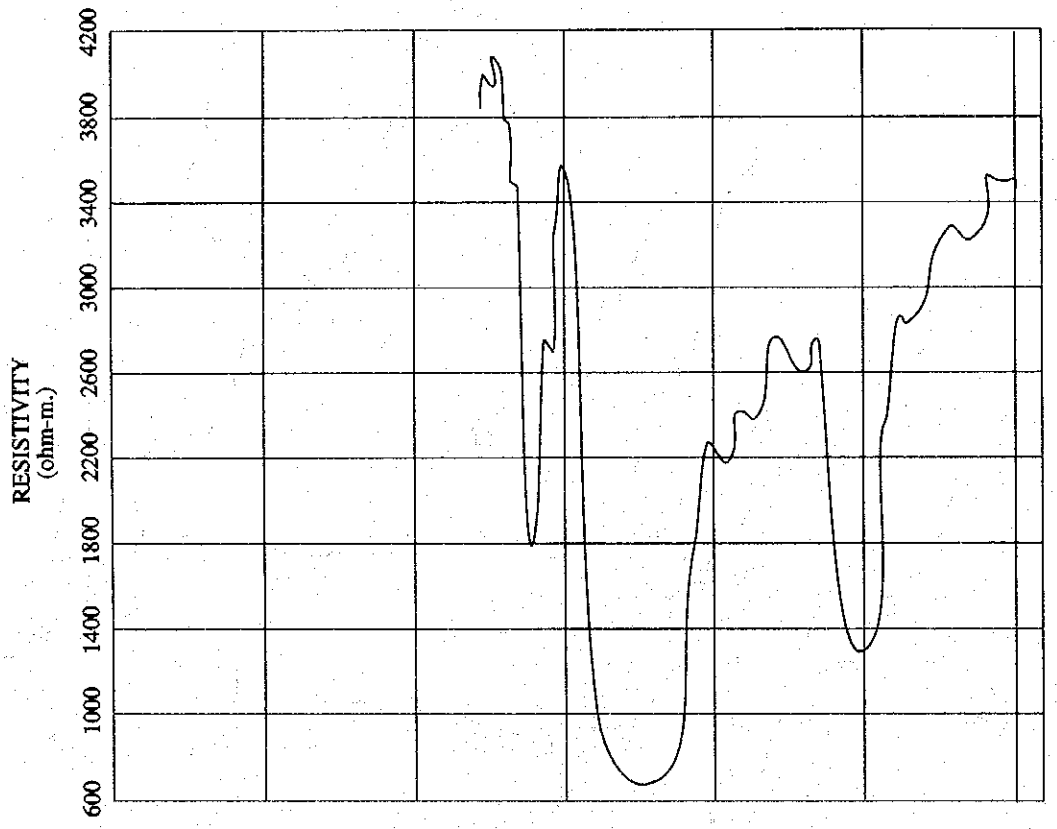


図 3.5.3 TW-1地点の地質状況と比抵抗値断面図 (Abo)

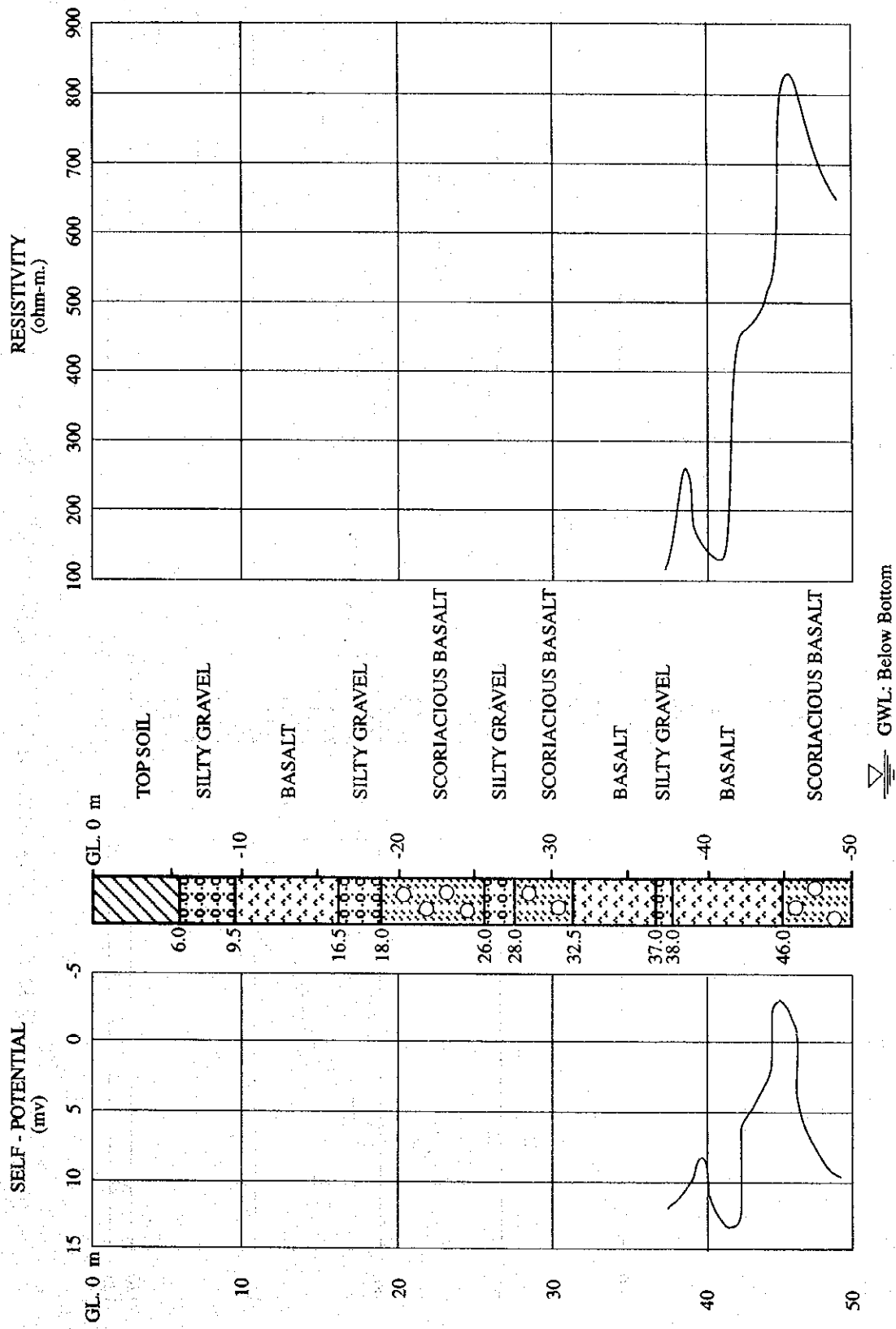


図 3.5.4 TW-2地点の地質状況と比抵抗値断面図 (Silangan Lazzan)

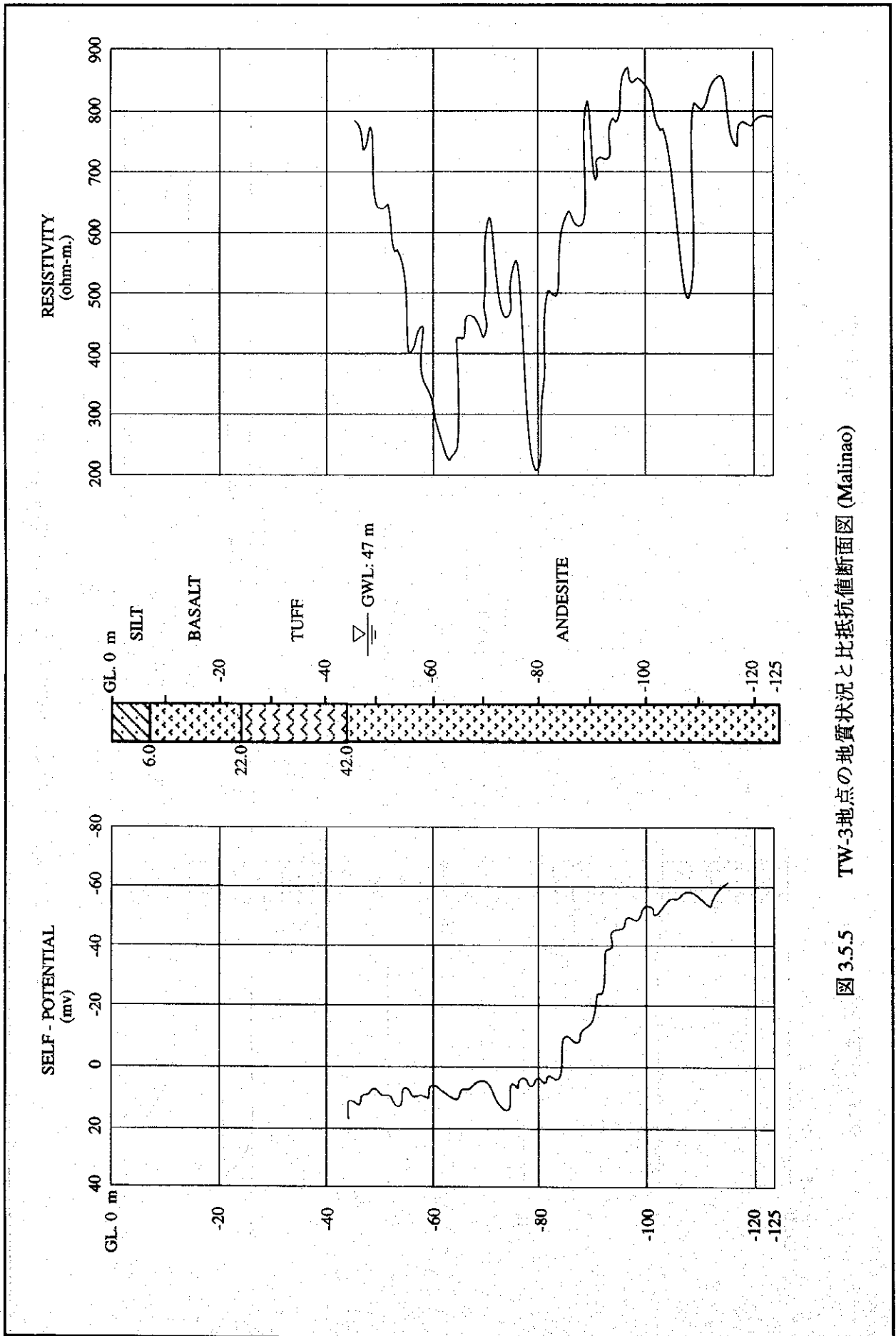


図 3.5.5 TW-3地点の地質状況と比抵抗値断面図 (Mainao)

