

Fig. 6.19 PROPOSED CROPPING PATTERN (A) IN THE PADDY FIELD AREA

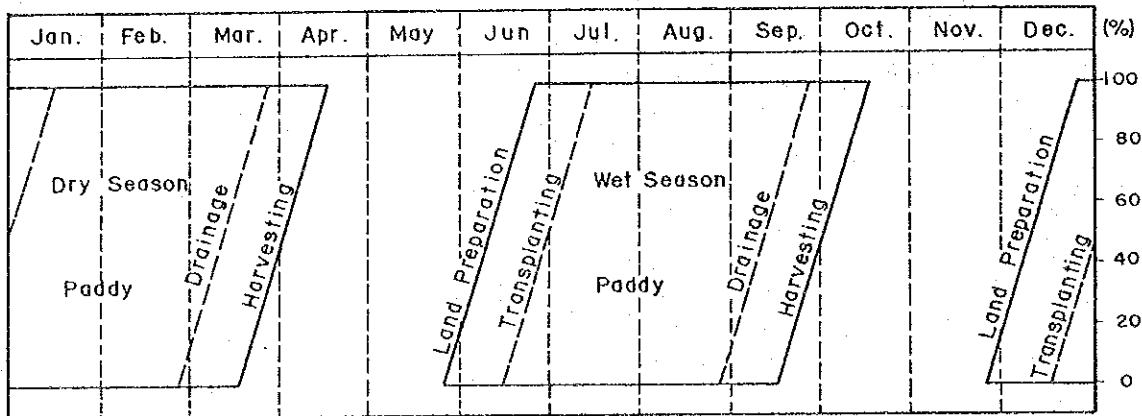


Fig. 6.20 PROPOSED CROPPING PATTERN (B) IN THE PADDY FIELD AREA

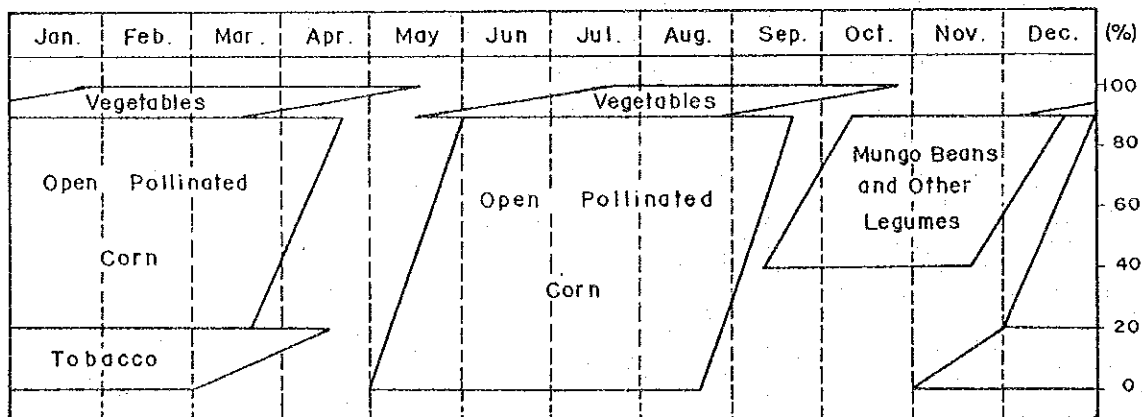
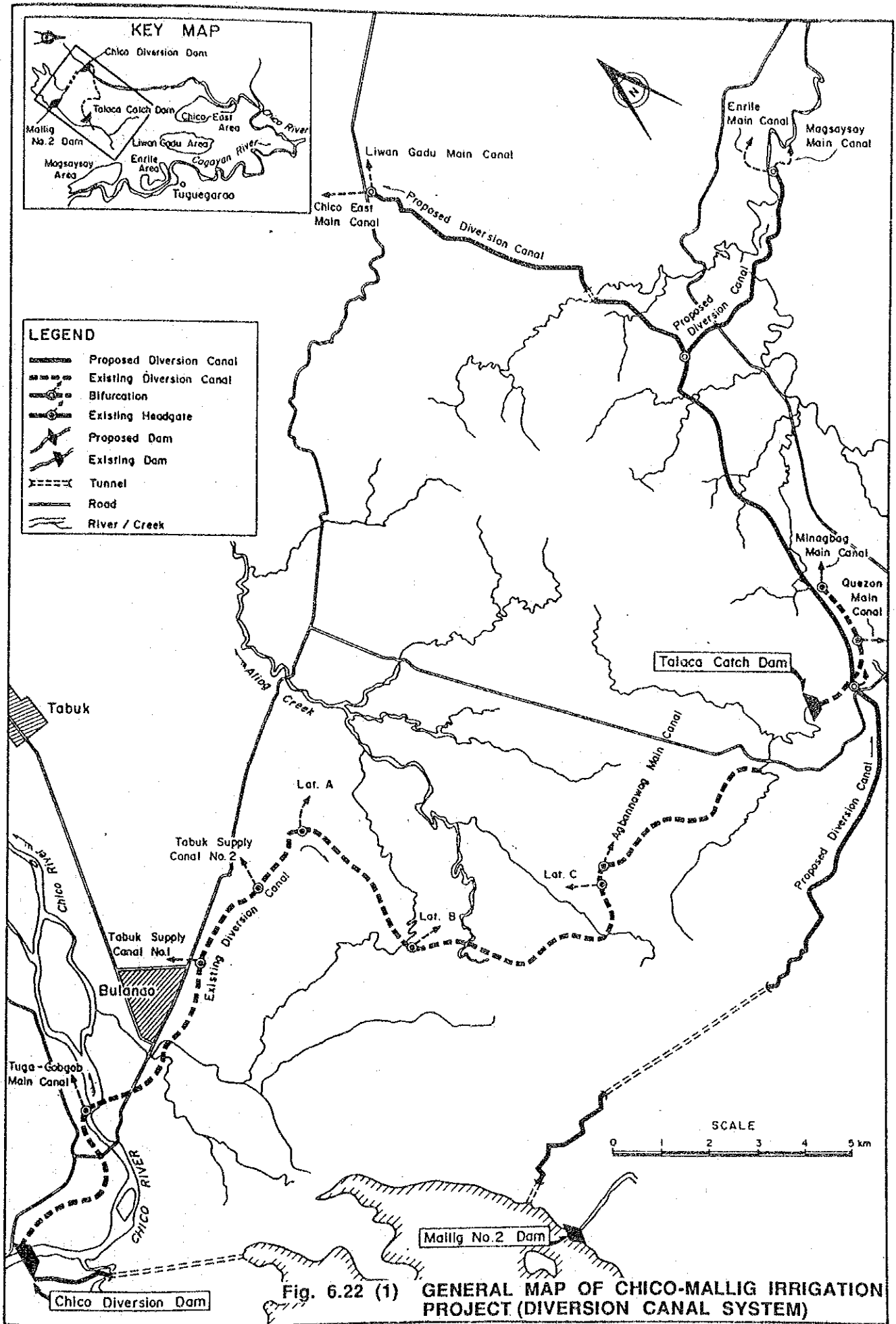


