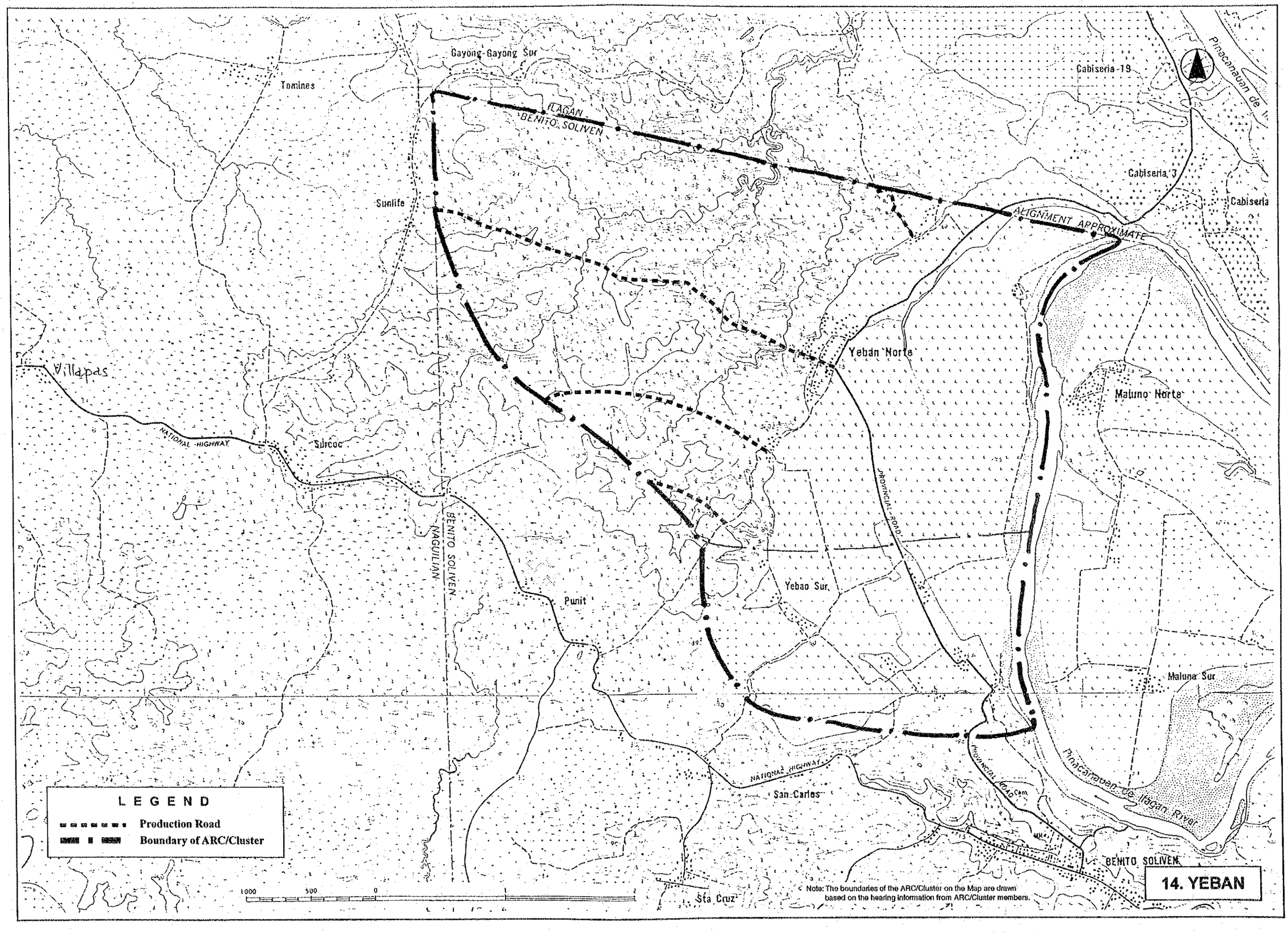
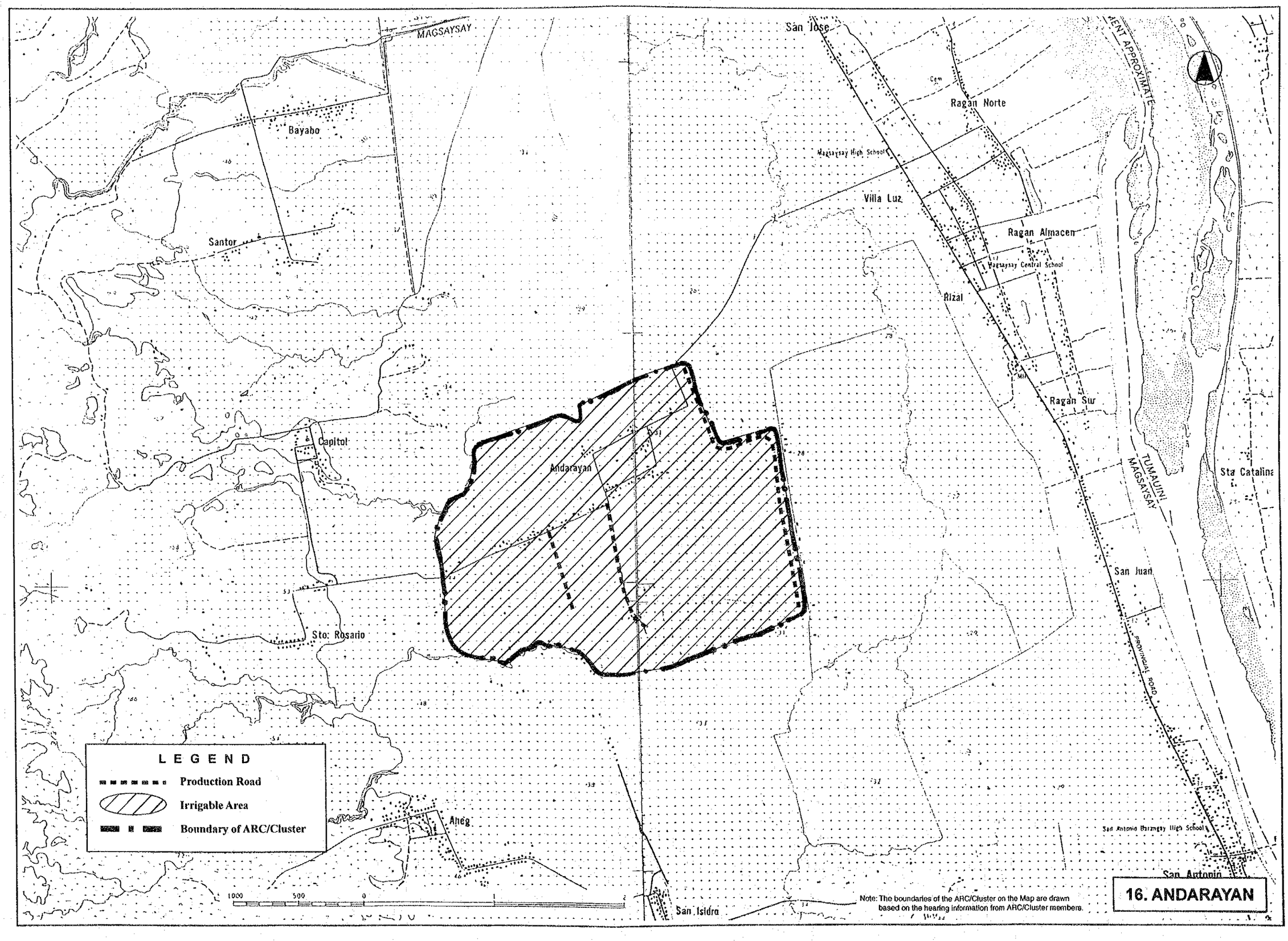
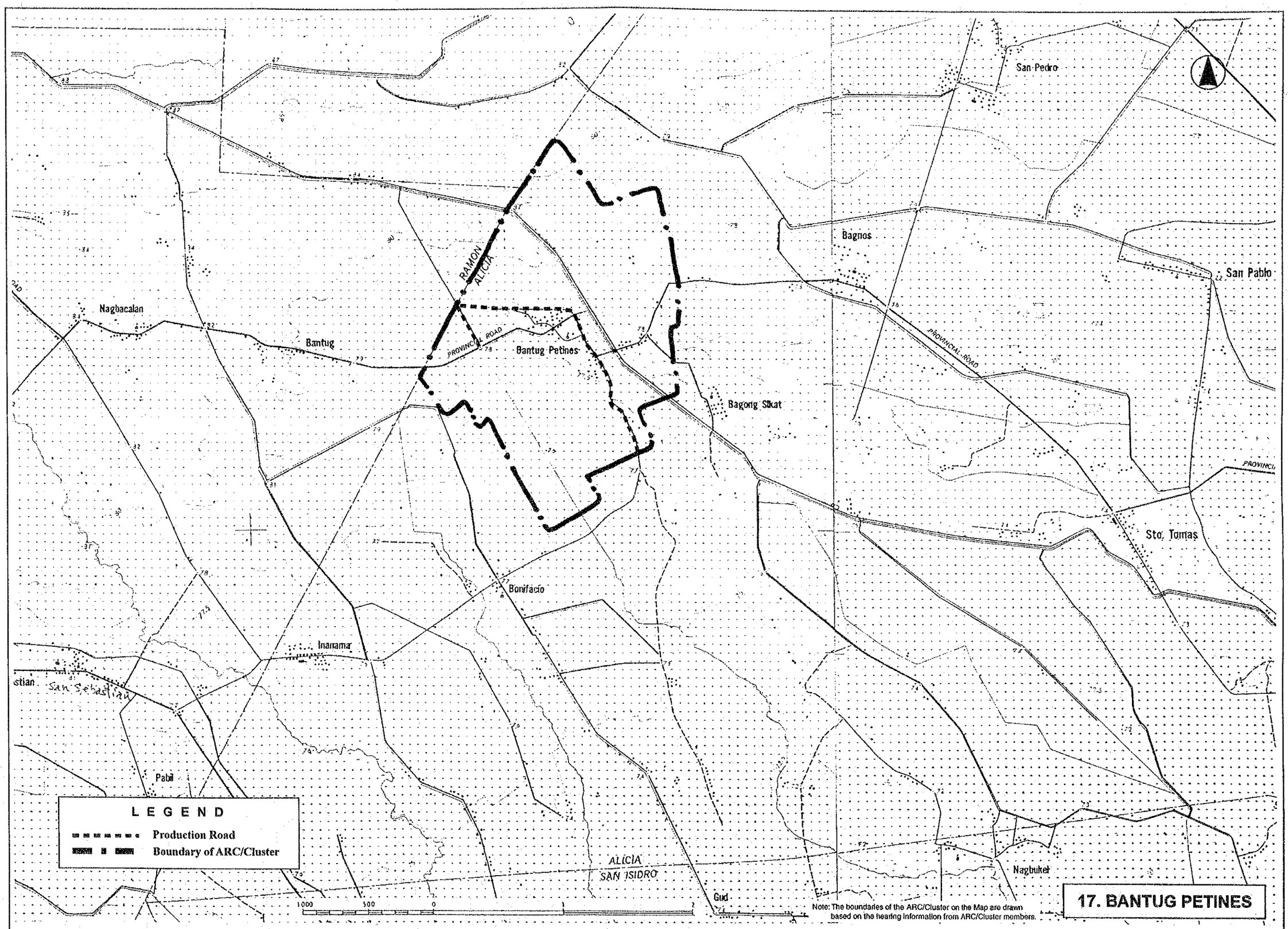
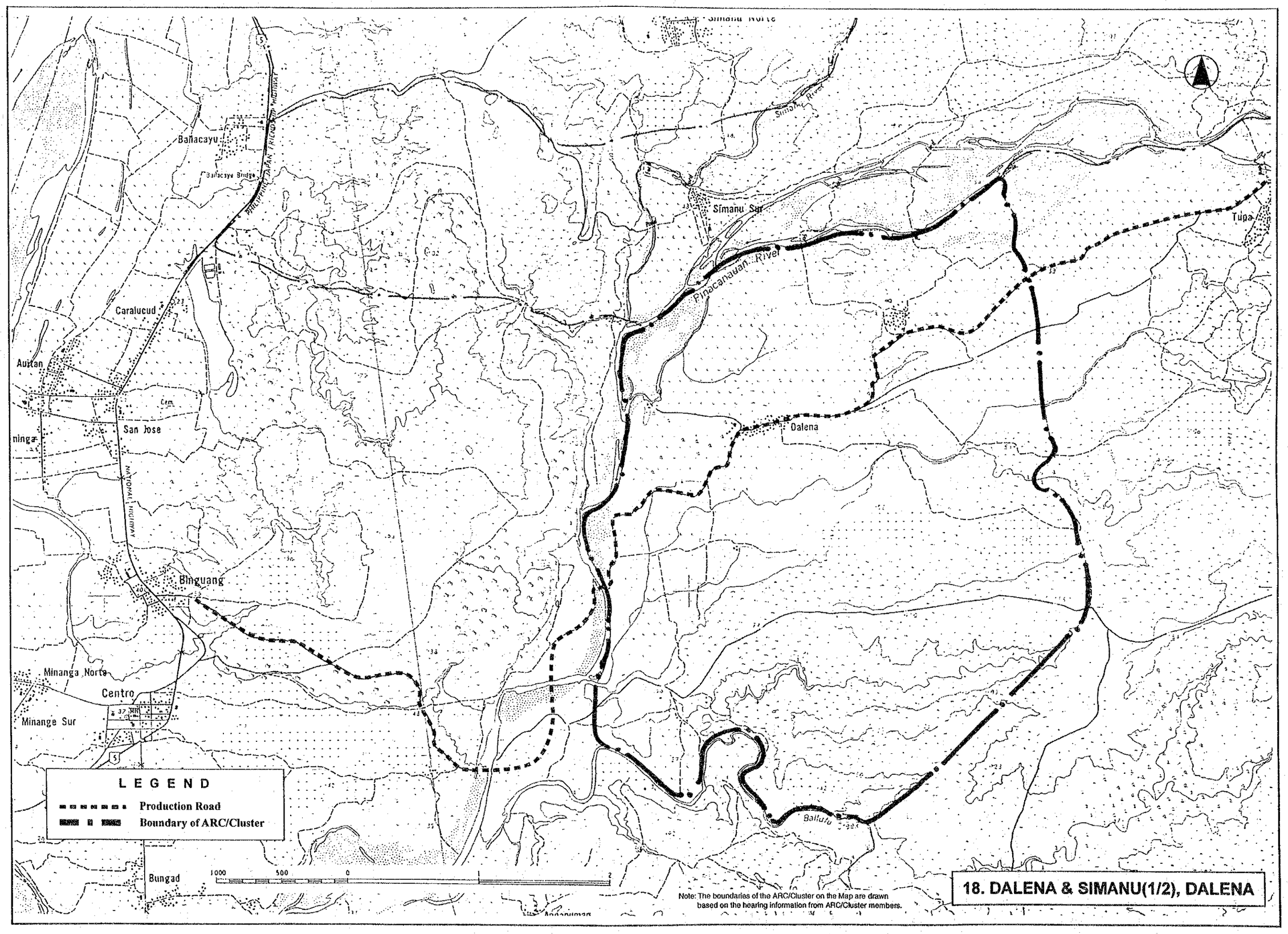
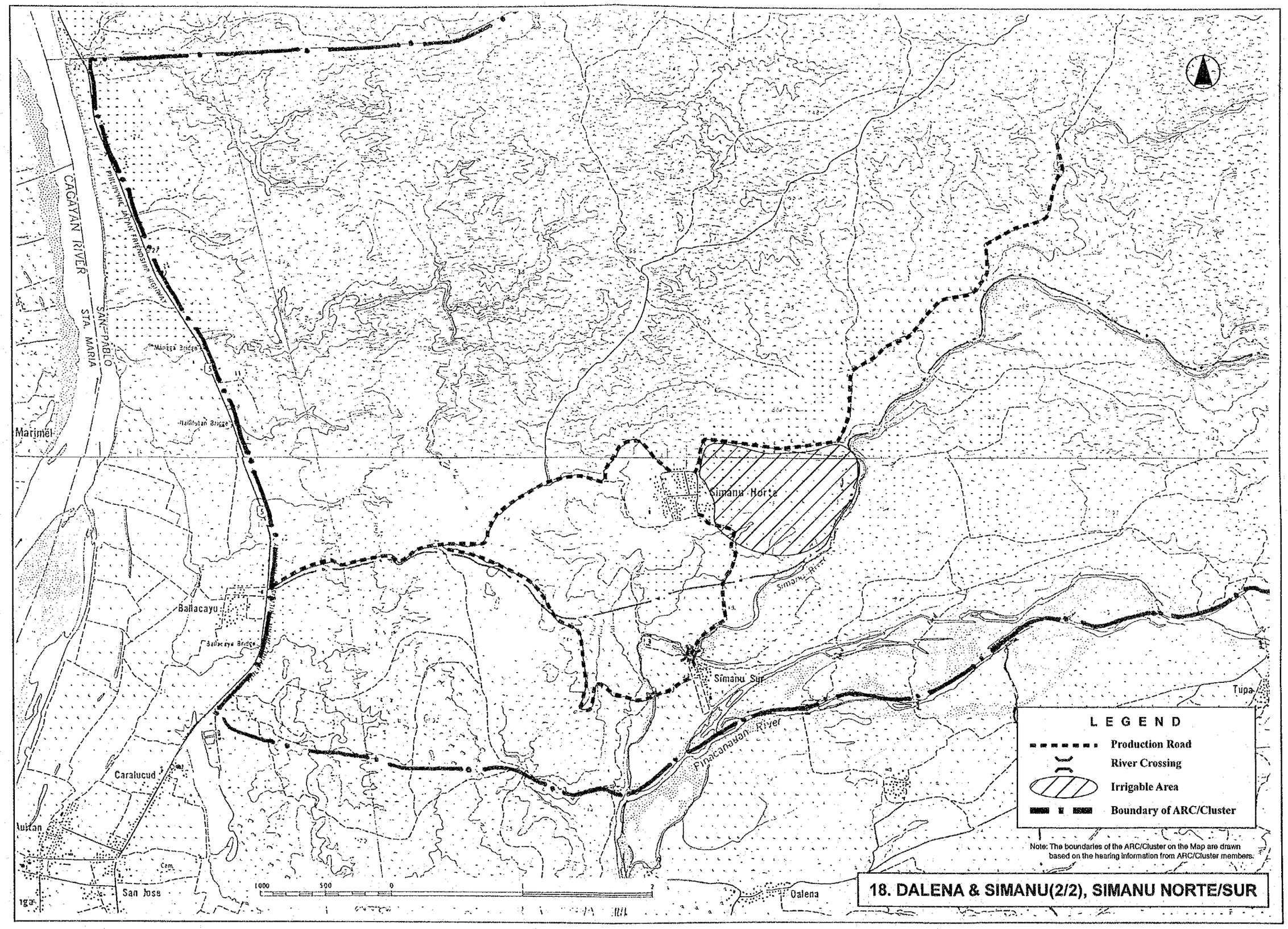
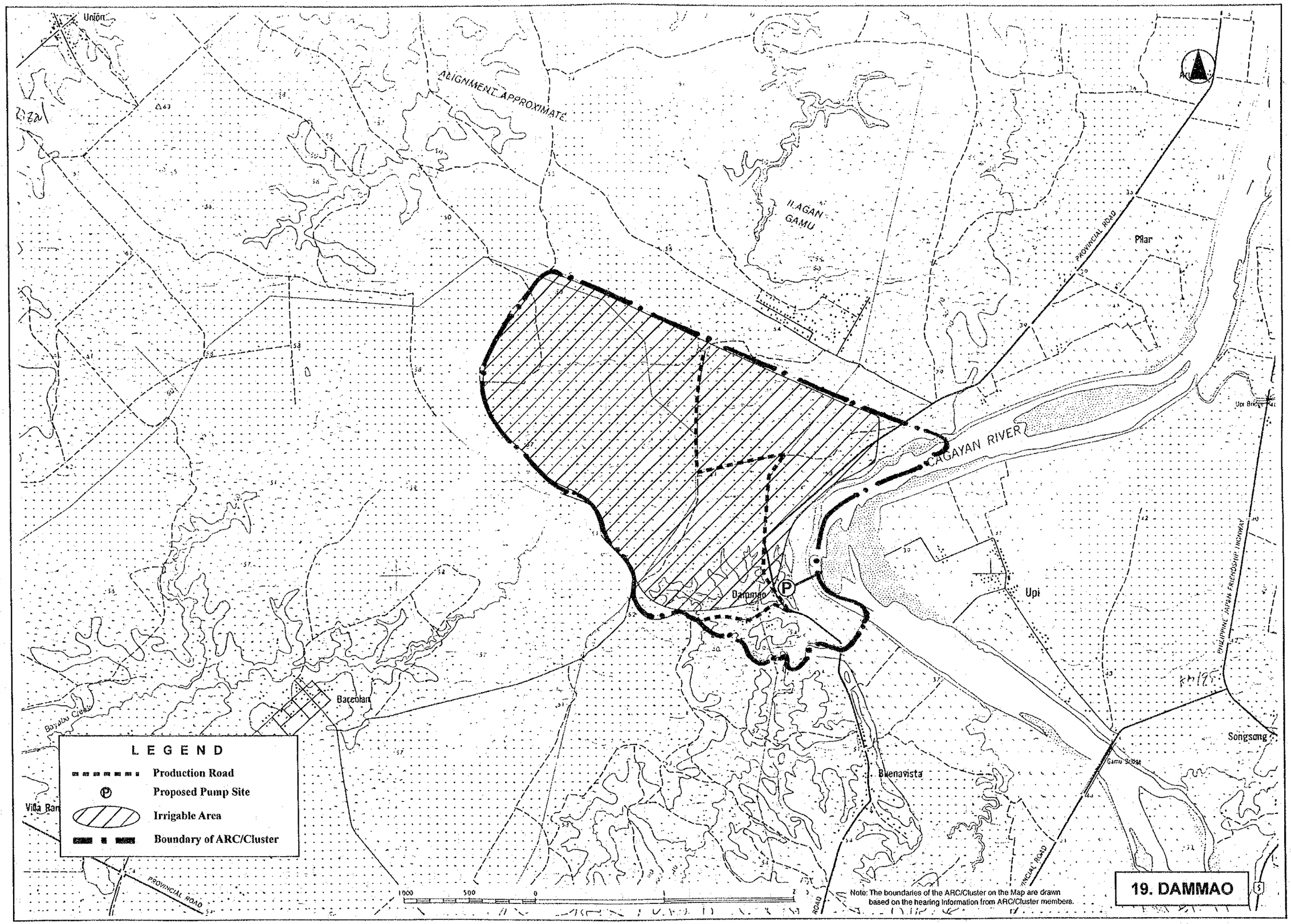

