

# フィリピン畑地灌漑技術開発計画

## 巡回指導調査団報告書

### 写真集

平成2年4月

国際協力事業団

フィリピン畑地灌漑技術開発計画巡回指導調査団報告書写真集

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25602



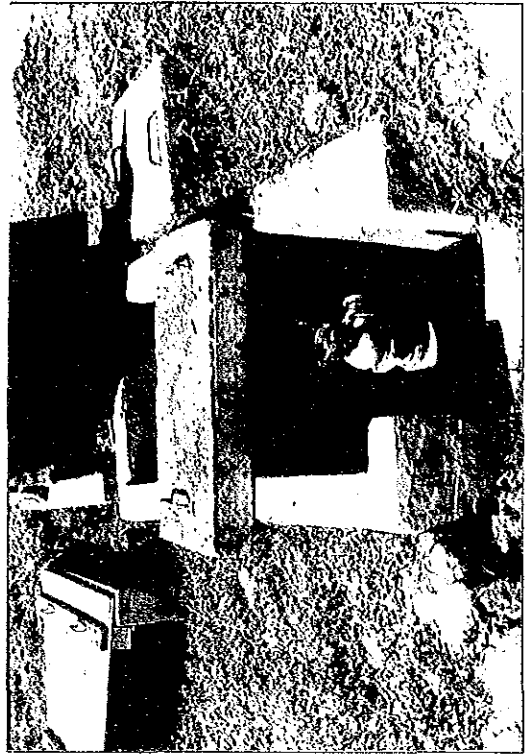
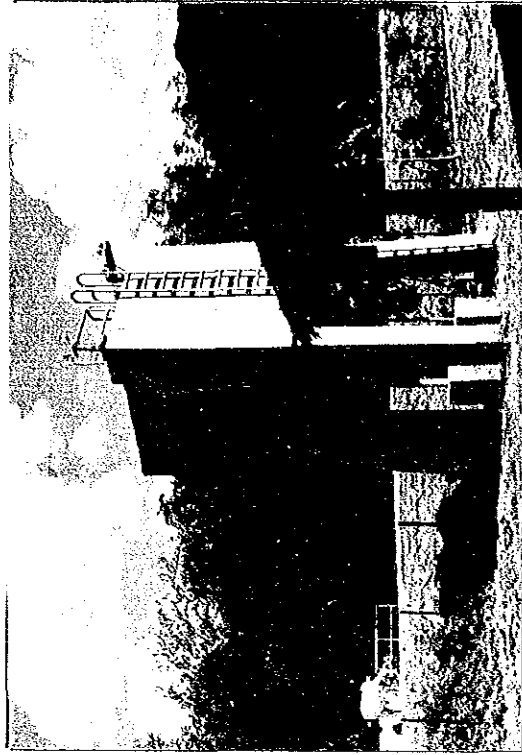
試験ホ場 (SAN RAFAEL) 2/28

(1) 全景

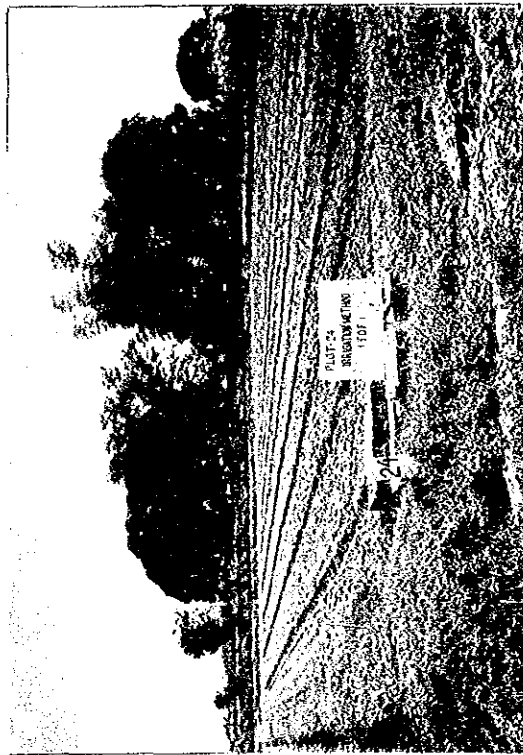




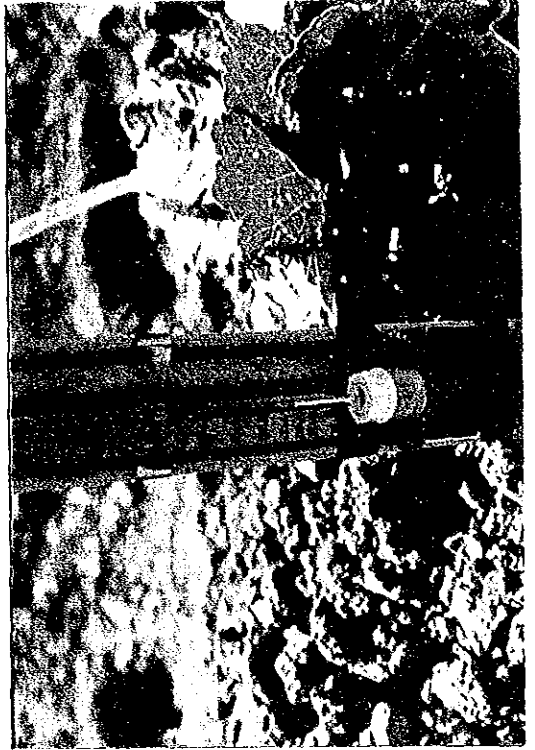
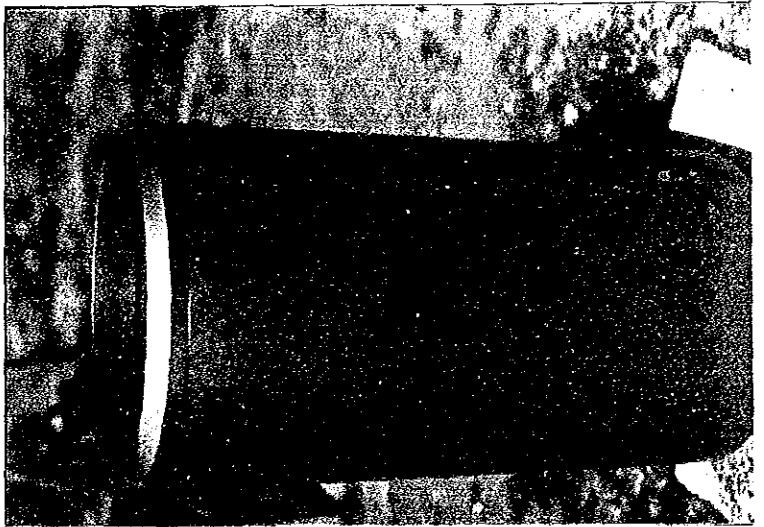
(2) 幹線水路（水源）と主要施設



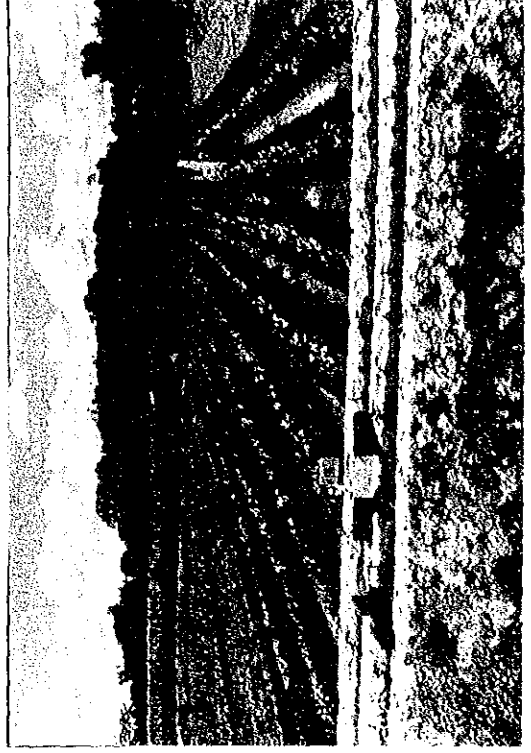
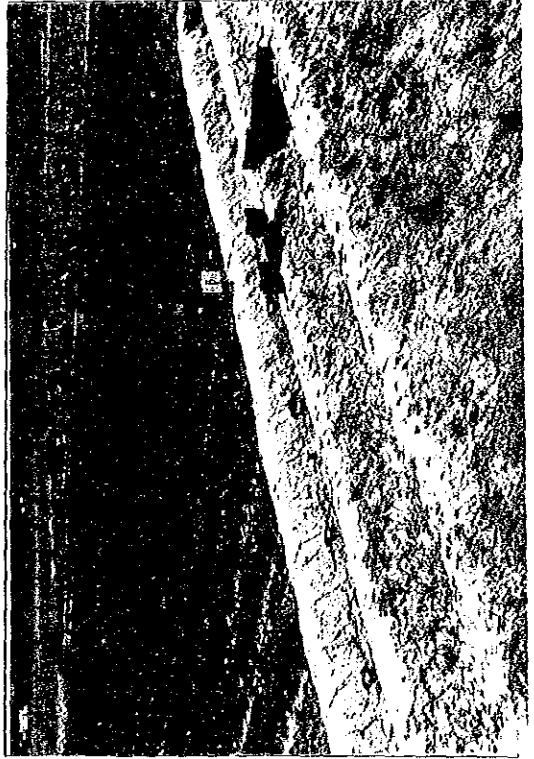
(3) 主要施設