Fig. 6.21 PROPOSED CROPPING PATTERN (C) IN THE DIVERSIFIED CROP AREA



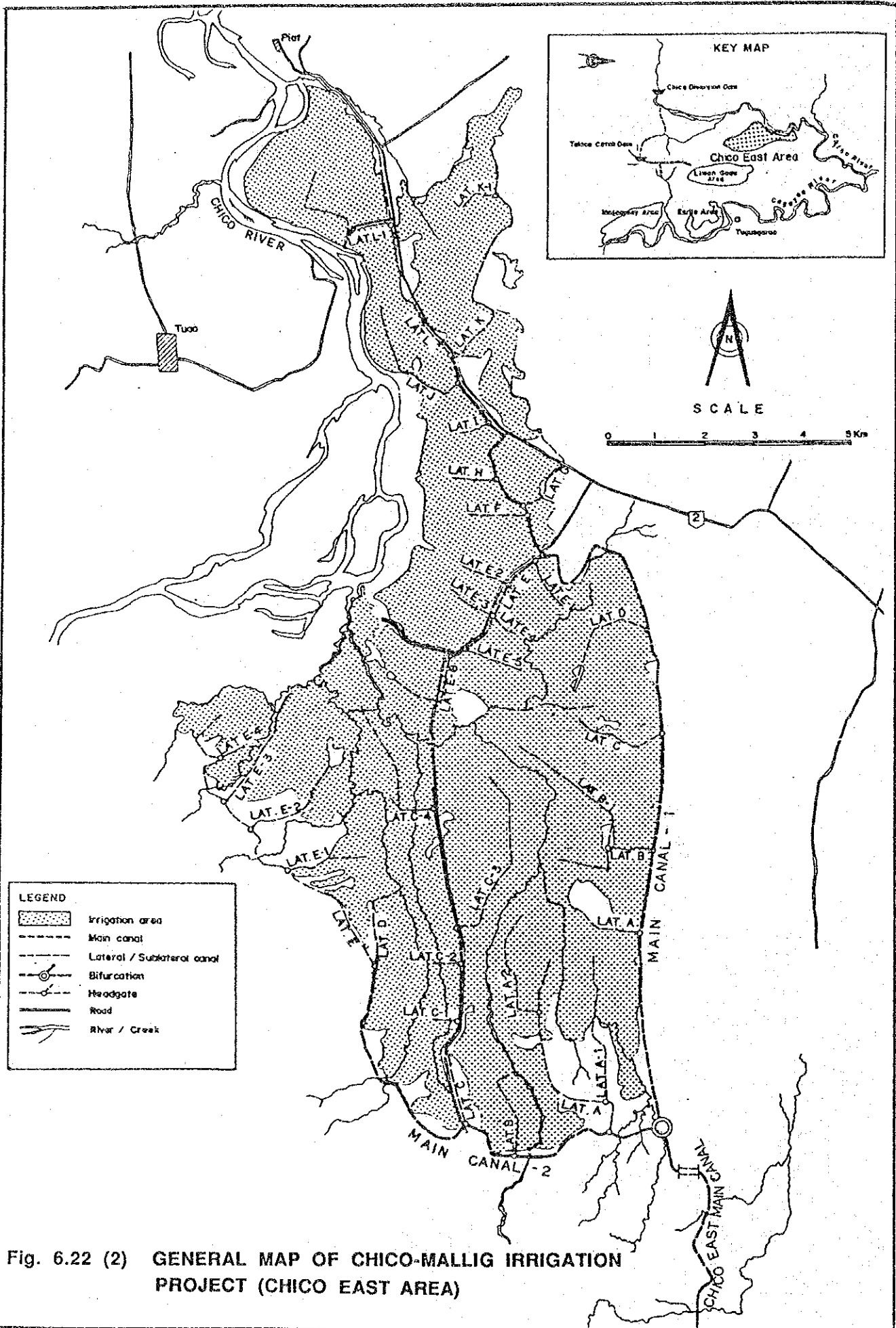
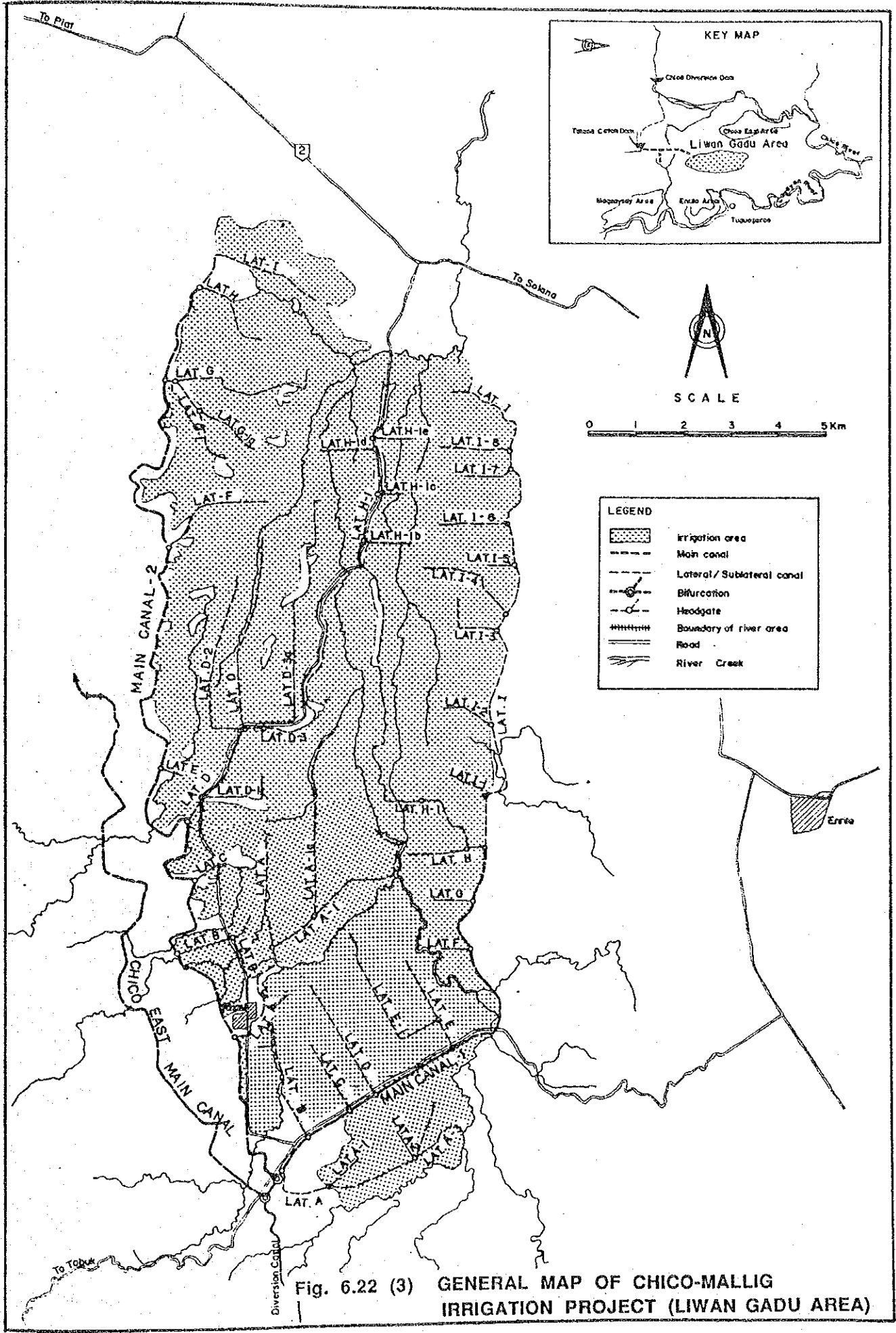