Gayong-Gayong Sur
Tomines
Sunlife
ILAGAN
BENITO SOLIVEN
ALIGNMENT APPROXIMATE
Cabiseria 19
Cabiseria 3
Cabiseria
Pinacanauan de I
Villapas
NATIONAL HIGHWAY
Sitcoc
BENITO SOLIVEN
NAGUILIAN
Punit
Yeban Norte
PROVINCIAL ROAD
Maluno Norte
Yebao Sur
Maluno Sur
NATIONAL HIGHWAY
San Carlos
PROVINCIAL ROAD Cem
Pinacanauan de Ilagan River
BENITO SOLIVEN
Sta Cruz
LEGEND
Production Road
Boundary of ARC/Cluster
1000
500
0
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
14. YEBAN

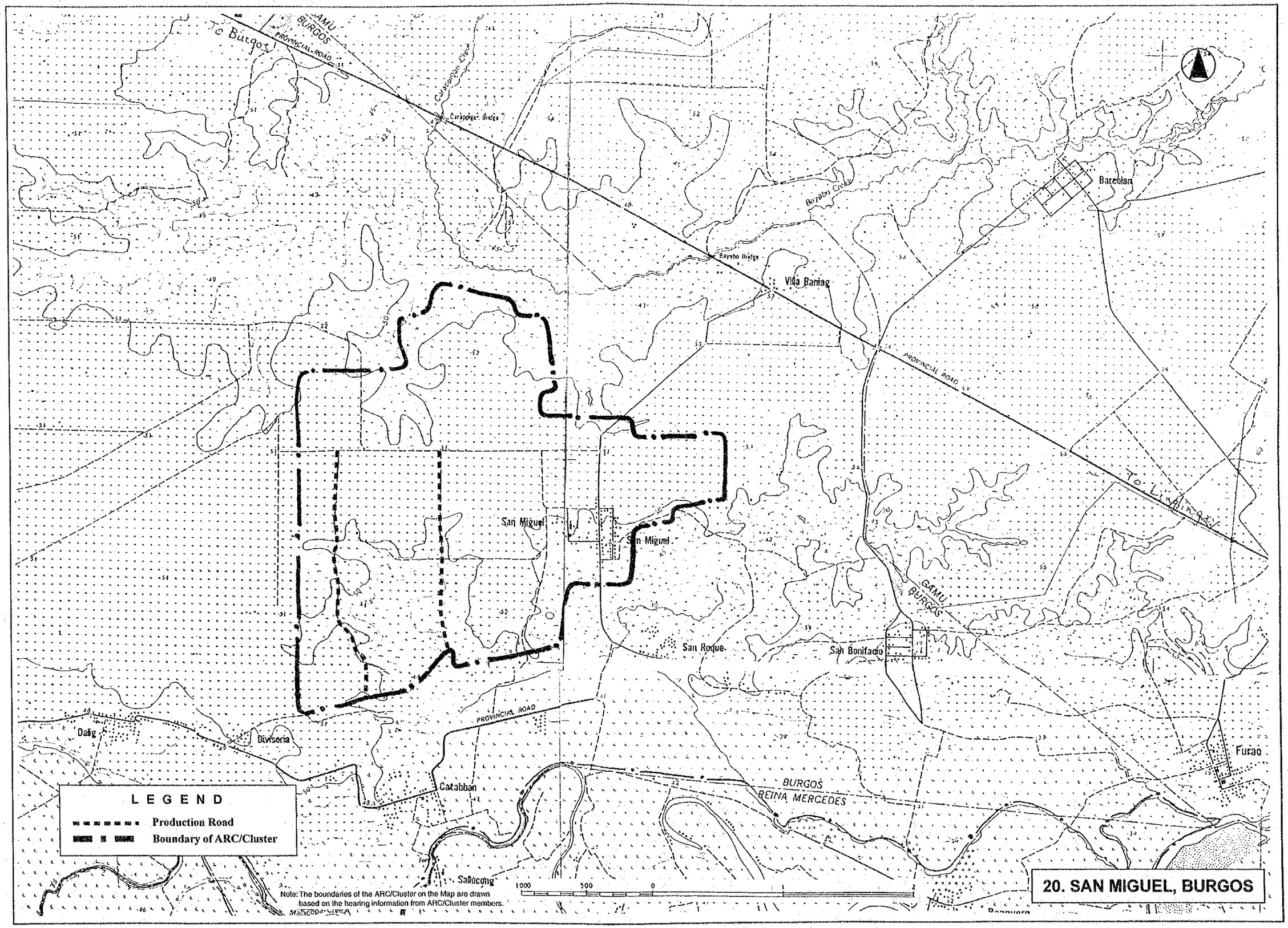

MAGSAYSAY
Bayabo
Santor
Capitol
Andarayan
Sto. Rosario
Aneg
San Isidro
San Jose
Ragan Norte
Magsaysay High School
Villa Luz
Ragan Almacen
Magsaysay Central School
Rizal
Ragan Sur
TUMAUINI - MAGSAYSAY
San Juan
PROVINCIAL ROAD
Sta Catalina
San Antonio Barangay High School
San Antonio
LEGEND
Production Road
Irrigable Area
Boundary of ARC/Cluster
1000
500
0
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
16. ANDARAYAN

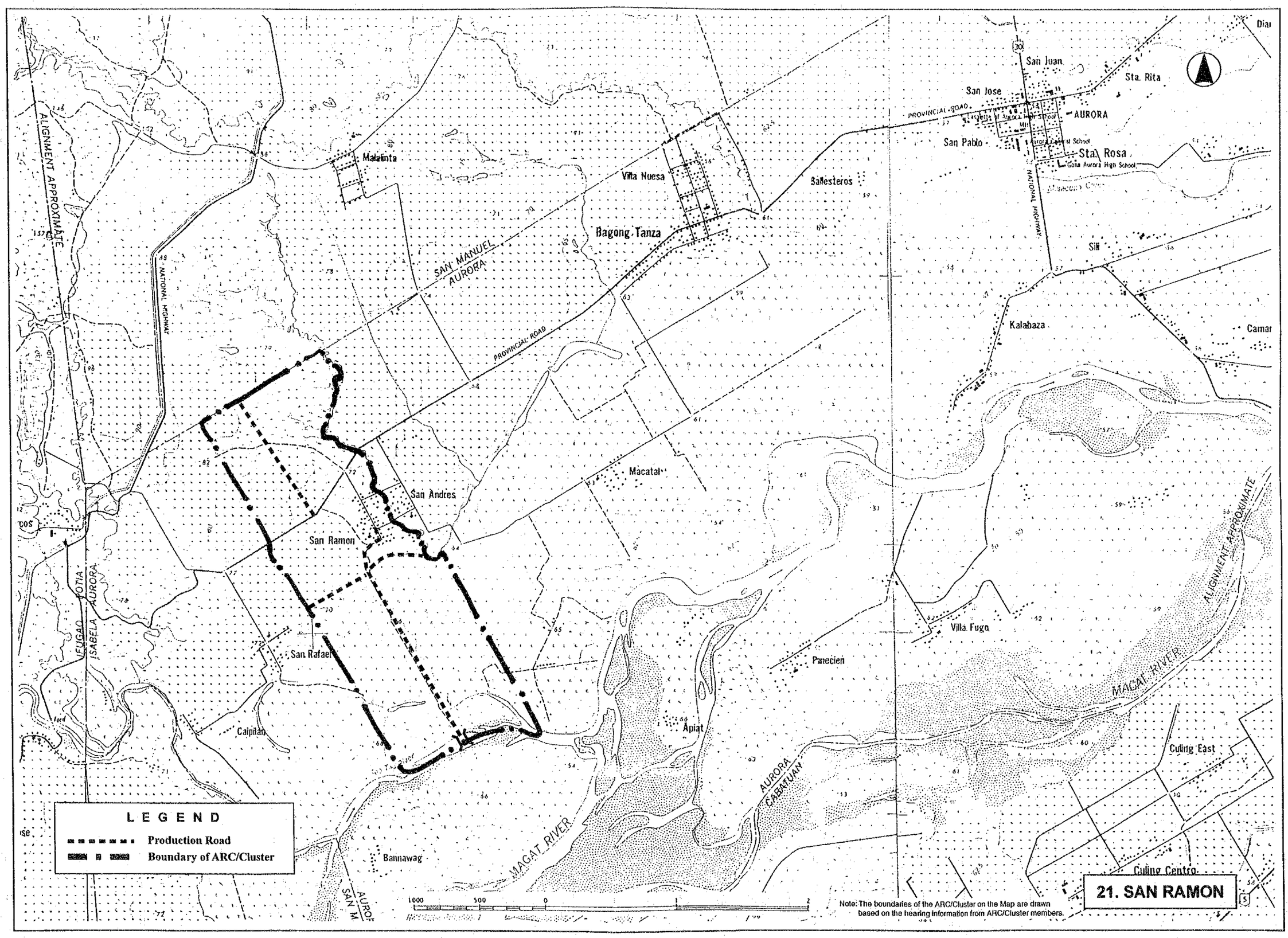

San Pedro
Bagnos
San Pablo
Sto. Tomas
Nagbacalan
Bantug
Bantug Petines
Bagong Sikat
RAMON
ALICIA
PROVINCIAL ROAD
Bonifacio
Inarama
San Sebastian
Pabil
Nagbukel
ALICIA
SAN ISIDRO
Gud
1000
500
0
LEGEND
Production Road
Boundary of ARC/Cluster
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
17. BANTUG PETINES