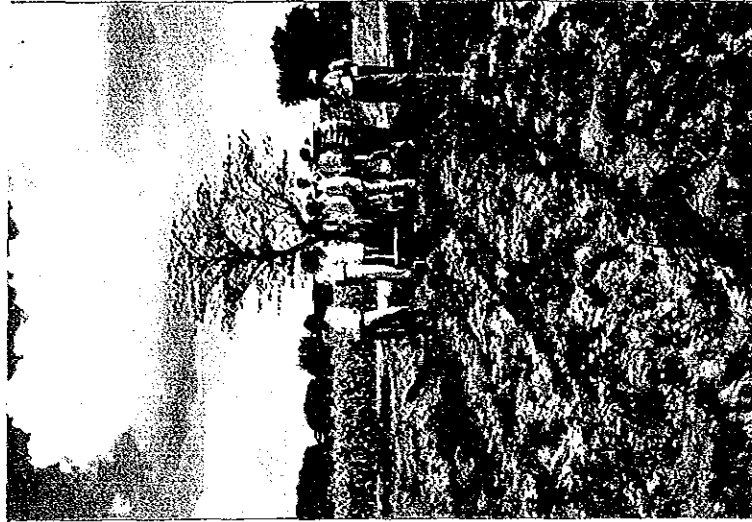
(4) 測定機器



(5) 水場 Ditch



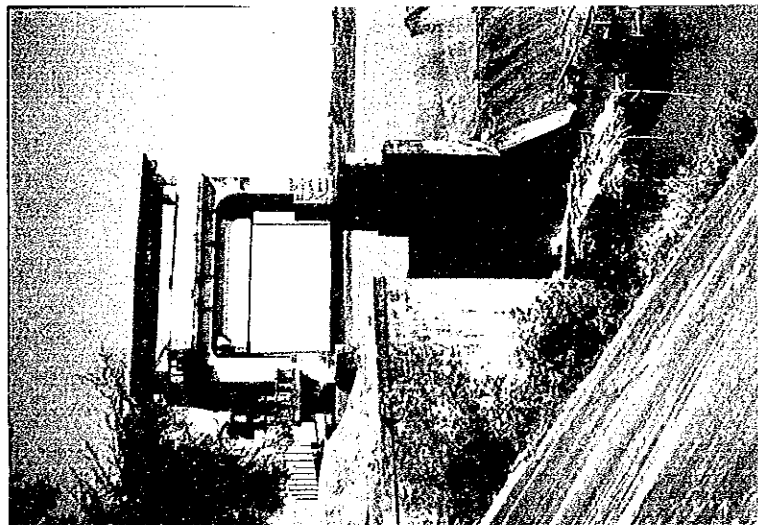
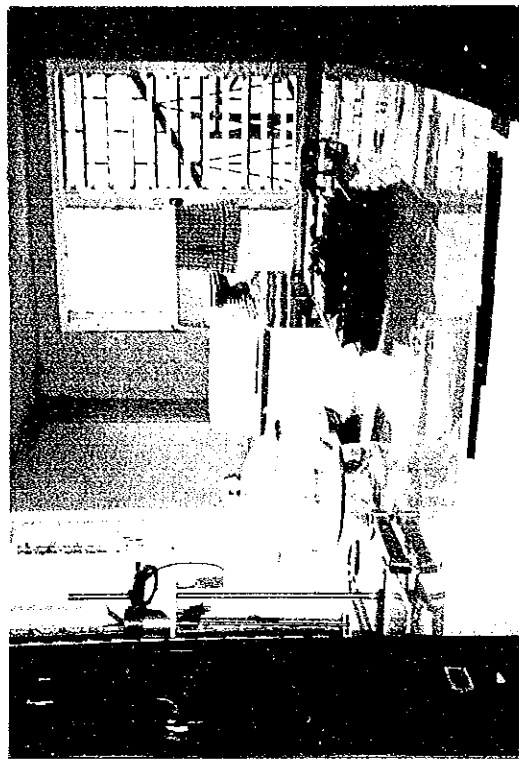
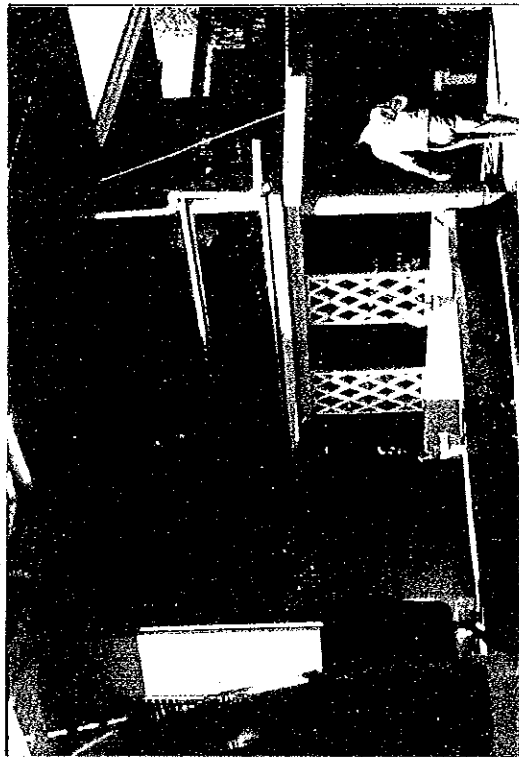
(6) 水足連慶試験



(7) 横長透



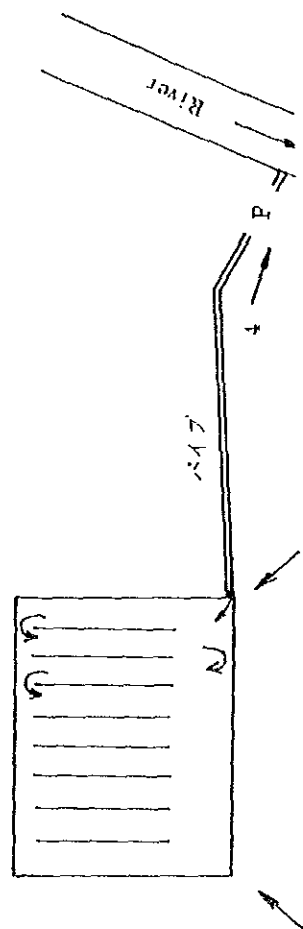
(8) 試驗室 頭首工



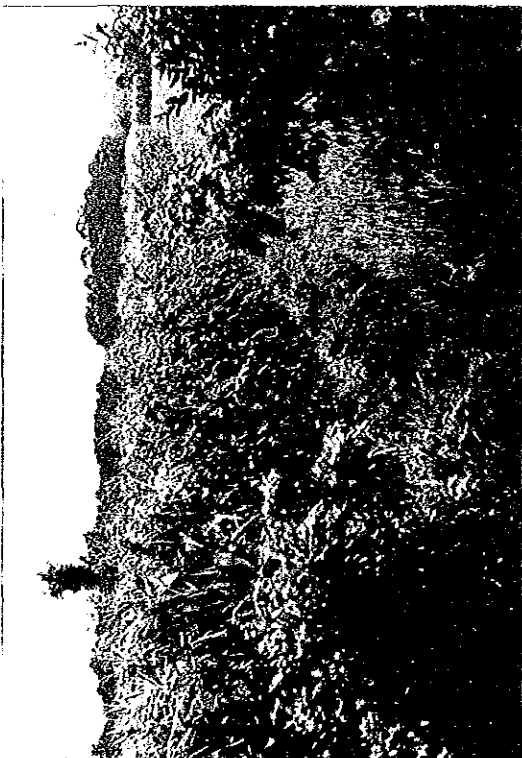
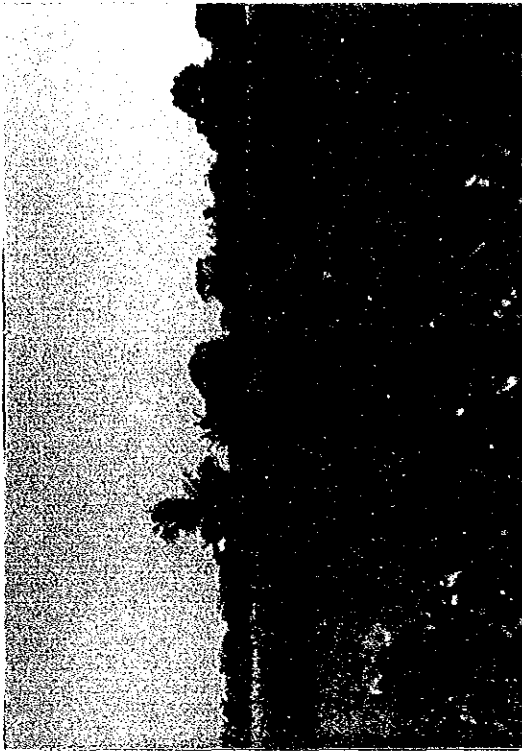




農家の作付例 ( Trial Farm 付近 )



ウネ間かんがいと作付境（タナワシ地区）



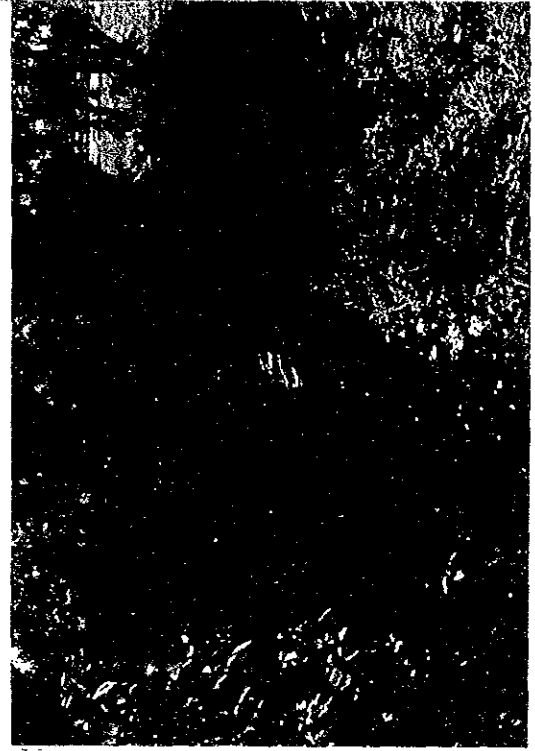
ホ場 Ditch の例(1) (タナワン地区)