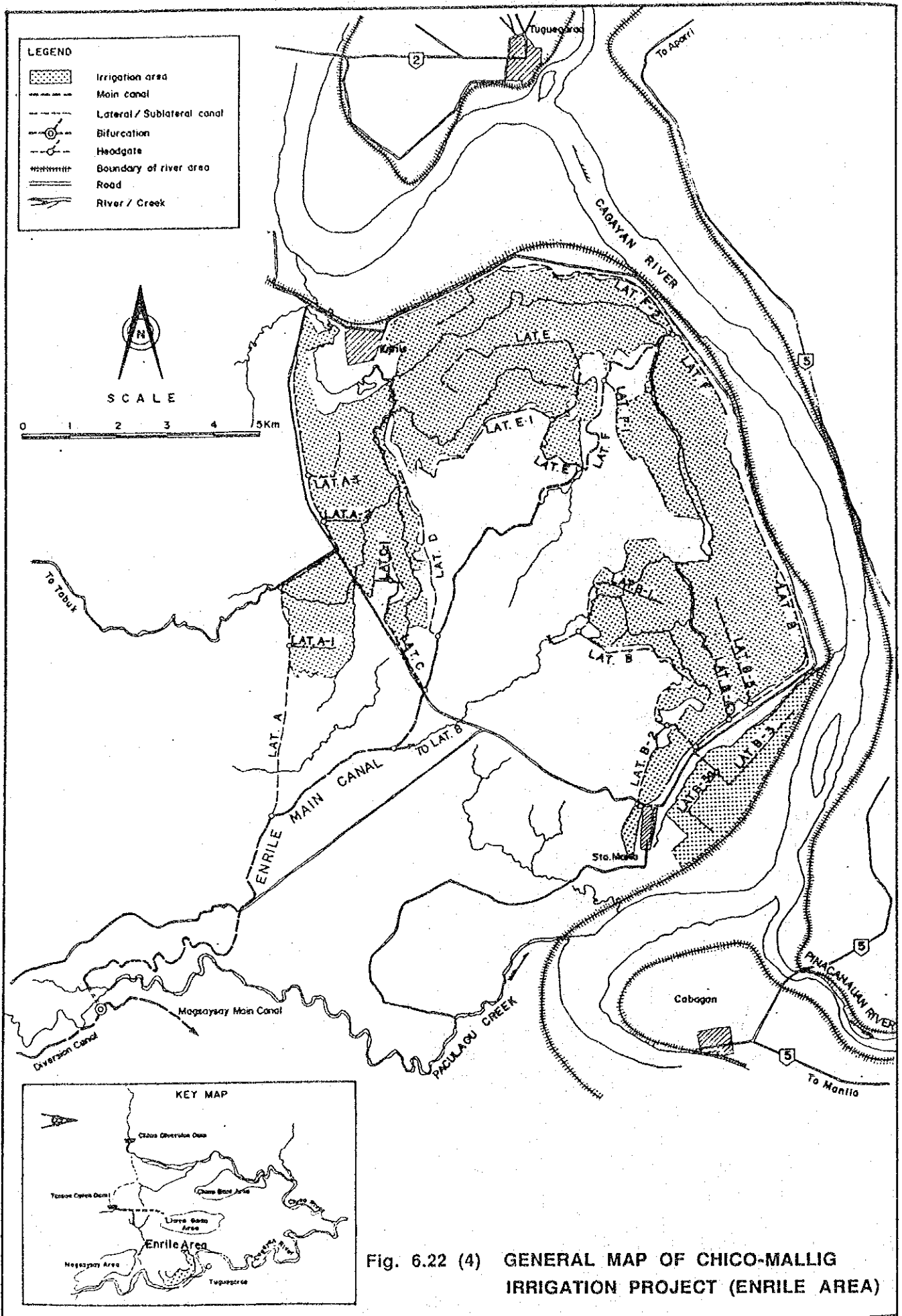
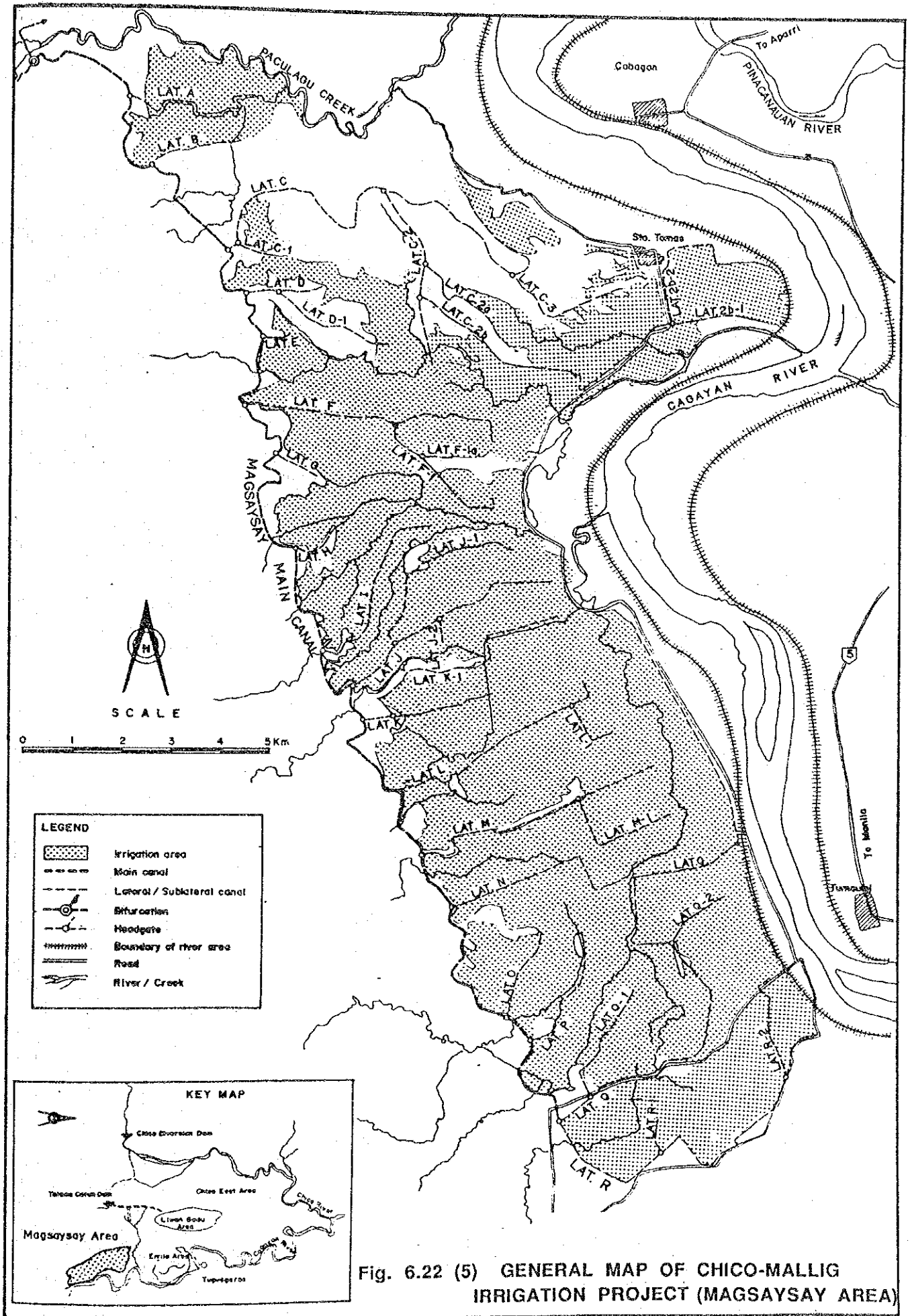
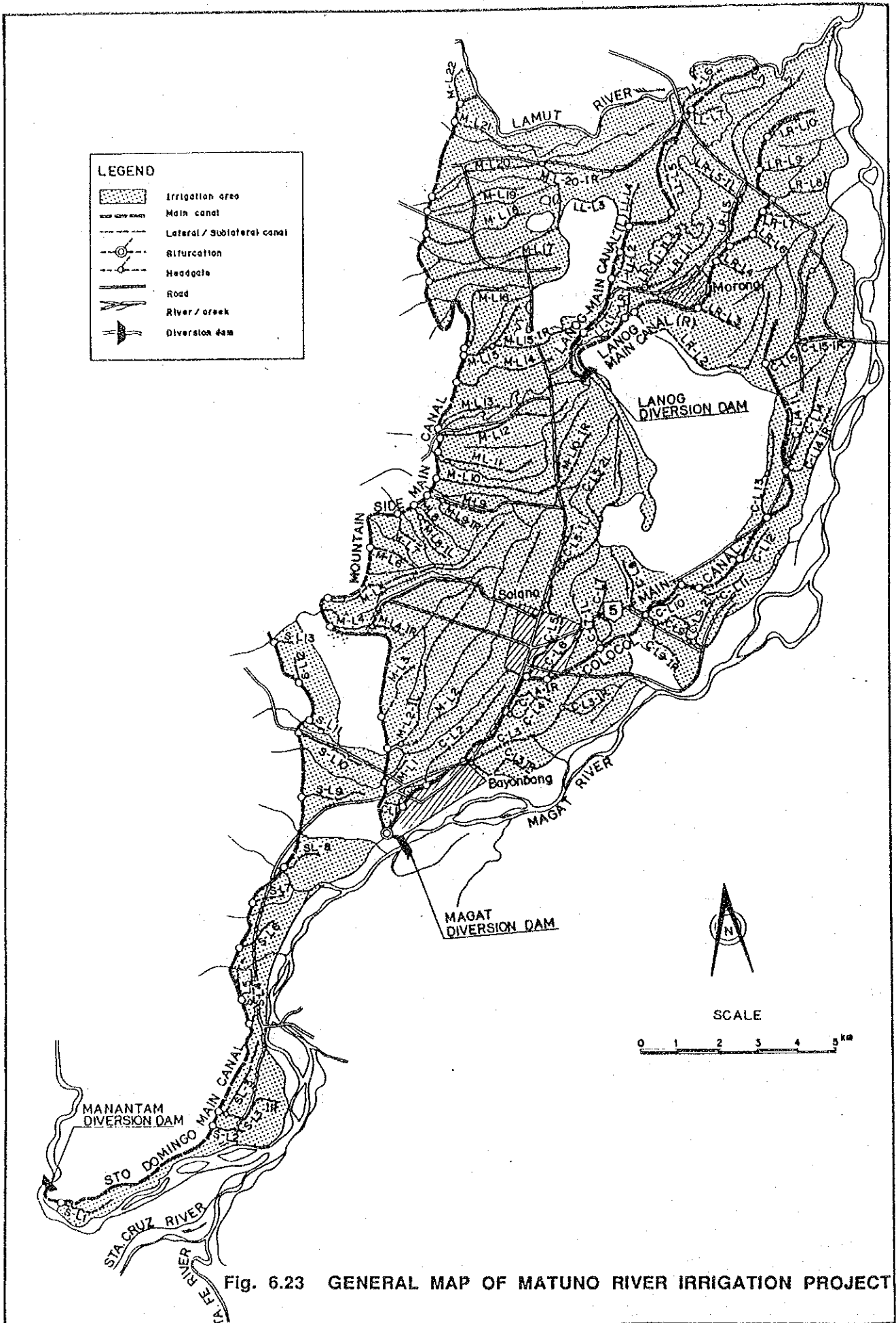