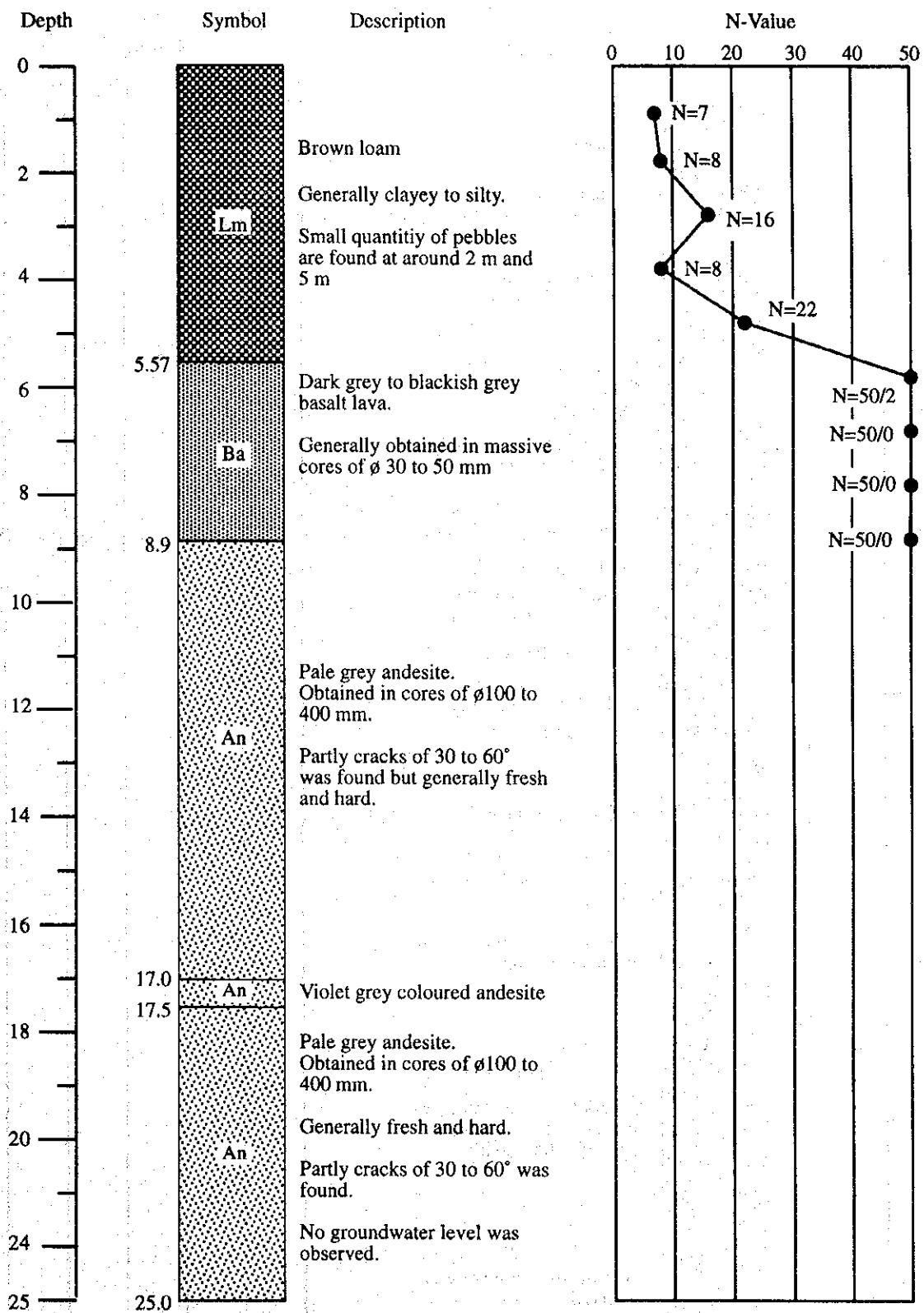


図 3.5.6 CB-1孔の地質状況とN値

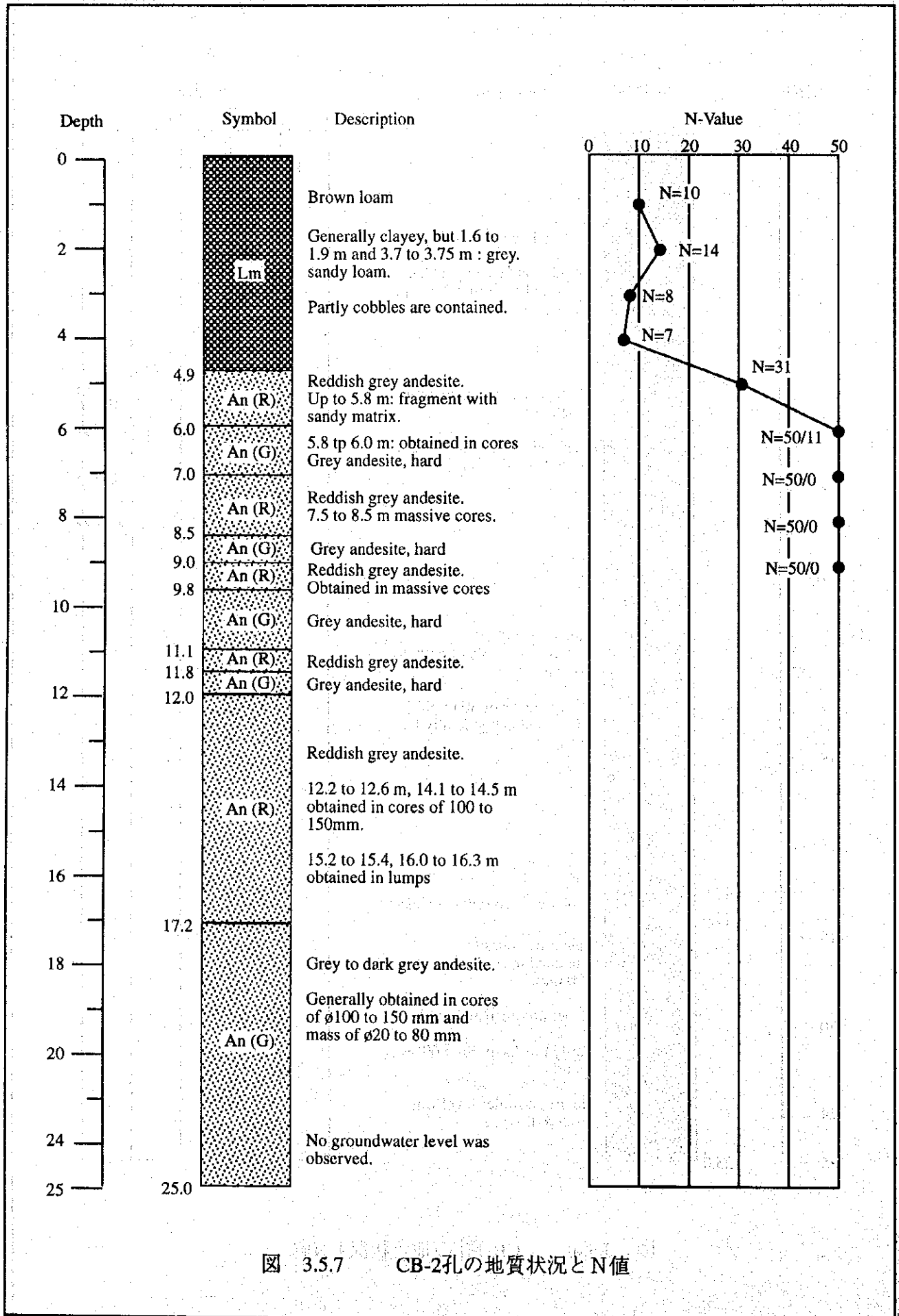


図 3.5.7 CB-2孔の地質状況とN値

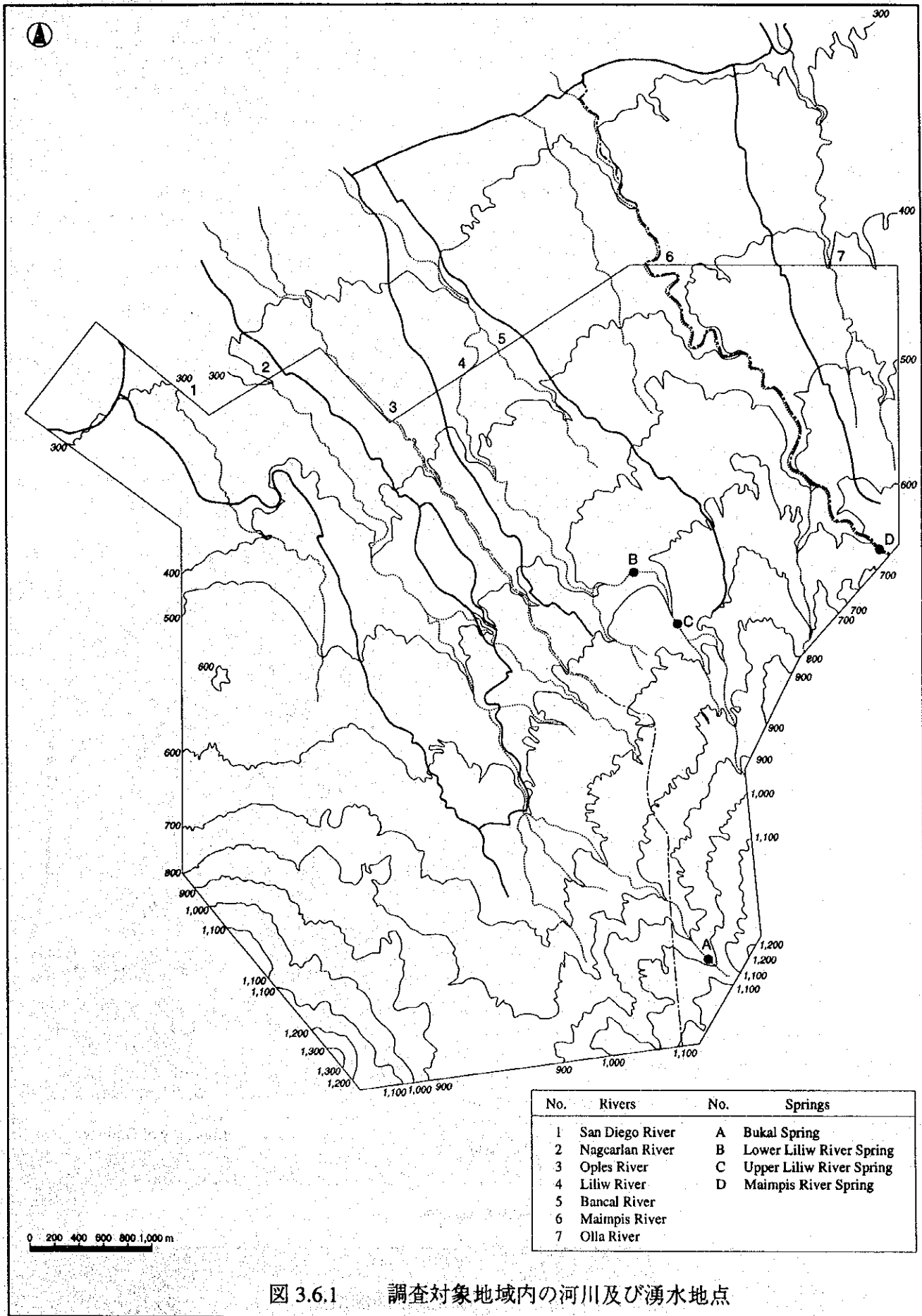


図 3.6.1 調査対象地域内の河川及び湧水地点



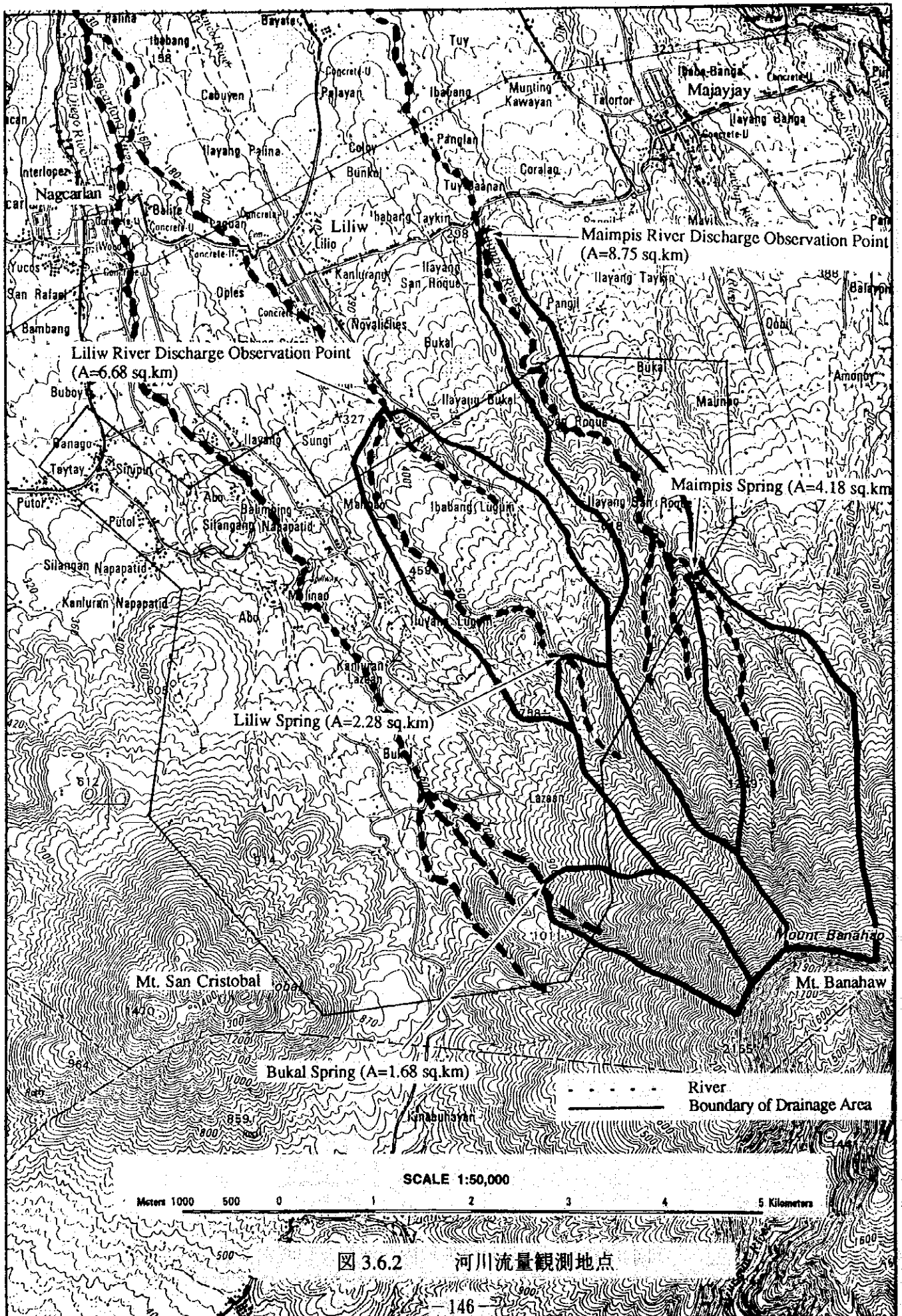
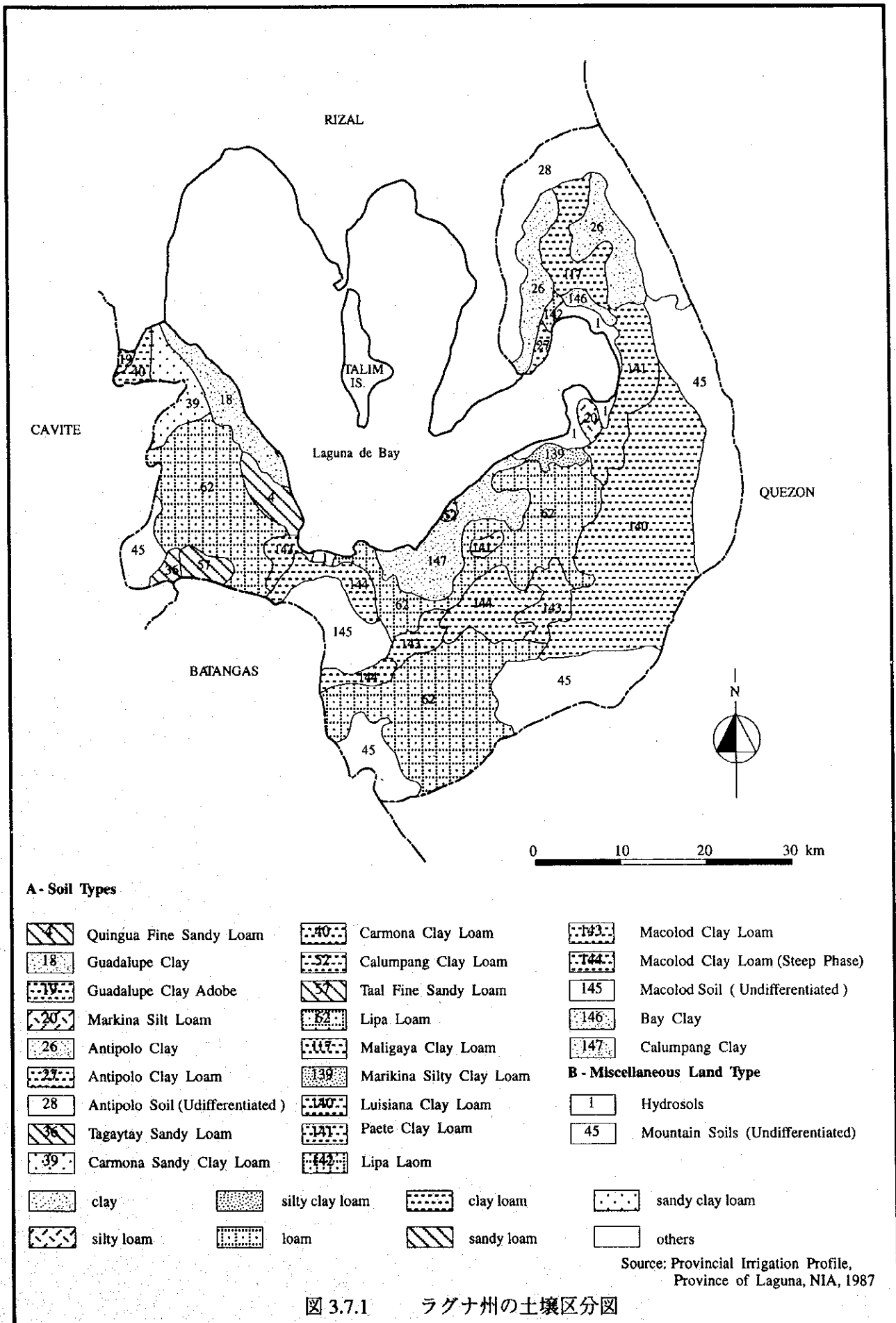
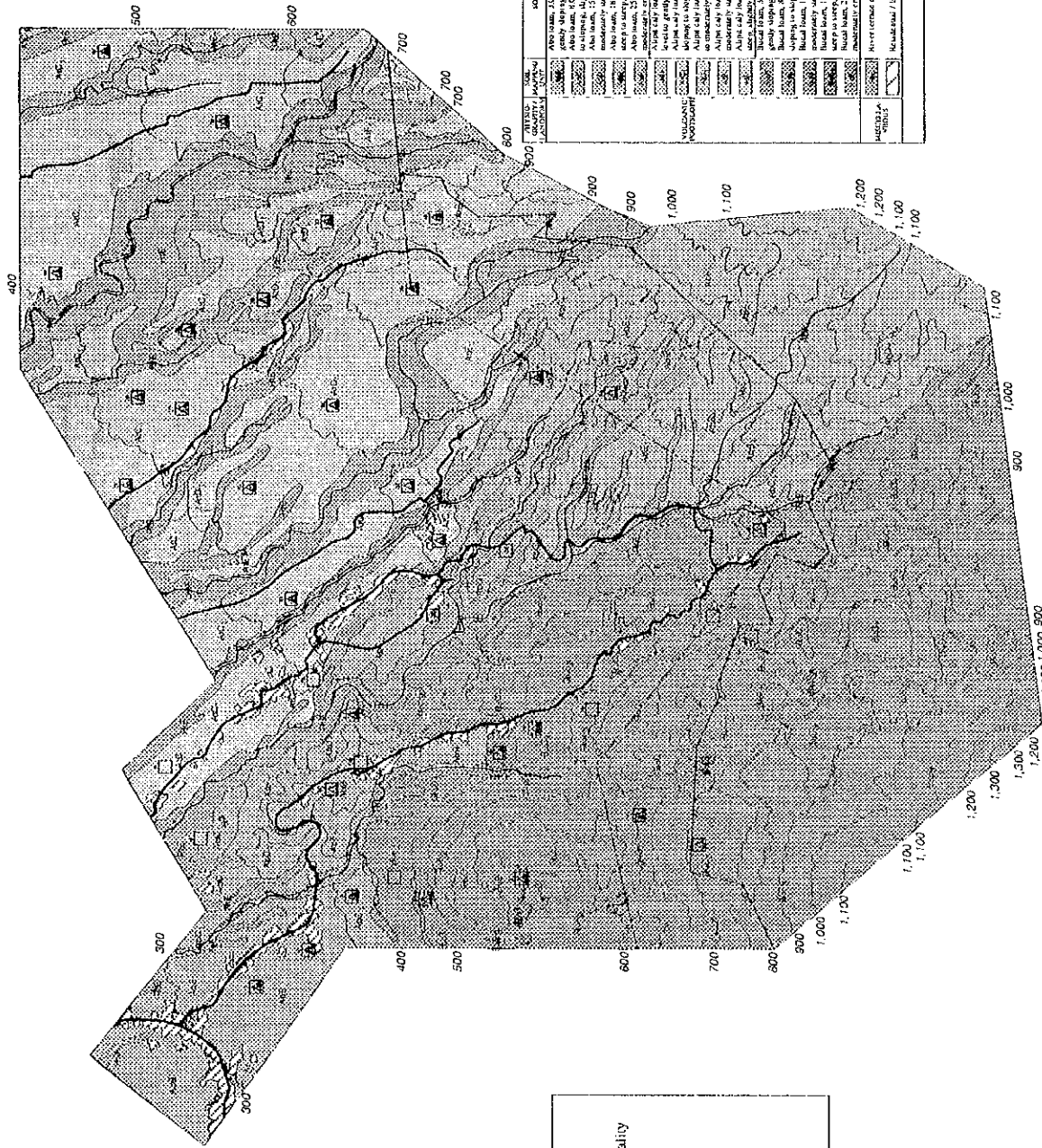


図 3.6.2 河川流量観測地点









Legend	
	Boundary of Municipality
	Contour in Meter
	River
	Road
	Barangay Site
	Pit Site
	Fertility Site



図 3.7.2 調査対象地域の土壌区分図



SOIL ORDER	SOIL CLASS	SOIL SERIES	SOIL ORDER - TYPE	SOIL CLASS - TYPE	SOIL SERIES - TYPE	AREA (HA)	PERCENT (%)
MOLLISOLS	MOLLISOLS	MOLLISOLS	MOLLISOLS	MOLLISOLS	MOLLISOLS	135	4.50
						105	3.50
						80	2.70
						65	2.10
						50	1.70
						40	1.30
						30	1.00
						20	0.70
						15	0.50
						10	0.30
ENTISOLS	ENTISOLS	ENTISOLS	ENTISOLS	ENTISOLS	ENTISOLS	105	3.50
						80	2.70
						65	2.10
						50	1.70
						40	1.30
						30	1.00
						20	0.70
						15	0.50
						10	0.30
						5	0.15
TOTAL AREA						1000	100.00

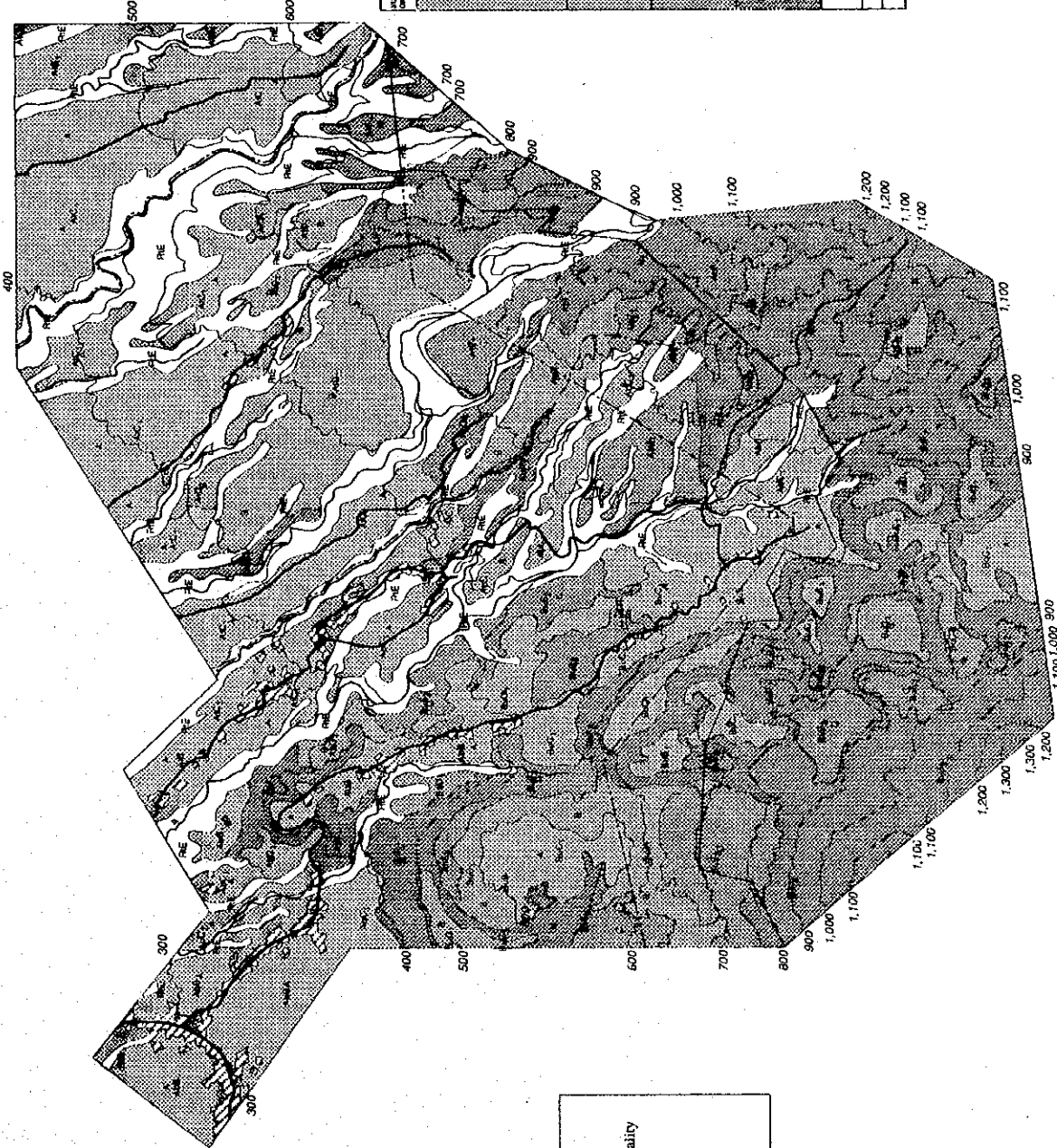
THE REPUBLIC OF THE PHILIPPINES  
THE UPDANS IRRIGATION AND RURAL DEVELOPMENT PROJECT  
IN SOUTHERN LUZON

SOIL MAP

DRAWING NO. SHEET 1 OF 1 PAGE

UPDAN INTERNATIONAL COOPERATION AGENCY





MUNICIPALITY	MUNICIPALITY BOUNDARY	SUITABILITY CLASSIFICATION		AREA (HA)	PERCENT (%)
		1C	2C		
AM	23a	23a	23a	13.5	4.56
AM	23a	23a	23a	10.5	3.50
AM	23a	23a	23a	15	5.00
AM	23a	23a	23a	15	5.00
AM	23a	23a	23a	40	13.33
AM	23a	23a	23a	21.5	7.17
AM	23a	23a	23a	96.5	32.29
AM	23a	23a	23a	84	28.00
AM	23a	23a	23a	176	57.73
AM	23a	23a	23a	184	59.33
AM	23a	23a	23a	359	117.73
AM	23a	23a	23a	65	21.67
AM	23a	23a	23a	54	17.67
AM	23a	23a	23a	195	63.33
AM	23a	23a	23a	310	99.67
AM	23a	23a	23a	320	103.33
AM	23a	23a	23a	86	27.67
AM	23a	23a	23a	425	137.67
AM	23a	23a	23a	823	265.67
SUB-TOTAL				565	181.67
TOTAL AREA				3,080	100.00

THE REPUBLIC OF THE PHILIPPINES  
 THE UPLAND IRRIGATION AND RURAL DEVELOPMENT PROJECT  
 IN SOUTHERN LUZON  
 LAND SUITABILITY MAP

DRAWING NO. SHEET 1 OF 1  
 PAGE

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.7.3 調査対象地域の土地分級図





**Legend**

- Boundary of Municipality
- Contour in Meter
- ~ River
- Road

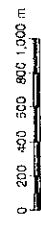
SUITABILITY GROUP CODE	SUITABILITY GROUP NAME	SUITABILITY CLASSIFICATION				AREA (Ha)	PERCENT (%)
		1A	1B	2	3		
1A	Very High	135	135	135	4.53		
1B	High	222	222	222	7.39		
2	Medium	15	15	15	0.50		
3	Low	40	40	40	1.34		
3A	Very Low	215	215	215	7.29		
3B	Low	95	95	95	3.20		
3C	Very Low	90	90	90	3.07		
3D	Very Low	170	170	170	5.75		
3E	Very Low	100	100	100	3.40		
3F	Very Low	300	300	300	10.17		
3G	Very Low	65	65	65	2.19		
3H	Very Low	58	58	58	1.97		
3I	Very Low	175	175	175	5.89		
3J	Very Low	423	423	423	14.13		
3K	Very Low	310	310	310	10.23		
3L	Very Low	170	170	170	5.75		
3M	Very Low	60	60	60	2.02		
3N	Very Low	423	423	423	14.13		
3O	Very Low	823	823	823	27.52		
TOTAL AREA						3,990	100.00

THE REPUBLIC OF THE PHILIPPINES  
 THE IRRIGATION AND RURAL DEVELOPMENT PROJECT  
 IN SOUTHERN LUZON  
 LAND SUITABILITY MAP