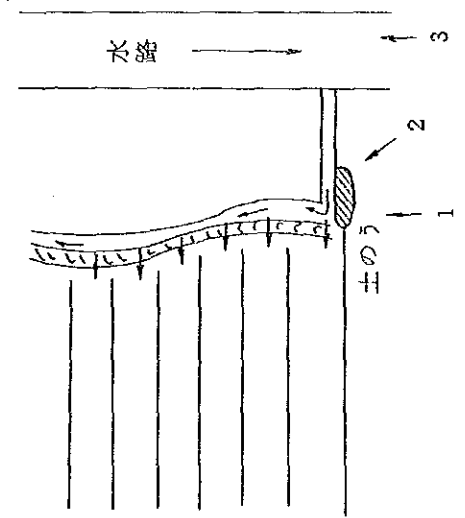
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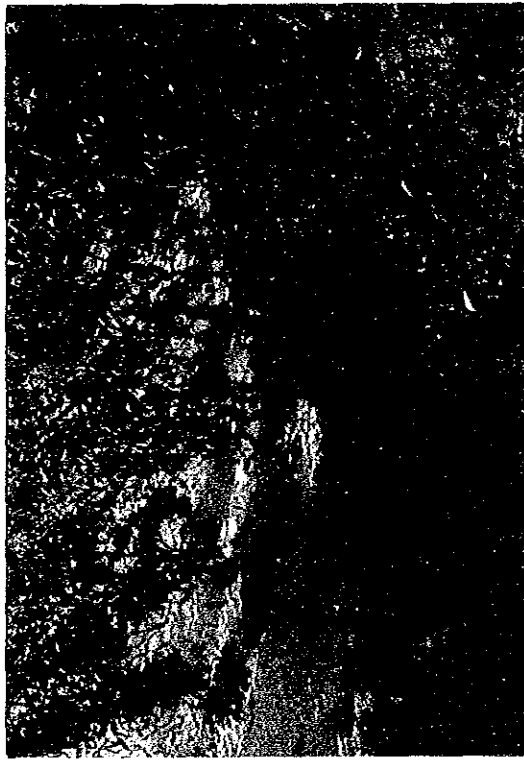
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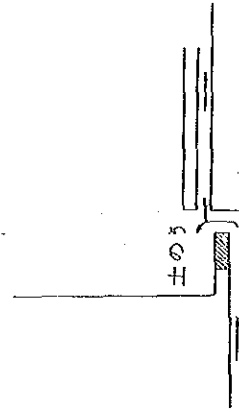
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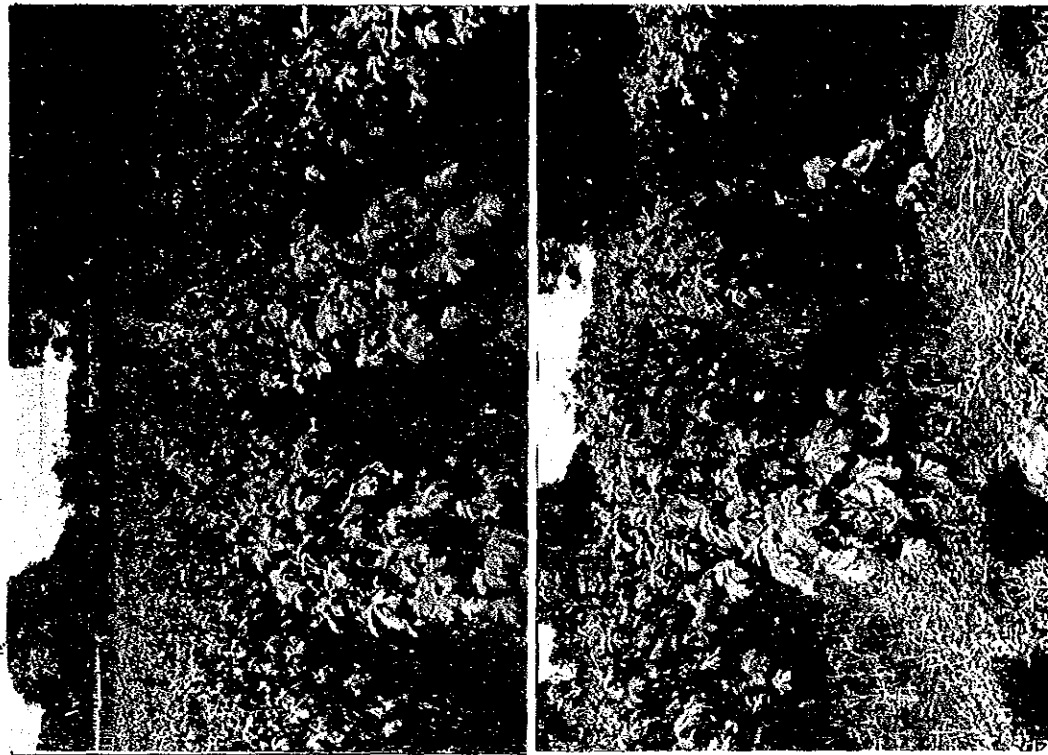
ホ場 Ditch の例(2) (タナワン地区)



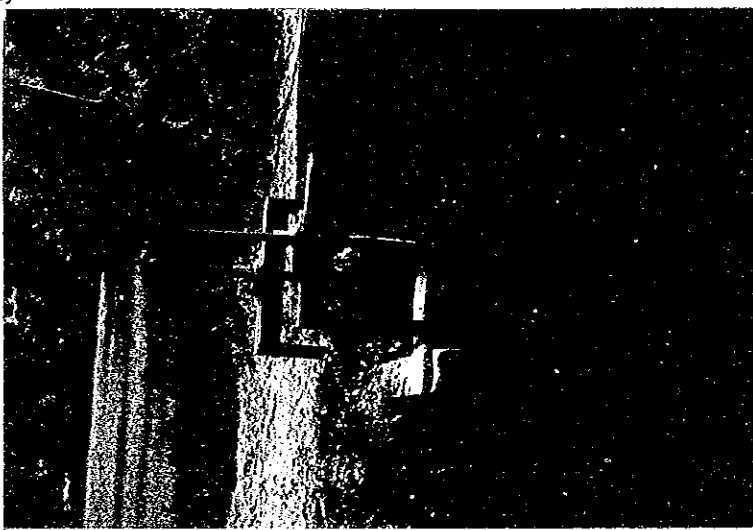
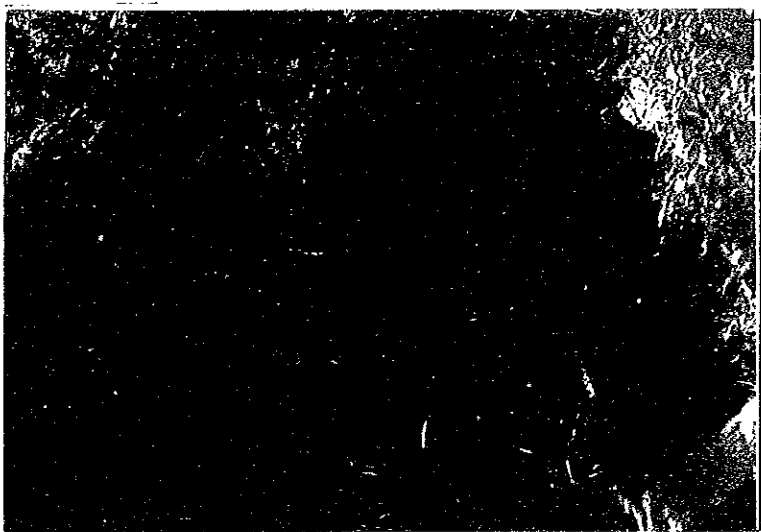
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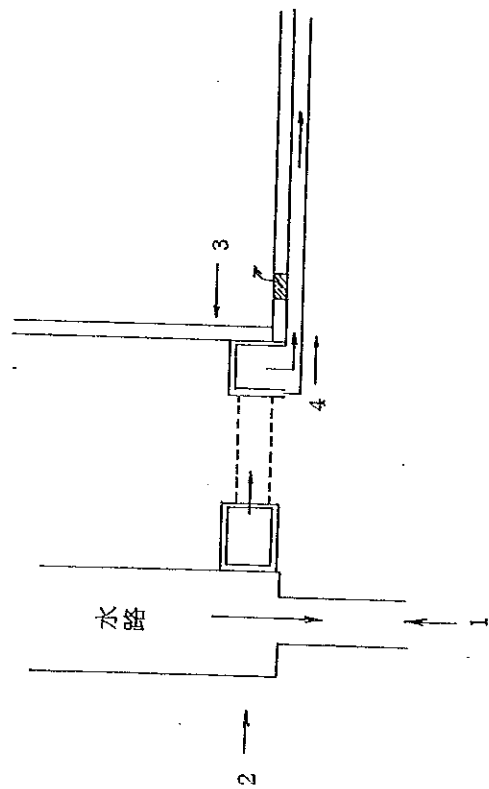
(3)



ホ場 Ditch の例(4) (タナワン地区)