Fig. 6.22 (2) GENERAL MAP OF CHICO-MALLIG IRRIGATION PROJECT (CHICO EAST AREA)









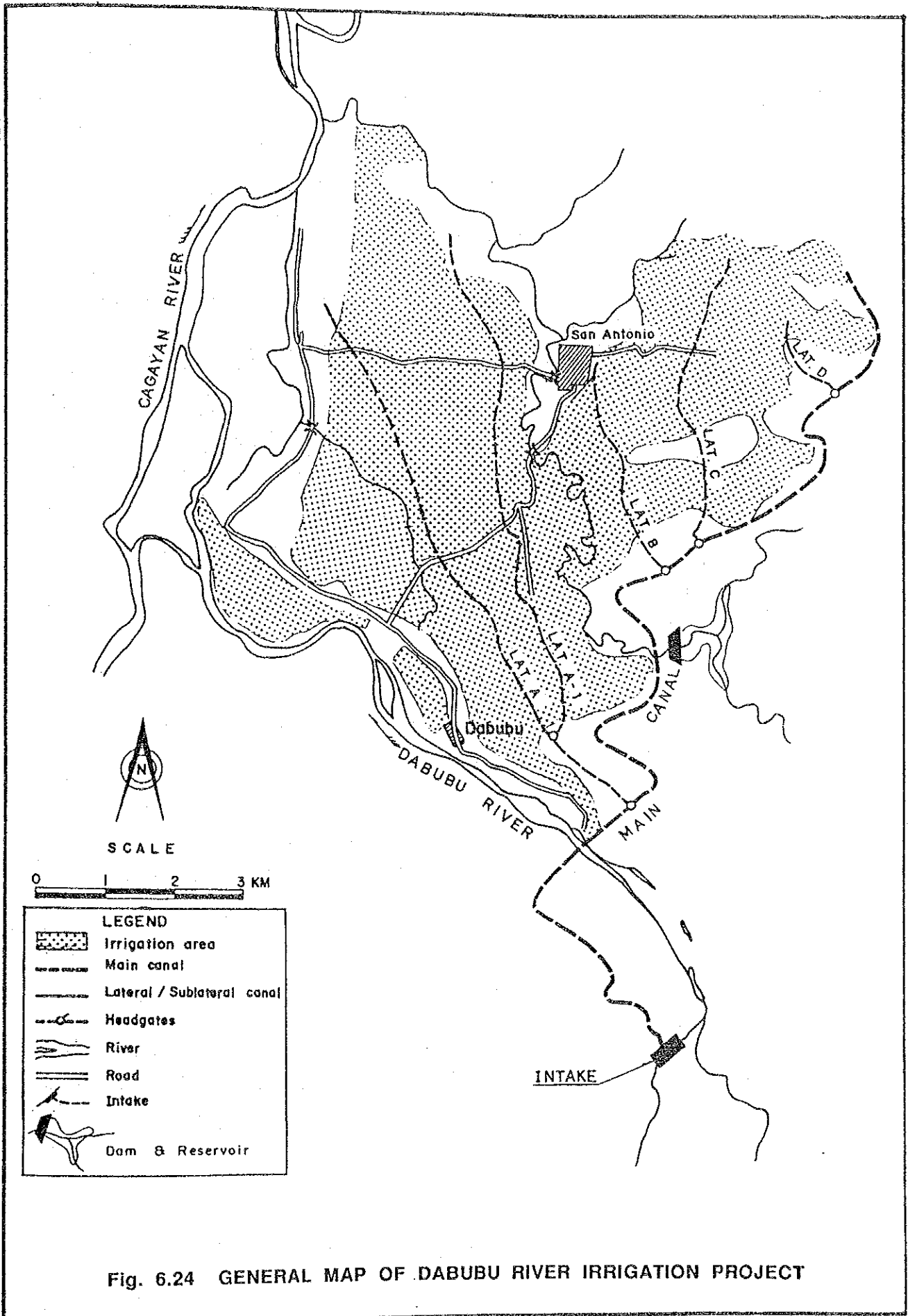


Fig. 6.24 GENERAL MAP OF DABUBU RIVER IRRIGATION PROJECT