DRAWING NO. SHEET 1 OF 1  
 PAGE

JAPAN INTERNATIONAL COOPERATION AGENCY

図 3.7.3 調査対象地域の土地分級図







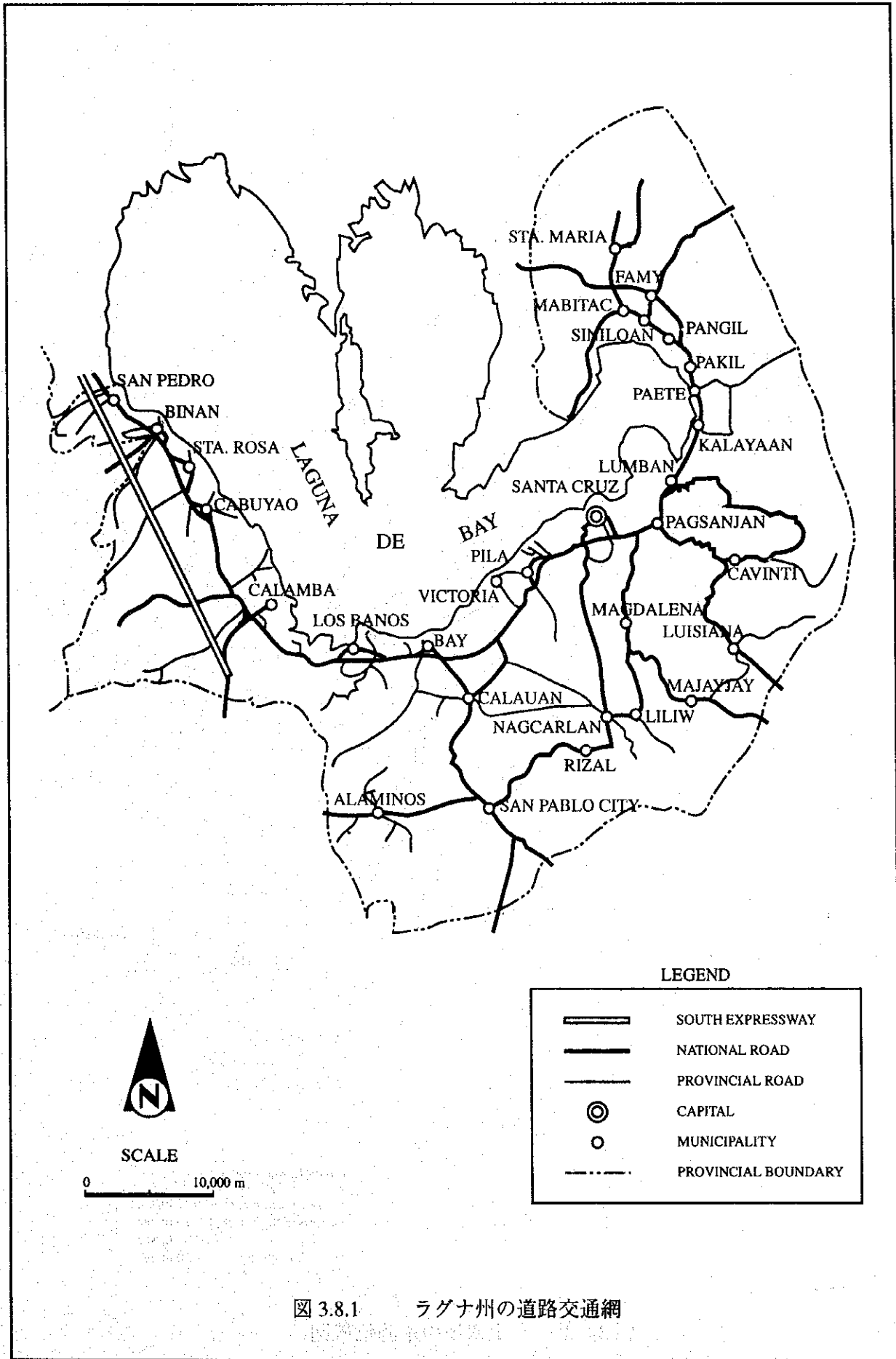


図 3.8.1 ラグナ州の道路交通網

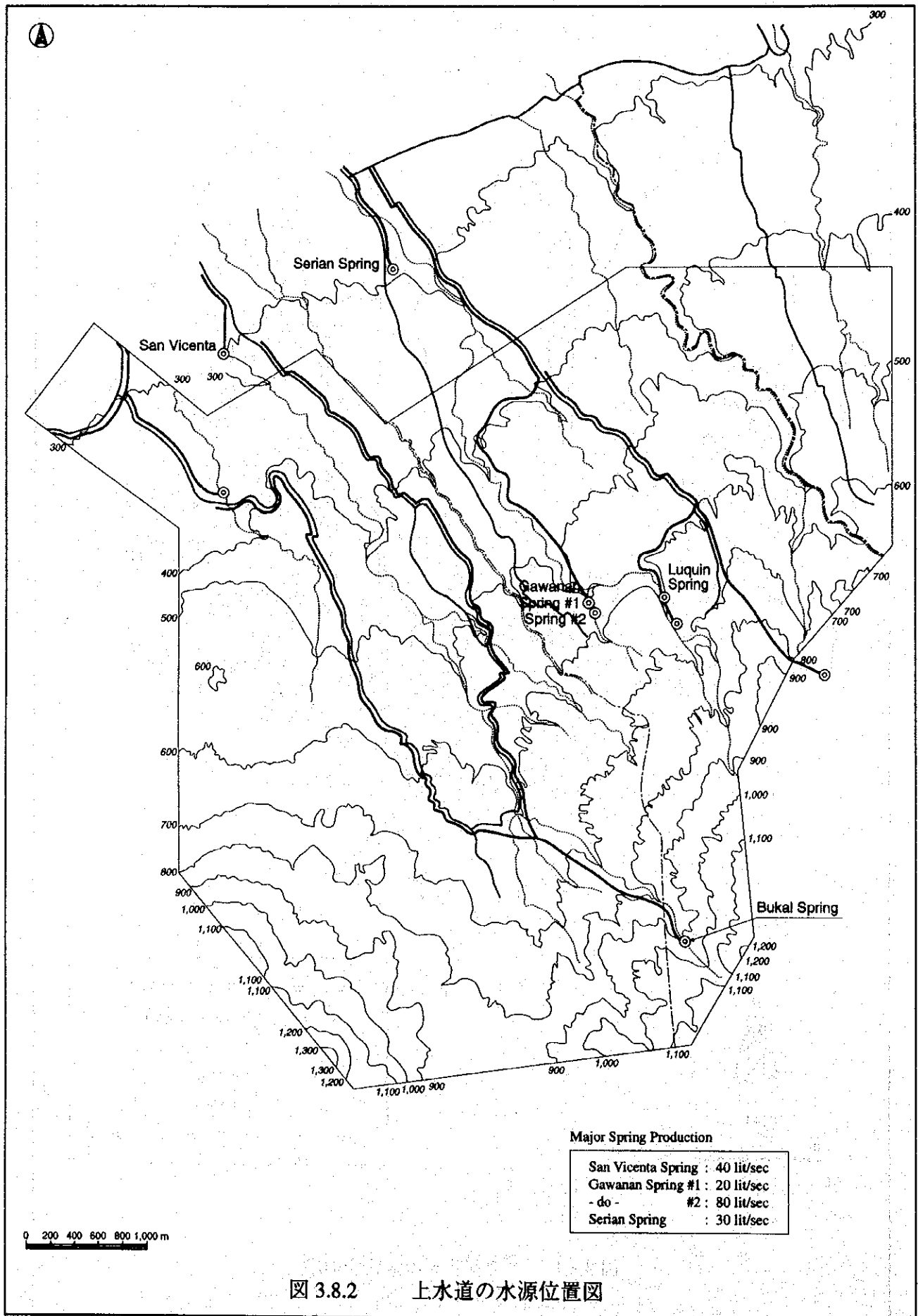


図 3.8.2 上水道の水源位置図

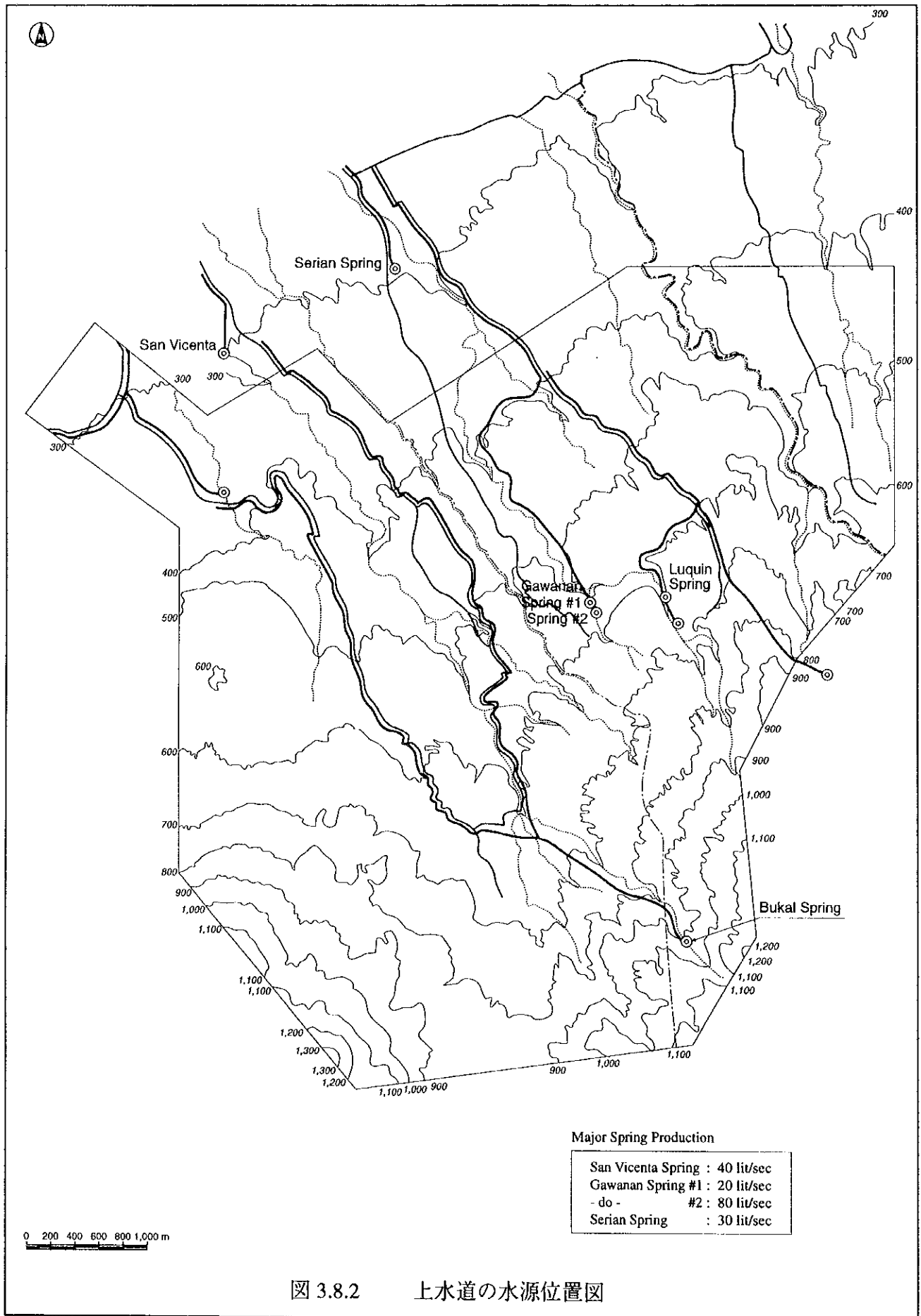
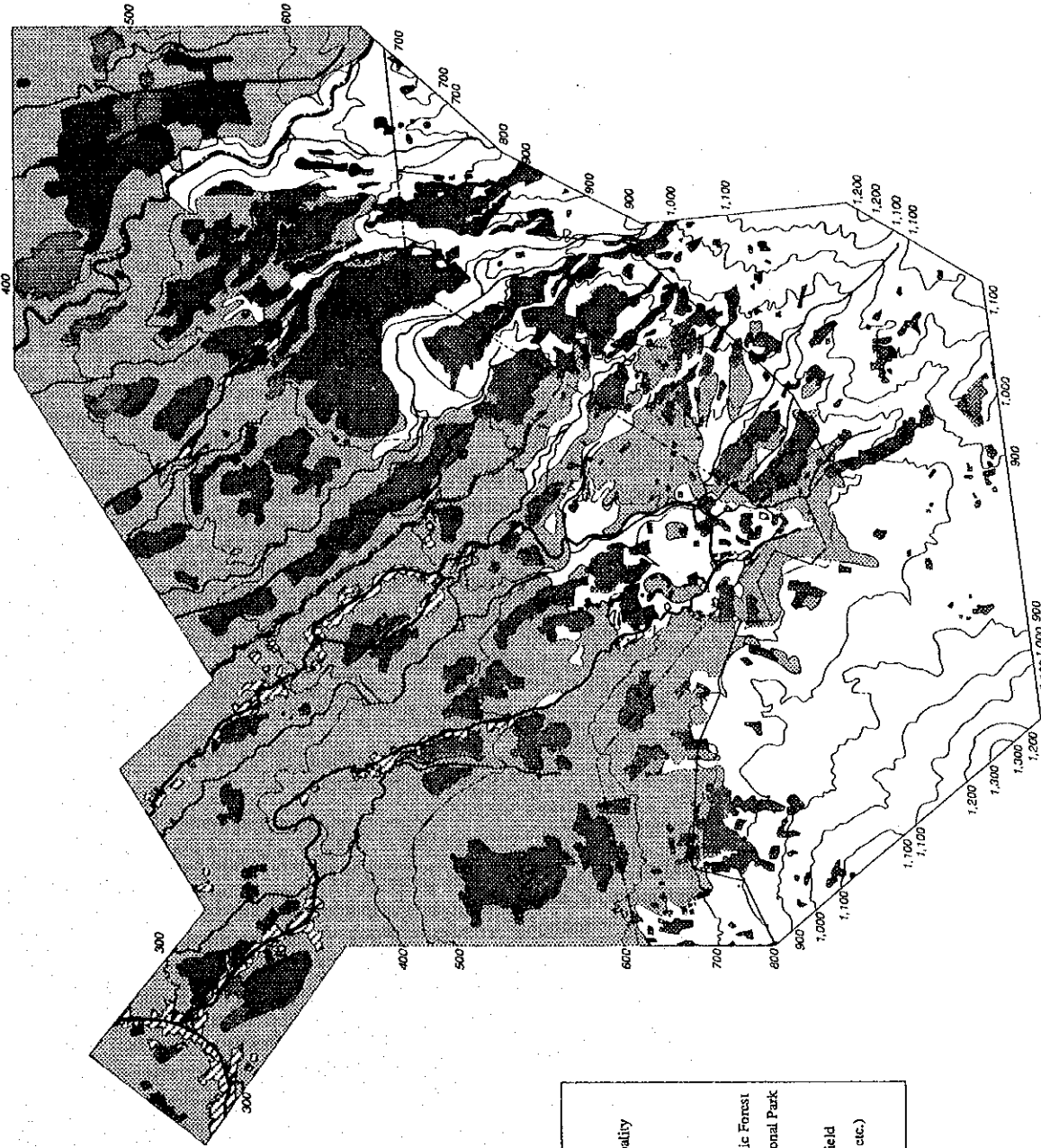


図 3.8.2 上水道の水源位置図

(A)



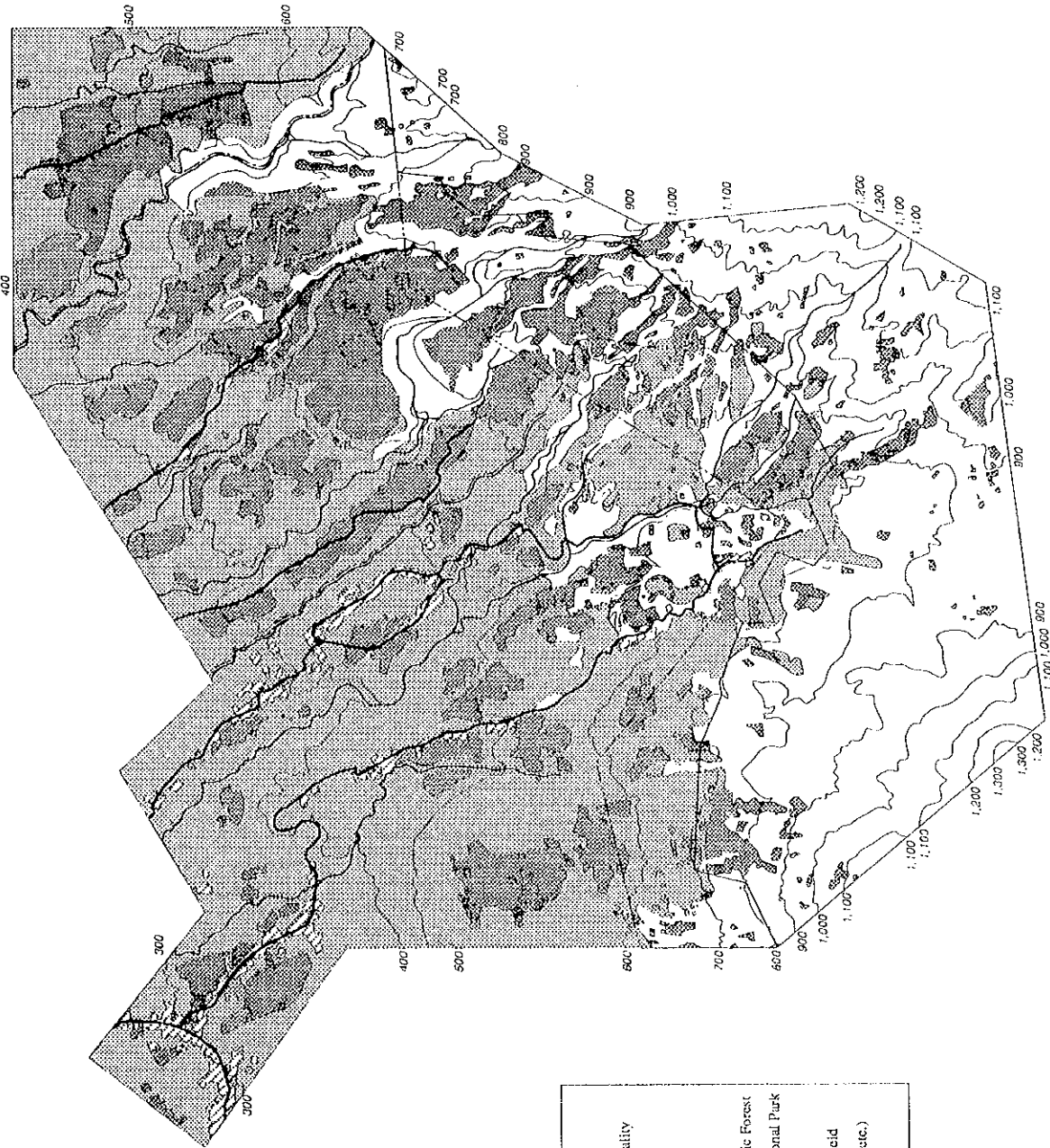
**Legend**

- Boundary of Municipality
- Contour in Meter
- River
- Road
- Boundary of the Public Forest
- Boundary of the National Park
- Wet Paddy Field
- Vegetable Cropped Field
- Tree Crops (coconut, etc.)
- Residential area



図 3.9.1 現況土地利用図

THE REPUBLIC OF THE PHILIPPINES	
THE IRLAND IRRIGATION AND RURAL DEVELOPMENT PROJECT IN SOUTHERN LUZON	
PRESENT LAND USE	
DRAWING NO.	SHEET 1 OF 1
PAGE	
JAPAN INTERNATIONAL COOPERATION AGENCY	



Legend	
	Boundary of Municipality
	Contour in Meter
	River
	Road
	Boundary of the Public Forest
	Boundary of the National Park
	Wet Paddy Field
	Vegetable Cropped Field
	Tree Crops (coconut, etc.)
	Residential area

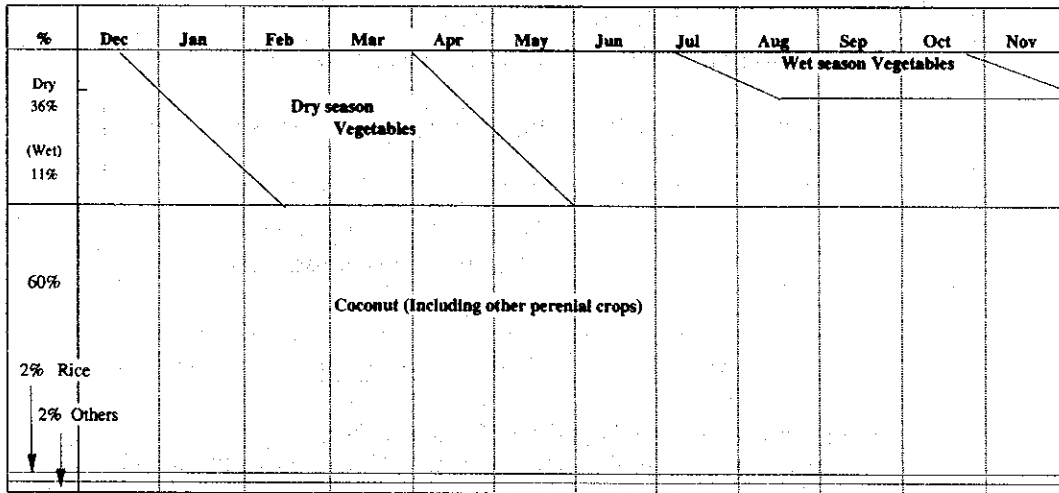


図 3.9.1 現況土地利用図

THE REPUBLIC OF THE PHILIPPINES	
THE IRRIGATION AND RURAL DEVELOPMENT PROJECT	
IN SOUTHERN LUZON	
PRESENT LAND USE	
DRAWING NO.	SHEET 1 OF 1
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JAPANESE INTERNATIONAL COOPERATION AGENCY	