3

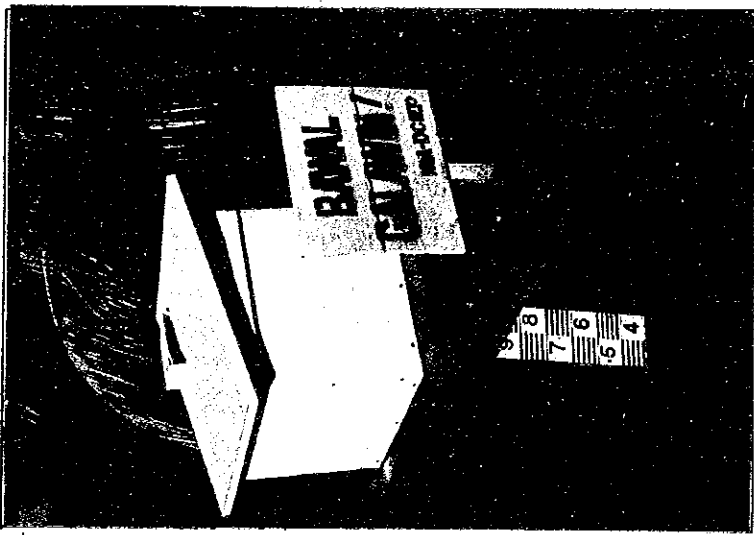


現地調査 3 / 5

- (1) TARLAC
- (2) GUIMBA
- (3) UPRIIS

国営事業で造成されたポンプ場は、電気料金の値上がりにより現在使用されておらず、農家が独自に鑿井し、発電機により Pump up している。

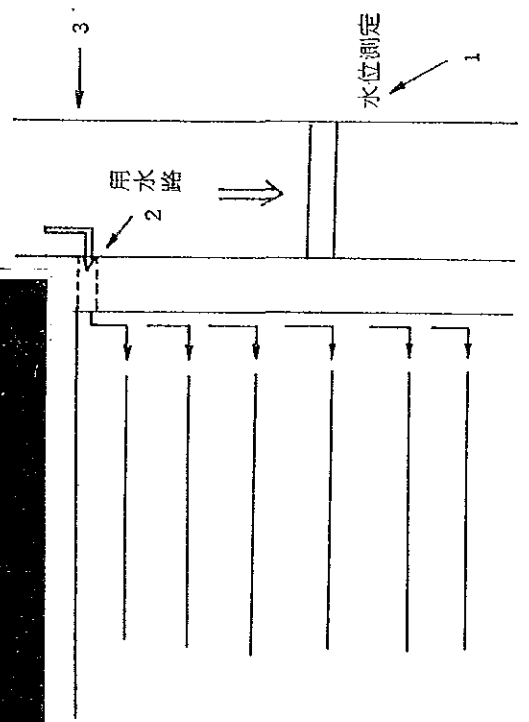
本場Ditchの例 水位測定(タナワン地区)



2

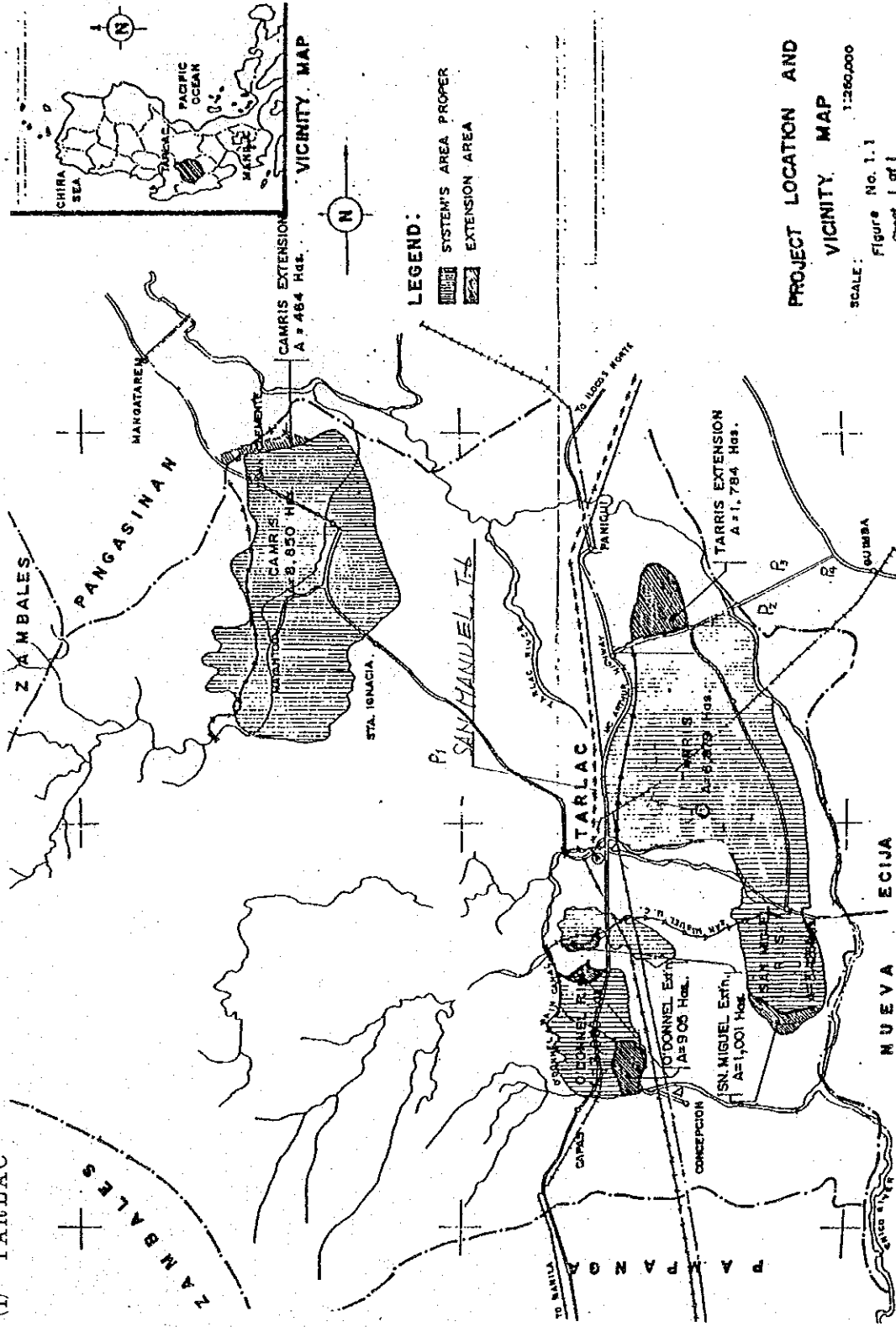


3



現地調査 3/5

(1) TARLAC





GENERAL INFORMATION OF THE  
SAN MANUEL, PURA AND DOLORES GROUND WATER PILOT AREAS

ELECTRIC ENERGY RATE

DURATION	ENERGY CHANGE	DEMAND CHARGE	% INCREASE*
1976-1977	₱0.050/kwh(over 500 kw) 0.070/kwh(351-499 kw) 0.085/kwh( 0-350 kw)	₱223.80 per pump per season	0
1978-Aug 1979	₱0.22/kwh	no demand charge	222
Sep 1979-Jan 1982	₱0.3848/kwh	no demand charge	463
Feb 1982	₱0.4807/kwh 0.4457/kwh 0.4157/kwh	₱18.00/kw (0-1000 kw) 19.00/kw (1001-9000 kw) 20.00/kwh(9001-over kw)	555

\* Excluding demand charge

SUPPORT PRICE OF PALAY

DURATION	PALAY PRICE* (₱/kg)	% INCREASE
1976 - 1978	1.10*	0
1979 - Oct 20, 1980	1.30	18
Oct 21, 1980 - Jun 16, 1981	1.45	32
June 17, 1981 - May 21, 1982	1.55	41
May 22, 1982	1.70	54

\* NFA Price

PILOT AREA/ PUMP	LOCATION	Ep	SERVICE AREA (ha)	SOIL TYPE	LAND CLASS
T - 1	Balingcanaway	60	67	Luisita Fine	IR
T - 2	Mayang	60	52	Sandy Loam	IR
T - 3	San Pascual	60	36	-do-	IR
T - 6	San Manuel	60	41	-do-	IR
T - 7	San Manuel	60	50	-do-	IR
P - 60	Villa Bacolor	60	53	-do-	IR
TOTAL					304

SAN MANUEL:

PURA:

T - 10	Buenavista	150	58	-do-	IR
T - 11	Nilasin End	75	38	-do-	IR
T - 14	Matindeg	100	38	-do-	IR
T - 19	Buenavista	200	57	-do-	IR
P - 68	Naya	50	39	-do-	IR
TOTAL					230