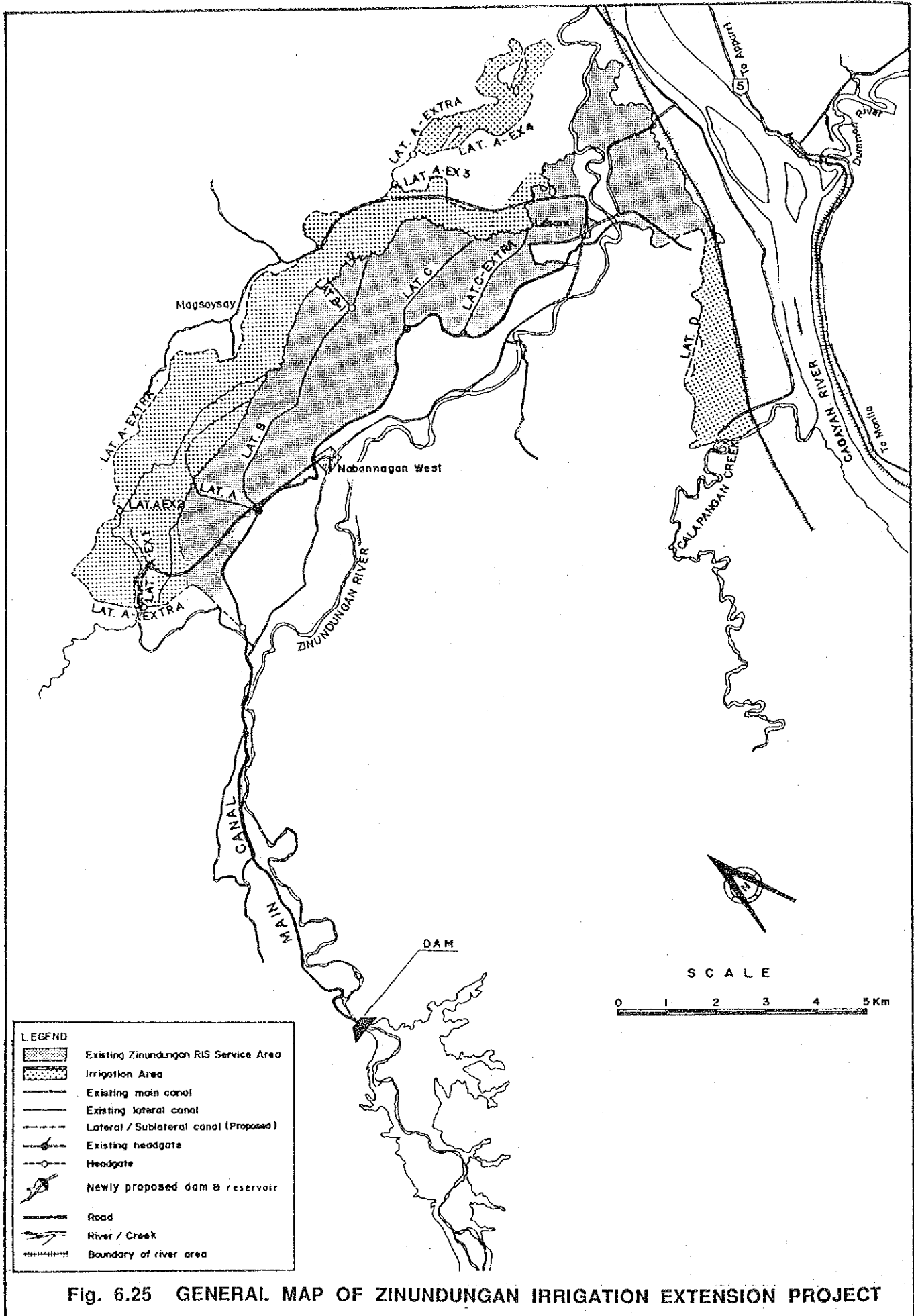


Fig. 6.25 GENERAL MAP OF ZINUNDUNGAN IRRIGATION EXTENSION PROJECT

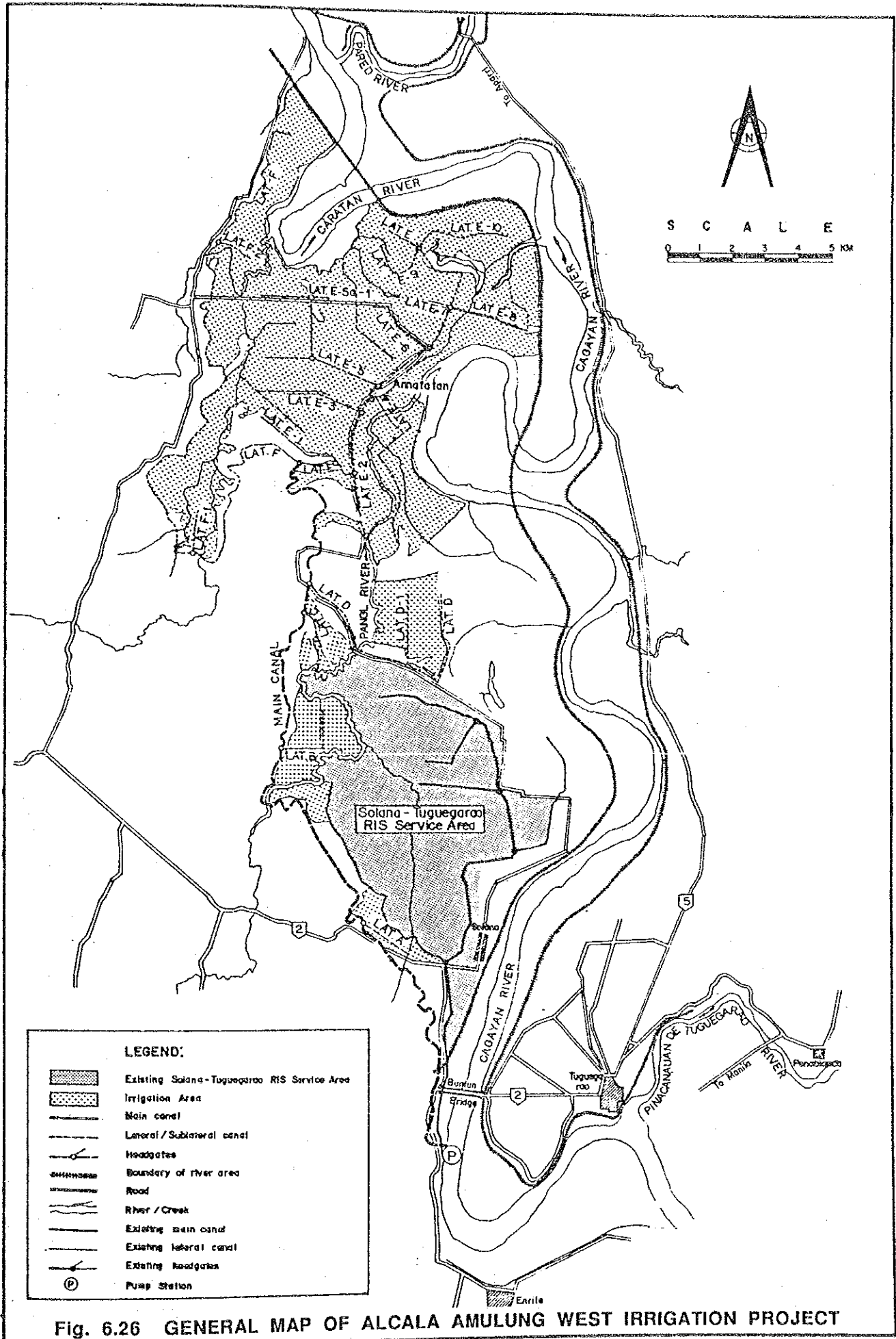
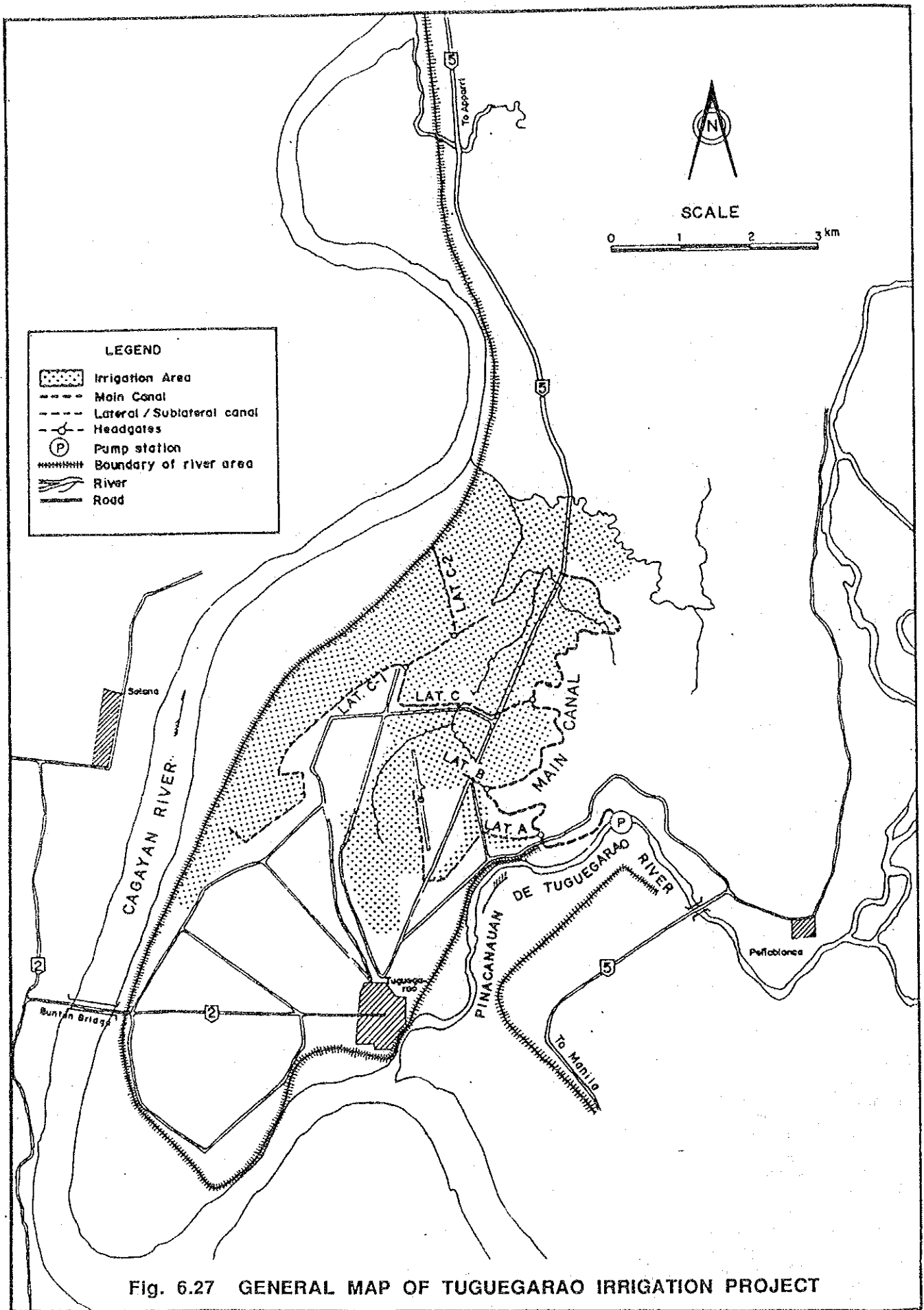