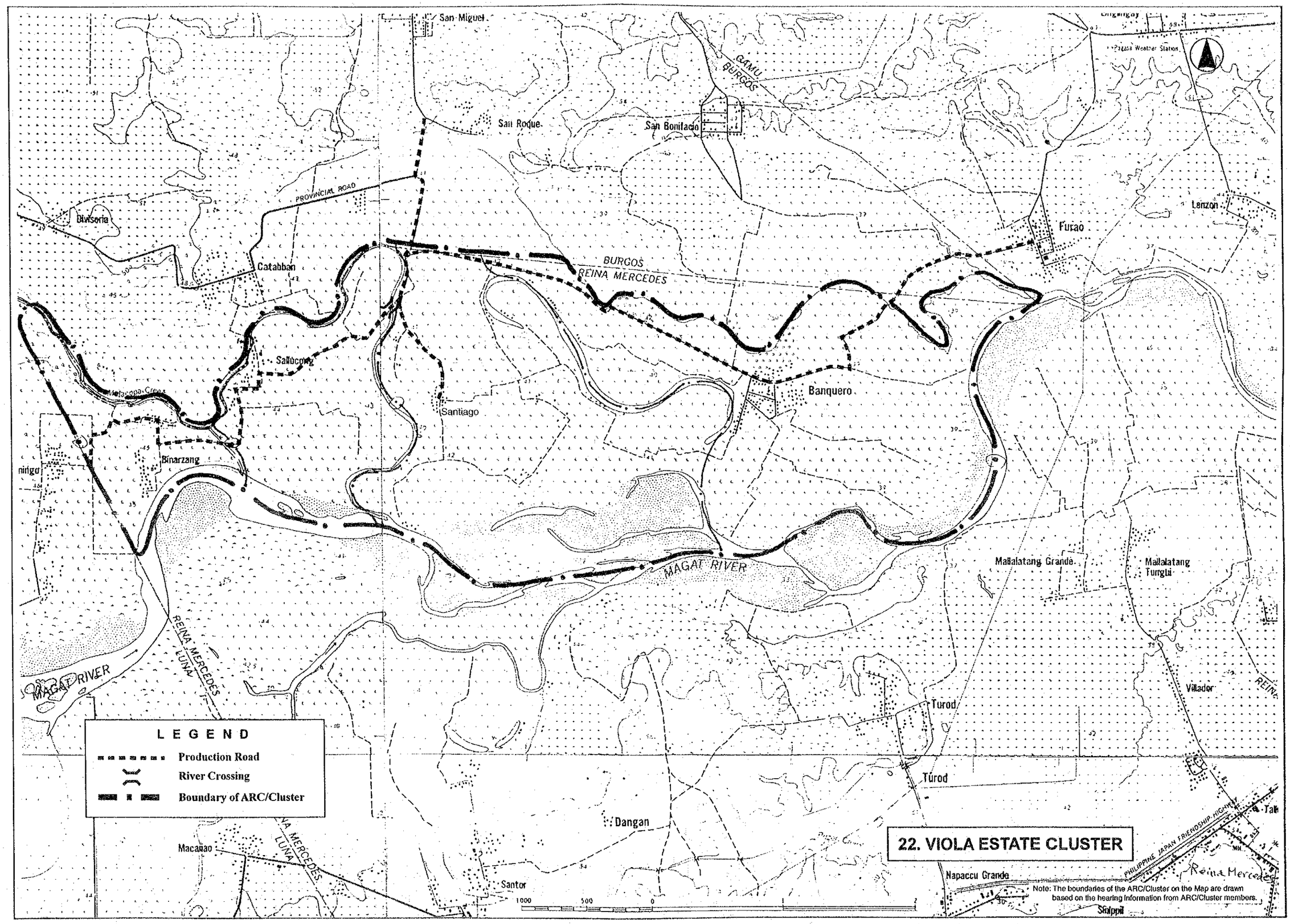

Simanu River
Bañacayu
Bañacayu Bridge
PHILIPPINE-JAPAN FRIENDSHIP HIGHWAY
Simanu Sur
Tupa
Pinacanauan River
Caralucud
Aurtan
Cem.
San Jose
ninga
NATIONAL HIGHWAY
Dalena
Binguang
Minanga Norte
Centro
Minange Sur
Bungad
Balutu
LEGEND
Production Road
Boundary of ARC/Cluster
1000
500
0
2
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
18. DALENA & SIMANU(1/2), DALENA


CAGAYAN RIVER
SAN PABLO
STA. MARIA
PHILIPPINE RURAL RECONSTRUCTION HIGHWAY
Manga Bridge
Nalfotan Bridge
Marimel
Simanu Norte
Simanu River
Ballacayu
Ballacayu Bridge
Simanu Sur
Tupa
Pinacanauan River
Caralucud
San Jose
Dalena
1000
500
0
LEGEND
Production Road
River Crossing
Irrigable Area
Boundary of ARC/Cluster
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
18. DALENA & SIMANU(2/2), SIMANU NORTE/SUR


Union
ALIGNMENT APPROXIMATE
ILAGAN GAMU
Pilar
PROVINCIAL ROAD
CAGAYAN RIVER
Dammao
Upi
PHILIPPINE JAPAN FRIENDSHIP HIGHWAY
Bacsolan
Bayabu Creek
Villa Ran
Buenavista
Songsong
Gamu School
PROVINCIAL ROAD
LEGEND
Production Road
Proposed Pump Site
Irrigable Area
Boundary of ARC/Cluster
1000
500
0
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
19. DAMMAO


To Burgos
GAMU
BURGOS
PROVINCIAL ROAD
Carapogan Creek
Carapogan Bridge
Bayabo Creek
Bayabo Bridge
Vila Ramag
Barcelan
PROVINCIAL ROAD
To Liwaliwal
San Miguel
San Miguel
GAMU
BURGOS
San Roque
San Bonifacio
Furao
Daig
Divisoria
PROVINCIAL ROAD
Catabban
BURGOS
REINA MERCEDES
Salucong
LEGEND
Production Road
Boundary of ARC/Cluster
1000
500
0
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
20. SAN MIGUEL, BURGOS

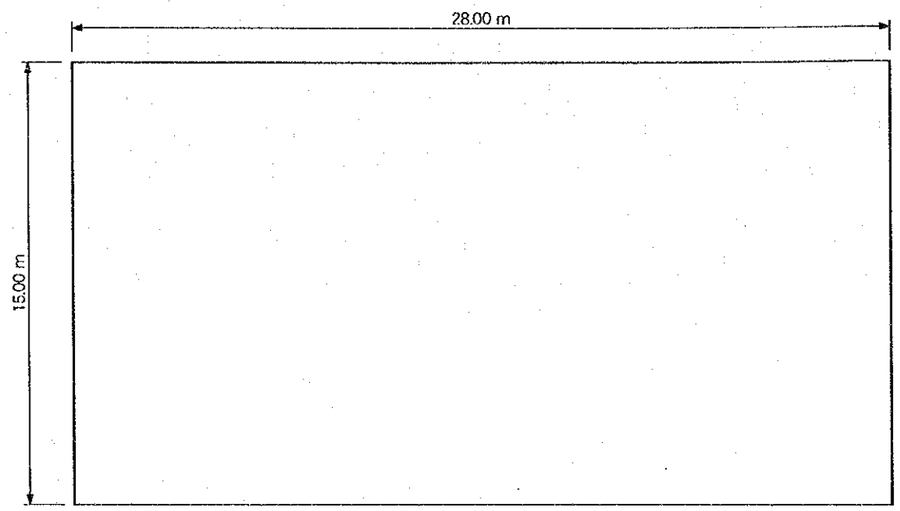

ALIGNMENT APPROXIMATE
NATIONAL HIGHWAY
Malanta
Villa Nuesa
Ballesteros
Bagong Tanza
SAN MANUEL
AURORA
PROVINCIAL ROAD
Macatal
San Andres
San Ramon
San Rafael
Caipilan
Bannawag
MAGAT RIVER
AURORA
CABATUAN
ISABELA
AURORA
San Juan
Sta. Rita
San Jose
AURORA
San Pablo
Sta. Rosa
Sili
Kalabaza
Camar
Villa Fugo
Panecien
Apiat
Culing East
Culing Centro
ALIGNMENT APPROXIMATE
LEGEND
Production Road
Boundary of ARC/Cluster
1000
500
0
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
21. SAN RAMON


San Miguel
San Roque
San Bonifacio
BAMU BURGOS
Pagasa Weather Station
PROVINCIAL ROAD
Buisoria
Catabban
BURGOS
REINA MERCEDES
Furao
Lenzon
Salucong
Santiago
Banquero
Binarzang
MAGAT RIVER
Mallalatang Grande
Mallalatang Tungtu
REINA MERCEDES LUNA
Villader
Turod
Dangan
Macanao
Santor
LEGEND
Production Road
River Crossing
Boundary of ARC/Cluster
22. VIOLA ESTATE CLUSTER
PHILIPPINE JAPAN FRIENDSHIP HIGHWAY
Napaccu Grande
Reina Mercedes
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
1000
500
0

SOLAR DRYER

PLAN

S = 1 : 2 0 0



SECTION

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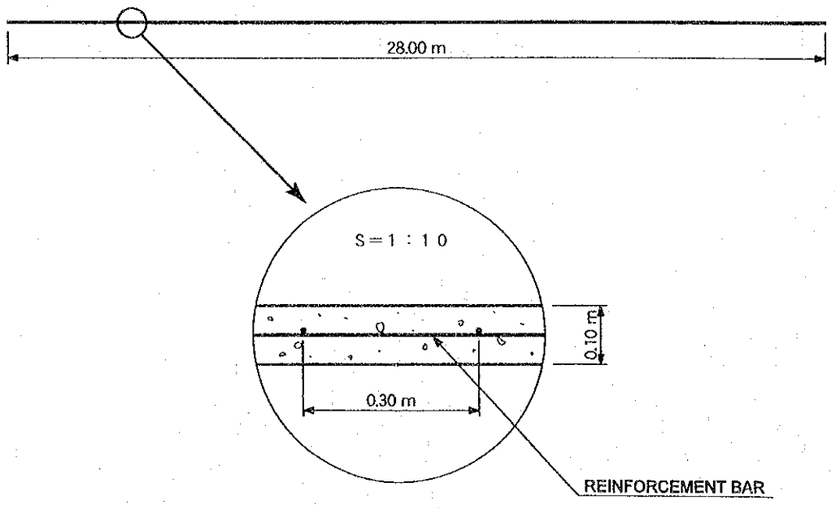
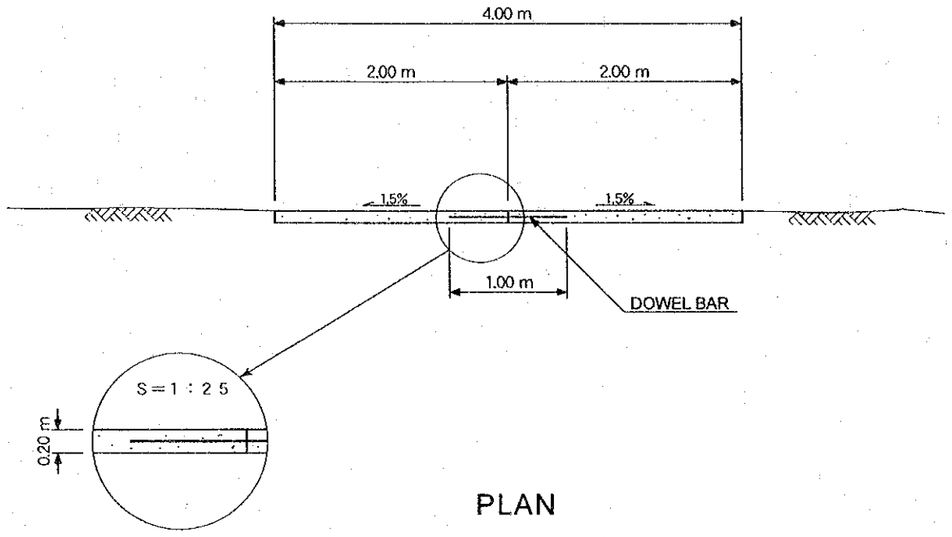


MULTI PURPOSE PAVEMENT

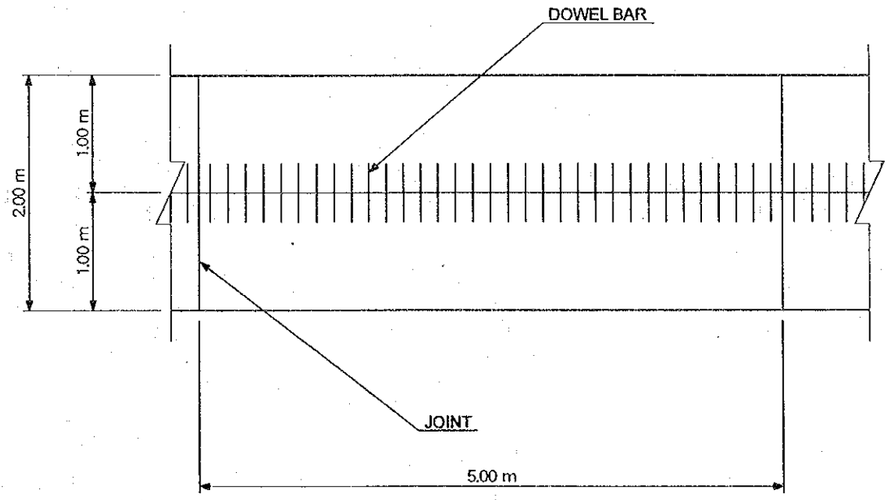
SECTION

S = 1 : 5 0



PLAN

S = 1 : 1 0 0

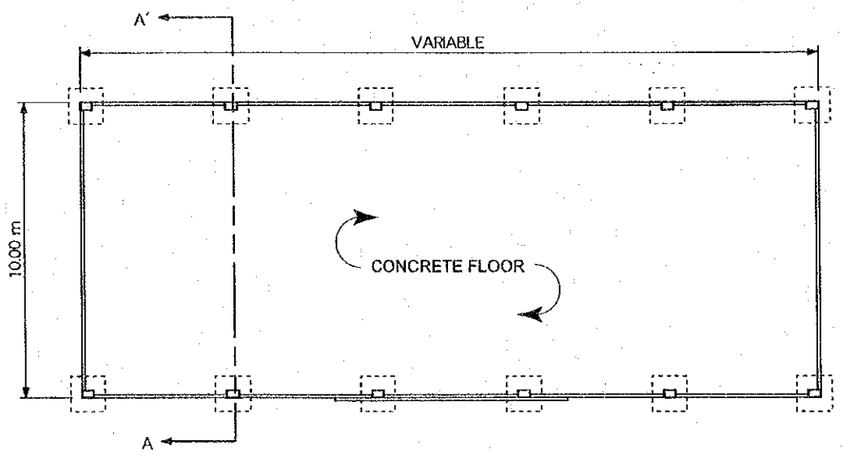


THE REPUBLIC OF THE PHILIPPINES THE STUDY ON THE DEVELOPMENT OF ARCs IN THE PROVINCE OF ISABELA	
SOLAR DRYER	DWG No. B-1
JAPAN INTERNATIONAL COOPERATION AGENCY	