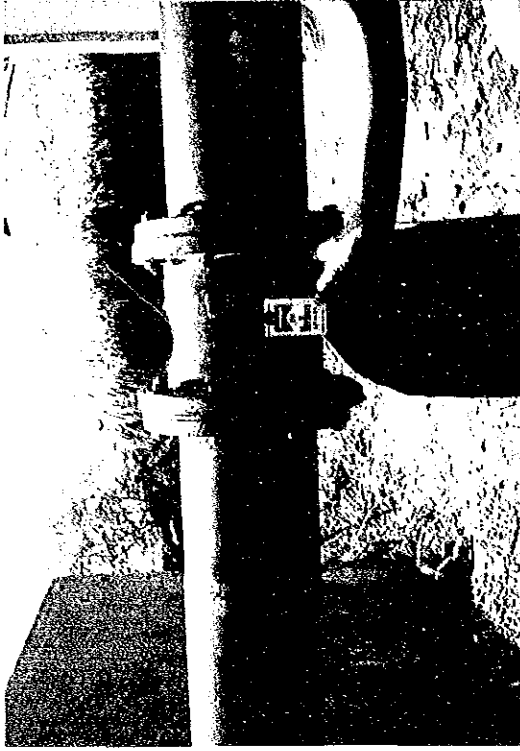
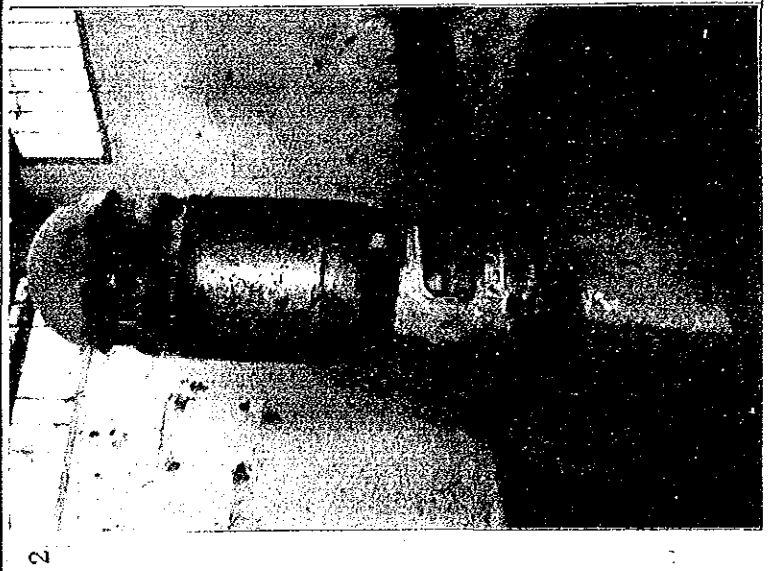
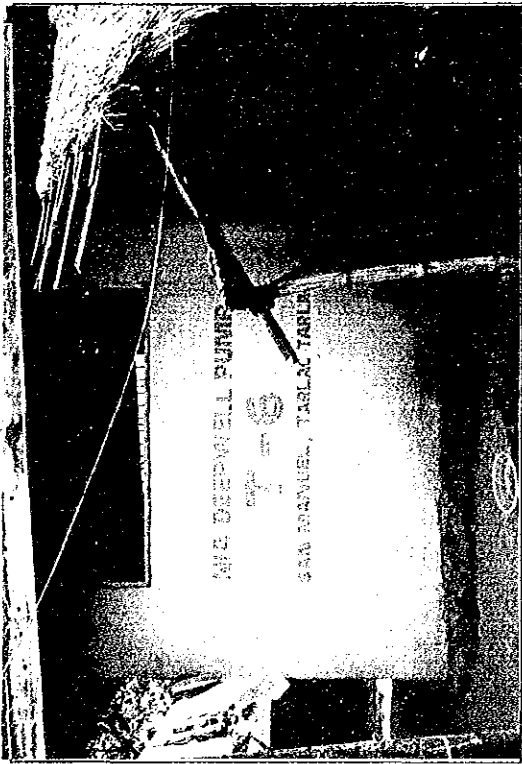
DOLORES:

T - 24	Dolores	40	52	-do-	IR
T - 25	Dolores	40	43	-do-	IR
T - 27	Dolores	40	62	-do-	IR
T - 33	San Juan	75	69	-do-	IR
T - 35	Manga	40	42	-do-	IR
P - 75	San Juan	40	31	-do-	IR
TOTAL					299

OPERATION RESULTS OF THE TARLAC GROUND WATER PILOT AREAS

PARTICULARS	1976		1977		1978		1979		1980		1981	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
<b>SAN MANUEL PILOT AREA</b>												
Area Planted (ha)	304	286	297	252	285	290	306	240	294	293		
Average Yield (t/ha)	3.0	2.1	3.9	1.6	2.8	3.4	3.7	2.5	3.9	3.4		
Operation Costs: (\$/ha)												
Energy Cost	21.34	252.26	117.16	261.17	106.93	312.67	423.09	774.46	356.09	735.48		
Repair & Maintenance	-17.11	23.74	37.82	42.06	6.49	274.15	22.55	141.48	47.20	694.62		
Labor Cost	74.99	101.53	84.32	116.98	89.31	105.56	120.24	159.05	128.25	197.49		
TOTAL COST (\$/ha)	113.44	377.53	239.30	420.21	202.73	692.38	565.88	1,074.99	531.54	1,627.59		
(cav/ha)	2.1	6.9	4.4	6.5	3.1	10.6	8.7	14.9	7.4	22.4		
ISF Collection (%)	28	5	12	3	13	12	30	8	25	15		
<b>PURA PILOT AREA</b>												
Area Planted (ha)				45	69	98	114	120	128	68		
Average Yield (t/ha)				4.2	2.8	4.4	3.3	2.8	4.0	3.4		
Operation Costs: (\$/ha)												
Energy Cost				989.90	59.13	594.42	288.24	1,214.24	764.91	1,275.31		
Repair & Maintenance				174.42	2.18	263.20	160.93	157.16	167.40	2,898.34		
Labor Cost				578.40	325.53	277.16	254.80	280.60	259.50	756.36		
TOTAL COST (\$/ha)				1,742.72	386.84	1,134.78	703.65	1,652.00	1,191.81	4,930.01		
(cav/ha)				31.8	6.0	17.4	25.0	25.0	16.5	51.6		
ISF COLLECTION (%)				0	2	15	53	37	59	24		

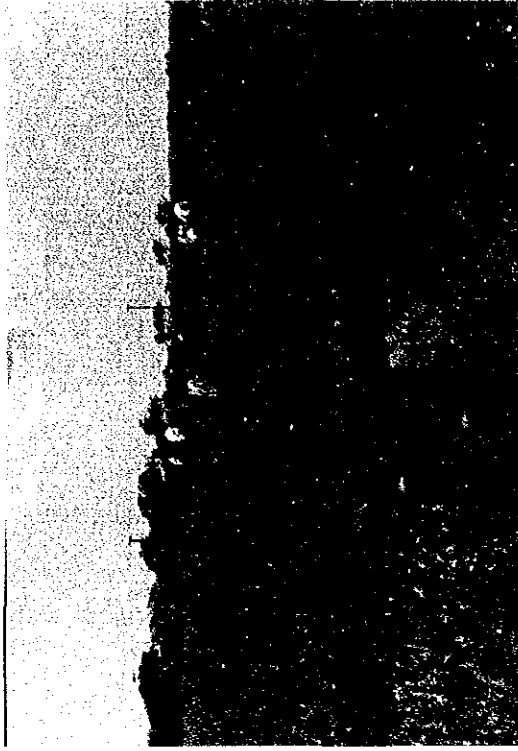
TARLAC P<sub>1</sub>, (SAN MANUEL T-6)



TARLAC P. 1, (SAN MANUEL, T-6)



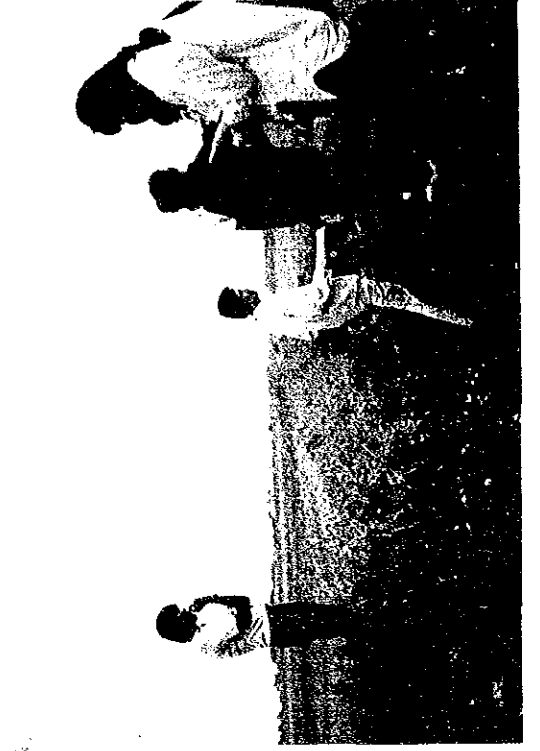
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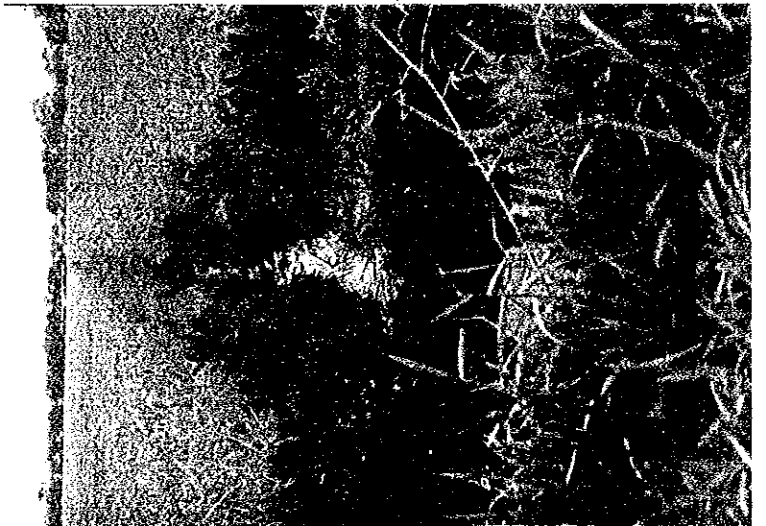
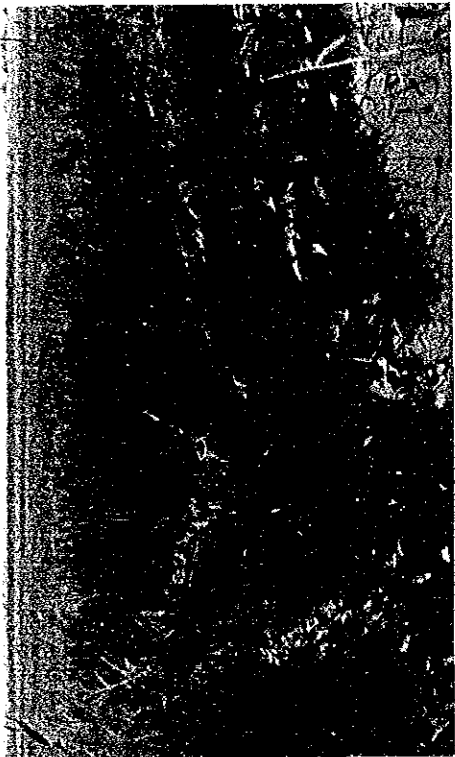
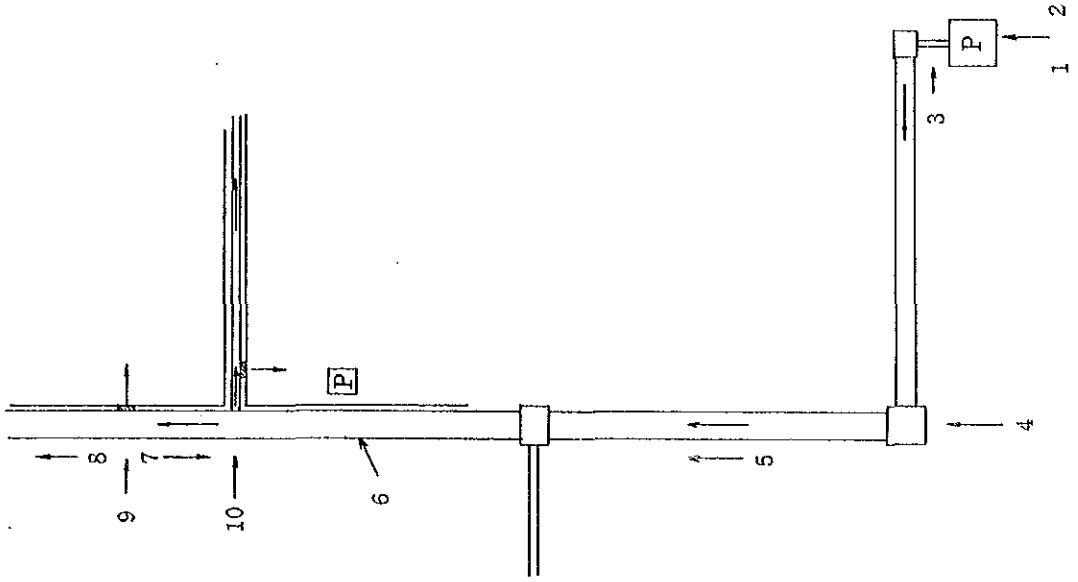
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6