Fig. 6.26 GENERAL MAP OF ALCALA AMULUNG WEST IRRIGATION PROJECT



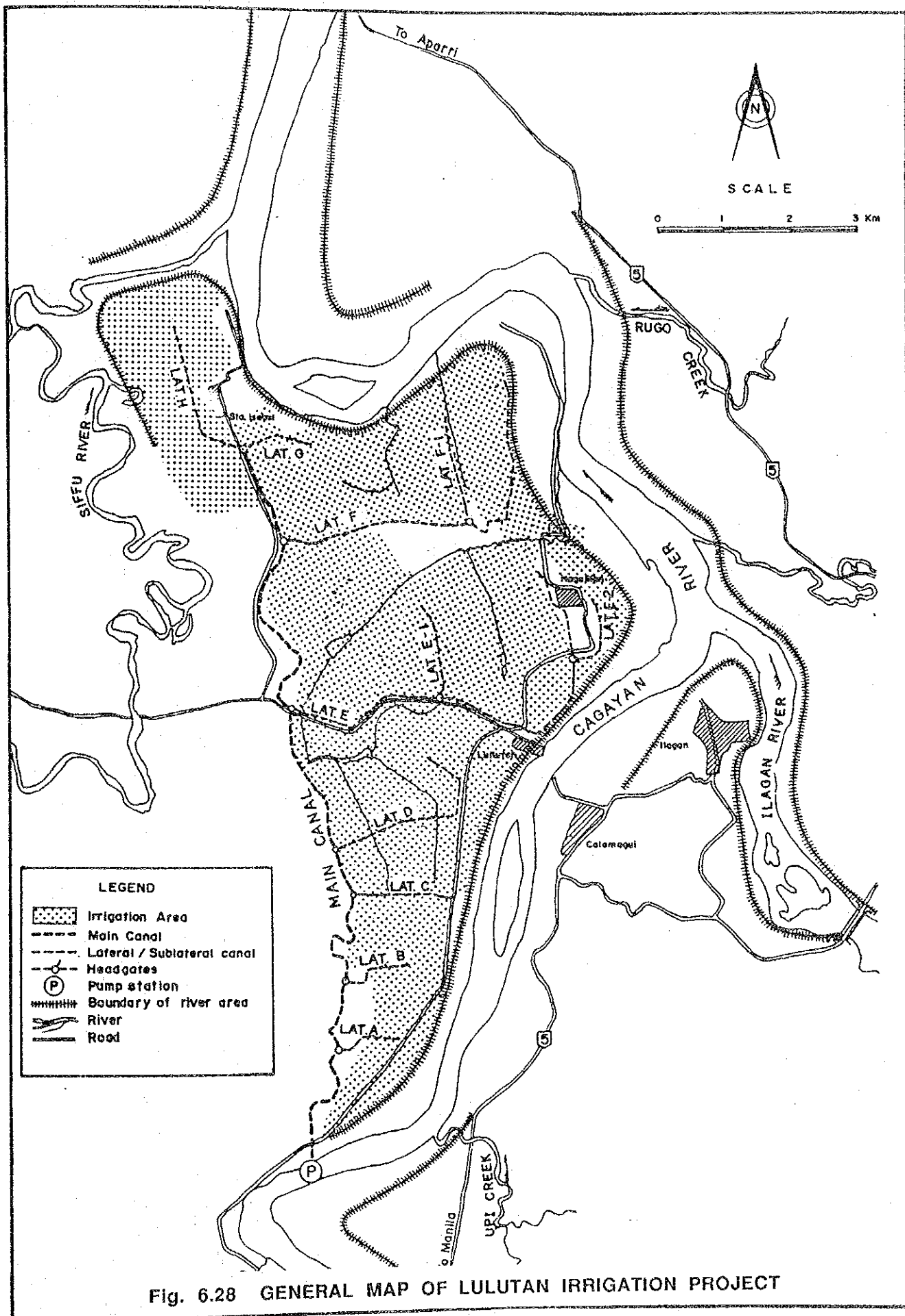


Fig. 6.28 GENERAL MAP OF LULUTAN IRRIGATION PROJECT

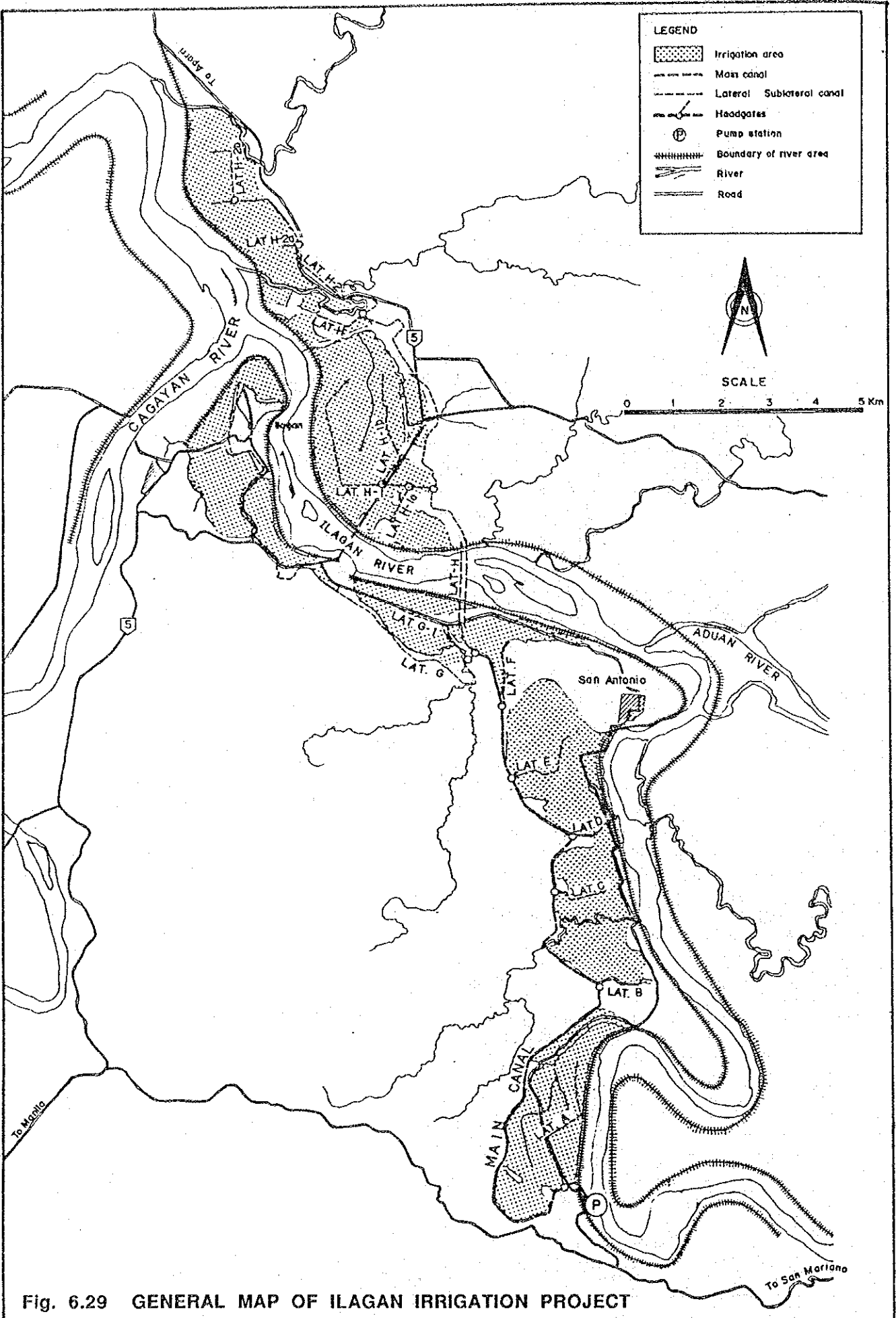
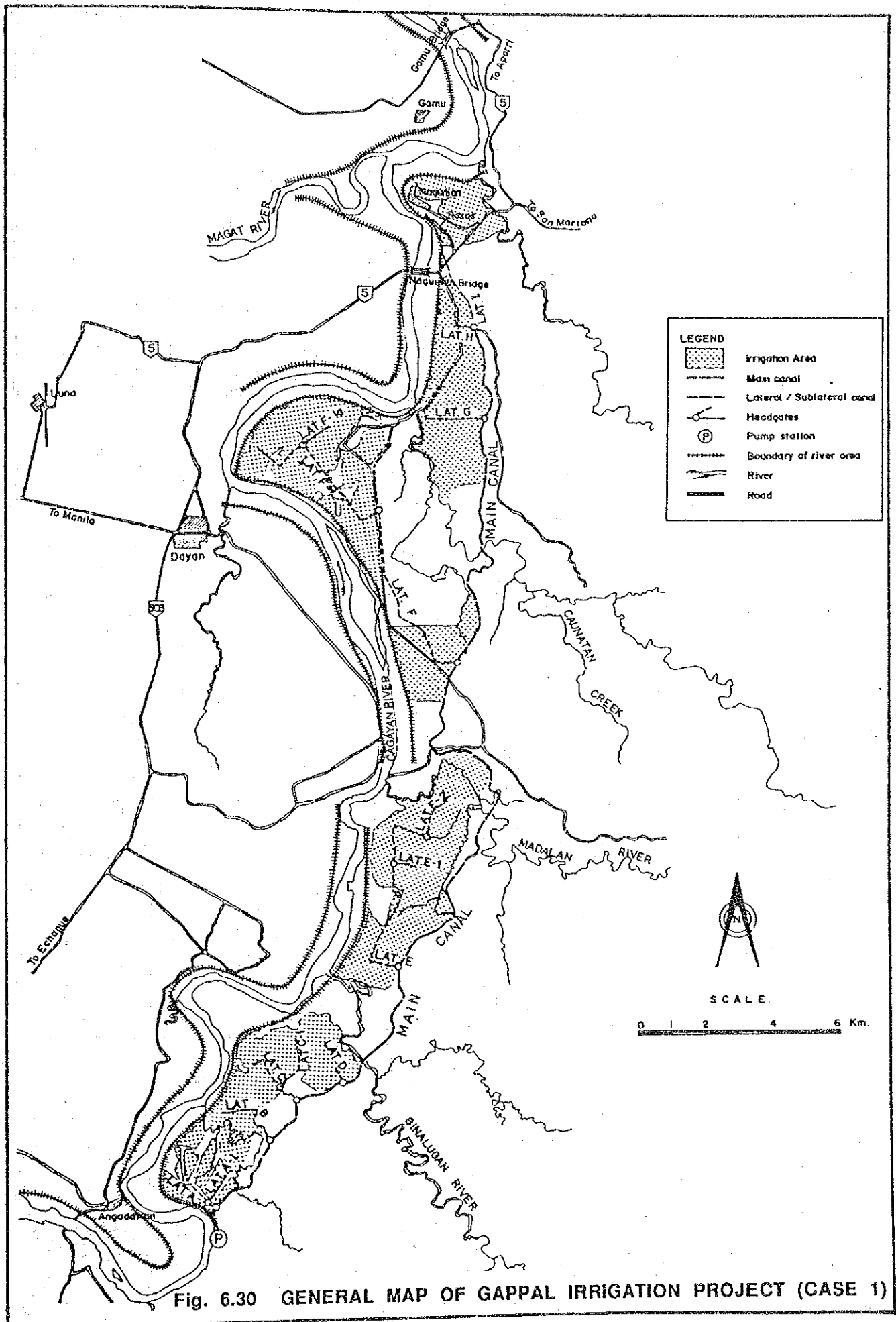