1 Whole Agricultural land



2 Vegetable farm (720 ha)

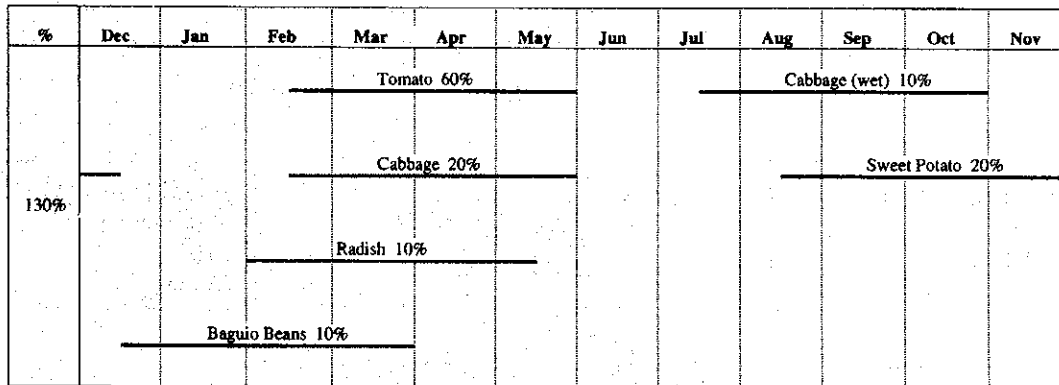


図. 3.9.2 現況作付体系



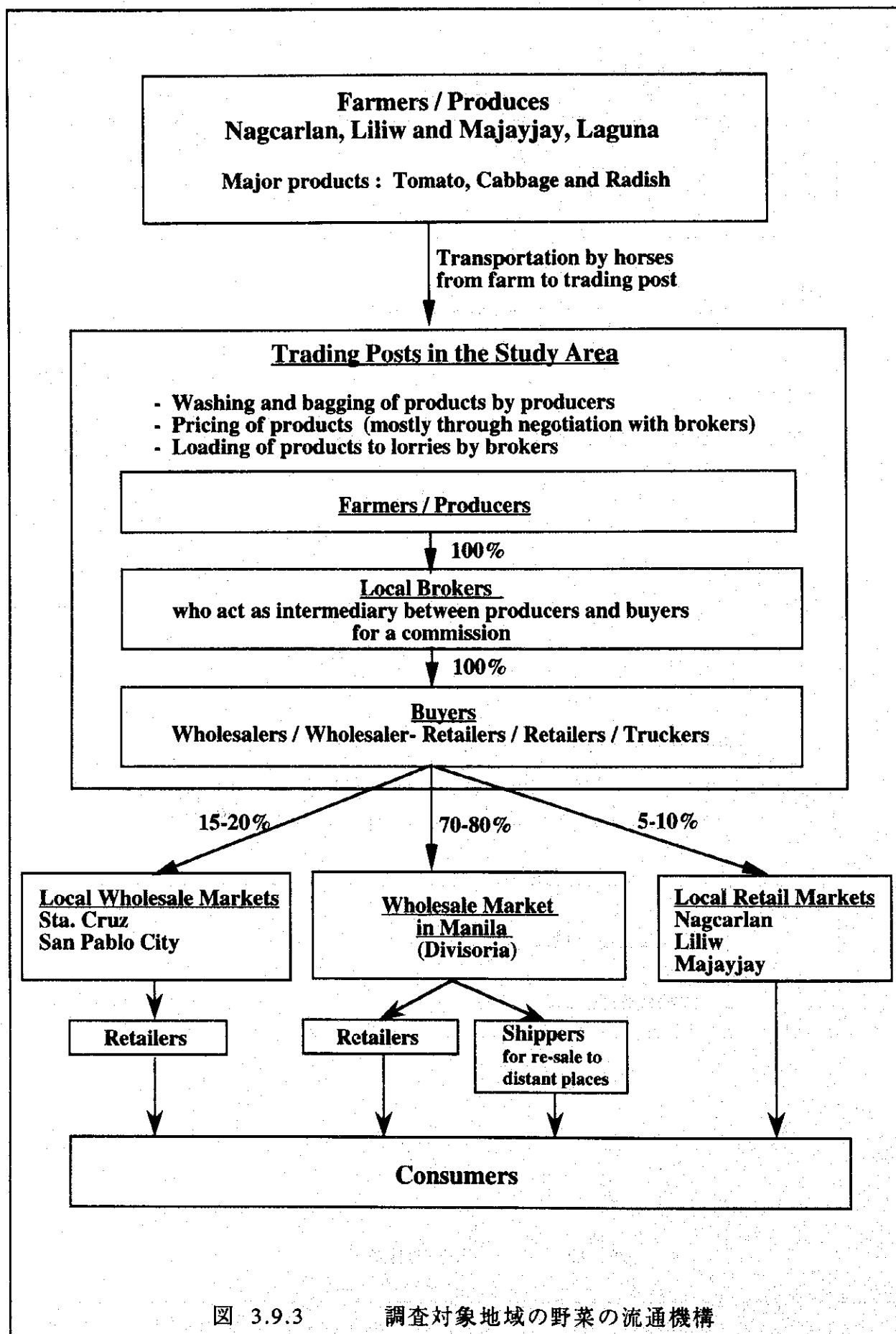
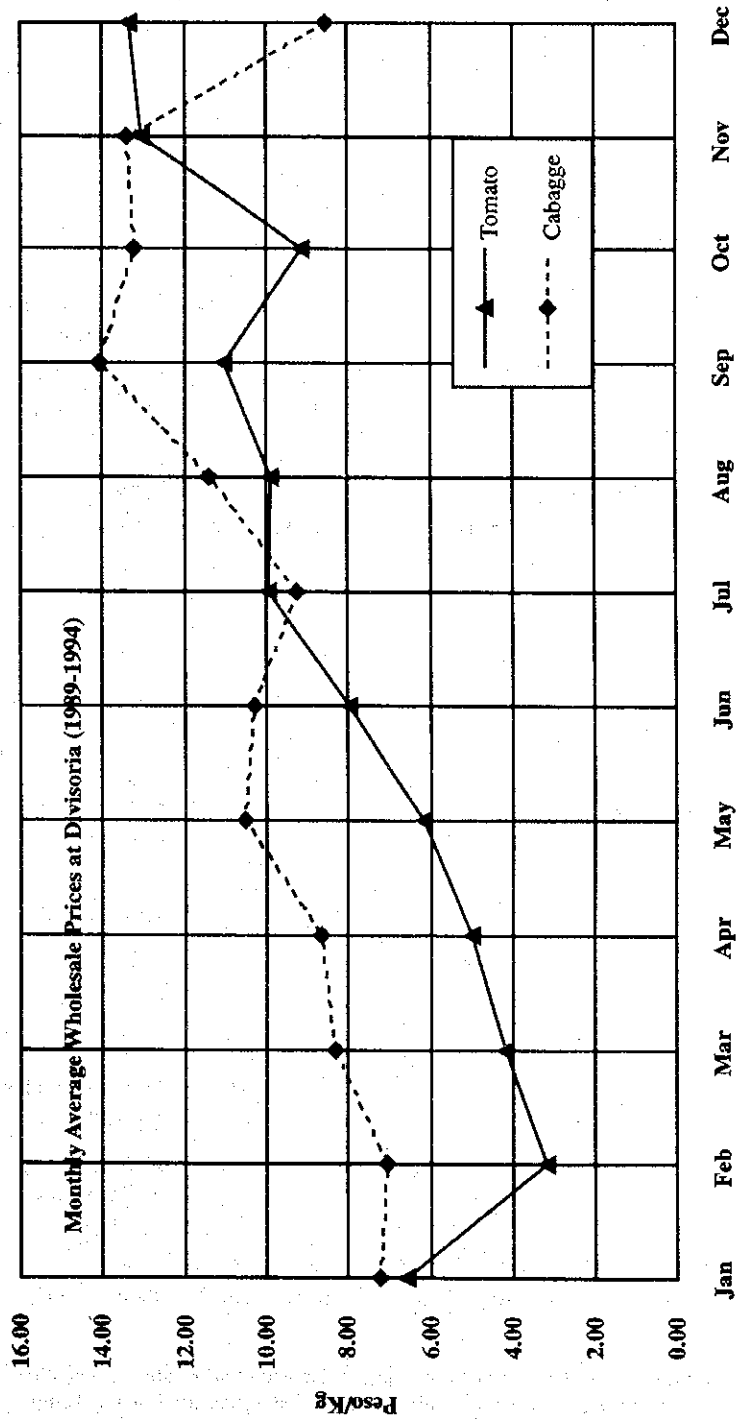
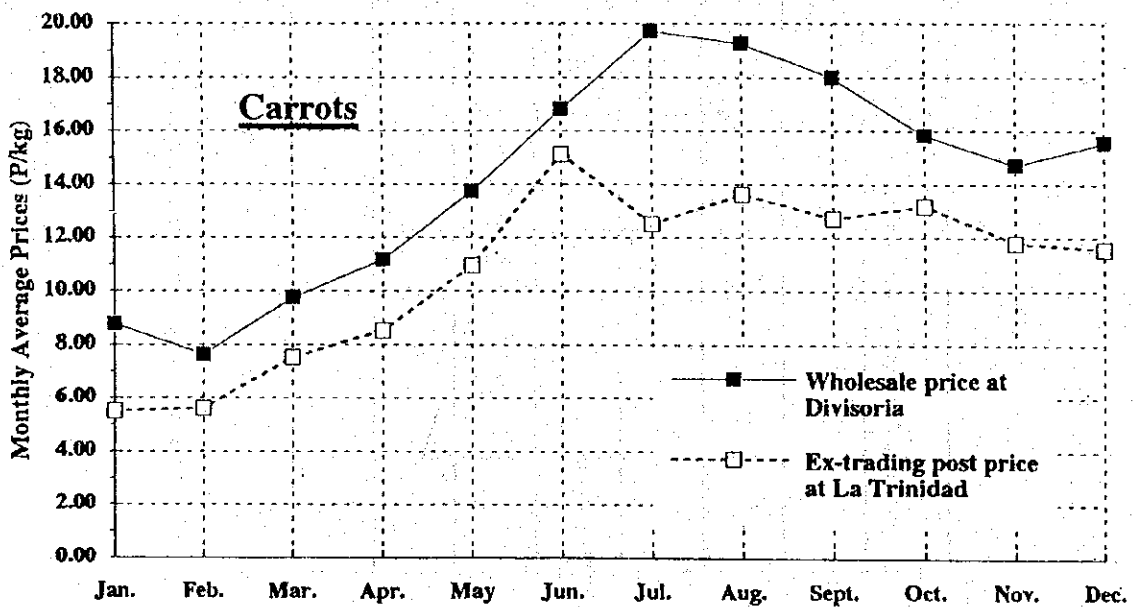
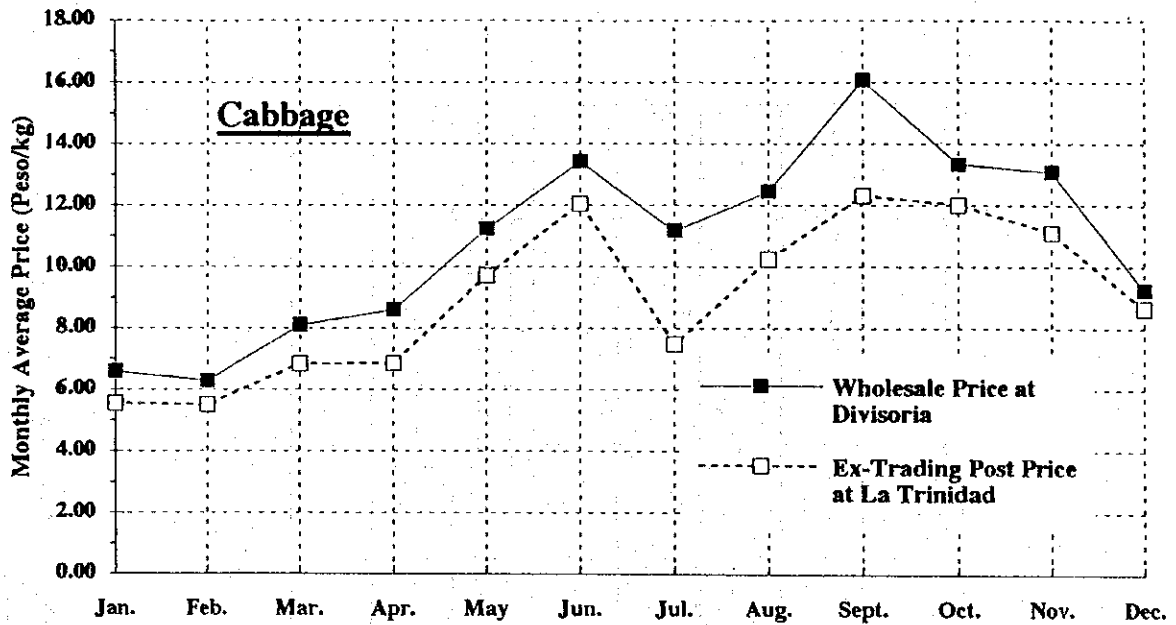


図 3.9.3 調査対象地域の野菜の流通機構



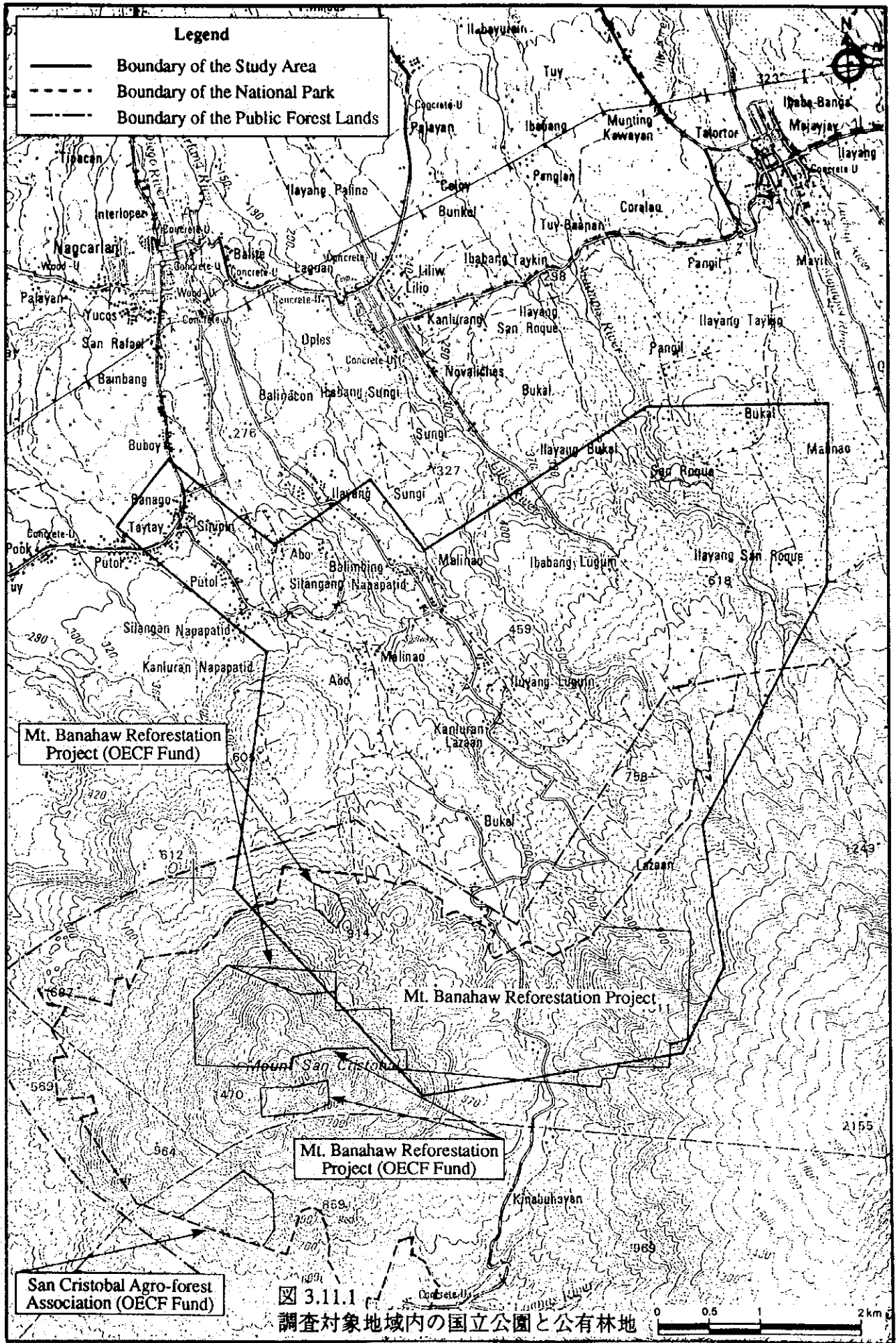
Source: Bureau of Agricultural Statistics, Department of Agriculture

図 3.9.4 デイビソリア市場における月別卸売価格の変動 (1989 - 1994)



Source: Wholesale prices at Divisoria market; Bureau of Agricultural Statistics  
 Ex-Trading prices at La Trinidad; Provincial agricultural office, Benguet

図 3.9.5 デイビソリア市場での卸売価格とトリニダッド（ベンゲット州）の  
 トレーディングポストでの価格の比較



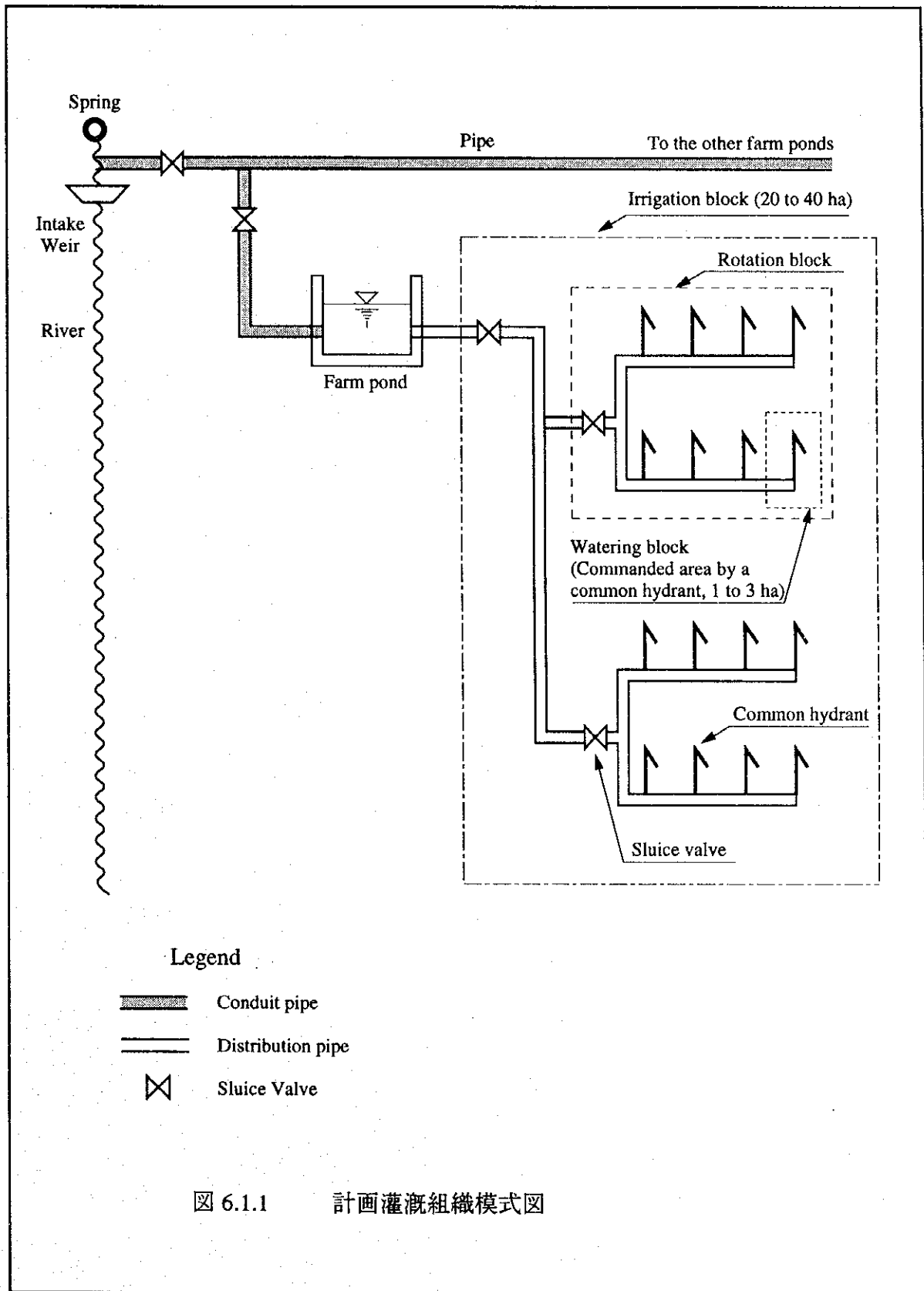
(1) 灌溉区域

Type	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1 30%			Sitao			Tomato					Carrot	
2 10%		Celery			Cabbage					Lettuce		
3 20%		Chinese Cabbage				Tomato				Sweet Potato		
4 10%		Baguio Beans				Cabbage				Cauliflower		
5 20%		Sitao				Radish			Cabbage (Wet)			
6 10%		Chinese Cabbage				Cabbage				Sweet Potato		

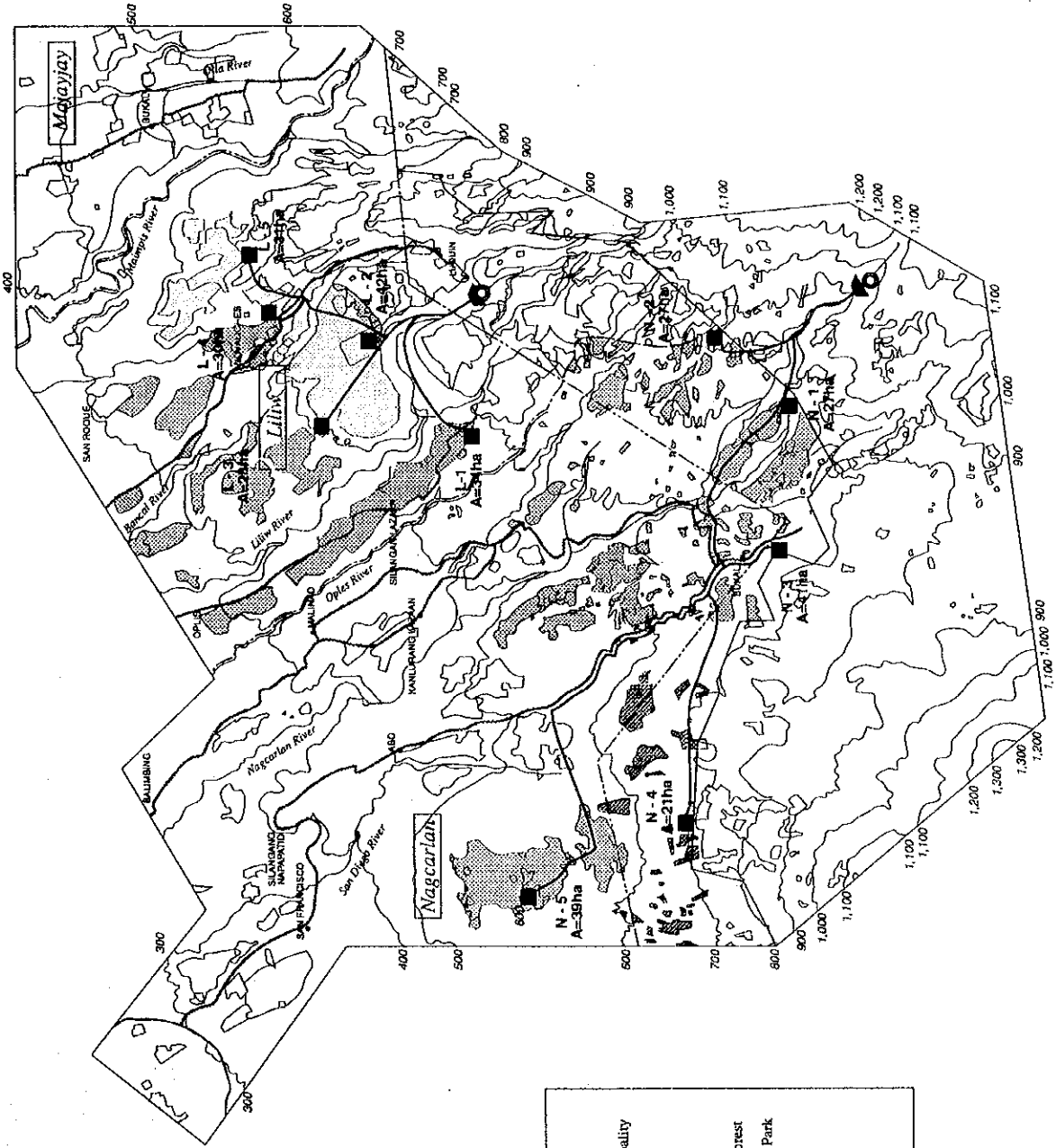
(2) 非灌溉地域

Type	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1 30%	Sweet Potato				Tomato						Sweet Potato	
2 20%					Tomato					Cabbage (Wet)		
3 20%				Cabbage						Sitao		
4 10%				Radish						Sitao		
5 10%				Radish						Lettuce		
6 10%			Baguio Beans							Carrot		