8



TABLAC P<sub>2</sub>



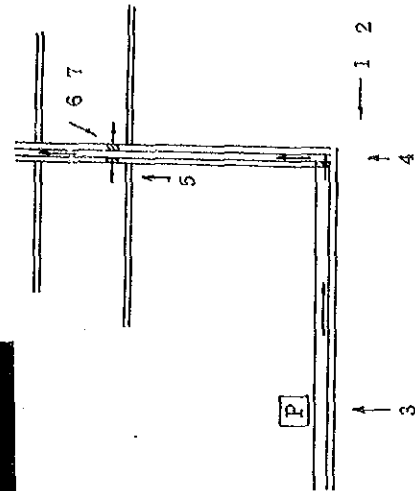
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2



3



TARLAC P.2

4



5



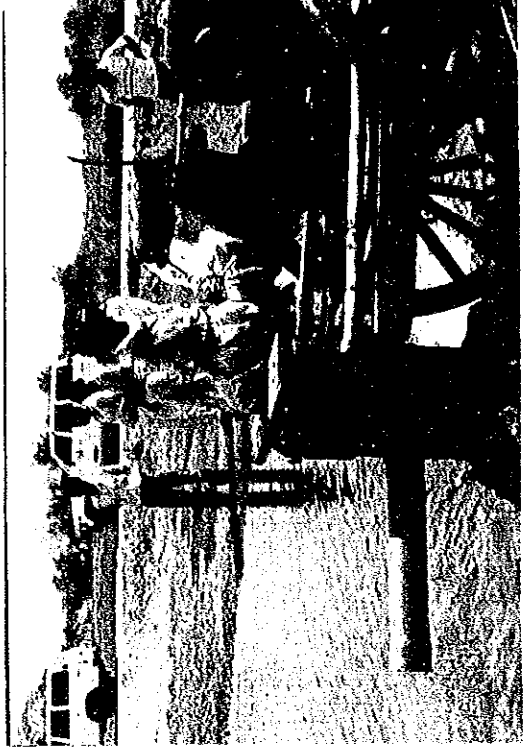
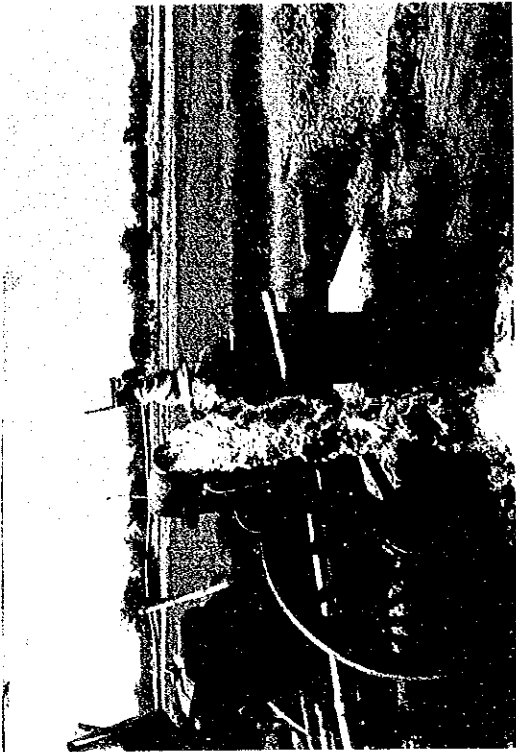
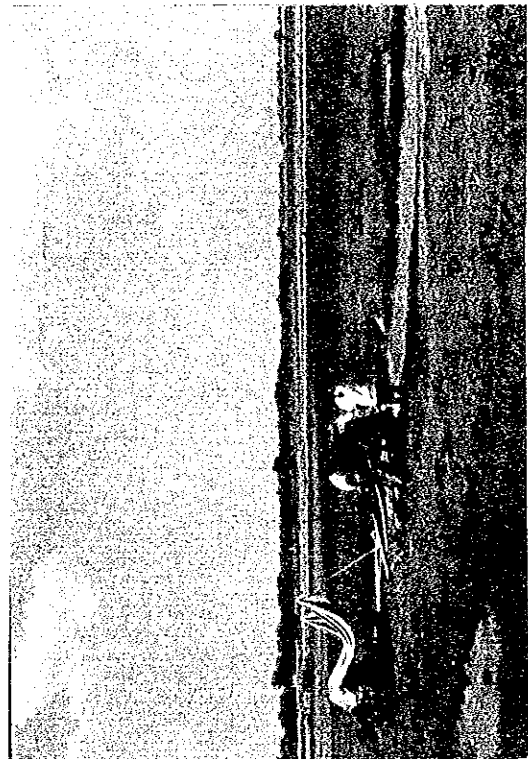
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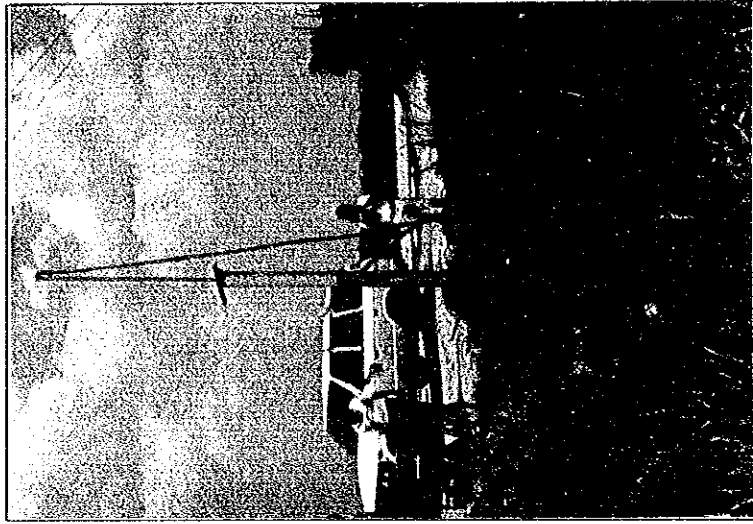
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TARLAC P<sub>3</sub>








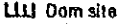

















TARLAC P. (さく井現場)