Fig. 6.29 GENERAL MAP OF ILAGAN IRRIGATION PROJECT



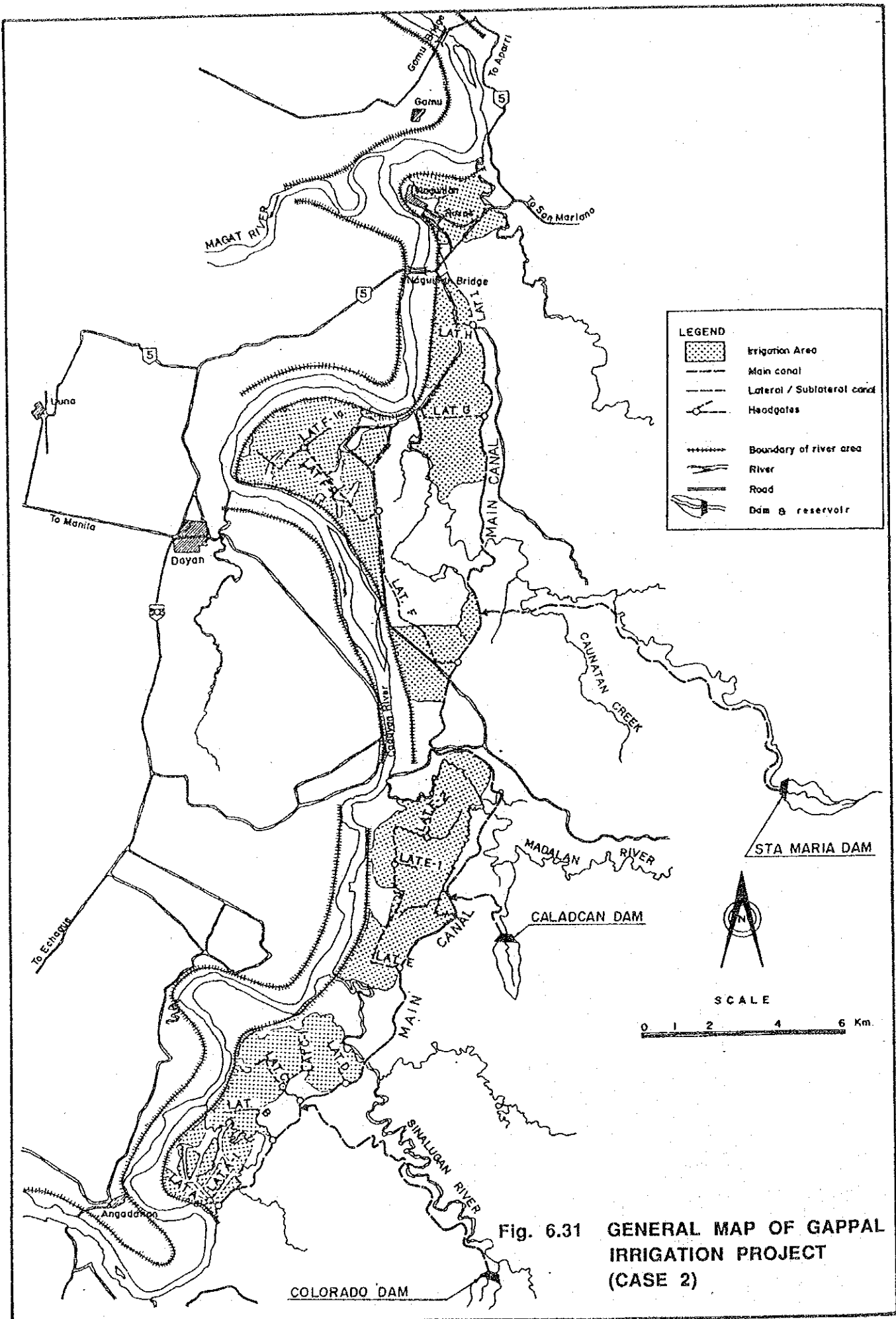


Fig. 6.31 GENERAL MAP OF GAPPAL IRRIGATION PROJECT (CASE 2)