WAREHOUSE

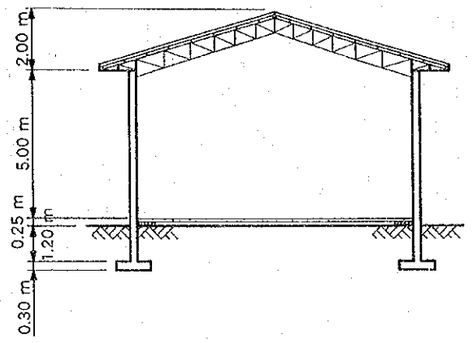
PLAN

S=1:200



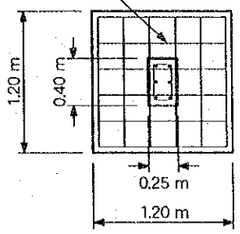
SECTION A-A'

S=1:200



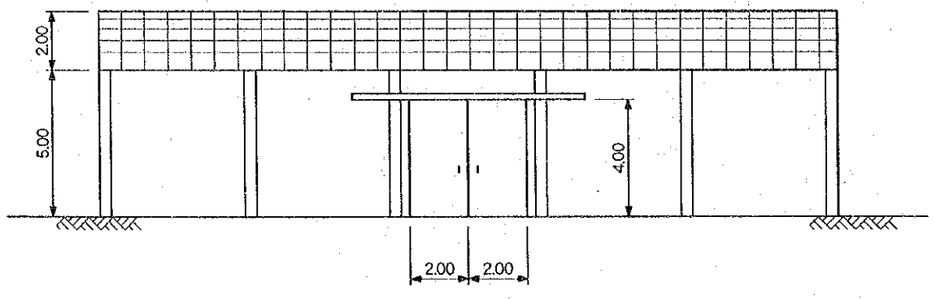
REINFORCEMENT BAR

S=1:50

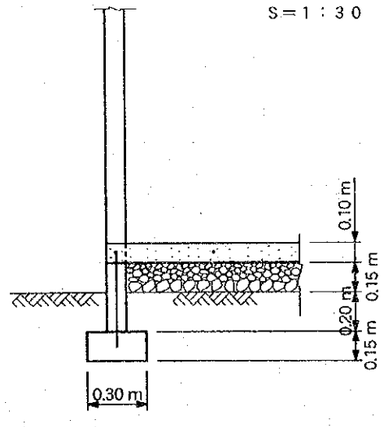


ELEVATION

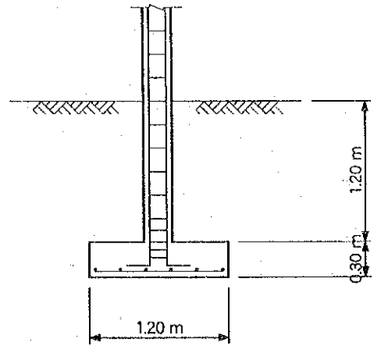
S=1:200



S=1:30



S=1:50



THE REPUBLIC OF THE PHILIPPINES
THE STUDY ON THE DEVELOPMENT OF ARCs
IN THE PROVINCE OF ISABELA

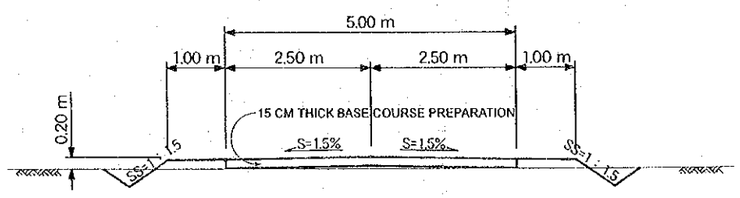
WAREHOUSE	DWG
	No. B-2

JAPAN INTERNATIONAL COOPERATION AGENCY

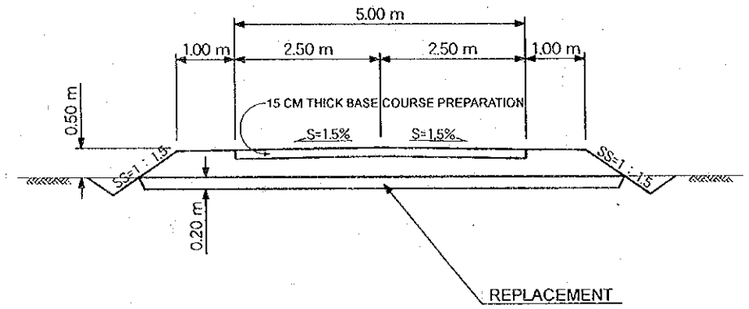
Farm-to-market Road

S=1:100

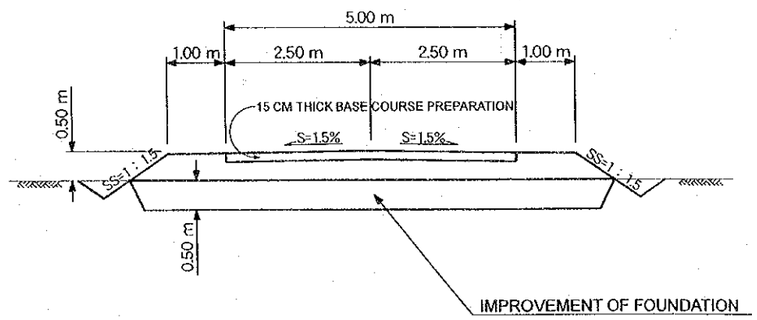
TYPE I



TYPE II



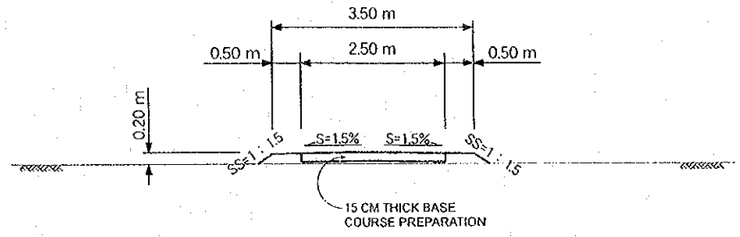
TYPE III



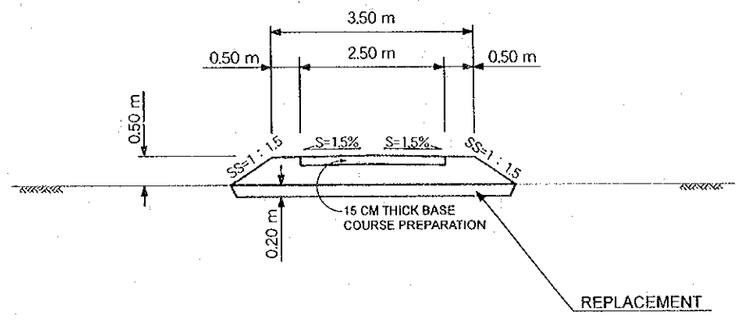
Production Road

S=1:100

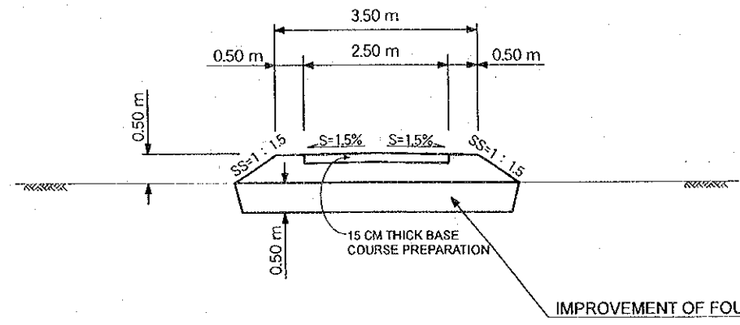
TYPE I



TYPE II



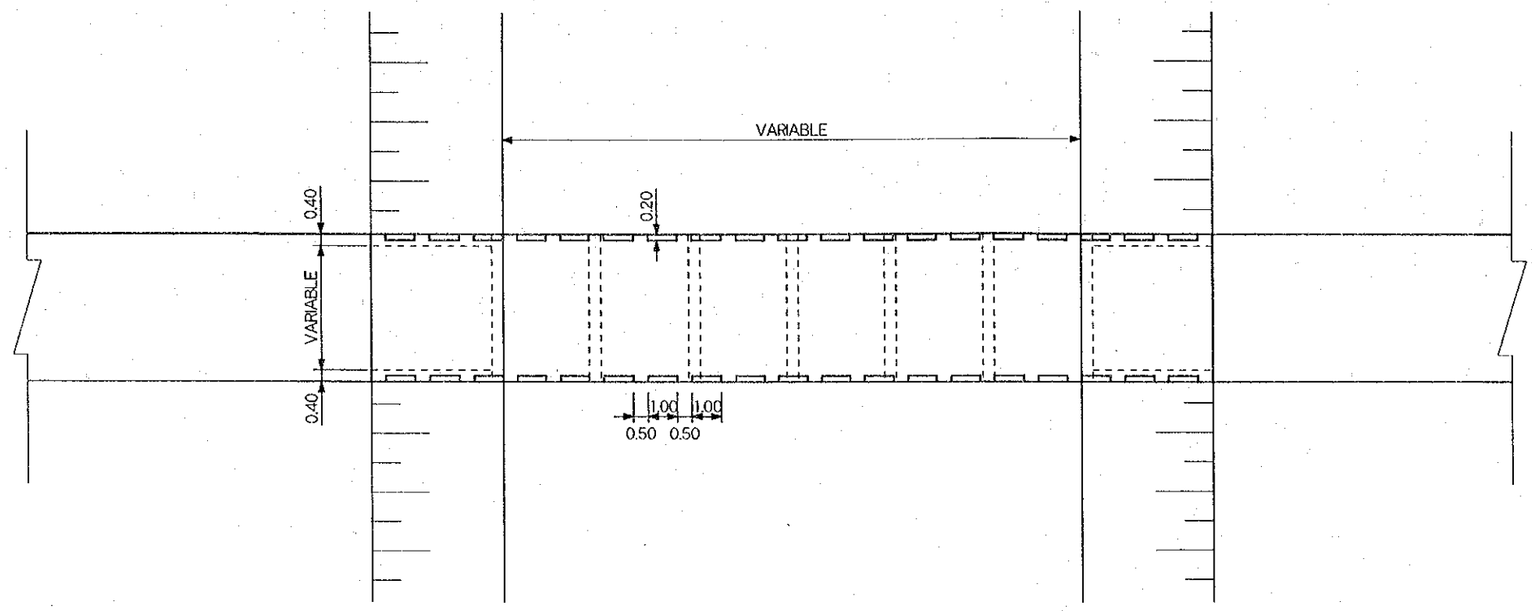
TYPE III



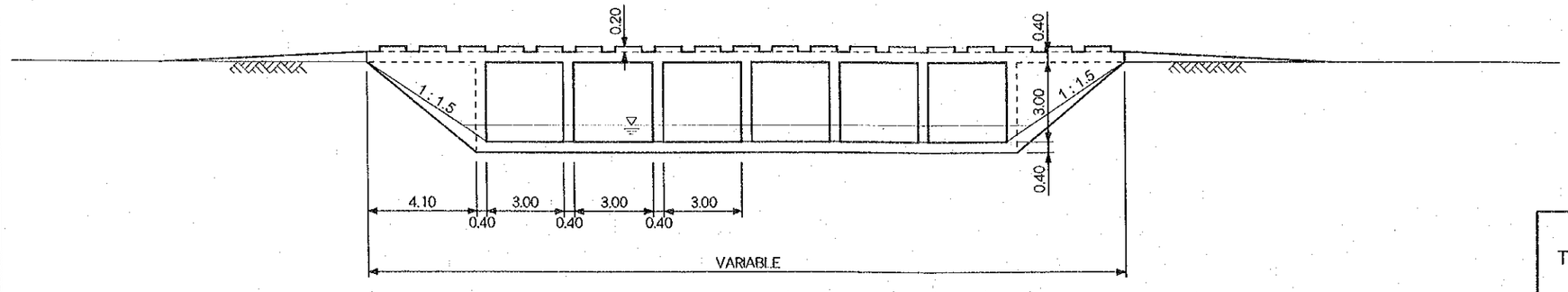
THE REPUBLIC OF THE PHILIPPINES THE STUDY ON THE DEVELOPMENT OF ARCs IN THE PROVINCE OF ISABELA	
Farm-tomarket Road & Production Road	DWG No. B-3
JAPAN INTERNATIONAL COOPERATION AGENCY	

BRIDGE

PLAN

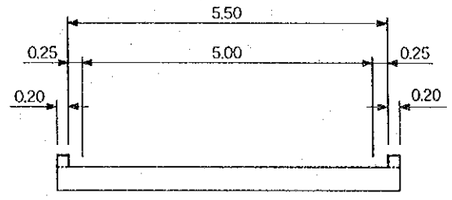


SECTION



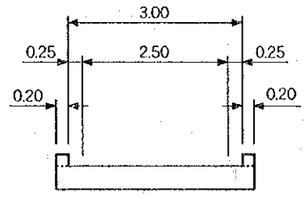
Farm-to-market Road

S=1:100



Production Road

S=1:100



THE REPUBLIC OF THE PHILIPPINES THE STUDY ON THE DEVELOPMENT OF ARCs IN THE PROVINCE OF ISABELA	
BRIDGE	DWG No. B-4
JAPAN INTERNATIONAL COOPERATION AGENCY	