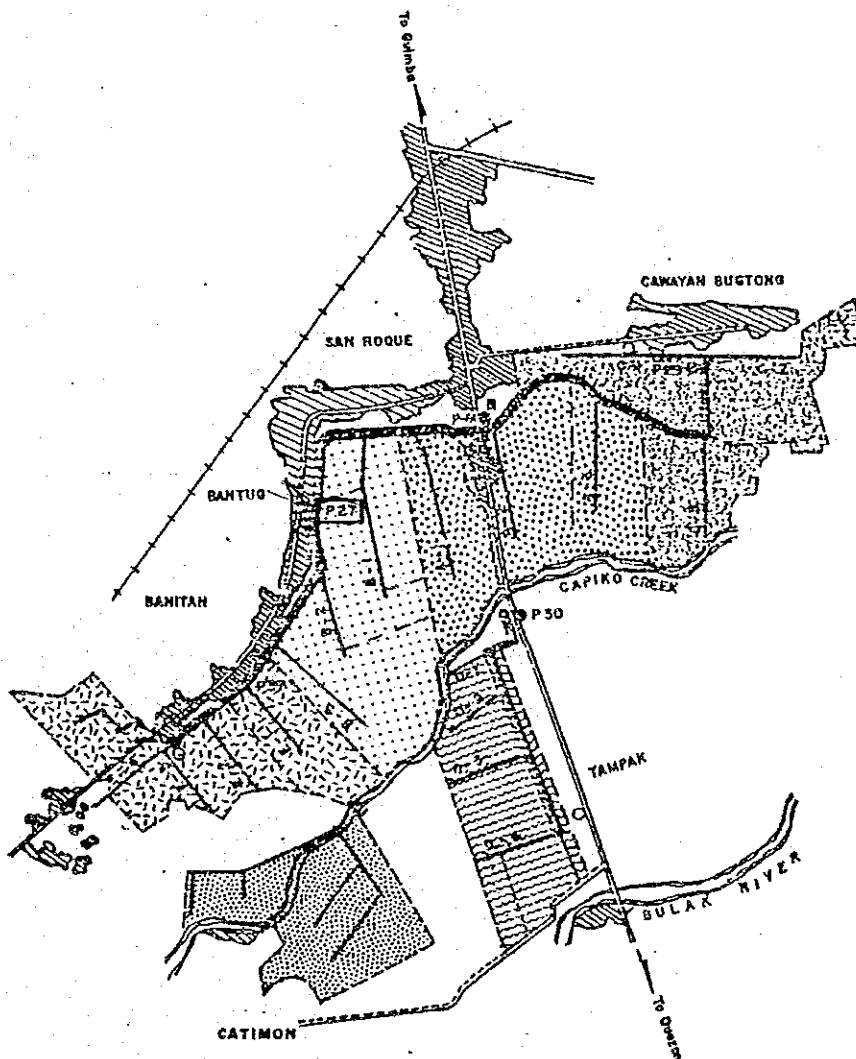
現地調査 3/5

(2) GUIMBA

NIA/UNDP-FAO GROUNDWATER DEVELOPMENT PROJECT  
 GUIMBA PILOT AREA  
 GUIMBA, NUEVA ECIJA  
 IRRIGATION BLOCKS AND SUB-BLOCK BOUNDARY  
 Scale 1:30,000

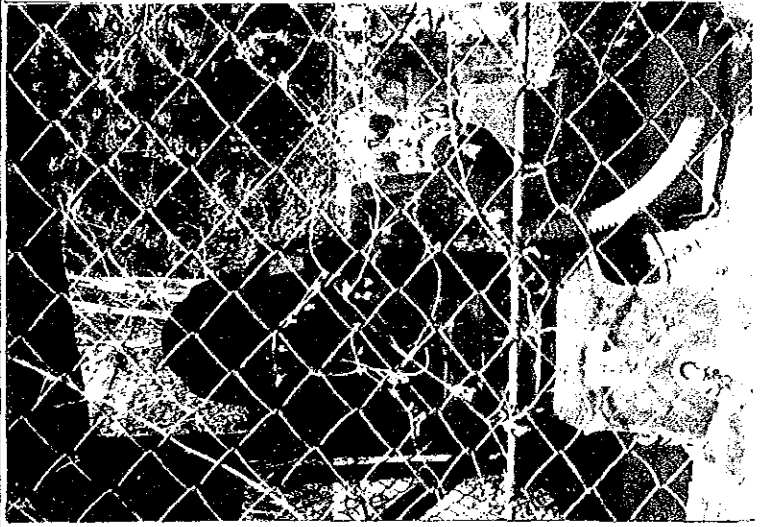
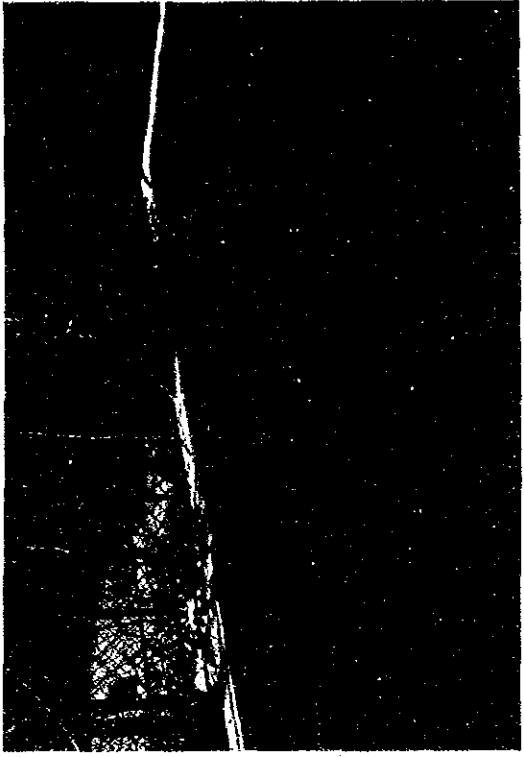
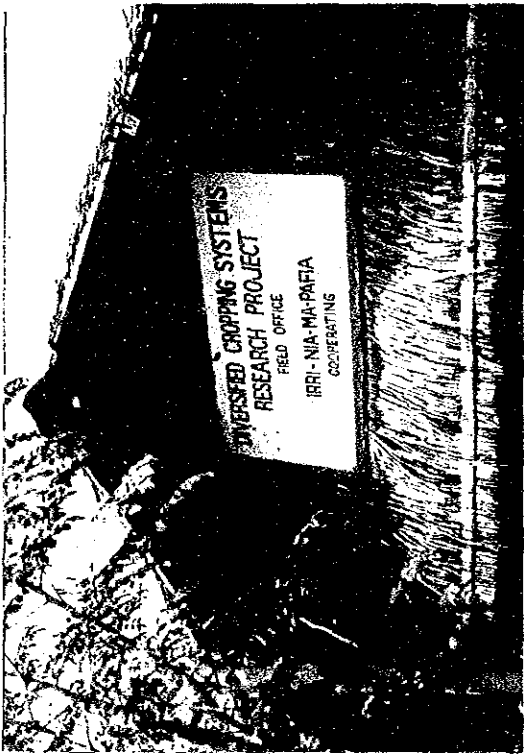
LEGEND

- |   |                             |   |                    |
|---|-----------------------------|---|--------------------|
|  | Medium duty road            |  | Dam site           |
|  | Light duty road             |  | A-1 Lateral        |
|  | Railroad                    |  | Irrigation block C |
|  | Creek                       |  | Irrigation block A |
|  | Build-up area               |  | Irrigation block B |
|  | Main canal                  |  | Irrigation block E |
|  | Laterals                    |  | Irrigation block D |
|  | Sub-block boundary          |  | Area serve by dam  |
|  | Project well (deep well)    |   |                    |
|  | Project well (shallow well) |   |                    |
|  | Hydrometeorological station |   |                    |





Guimba



3

1

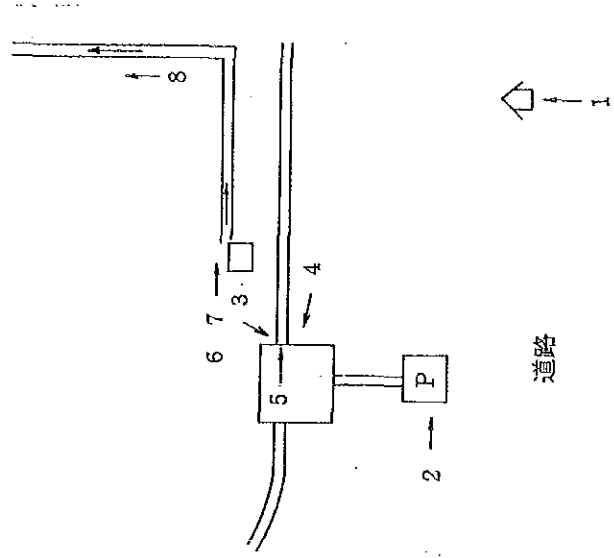
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4