図. 5.7.1 計画作付け体系







Legend	
--- (dashed line)	Boundary of Municipality
--- (solid line)	Contour in Meter
~ (wavy line)	Rivers
--- (dashed line)	Road Improvement
--- (dotted line)	Boundary of Public Forest
--- (dash-dot line)	Boundary of National Park
○ (circle)	Water Sources
▴ (triangle)	Intake Weirs
— (solid line)	Pipe Line
■ (square)	Farm Ponds

図 6.1.2 灌溉ブロック図

0 200 400 600 800 1,000 m





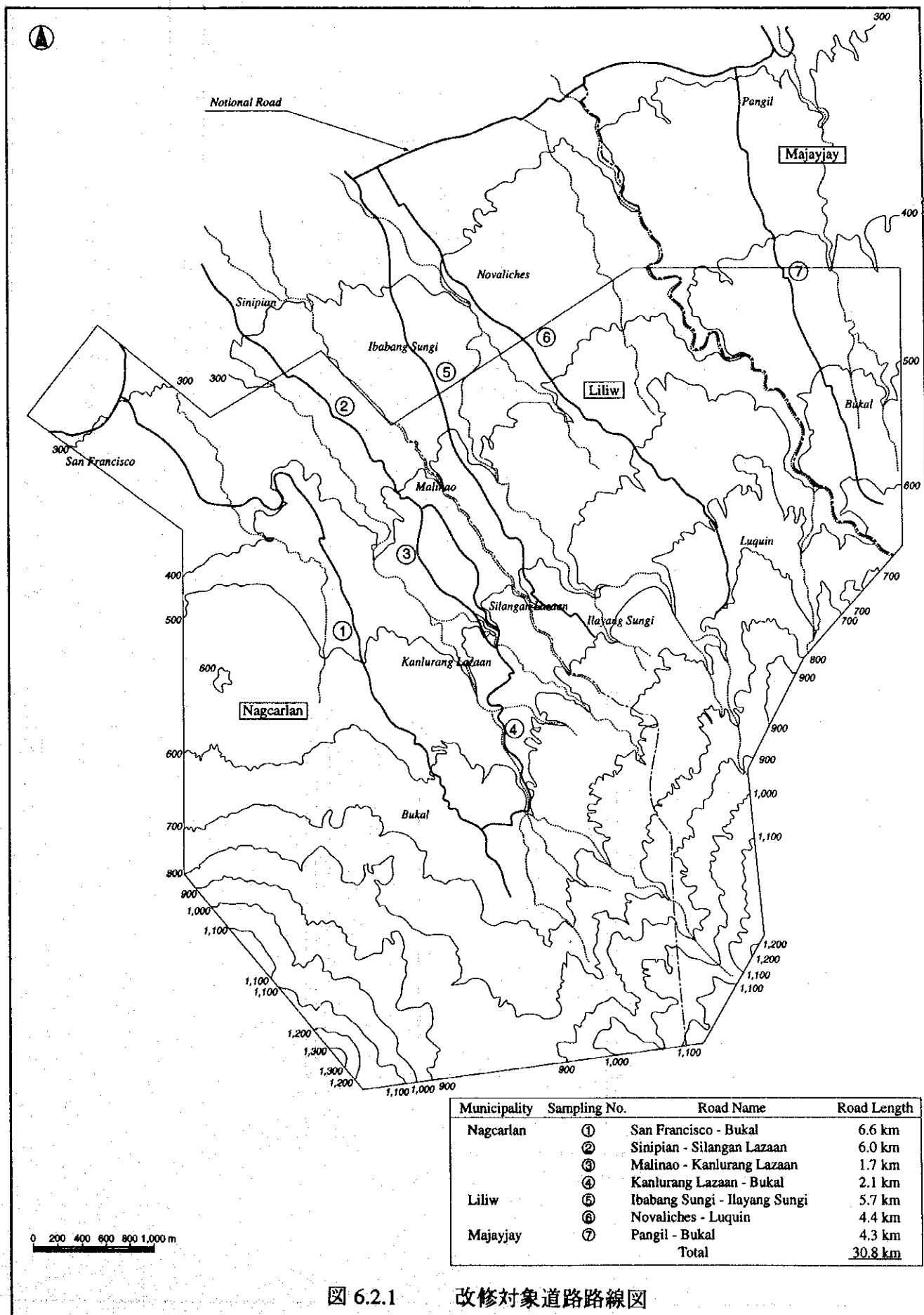
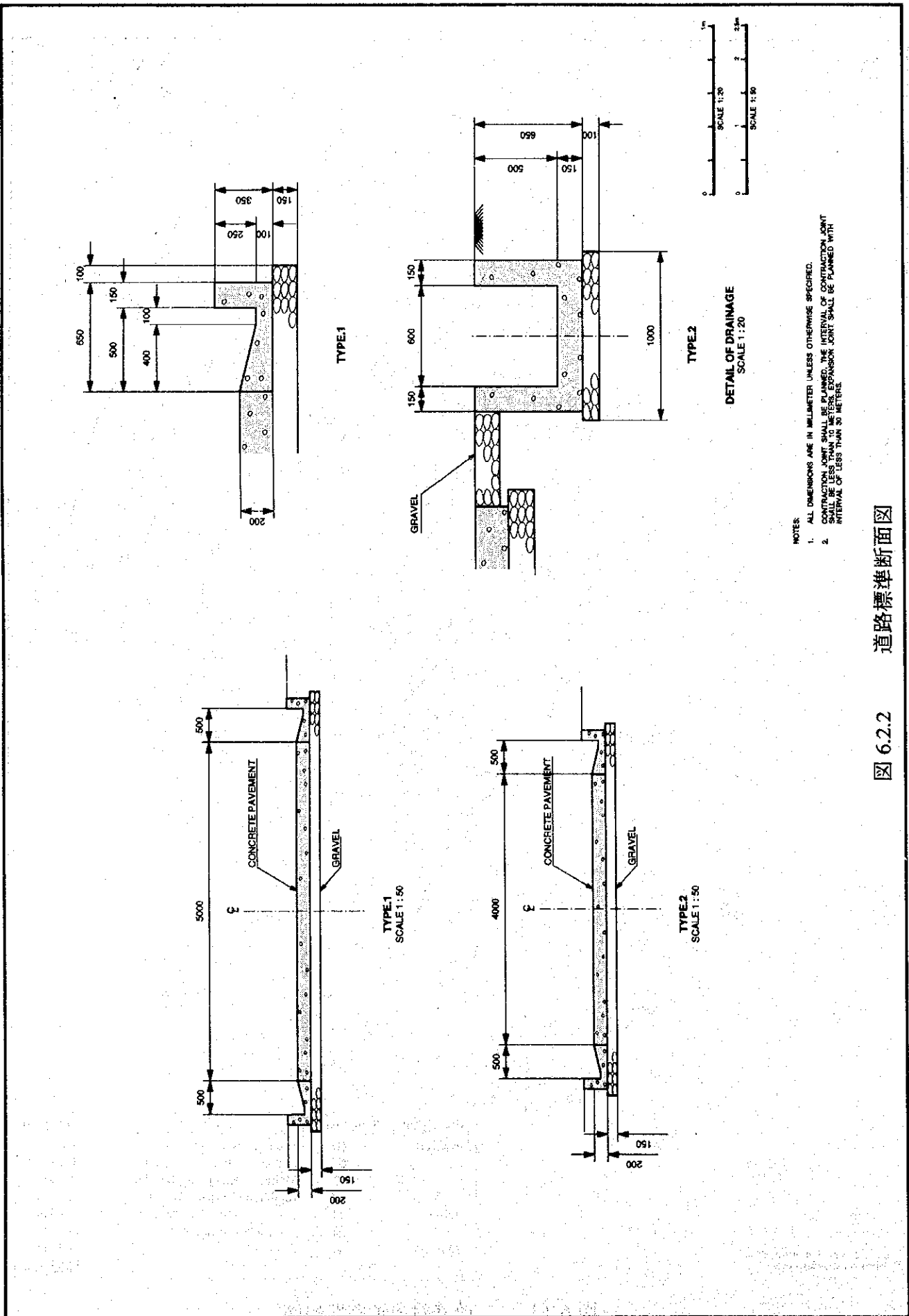


图 6.2.1 改修对象道路路線図



道路標準断面図

図 6.2.2

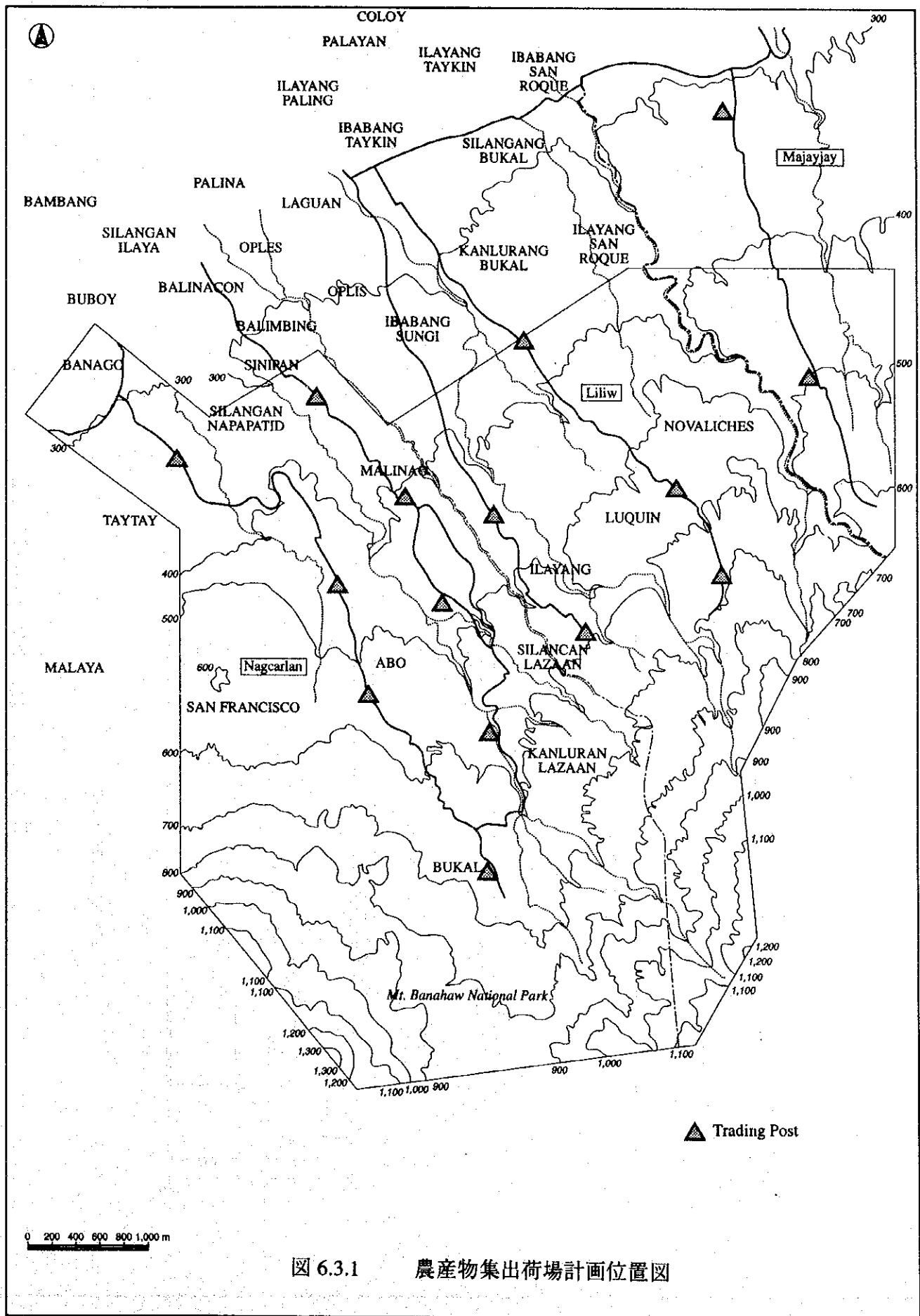


図 6.3.1 農産物集出荷場計画位置図

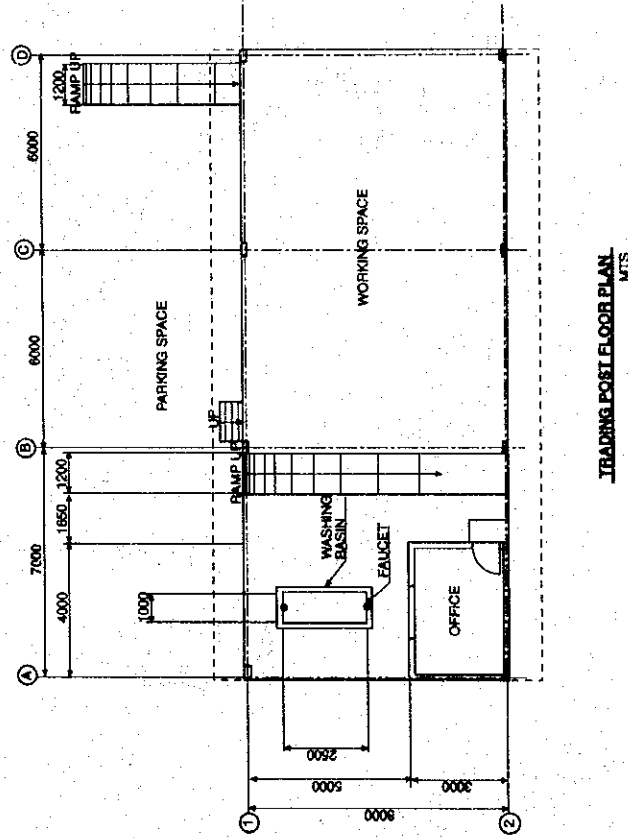
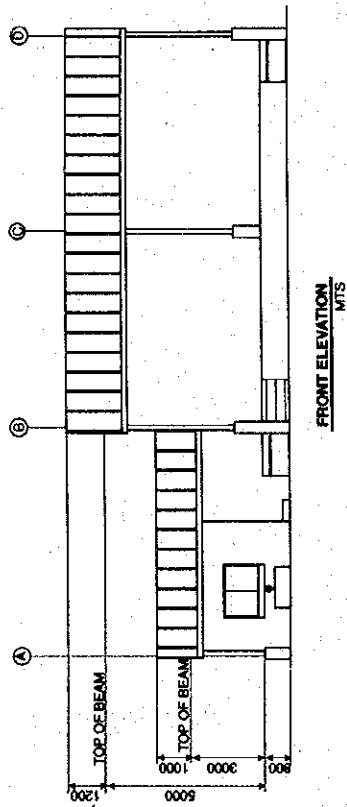
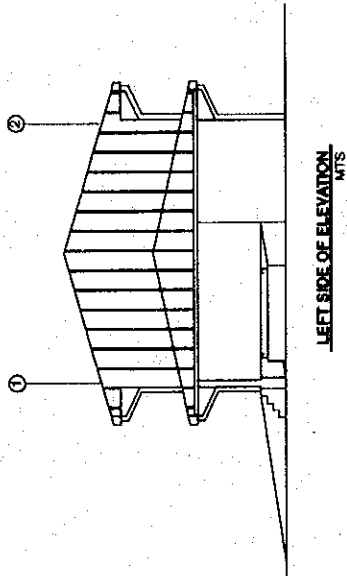
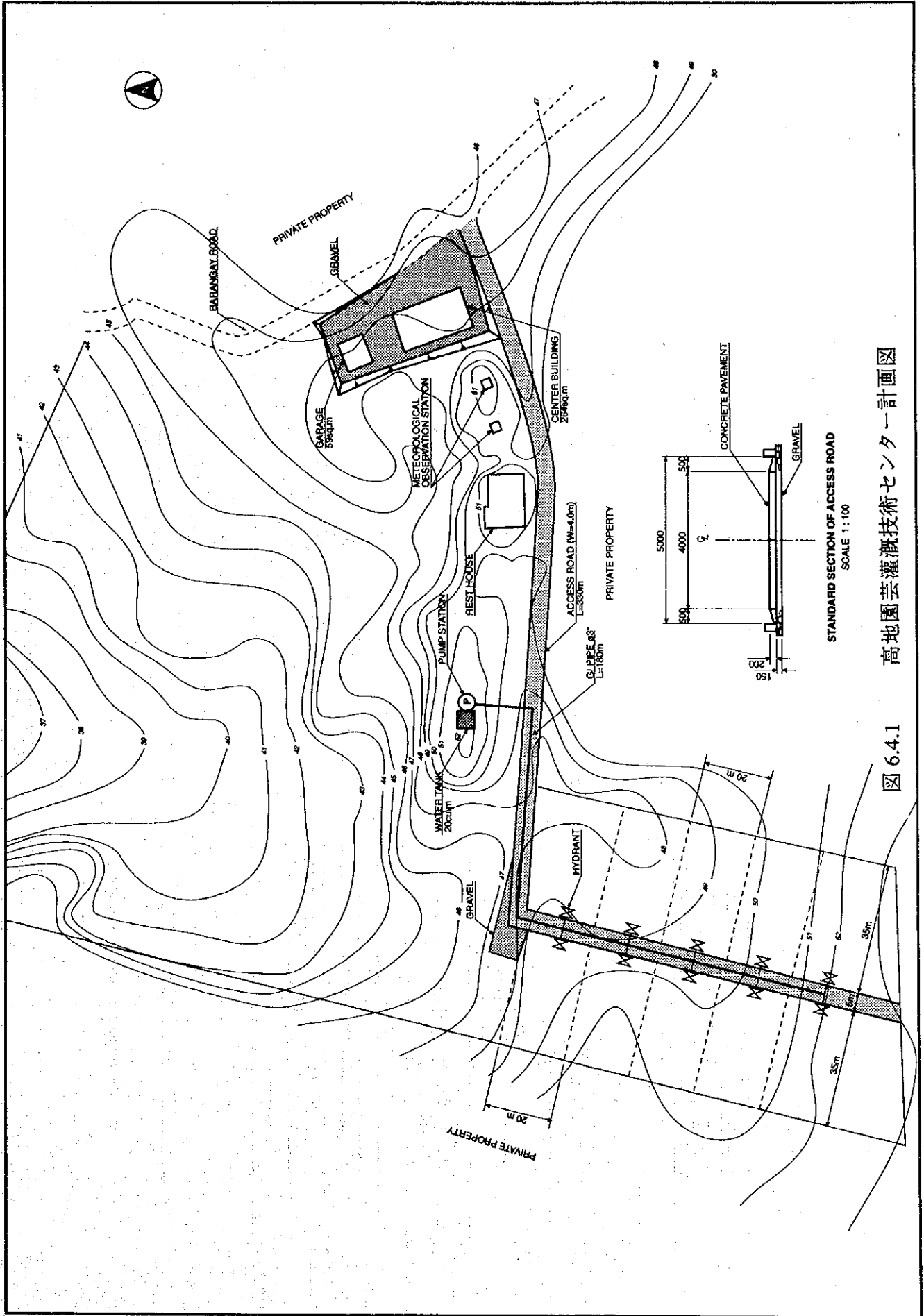
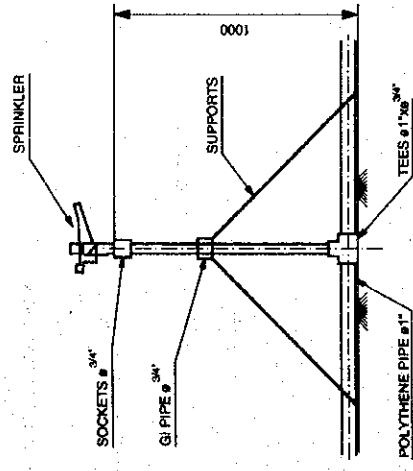