List of Attachment and Drawings for Feasibility Study

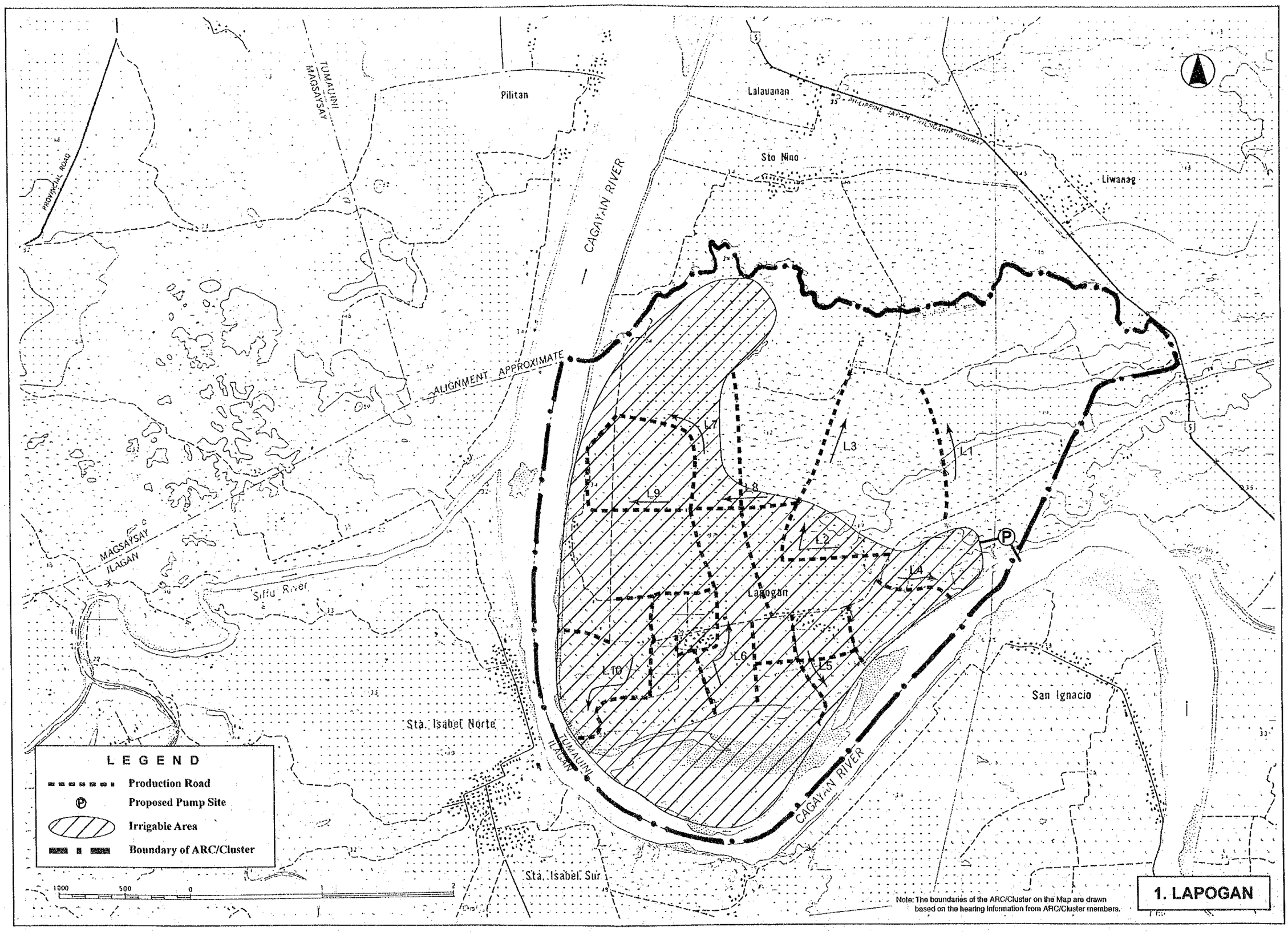
A. General Plan Maps

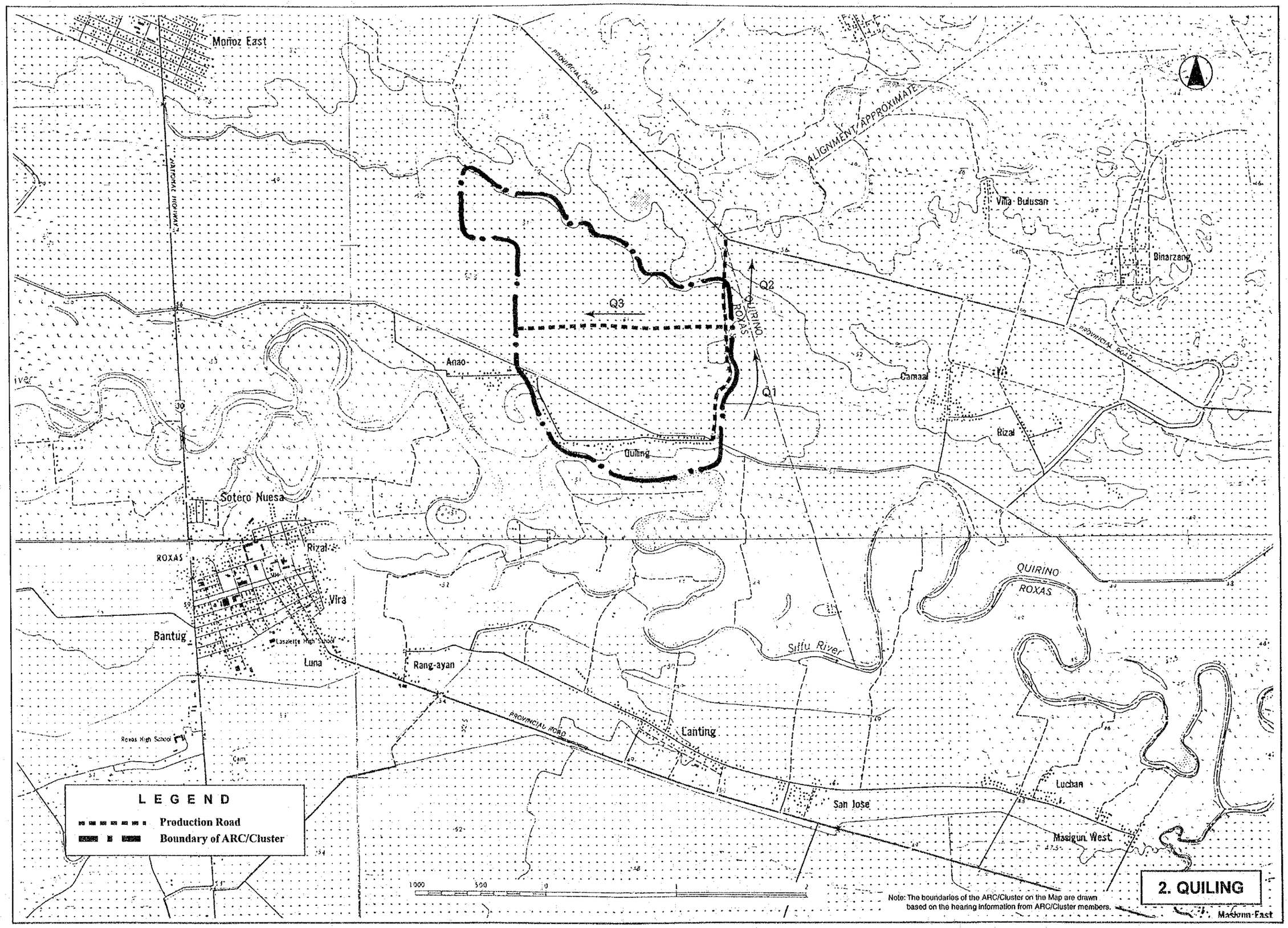
A-1	Quling ARC (No. 2)
A-2	Lapogan ARC (No. 1)
A-3	Minagbag ARC (No. 8)
A-4	San Manuel ARC (No. 4)
A-5	La Suerte Cluster (No. 7-1) in Isabela Settlement 1/2
A-6	La Suerte Cluster (No. 7-1) in Isabela Settlement 2/2

B. Drawings

B-1	Solar Dryer
B-2	Warehouse
B-3	Farm-to-market Road
B-4	Bridge
B-5	Lapogan CPIP General Layout
B-6	- do - Main Canal STA 0+000～STA 2+400
B-7	- do - STA 2+400～STA 4+082
B-8	- do - Lateral A STA 0+000～STA 2+045
B-9	- do - Lateral B STA 0+000～STA 1+260
B-10	- do – Pumping Station (1)
B-11	- do - Pumping Station (2)
B-12	- do - Pumping Station (3)
B-13	Minagbag CIP General Layout
B-14	- do - Main Canal
B-15	- do – Lateral Canal
B-16	- do – Pumping Station
B-17	Farm-to-market Road Q-1, 2
B-18	- do – Q-3
B-19	- do – L-1
B-20	- do – L-2
B-21	- do – L-3
B-22	- do – L-4
B-23	- do – L-5
B-24	- do – L-6

B-25	- do –	L-7
B-26	- do –	L-8
B-27	- do –	L-9
B-28	- do –	L-10
B-29	- do –	M-1 (1/2)
B-30	- do –	M-1 (2/2)
B-31	- do –	M-2
B-32	- do –	S-1
B-33	- do –	S-2
B-34	- do –	S-3, S-5
B-35	- do –	S-4
B-36	- do –	S-6
B-37	- do –	I-1
B-38	- do –	I-2
B-39	- do –	I-3 (1/2)
B-40	- do –	I-3 (2/2)
B-41	- do –	I-4
B-42	- do –	I-5 (1/2)
B-43	- do –	I-5 (2/2)
B-44	- do –	I-6 (1/2)
B-45	- do –	I-6 (2/2)


Pilitan
Lalauanan
Sto Nino
Liwanag
TUMAUINI
MAGSAYSAY
PROVINCIAL ROAD
CAGAYAN RIVER
ALIGNMENT APPROXIMATE
PHILIPPINE - JAPAN FRIENDSHIP HIGHWAY
L7
L3
L1
L9
L8
L2
L4
L10
L6
L5
P
Lapogan
MAGSAYSAY
ILAGAN
Sinfu River
Sta. Isabel Norte
San Ignacio
TUMAUINI
ILAGAN
CAGAYAN RIVER
Sta. Isabel Sur
LEGEND
Production Road
Proposed Pump Site
Irrigable Area
Boundary of ARC/Cluster
1000
500
0
1
2
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
1. LAPOGAN


Muñoz East
NATIONAL HIGHWAY
PROVINCIAL ROAD
ALIGNMENT/APPROXIMATE
Vila-Bulusan
Binarzang
QUIRINO
ROXAS
Q1
Q2
Q3
Anao
Camaal
Rizal
Quiling
Sotero Nuesa
ROXAS
Rizal
Vira
Bantug
Lasalette High School
Luna
Rang-ayan
Sitfu River
QUIRINO
ROXAS
PROVINCIAL ROAD
Canting
Roxas High School
Luchan
San Jose
Masigun West
Masloma East
1000
500
0
LEGEND
Production Road
Boundary of ARC/Cluster
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
2. QUILING