5





8

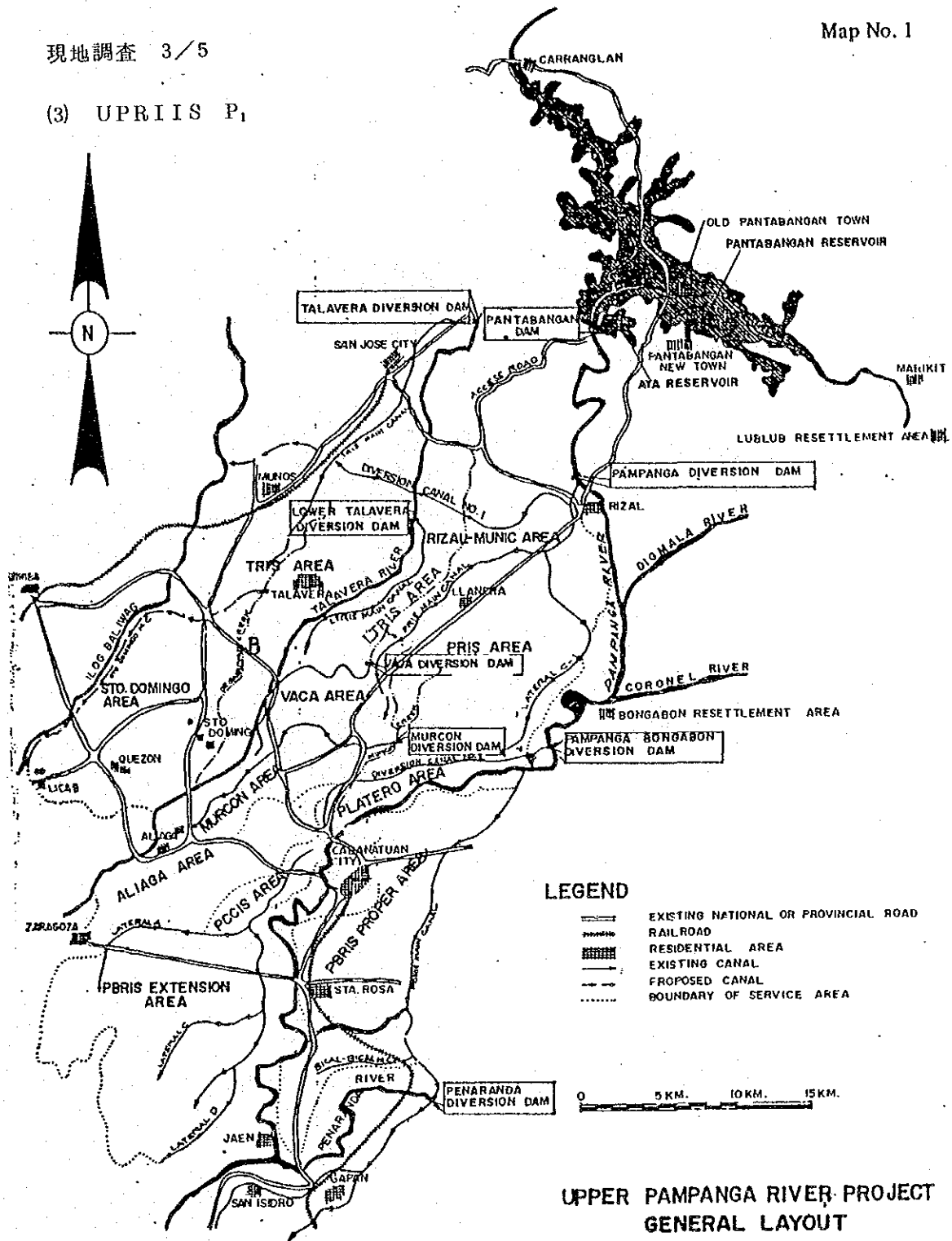


9



7

(3) UPRIS P<sub>1</sub>

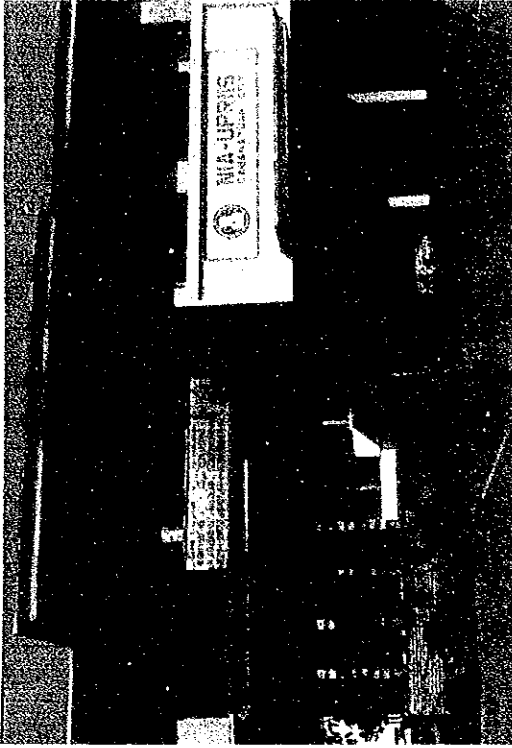


LEGEND

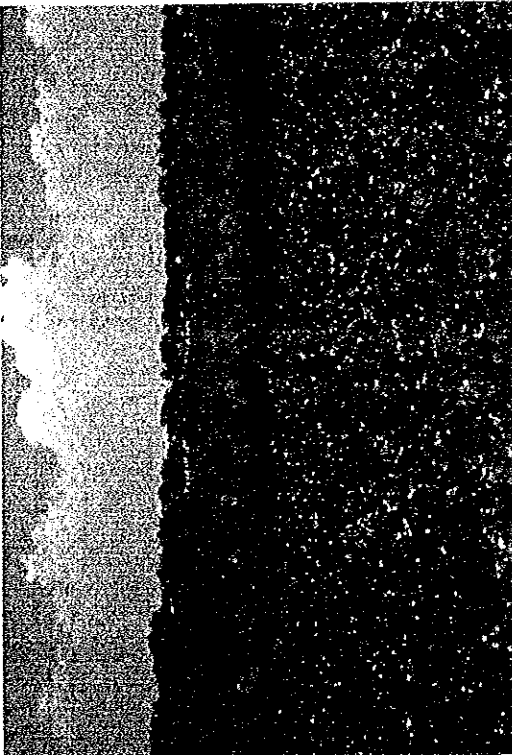
- EXISTING NATIONAL OR PROVINCIAL ROAD
- RAILROAD
- ▨ RESIDENTIAL AREA
- EXISTING CANAL
- - - PROPOSED CANAL
- ..... BOUNDARY OF SERVICE AREA



UPPER PAMPANGA RIVER PROJECT  
GENERAL LAYOUT

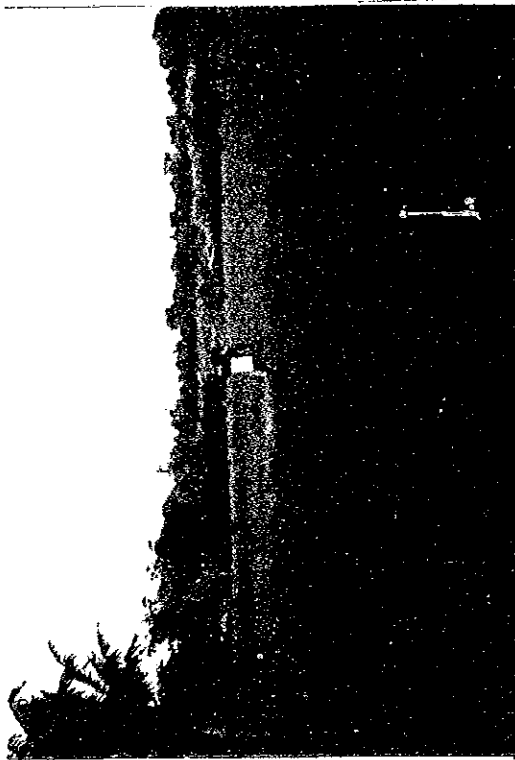
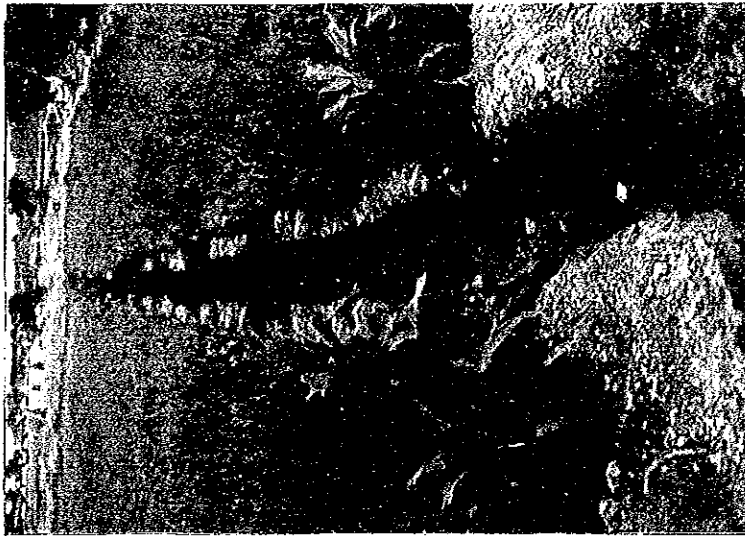


UPRIS P1





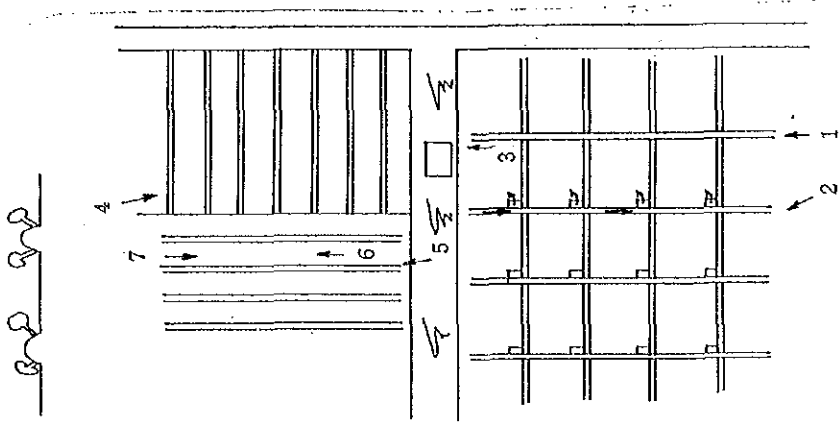
UPRIIS P<sub>2</sub>



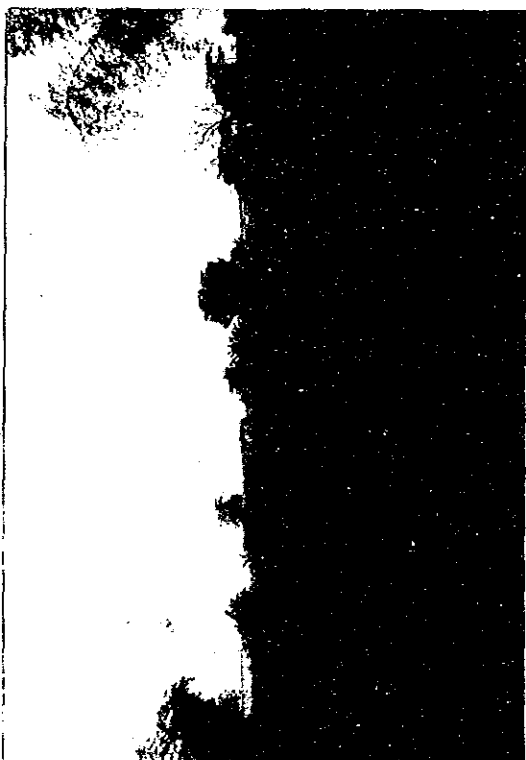
2



3



UPRIS P<sub>2</sub>



4



6

7



5

JICA