図 6.3.2 農産物集出荷場の計画図

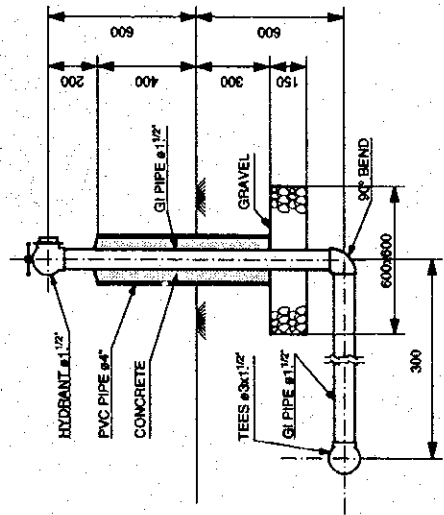


高地図園芸灌溉技術センター計画図

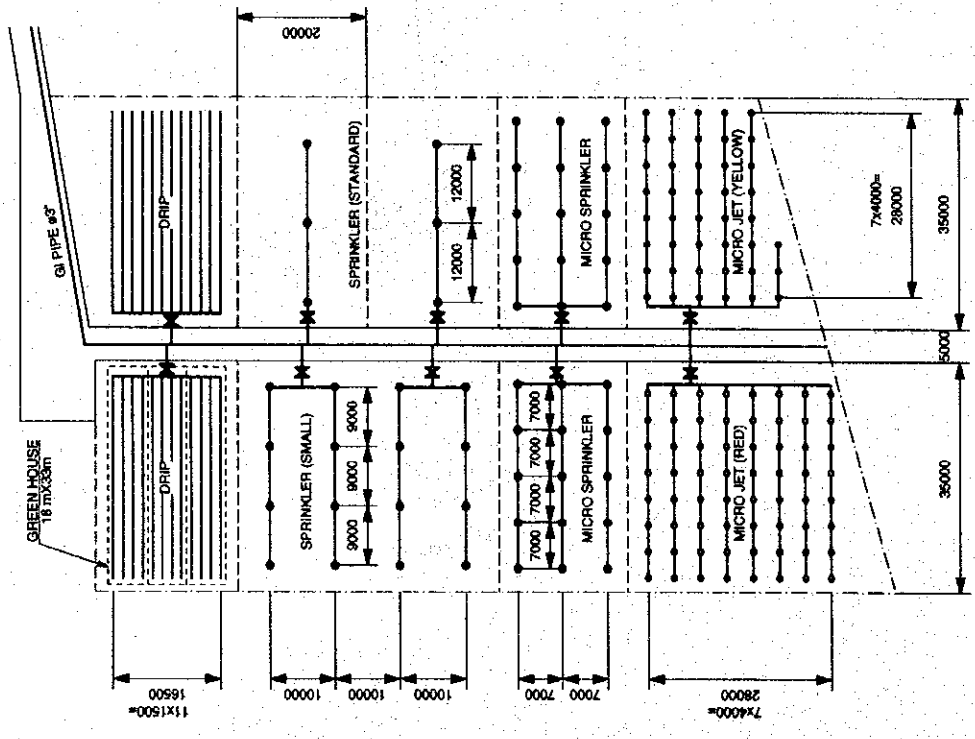
図 6.4.1



DETAIL OF SPRINKLER INSTALLATION  
SCALE 1:20

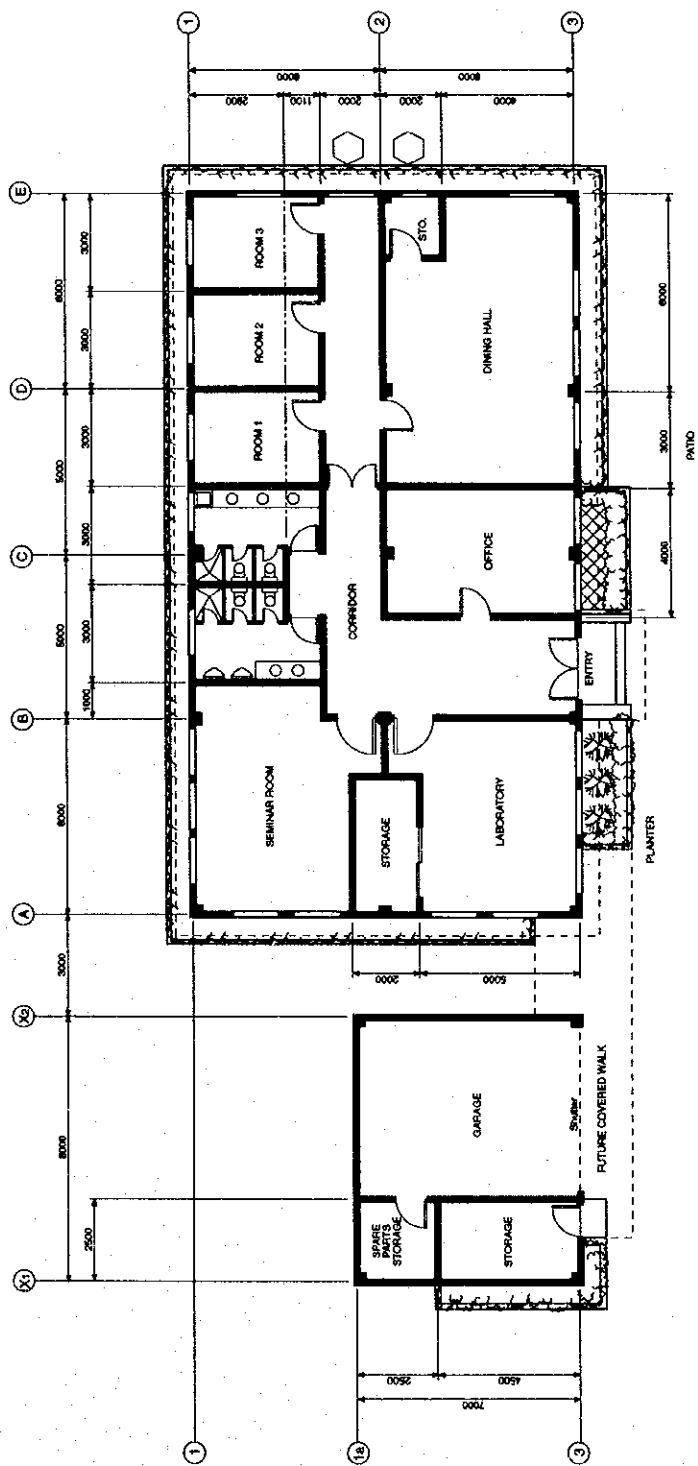


DETAIL OF HYDRANT INSTALLATION  
SCALE 1:20



ARRANGEMENT OF IRRIGATION INSTRUMENTS  
MTS

図 6.4.2 高地園芸灌溉技術センター展示圃場詳細図



GROUND FLOOR PLAN  
M.T.S.

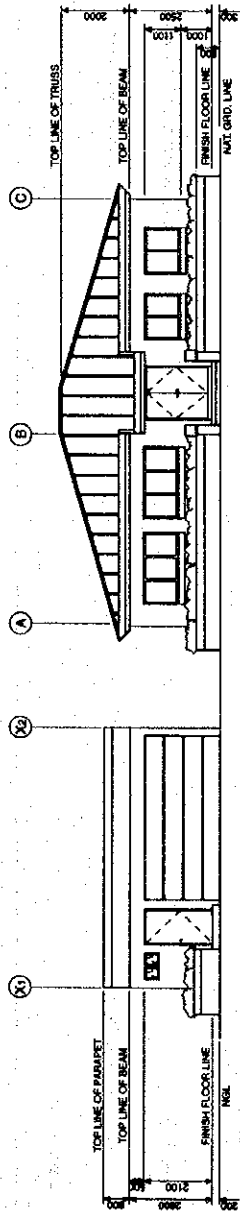
图 6.4.3 高地园艺灌溉技术センター平面图



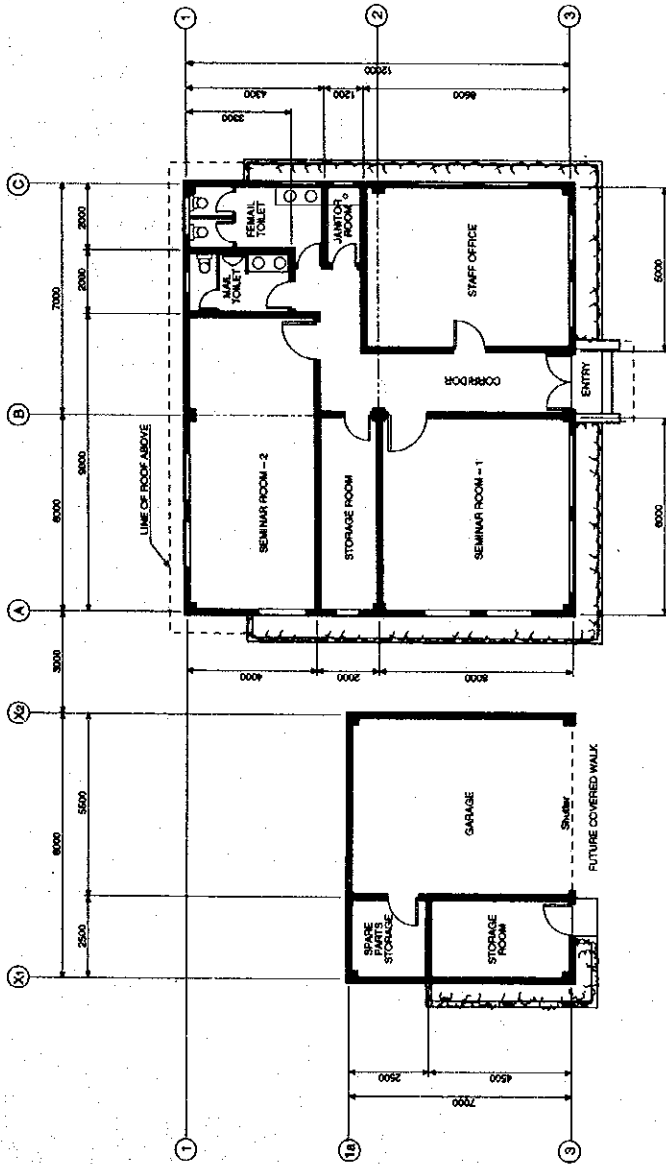








FRONT ELEVATION  
M.T.S.



GROUND FLOOR PLAN  
M.T.S.

図 6.5.2 土壤保全普及センター建物平面図

Year	1995												1996												1997											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Work Item	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Preparatory works for project implementation																																				
Submission of Project Description to DENR	■																																			
Issuance of Environmental Compliance Certificate (ECC)		■																																		
Submission of Project Proposal to NEDA			■																																	
Establishment/Strengthening of Beneficiaries' Organization																																				
Detailed design works																																				
Preparatory Works for construction (Bidding, etc.)																																				
Construction Works																																				
Mobilization																																				
Irrigation Works																																				
Intakes																																				
Fram Ponds																																				
Pipeline/On-farm																																				
Road Works																																				
Road Pavement																																				
Drainage Facilities																																				
Trading Post Works																																				
Upland Horticulture and Irrigation Technology Center																																				
Soil Conservation																																				
Rehabilitation of Domestic Water System																																				
Demobilization																																				

Remarks:

Project proposal shall be submitted to NEDA Central Office with endorsement of Provincial Development Committee, Laguna Lake Development Authority (LLDA) and Regional Development Council. Special permission by DENR Region Office is required to commencement of construction works.

图 7.1.1 全体事業実施工程表

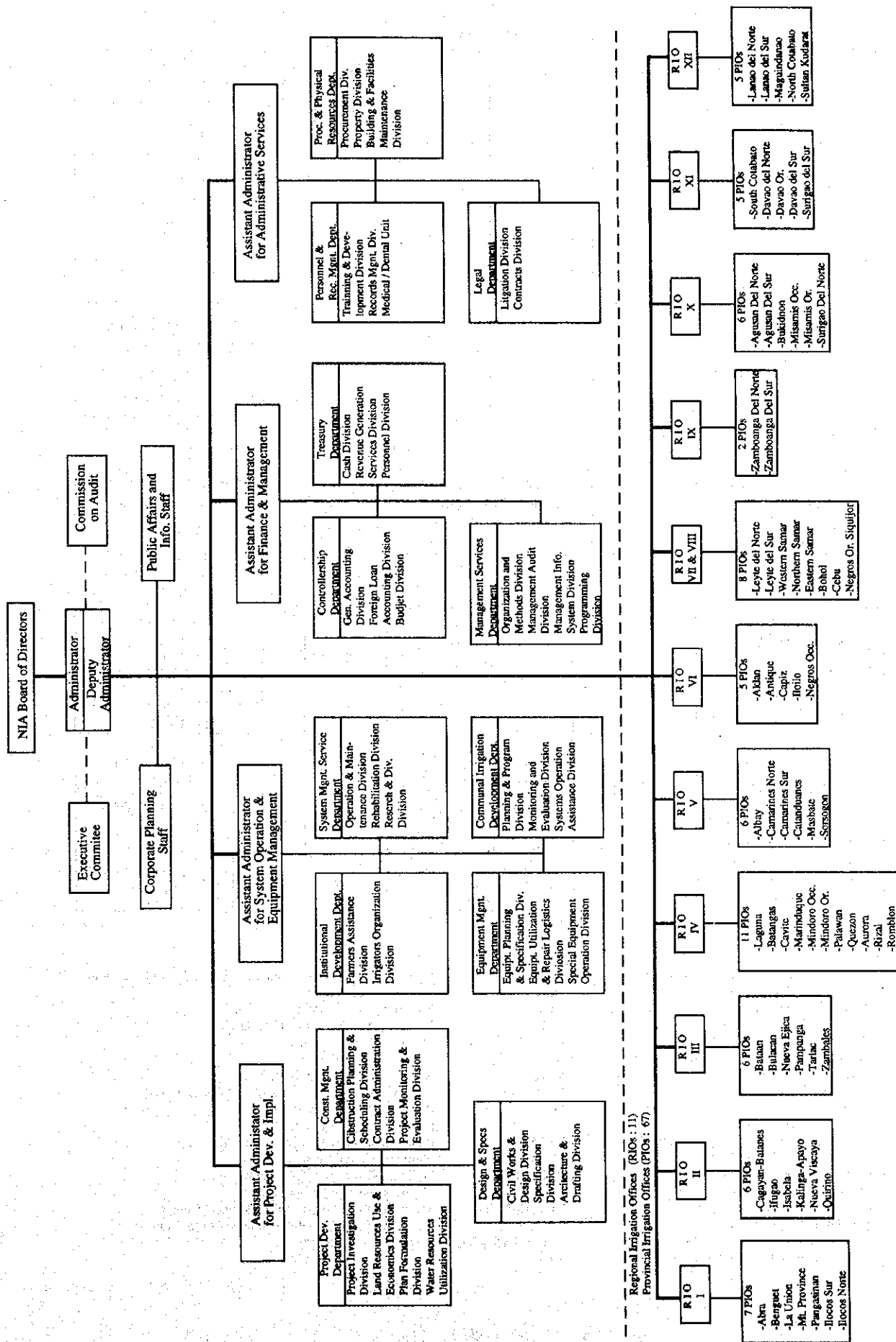
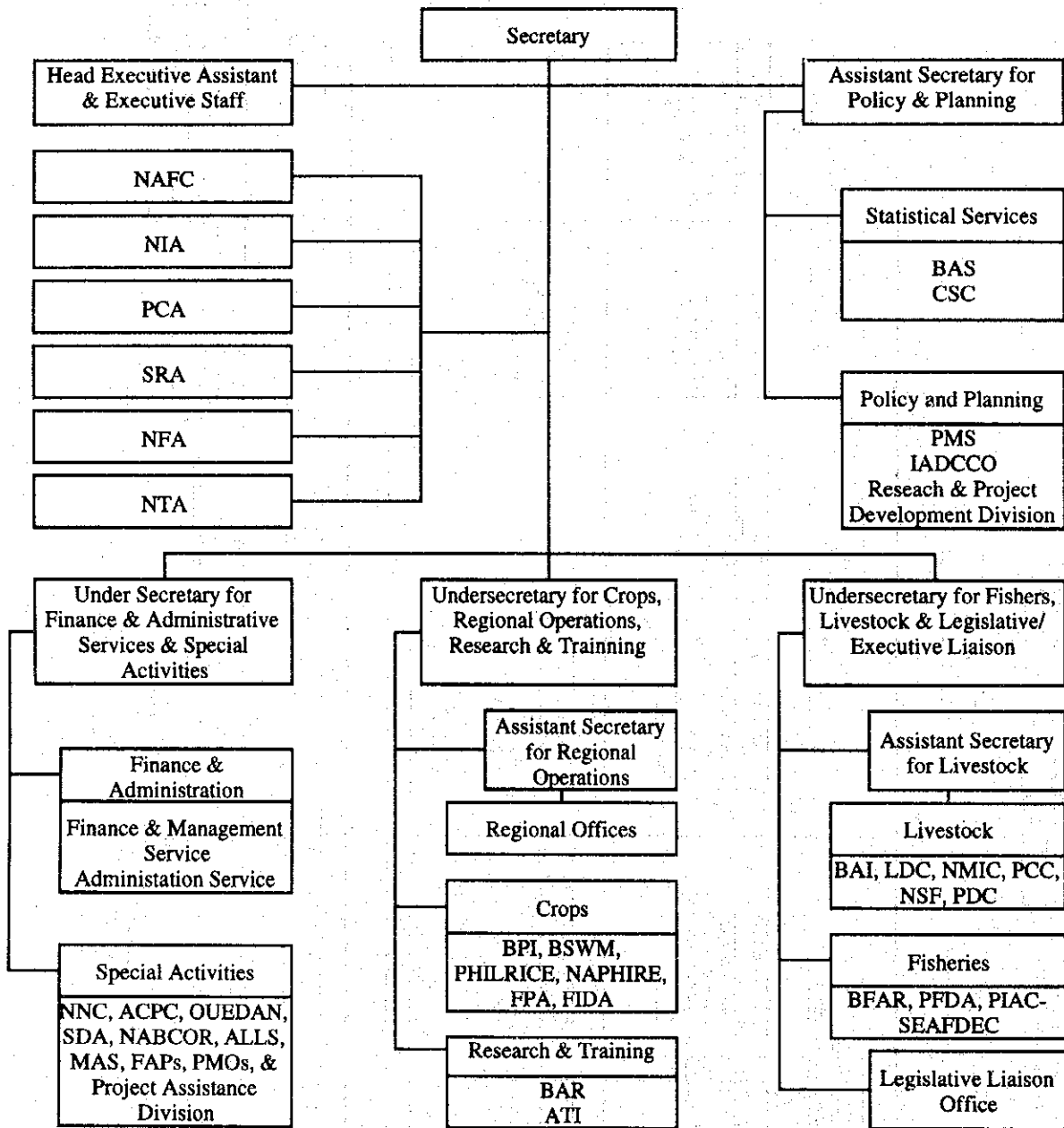


图 8.1.1 国家灌溉厅组织图



**Acronyms**

ACPC	Agricultural Credit Policy Council	NAPHIRE	National Post Harvest Institute for Research and Extension
ATI	Agricultural Training Institute	NFA	National Food Authority
AIIS	Agribusiness Investment Information Service	NIA	National Irrigation Administration
BAI	Bureau of Animal Industry	NMIC	National Meat Inspection Commission
BAR	Bureau of Agricultural Research	NNC	National Nutrition Council
BAS	Bureau of Agricultural Statistics	NSF	National Stud Farm
BFAR	Bureau of Fisheries and Aquatic Resources	NTA	National Tobacco Administration
BPI	Bureau of Plant Industry	PAD-SCO	Project Assistance Division-Special Concerns Office
BSWM	Bureau of Soils and Water Management	PCA	Philippine Coconut Authority
CSC	Computer Service Center	PDC	Philippine Dairy Corporation
FIDA	Fiber Industry Development Authority	PFDA	Philippine Fisheries Development Authority
FPA	Fertilizer Pesticide Authority	PHILCOTTON	Philippine Cotton Corporation
IADCCO	International Agricultural Affairs Division	PHILRICE	Philippine Rice Research Institute
LDC	Livestock Development Council	PMS	Planning and Monitoring Service
LLO	Legislative Liaison Office	PTAC-SEAFDCEC	Southeast Asian Fisheries Development Center
MAS	Marketing Assistance Service	QRCCB	Quedan and Rural Credit Guarantee Corporation
NABCOR	National Agribusiness Corporation	SACOBIA	SACOBIA Development Authority
NAFC	National Agriculture and Fishery Council	SRA	Sugar Regulatory Administration