Arabiat

San Antonio Minit

San Juan

Sta Ana

S1

S2

S3

S4

S5

S6

San Manuel

ECHAGUE

SANTIAGO

PROVINCIAL ROAD

Pangat Norte

Dalibubon

Pangat Sur

Villa Victoria

Sta Rosa

Villa Fermin

ECHAGUE

JONES

LEGEND

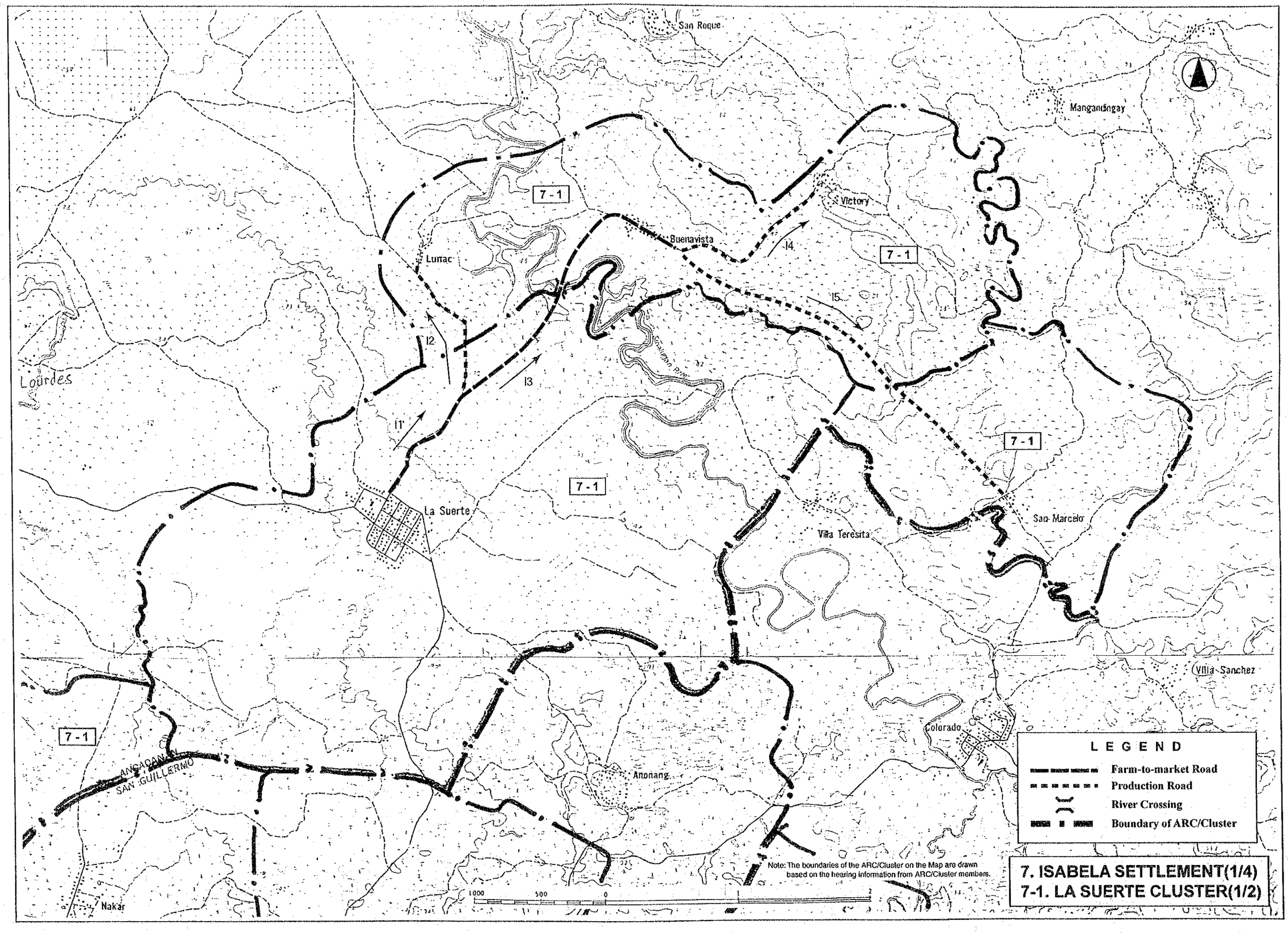
Production Road

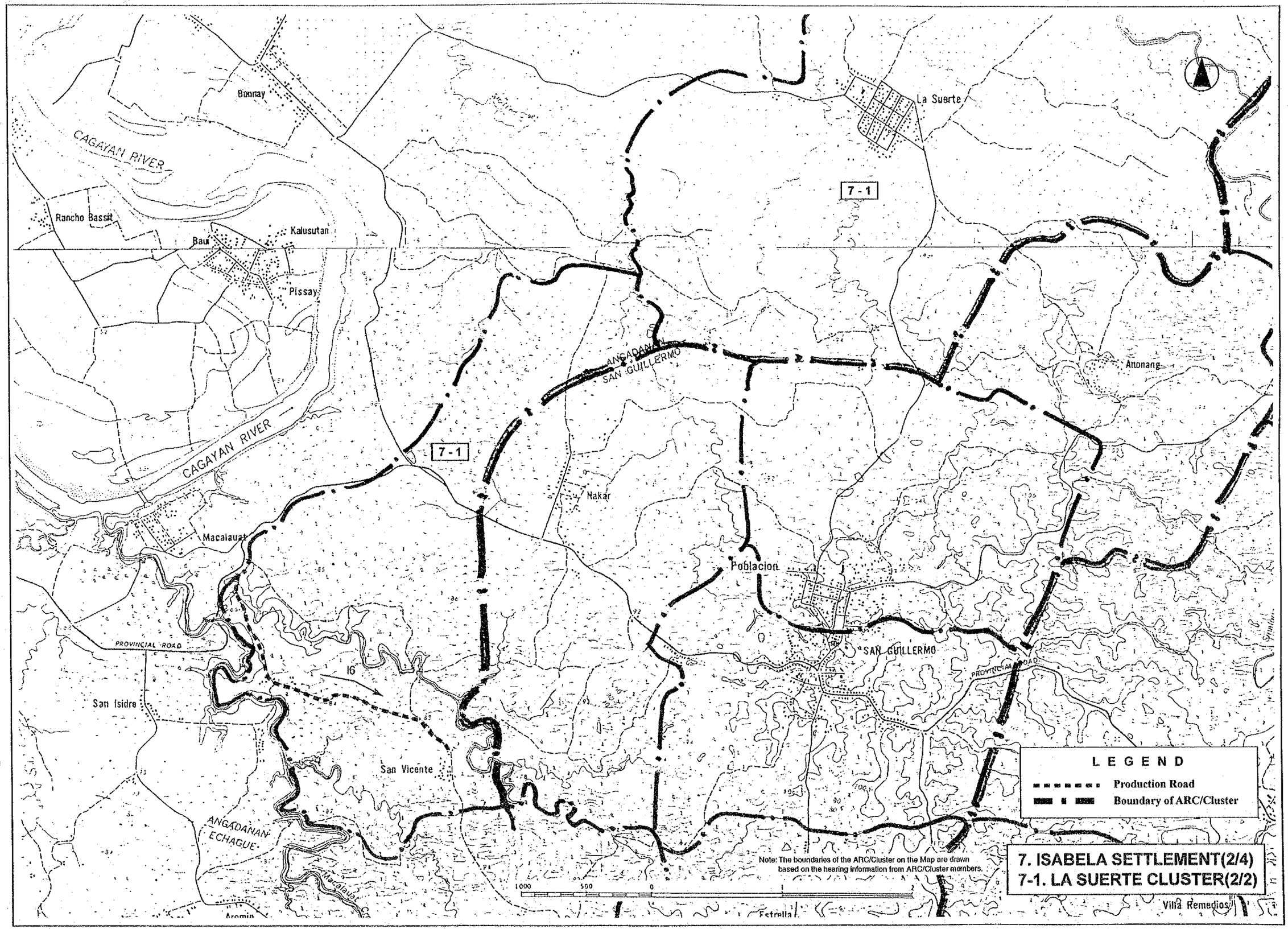
Boundary of ARC/Cluster

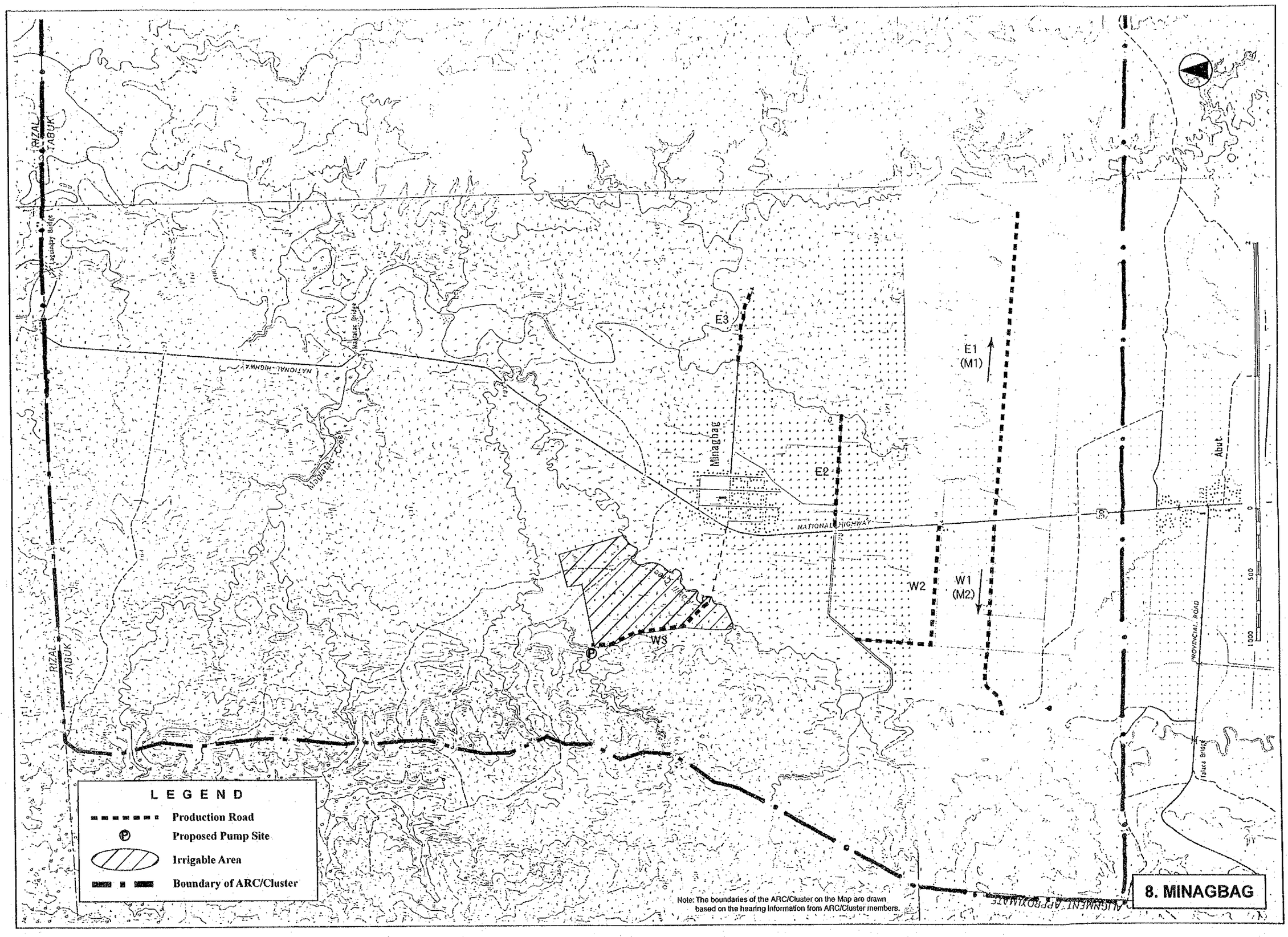
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.

1000 500 0

4. SAN MANUEL


San Roque
Mangandingay
Victory
Buenavista
Lumac
Lourdes
La Suerte
Villa Teresita
San Marcelo
Villa Sanchez
Colorado
Anonang
Nakar
ANGADANAN
SAN GUILLERMO
7 - 1
I1
I2
I3
I4
I5
1000
500
0
LEGEND
Farm-to-market Road
Production Road
River Crossing
Boundary of ARC/Cluster
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
7. ISABELA SETTLEMENT(1/4)
7-1. LA SUERTE CLUSTER(1/2)

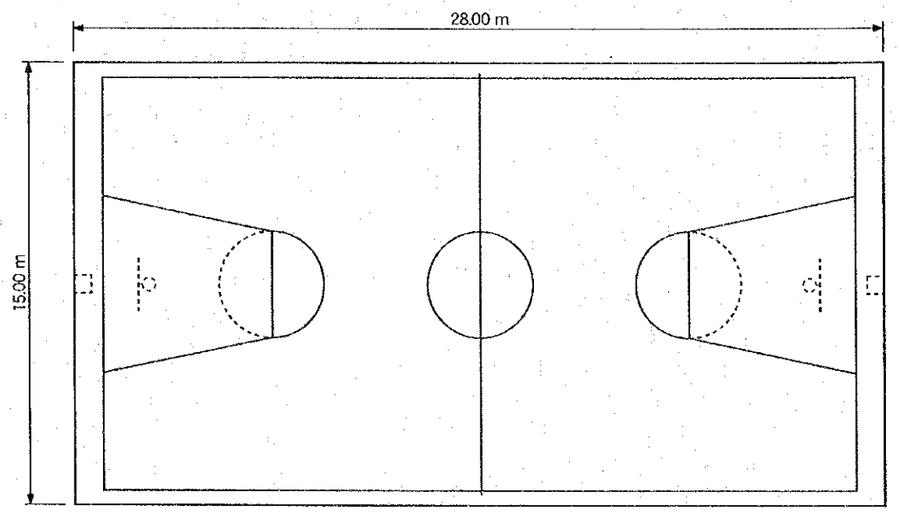

Bonnay
CAGAYAN RIVER
Rancho Basset
Baui
Kalusutan
Pissay
La Suerte
7 - 1
ANGADANAN
SAN GUILLERMO
Antonang
Nakar
Macalauat
Poblacion
PROVINCIAL ROAD
16
San Isidro
SAN GUILLERMO
San Vicente
ANGADANAN
ECHAGUE
Macalauat Cr.
Aromin
Estrella
Villa Remedios
LEGEND
Production Road
Boundary of ARC/Cluster
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
1000
500
0
7. ISABELA SETTLEMENT(2/4)
7-1. LA SUERTE CLUSTER(2/2)


RIZAL
TABUK
Lasunday Bridge
NATIONAL HIGHWAY
Kalaisan Bridge
Kalaisan Creek
E3
E1
(M1)
Minagbag
E2
NATIONAL HIGHWAY
W2
W1
(M2)
W3
P
Abut
PROVINCIAL ROAD
Lasay Bridge
RIZAL
TABUK
LEGEND
Production Road
Proposed Pump Site
Irrigable Area
Boundary of ARC/Cluster
Note: The boundaries of the ARC/Cluster on the Map are drawn based on the hearing information from ARC/Cluster members.
8. MINAGBAG

SOLAR DRYER

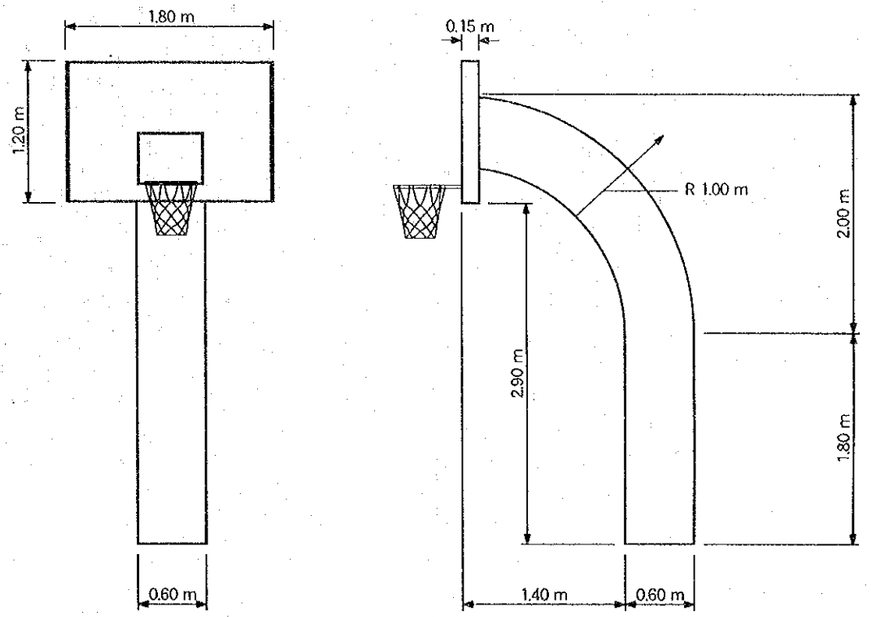
PLAN

S = 1 : 2 0 0



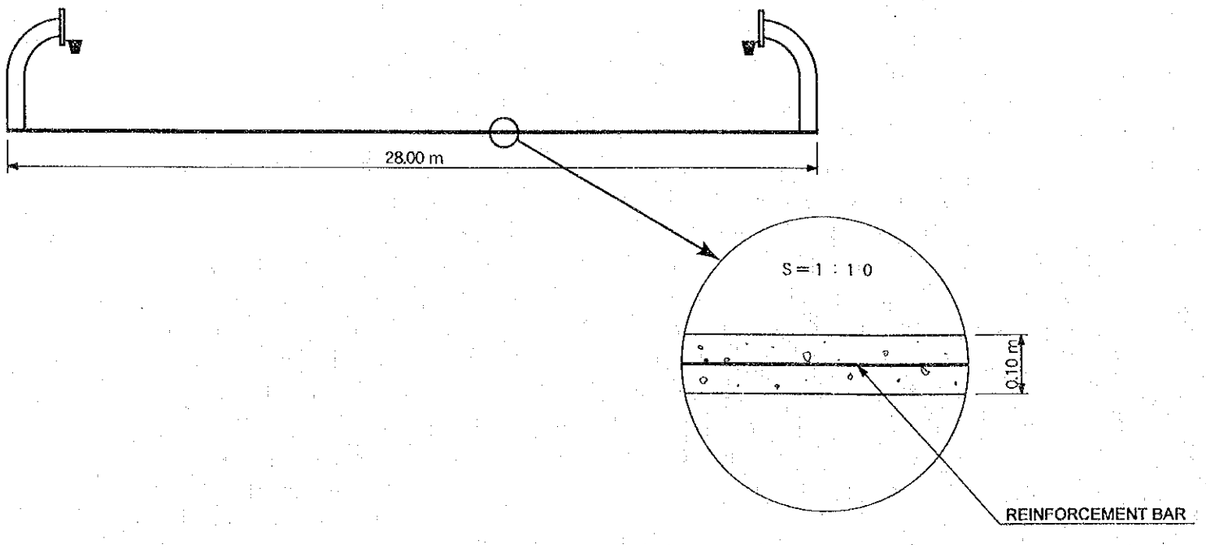
GOAL POST

S = 1 : 5 0



SECTION

S = 1 : 2 0 0

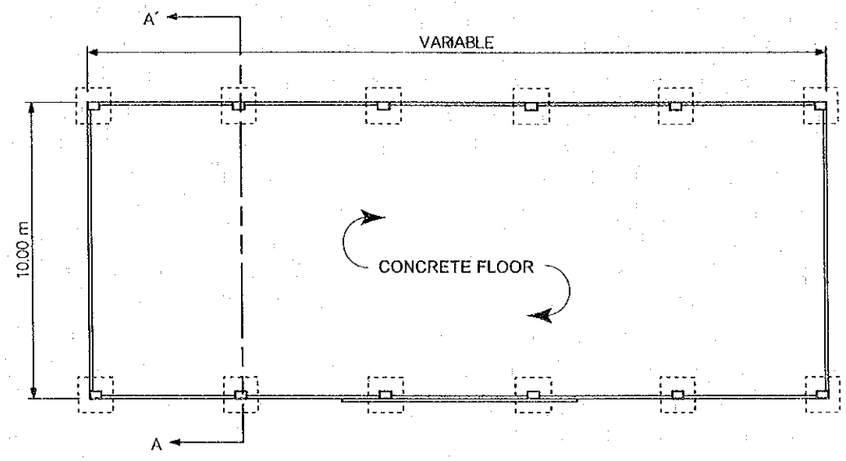


THE REPUBLIC OF THE PHILIPPINES THE STUDY ON THE DEVELOPMENT OF ARCs IN THE PROVINCE OF ISABELA	
SOLAR DRYER	DWG No. B-1
JAPAN INTERNATIONAL COOPERATION AGENCY	

WAREHOUSE

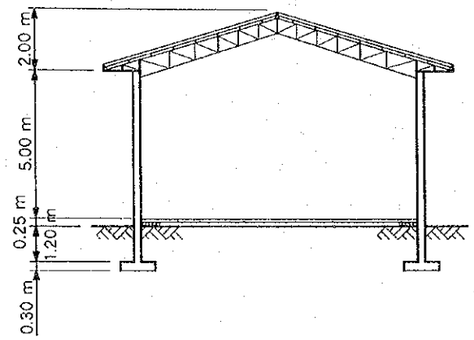
PLAN

S=1:200



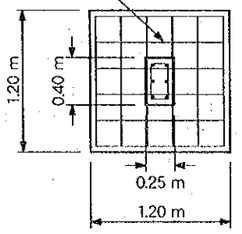
SECTION A-A'

S=1:200



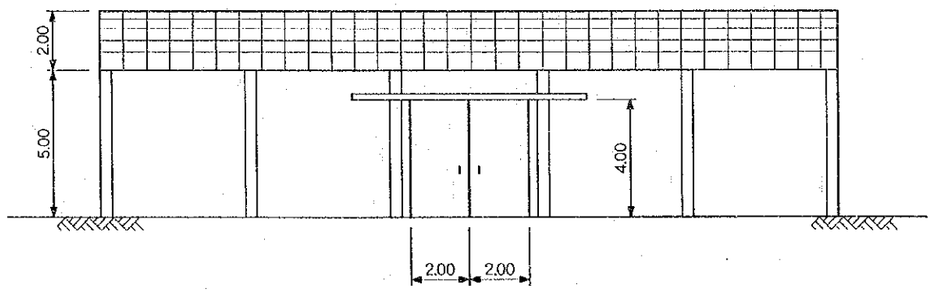
REINFORCEMENT BAR

S=1:50

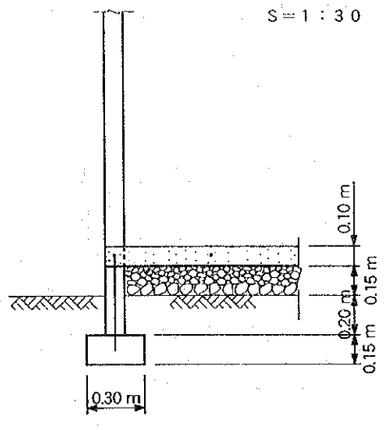


ELEVATION

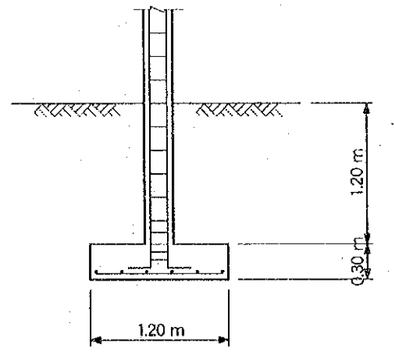
S=1:200



S=1:30



S=1:50



THE REPUBLIC OF THE PHILIPPINES
THE STUDY ON THE DEVELOPMENT OF ARCs
IN THE PROVINCE OF ISABELA

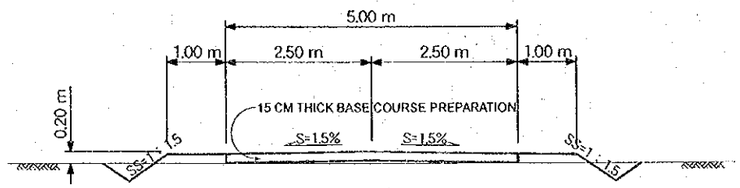
WAREHOUSE	DWG No. B-2

JAPAN INTERNATIONAL COOPERATION AGENCY

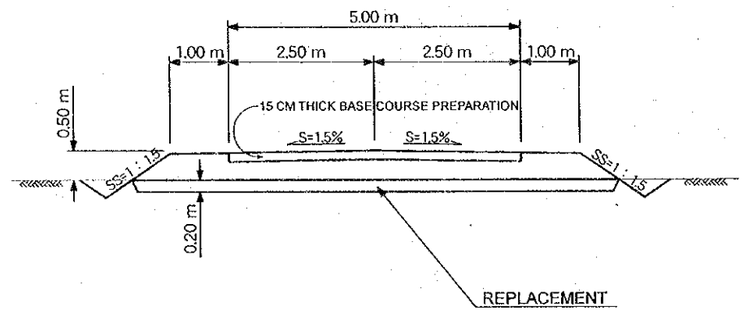
Farm-to-market Road

S = 1 : 1 0 0

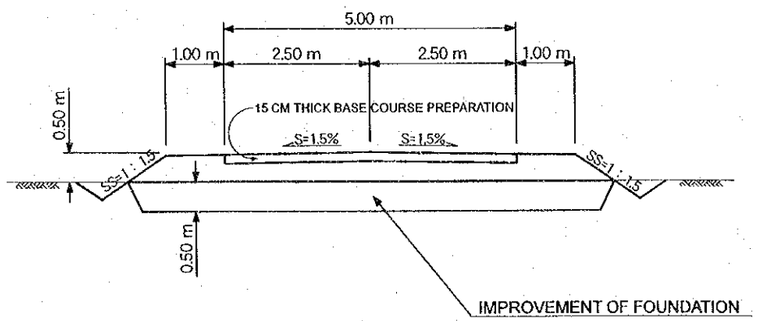
TYPE I



TYPE II



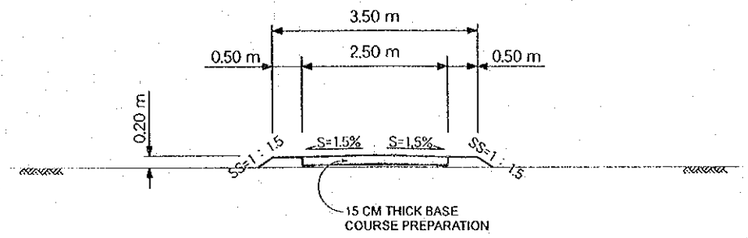
TYPE III



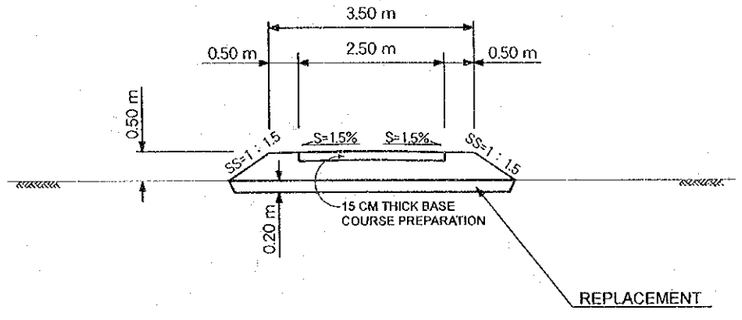
Production Road

S = 1 : 1 0 0

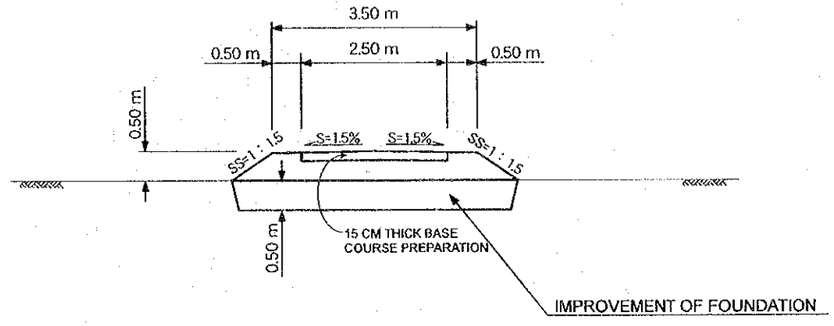
TYPE I



TYPE II



TYPE III



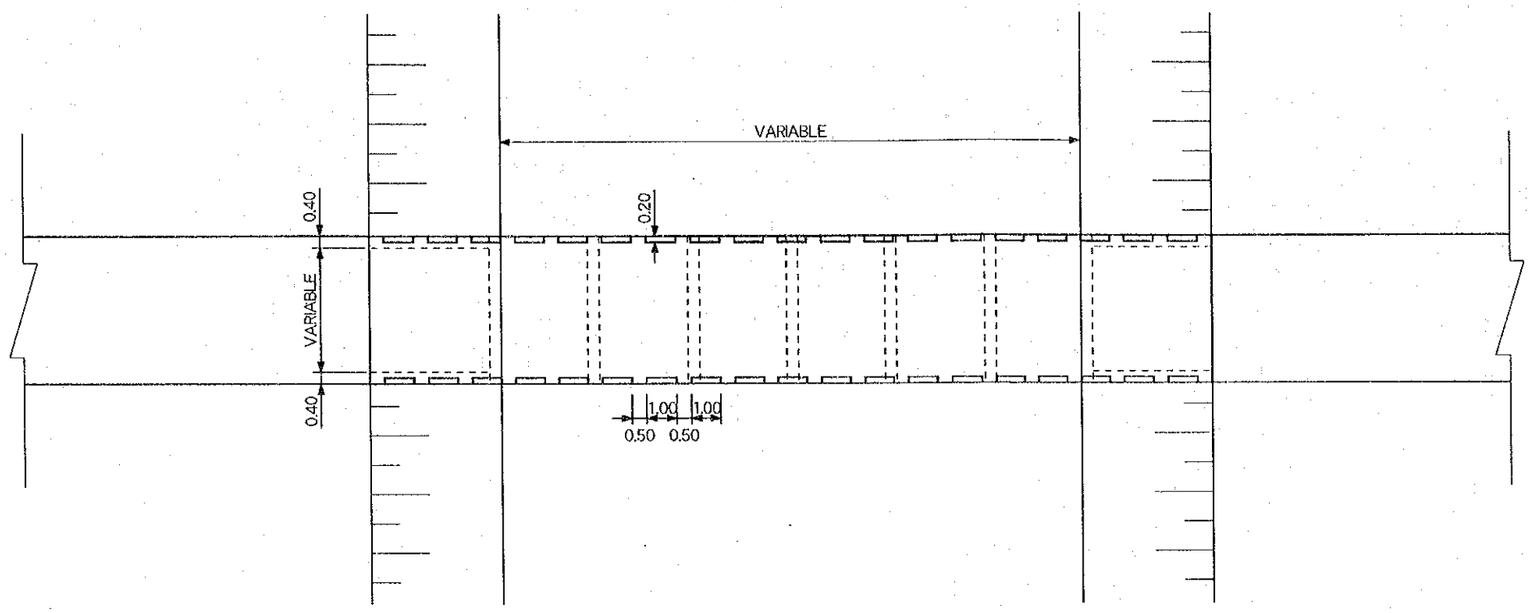
THE REPUBLIC OF THE PHILIPPINES
THE STUDY ON THE DEVELOPMENT OF ARCs
IN THE PROVINCE OF ISABELA