图 8.1.2 農業省組織図

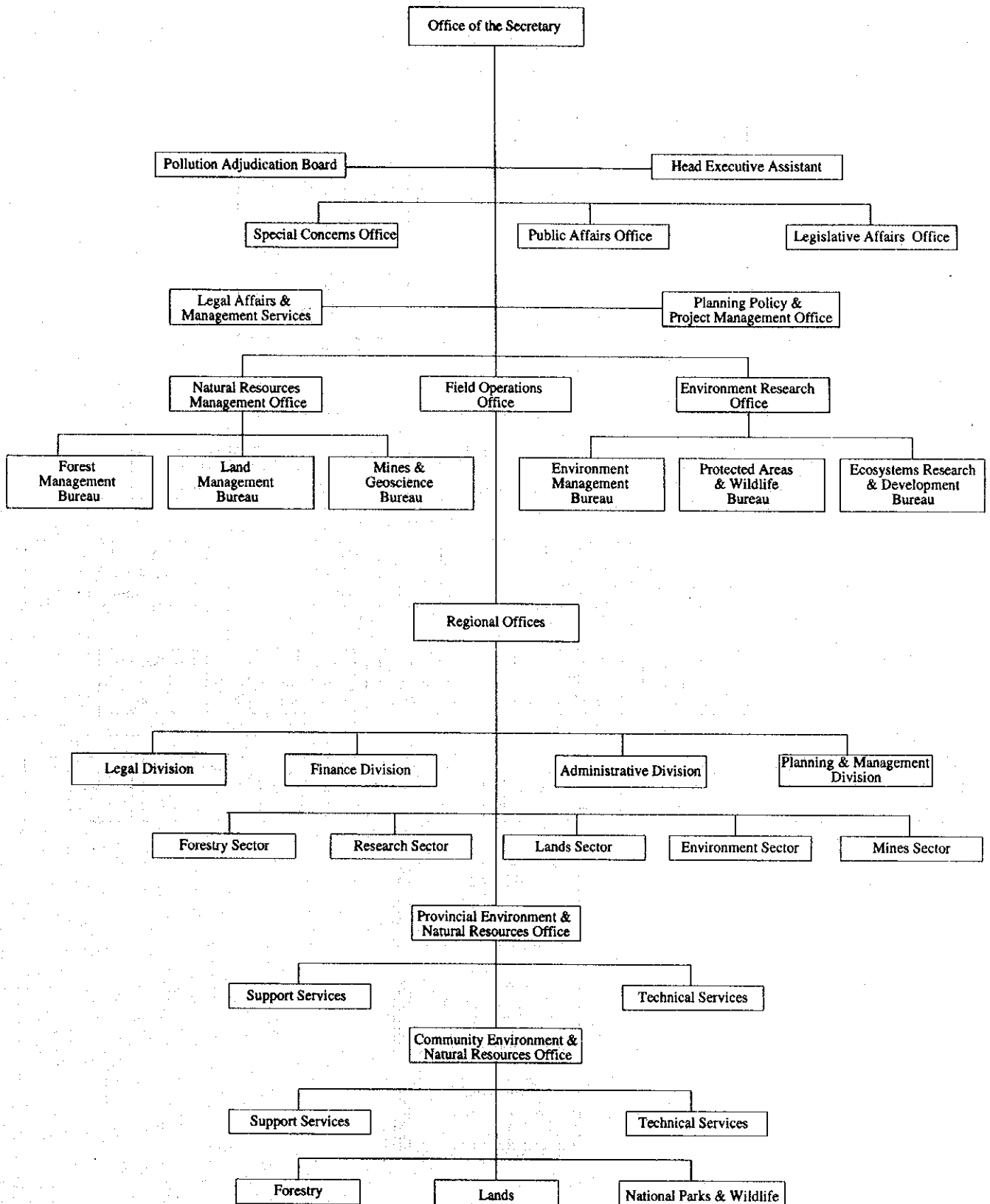


圖 8.1.3 環境天然資源省組織圖



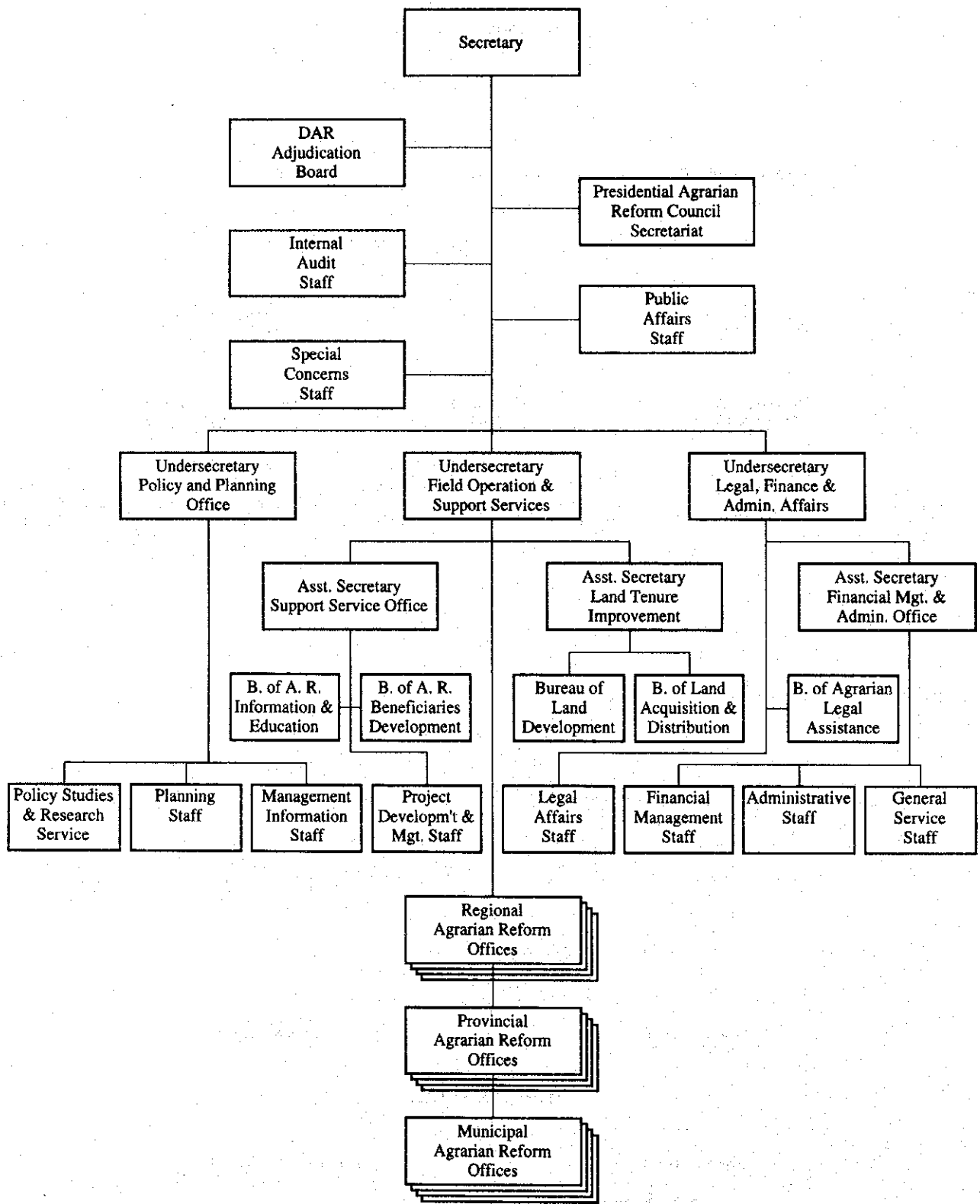


图 8.1.4 農地改革省組織圖

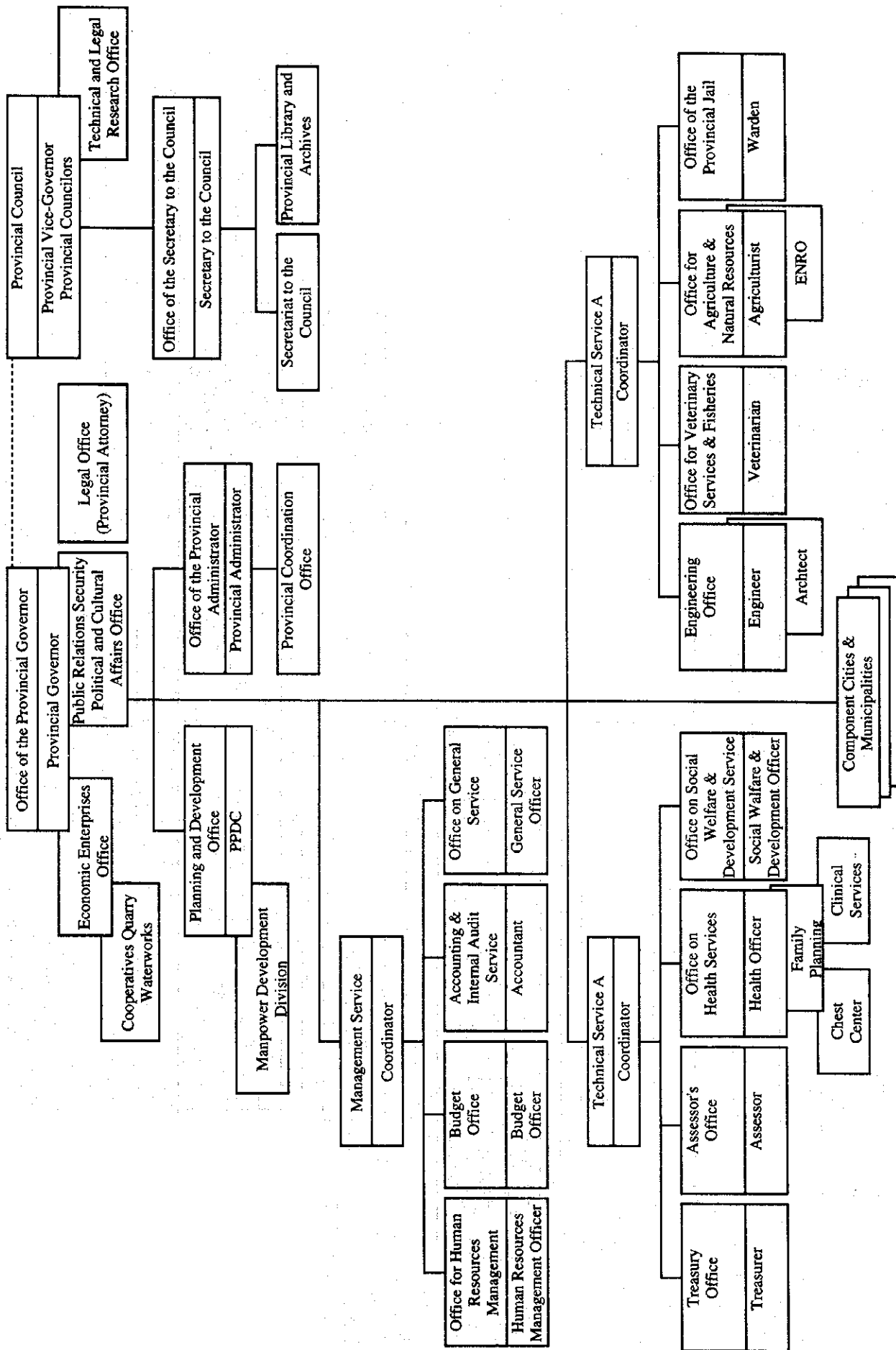


図 8.1.5 ラグナ州政府組織図

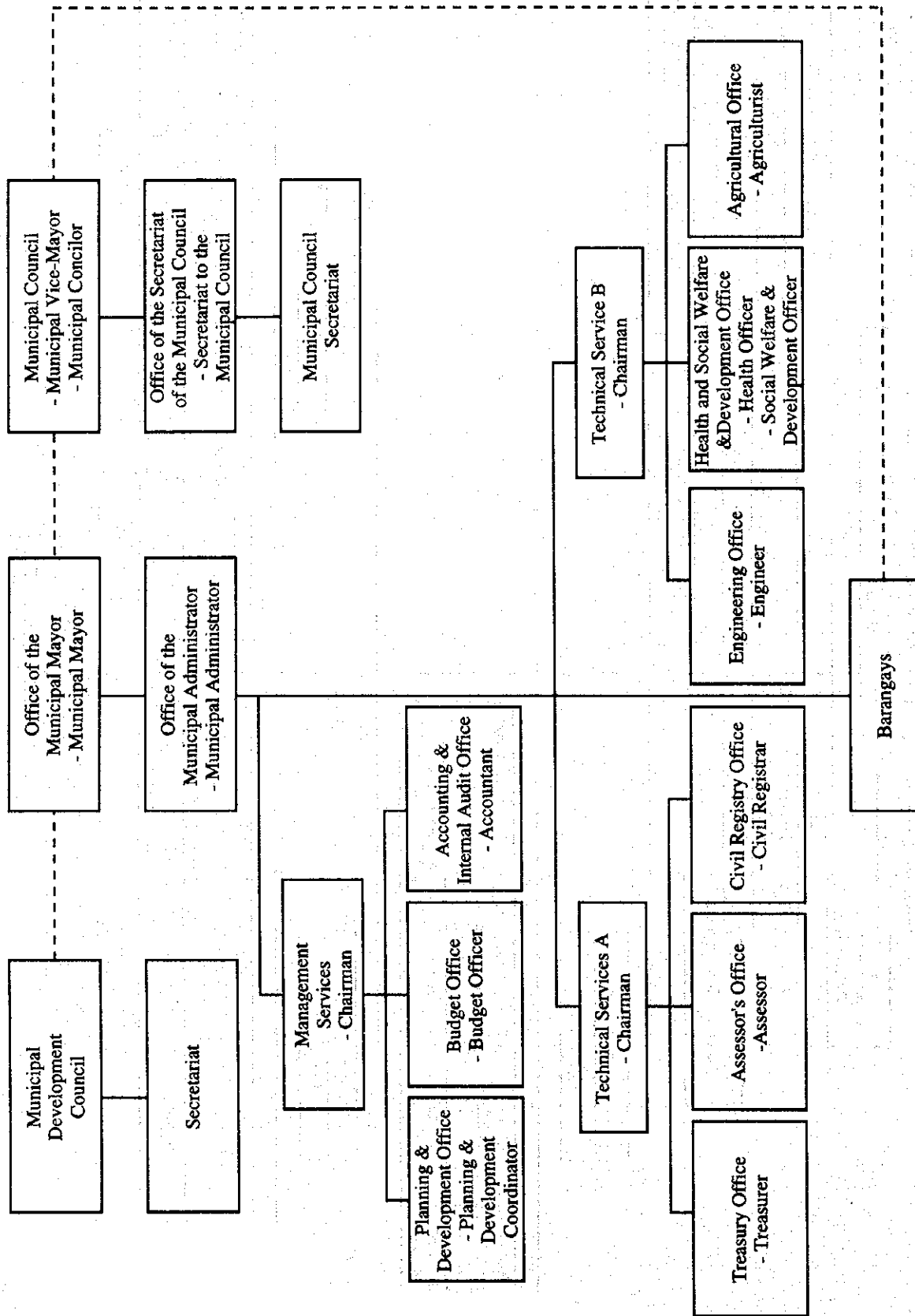


図 8.1.6 (1) ラグナ州ナグカルラン町政府組織図

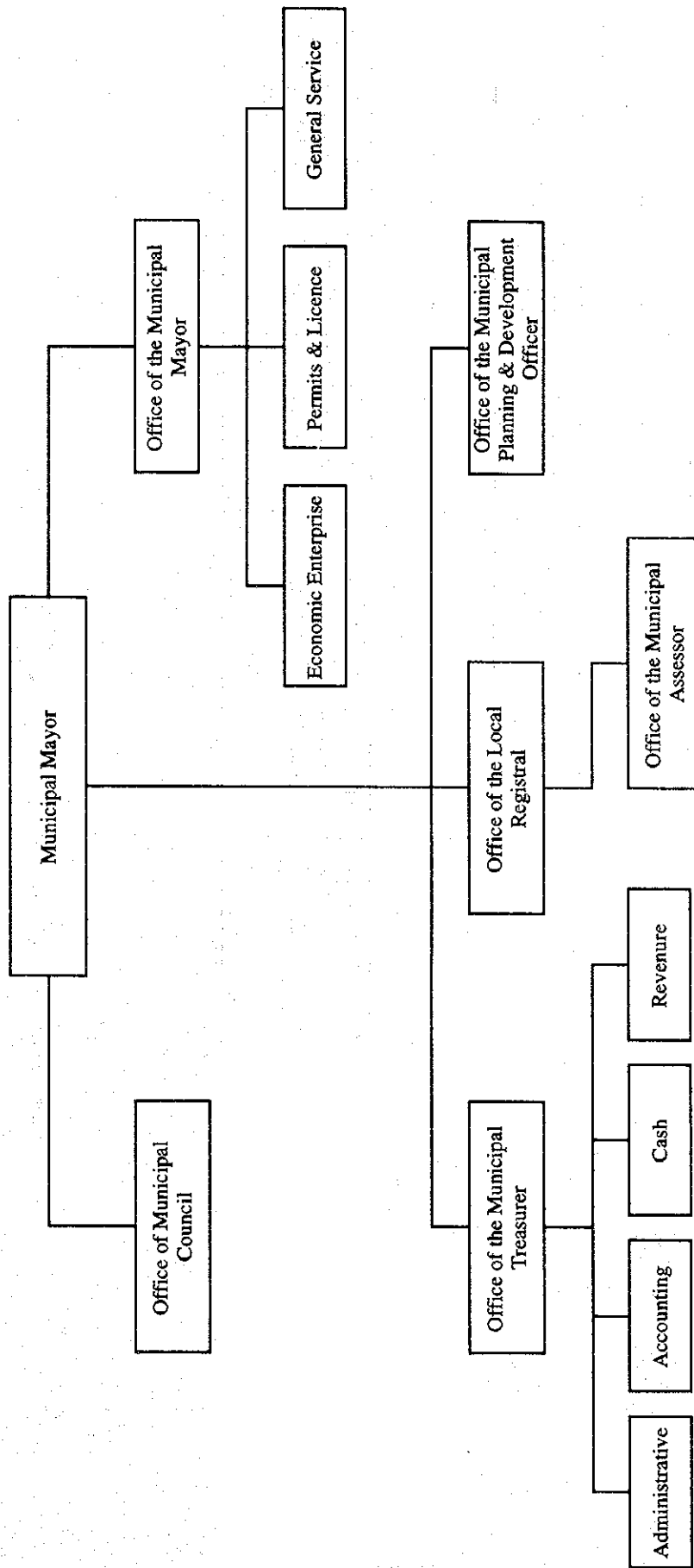


図 8.1.6 (2) ラグナナリリウ町政府組織図

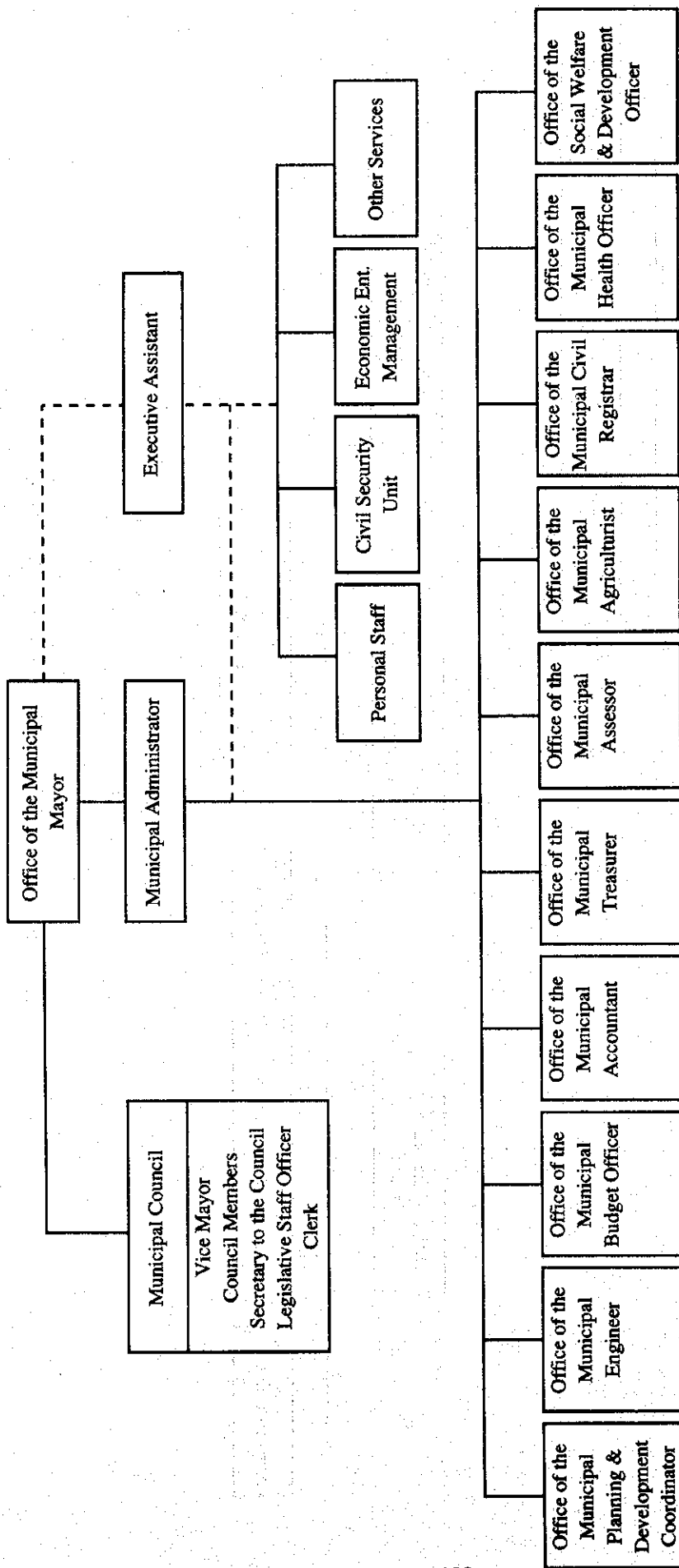


図. 8.1.6 (3) ラグナ州マハイハイ町政府組織図

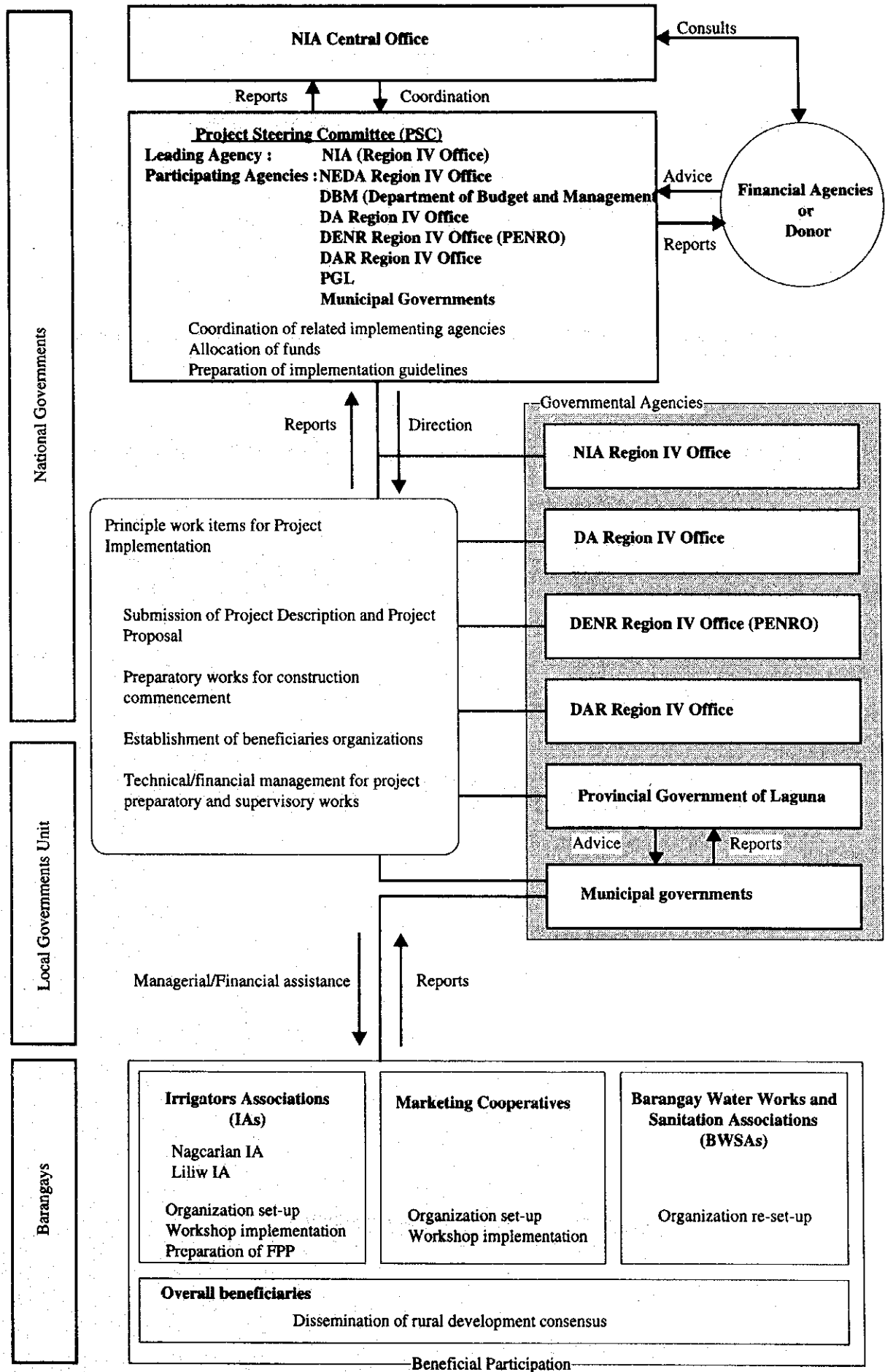


図8.2.1 事業実施運営組織図  
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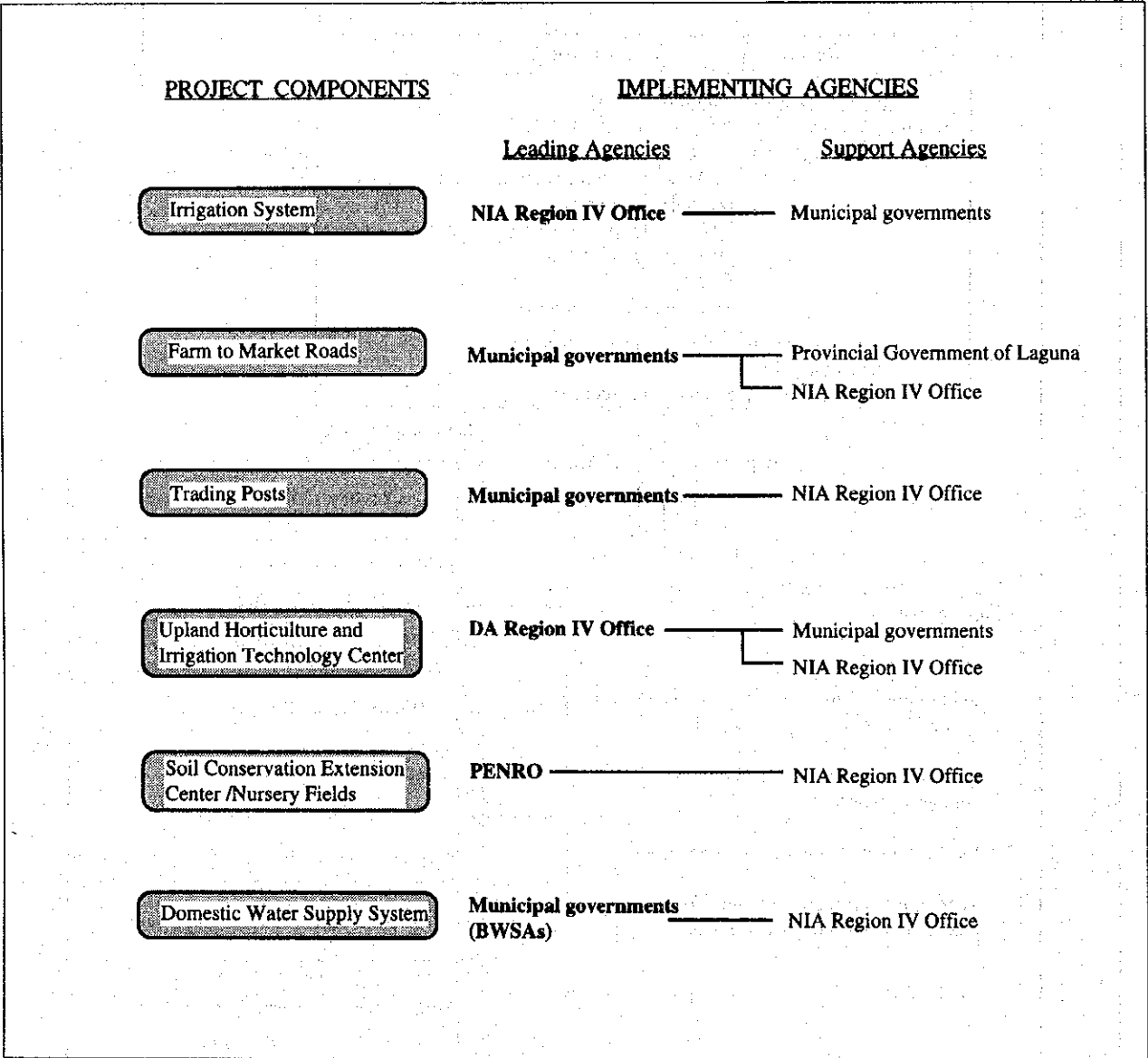


図8.2.2 事業実施運営担当組織

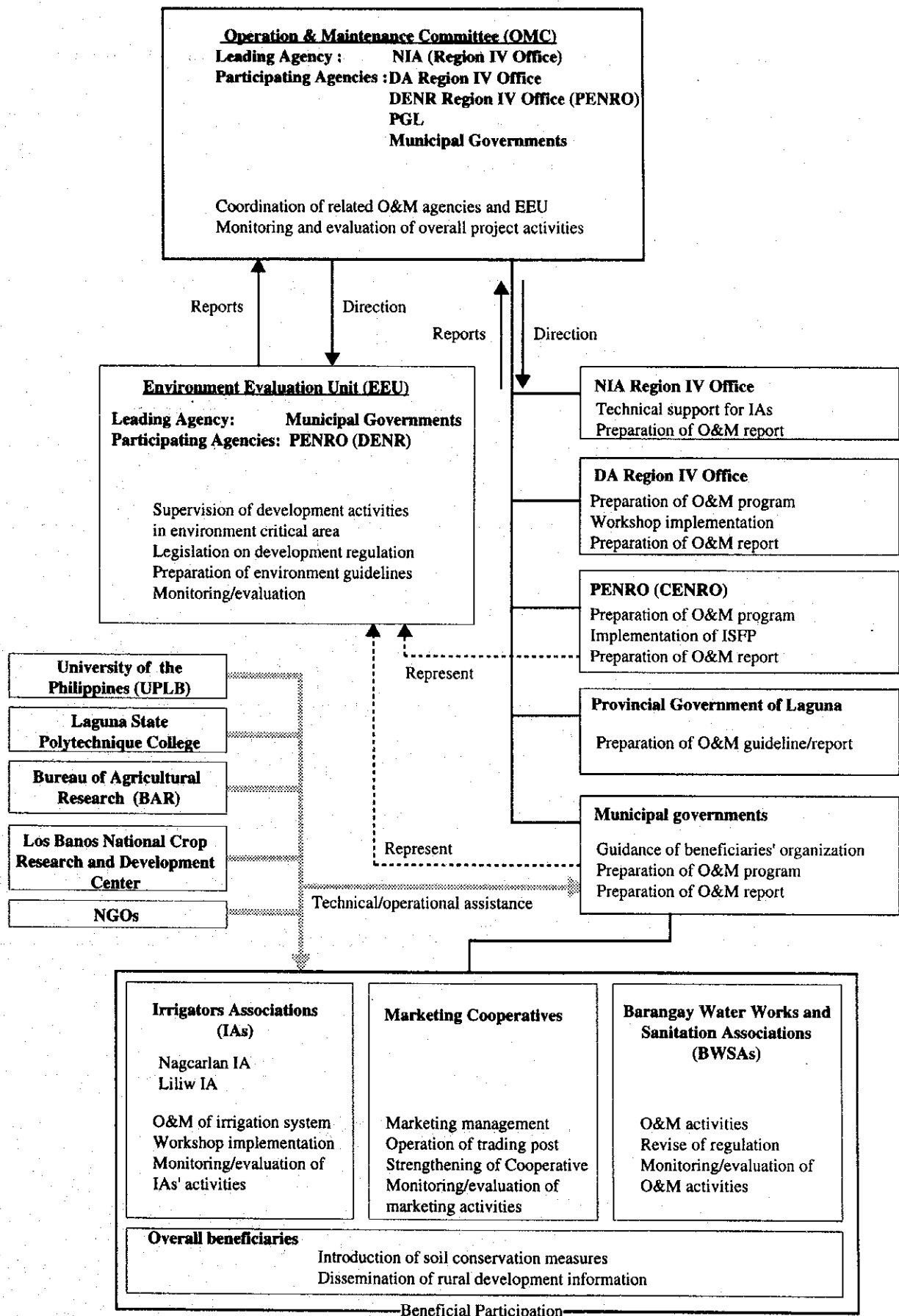


図8.3.1 事業維持管理組織図



PROJECT FACILITIES	RESPONSIBLE AGENCIES FOR O&M	OWNERSHIP OF FACILITIES
Irrigation Facilities	Irrigators Associations (IAs)	