Farm-tomarket Road & Production Road	DWG No. B-3

JAPAN INTERNATIONAL COOPERATION AGENCY

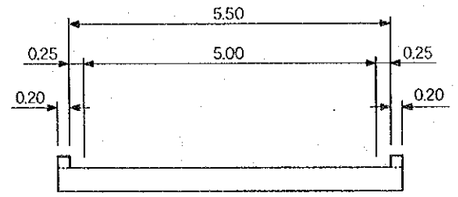
BRIDGE

PLAN



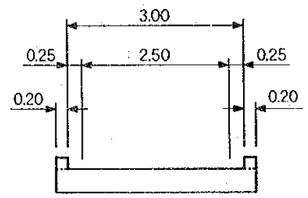
Farm-to-market Road

S=1:100

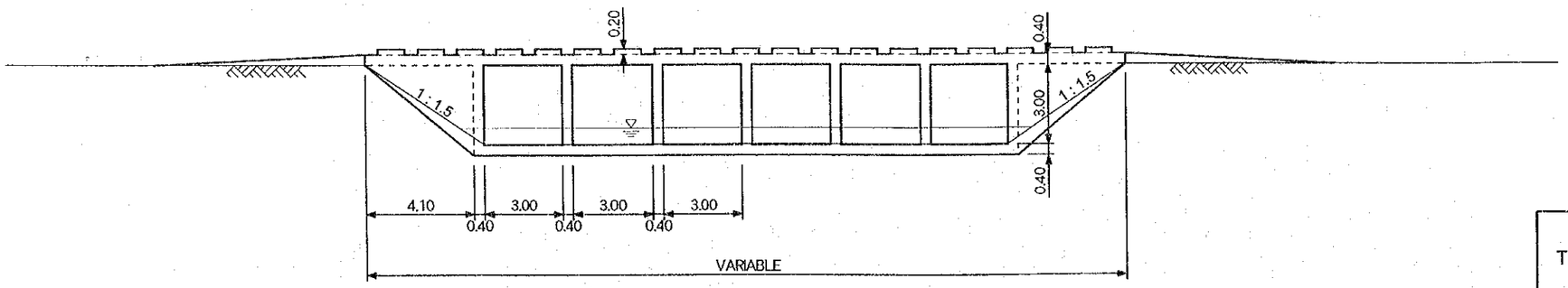


Production Road

S=1:100

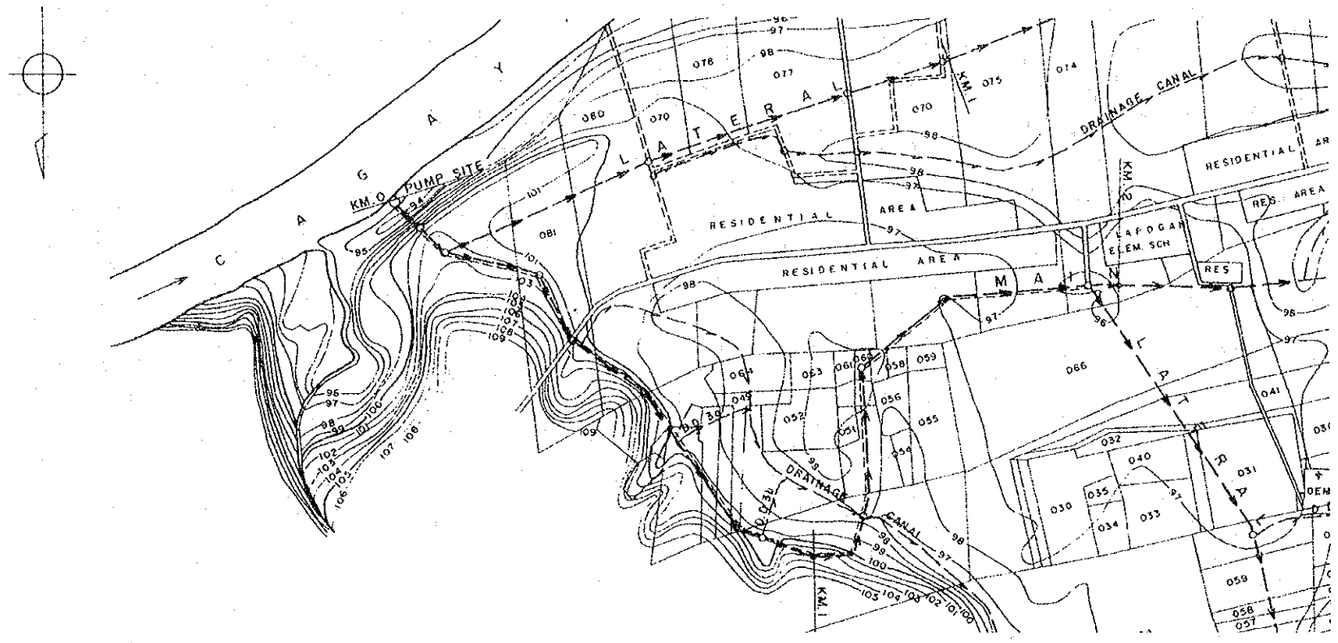


SECTION

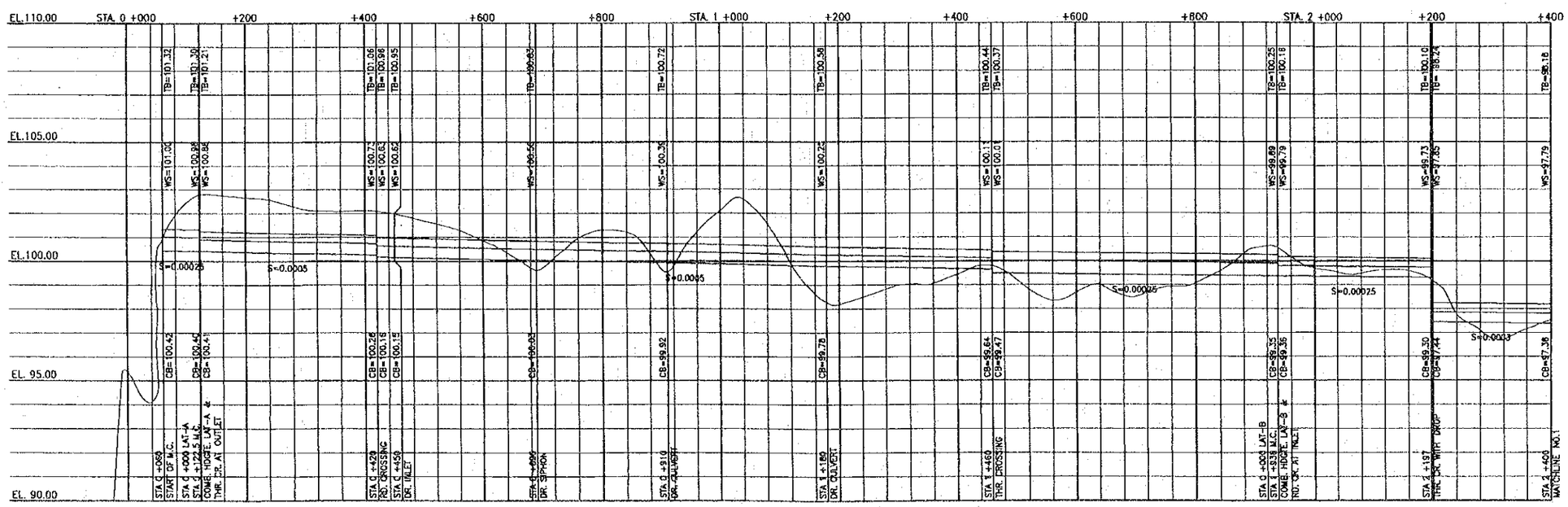


THE REPUBLIC OF THE PHILIPPINES THE STUDY ON THE DEVELOPMENT OF ARCs IN THE PROVINCE OF ISABELA	
BRIDGE	DWG No. B-4
JAPAN INTERNATIONAL COOPERATION AGENCY	

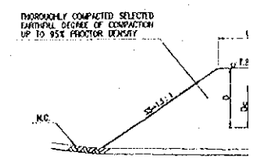
THE REPUBLIC OF THE PHILIPPINES THE STUDY ON THE DEVELOPMENT OF ARCs IN THE PROVINCE OF ISABELA	
LAPOGAN CPIP GENERAL LAYOUT	DWG No. B-5
JAPAN INTERNATIONAL COOPERATION AGENCY	

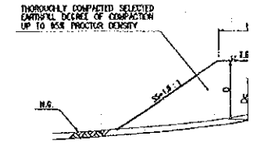


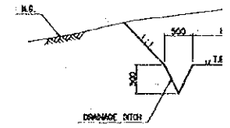
PLAN
SCALE : B



PROFILE OF MAIN CANAL (STA. 0 +000 ~ STA. 2 +400)
V = SCALE : A H = SCALE : B







NOTES ON TYPICAL CANAL SECTIONS

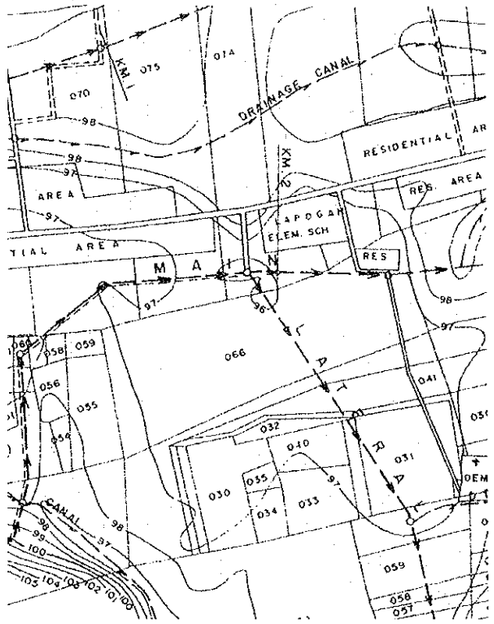
STA. 0 +060 – STA. 0 +420 SERVICE ROAD AT RIGHT SIDE
STA. 0 +420 – STA. 1 +460 SERVISE ROAD AT LEFT SIDE
STA. 1 +460 – STA. 1 +938 SERVISE ROAD AT RIGHT SIDE

CURV

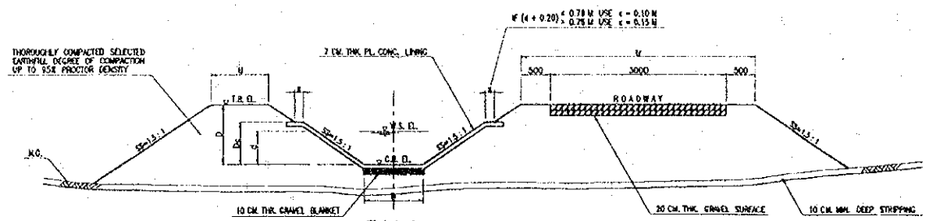
LINE P1 TO P1	AZIMUTH ° '	DISTANCE (m)	r	L.C.
0 – 1	135 – 41	122.50	16 – 47	4.88
1 – 2	52 – 28	148.20	40 – 48	11.39
2 – 3	111 – 40	51.45	08 – 50	2.46
3 – 4	120 – 30	245.60	28 – 04	7.84
4 – 5	148 – 34	253.30	36 – 17	10.13
5 – 6	112 – 17	201.80	22 – 13	8.20
6 – 7	90 – 04	68.75	73 – 46	20.60
7 – 8	16 – 18	107.30	18 – 16	5.10
8 – 9	358 – 02	243.50	68 – 36	22.74
9 – 10	52 – 18	199.90	34 – 34	11.46
10 – 11	86 – 52	275.70	05 – 51	1.94
11 – 12	92 – 43	259.00		

CANAL E

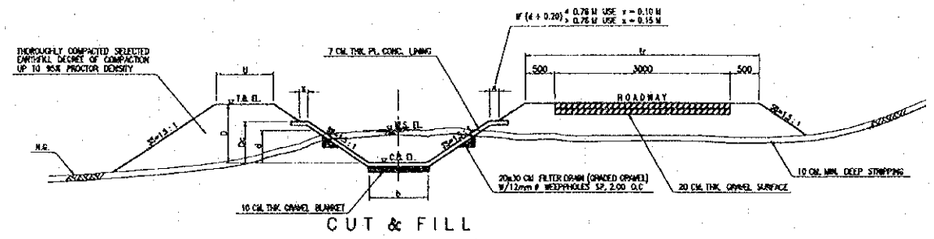
FROM STATION	TO STATION	Q m³/s	V m/s	A sq.m	b m	d m
0 +000	0 +122.50	0.650	0.539	1.2006	1.20	0.58
0 +122.50	1 +460	0.532	0.664	0.801	1.00	0.47
1 +460	1 +938	0.532	0.513	1.040	1.10	0.54
1 +938	2 +197	0.232	0.434	0.535	0.80	0.43
2 +197	2 +952	0.232	0.464	0.500	0.80	0.41



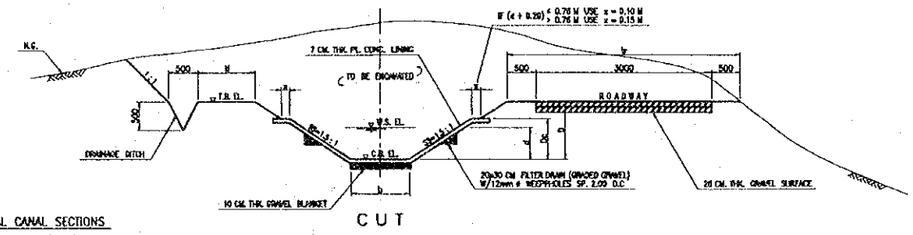
TYPICAL CANAL SECTION
(STA. 0 +000 ~ STA. 2 +400) NO TO SCALE



FILL



CUT & FILL



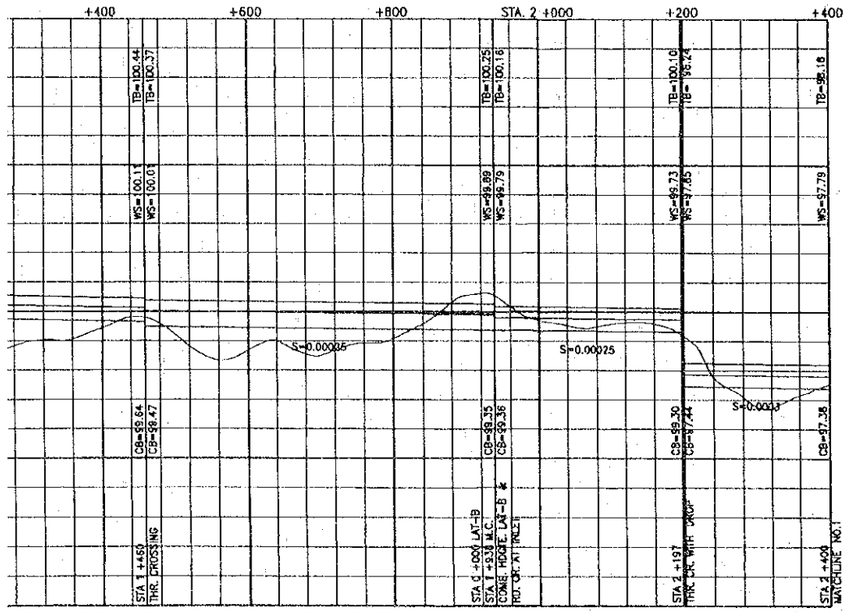
CUT

NOTES ON TYPICAL CANAL SECTIONS

STA. 0 +050 ~ STA. 0 +420 SERVICE ROAD AT RIGHT SIDE
STA. 0 +420 ~ STA. 1 +460 SERVISE ROAD AT LEFT SIDE
STA. 1 +460 ~ STA. 1 +938 SERVISE ROAD AT RIGHT SIDE

CURVE ELEMENTS

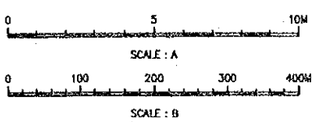
LINE P1 TO P1	AZIMUTH ° '	DISTANCE (m)	I	L.C.	R.	T	e	STA. P.C.	STA. V	STA. P.T.
0 ~ 1	135 ~ 41	122.50	16 ~ 47	4.68	16	2.36	0.173	0 +120.14	0 +122.50	0 +124.82
1 ~ 2	52 ~ 28	148.20	40 ~ 48	11.39	16	5.95	1.07	0 +264.75	0 +270.70	0 +276.14
2 ~ 3	111 ~ 40	51.45	08 ~ 50	2.46	16	1.23	0.05	0 +320.92	0 +322.15	0 +323.38
3 ~ 4	120 ~ 30	245.60	28 ~ 04	7.84	16	4.00	0.49	0 +563.75	0 +567.75	0 +571.59
4 ~ 5	148 ~ 34	253.30	35 ~ 17	10.13	16	5.24	0.84	0 +815.81	0 +821.05	0 +822.01
5 ~ 6	112 ~ 17	201.80	22 ~ 13	6.20	16	3.14	0.305	1 +019.71	1 +022.85	1 +025.91
6 ~ 7	90 ~ 04	88.75	73 ~ 46	20.60	16	12.00	4.00	1 +099.60	1 +111.60	1 +120.20
7 ~ 8	16 ~ 18	107.30	18 ~ 16	5.10	18	2.57	0.205	1 +216.33	1 +218.90	1 +221.43
8 ~ 9	358 ~ 02	243.50	68 ~ 36	22.74	19	12.96	4.00	1 +449.44	1 +462.40	1 +472.18
9 ~ 10	52 ~ 18	199.90	34 ~ 34	11.46	19	5.91	0.698	1 +656.39	1 +662.30	1 +667.85
10 ~ 11	86 ~ 52	275.70	05 ~ 51	1.94	19	0.97	0.024	1 +937.03	1 +938	1 +938.97
11 ~ 12	92 ~ 43	259.00								



(STA. 0 +000 ~ STA. 2 +400)
LE : B

CANAL ELEMENTS

FROM STATION	TO STATION	Q m³/s	V m/s	A sq.m	b m	d m	D m	Dc m	r m	B / b' m	S	SS	n
0 +000	0 +122.50	0.650	0.539	1.2006	1.20	0.58	0.90	0.80	0.368	0.90/4.00	0.00025	1.5 : 1	0.015
0 +122.50	1 +460	0.532	0.664	0.801	1.00	0.47	0.80	0.60	0.297	0.80/4.00	0.0005	1.5 : 1	0.015
1 +460	1 +938	0.532	0.513	1.040	1.10	0.54	0.90	0.70	0.340	0.90/4.00	0.00025	1.5 : 1	0.015
1 +938	2 +197	0.232	0.434	0.535	0.80	0.43	0.80	0.60	0.264	0.90/0.80	0.00025	1 : 1	0.015
2 +197	2 +952	0.232	0.464	0.500	0.80	0.41	0.80	0.60	0.254	0.80/0.80	0.0003	1 : 1	0.015



THE REPUBLIC OF THE PHILIPPINES
THE STUDY ON THE DEVELOPMENT OF ARCs IN THE PROVINCE OF ISABELA

LAPOGAN CPIP
PLAN &PROFILE OF MAIN CANAL
STA 0 + 000 ~ STA 2 + 400

DWG
No. B-6

JAPAN INTERNATIONAL COOPERATION AGENCY