Farm to Market Roads	Provincial Government of Laguna Municipal government of Nagcarlan, Liliw, Majayjay	
Trading Posts	Marketing Cooperatives	Municipal government of Nagcarlan, Liliw, Majayjay
Upland Horticulture and Irrigation Technology Center	DA Region IV Office	
Soil Conservation Extension Center /Nursery Fields	PENRO	
Soil Coservation Demenstration Fields	Beneficiaries	
Domestic Water Supply System	Barangay Water Works and Sanitation Associations	

図8.3.2 維持管理担当政府、受益者組織

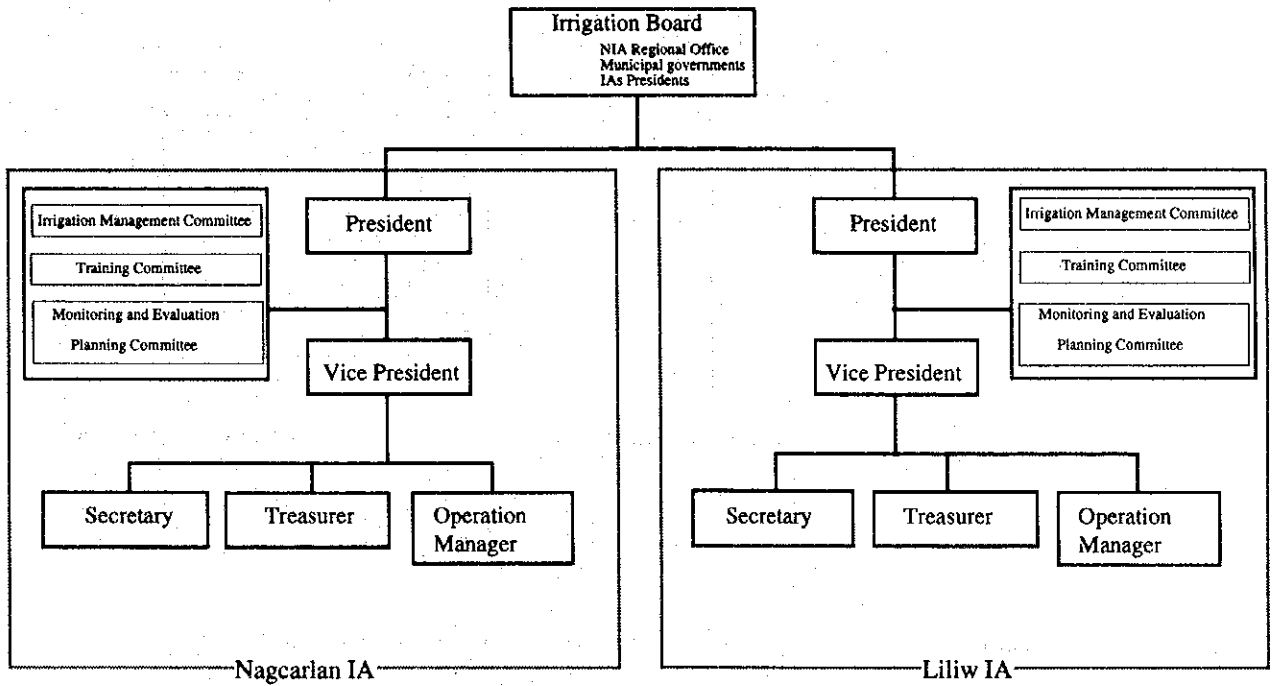


图 8.3.3 水利組合組織圖

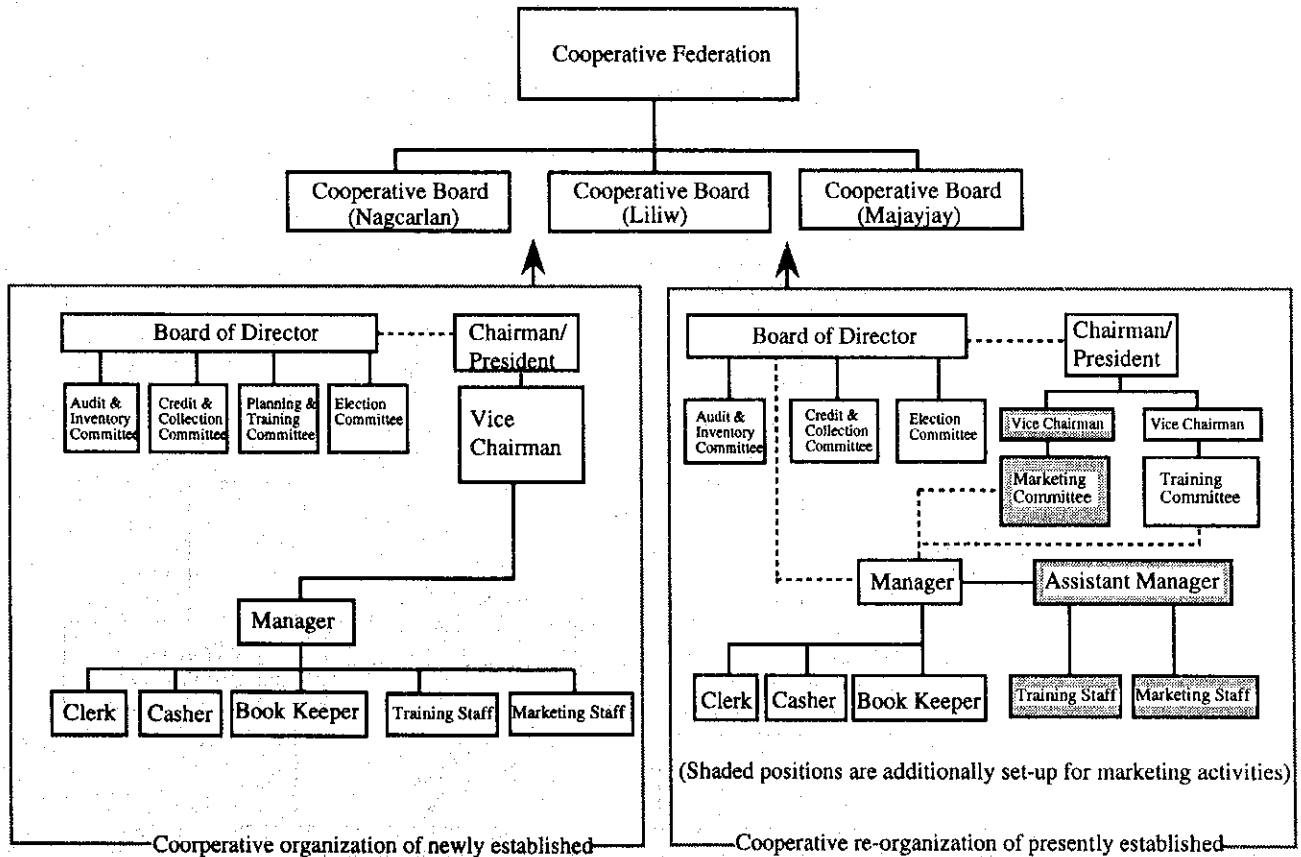


图 8.3.4 農產物集出荷組合組織圖

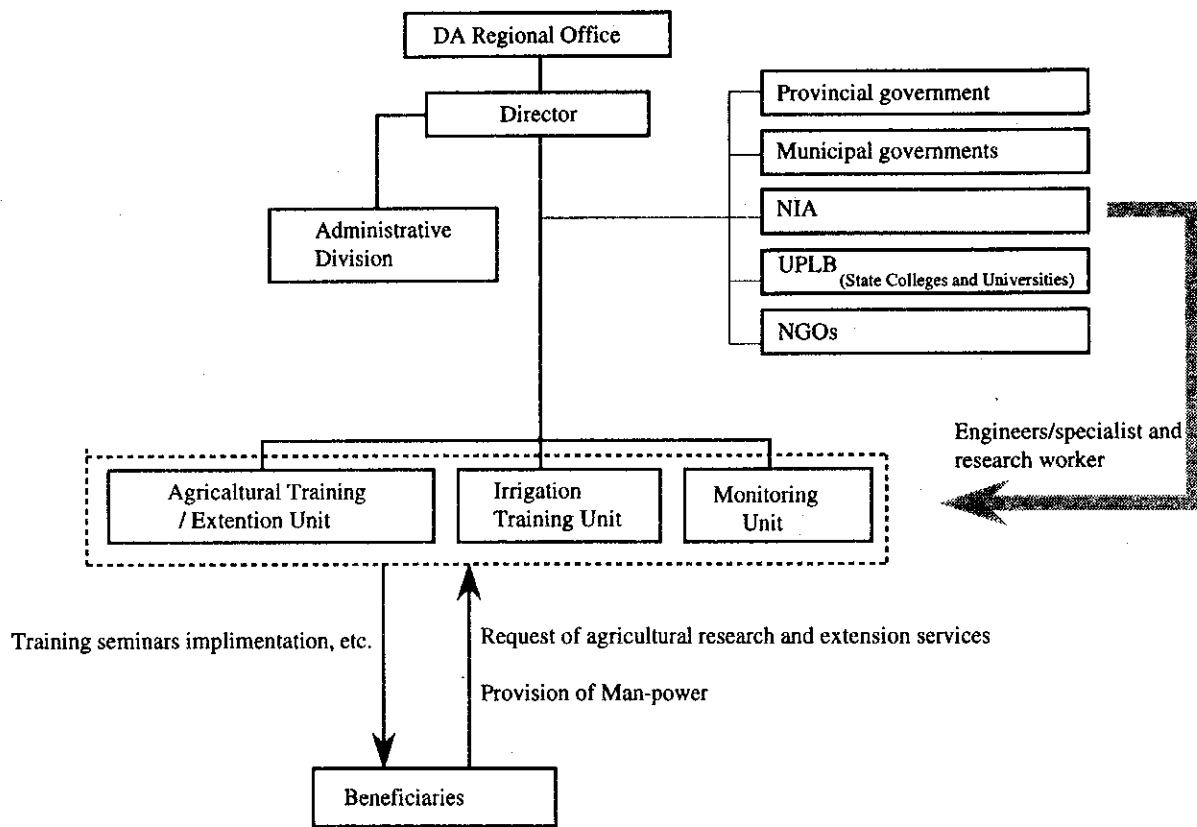


図 8.3.5 高地園芸灌溉技術センター運営組織図

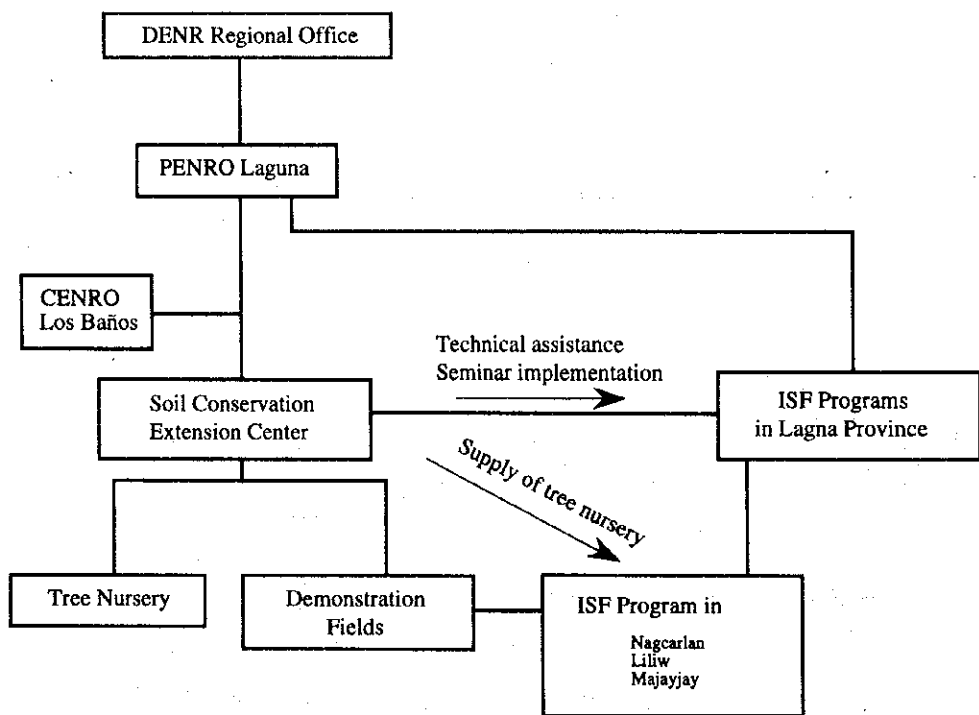


図 8.3.6 土壤保全計画運営組織図