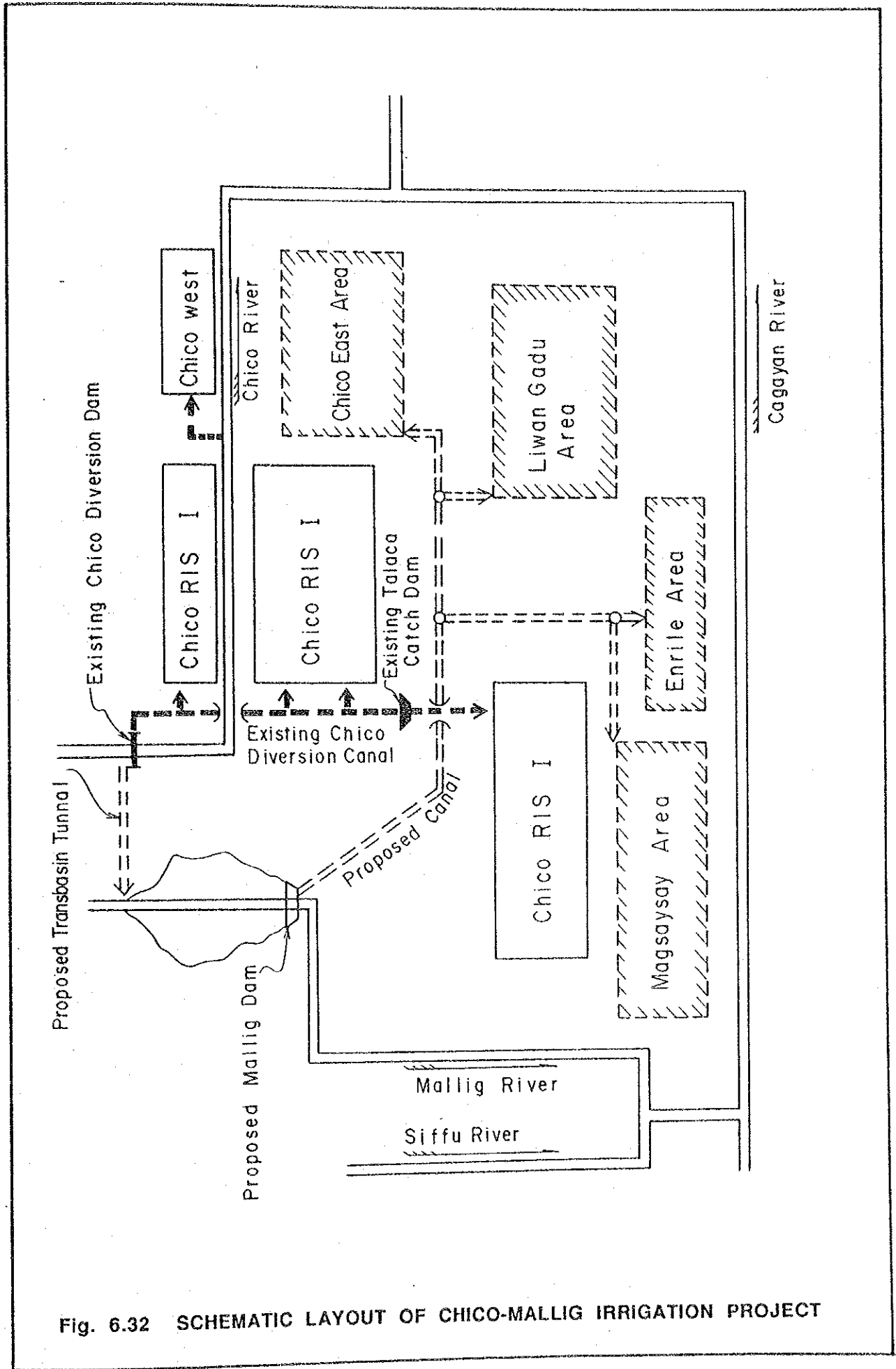


Fig. 6.32 SCHEMATIC LAYOUT OF CHICO-MALLIG IRRIGATION PROJECT



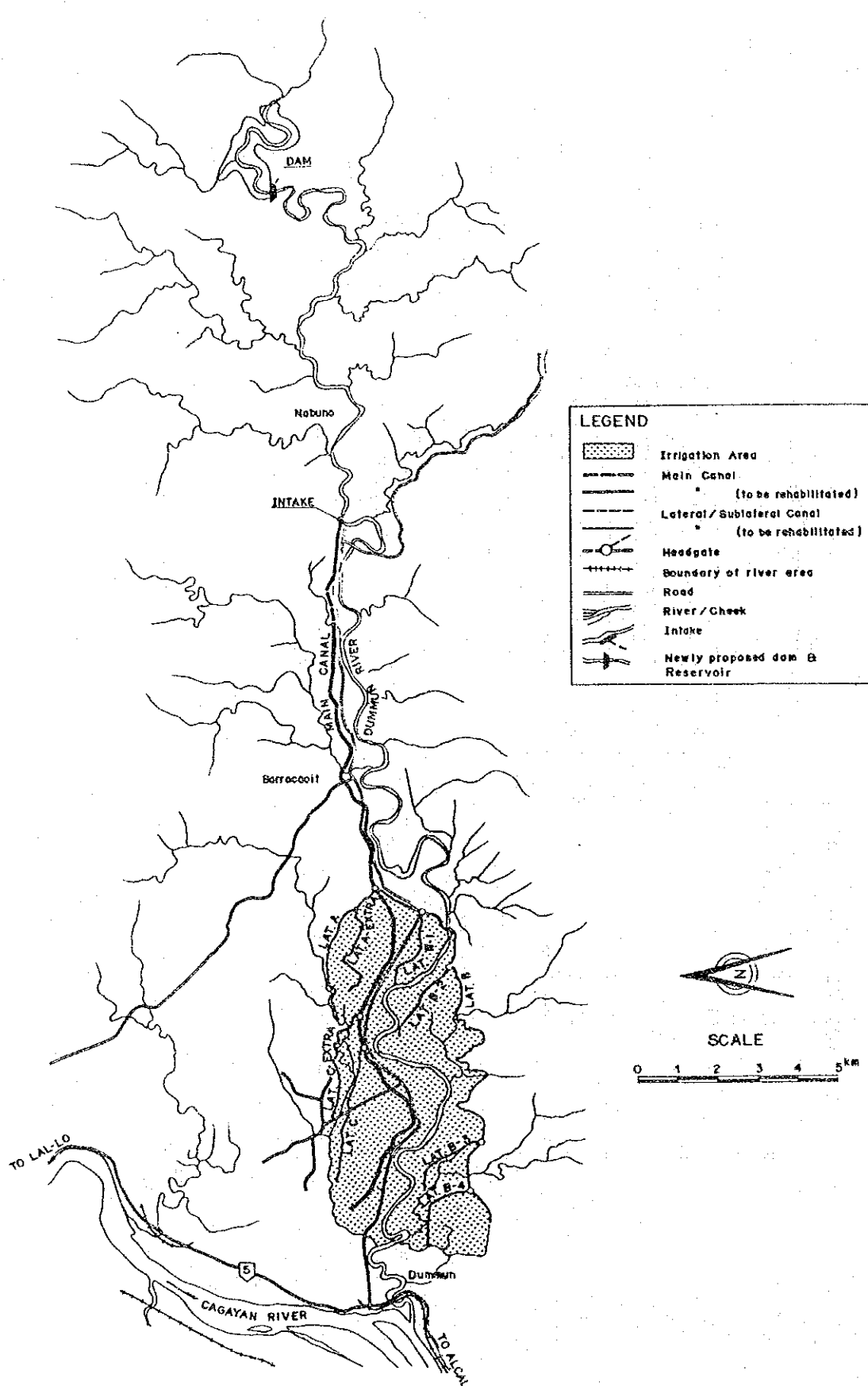


Fig. 6.33 GENERAL MAP OF DUMMUN RIVER IRRIGATION SYSTEM

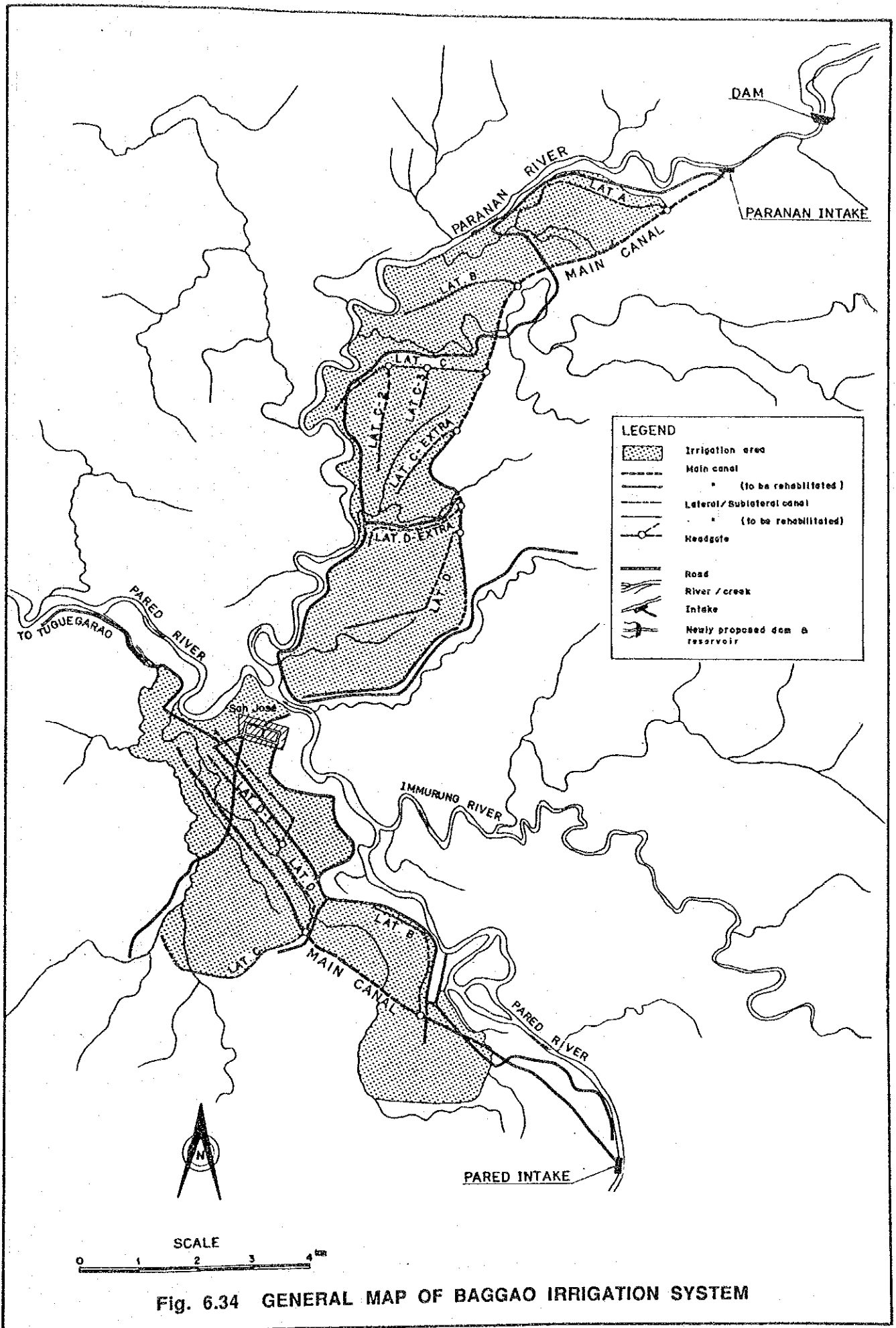


Fig. 6.34 GENERAL MAP OF BAGGAO IRRIGATION SYSTEM

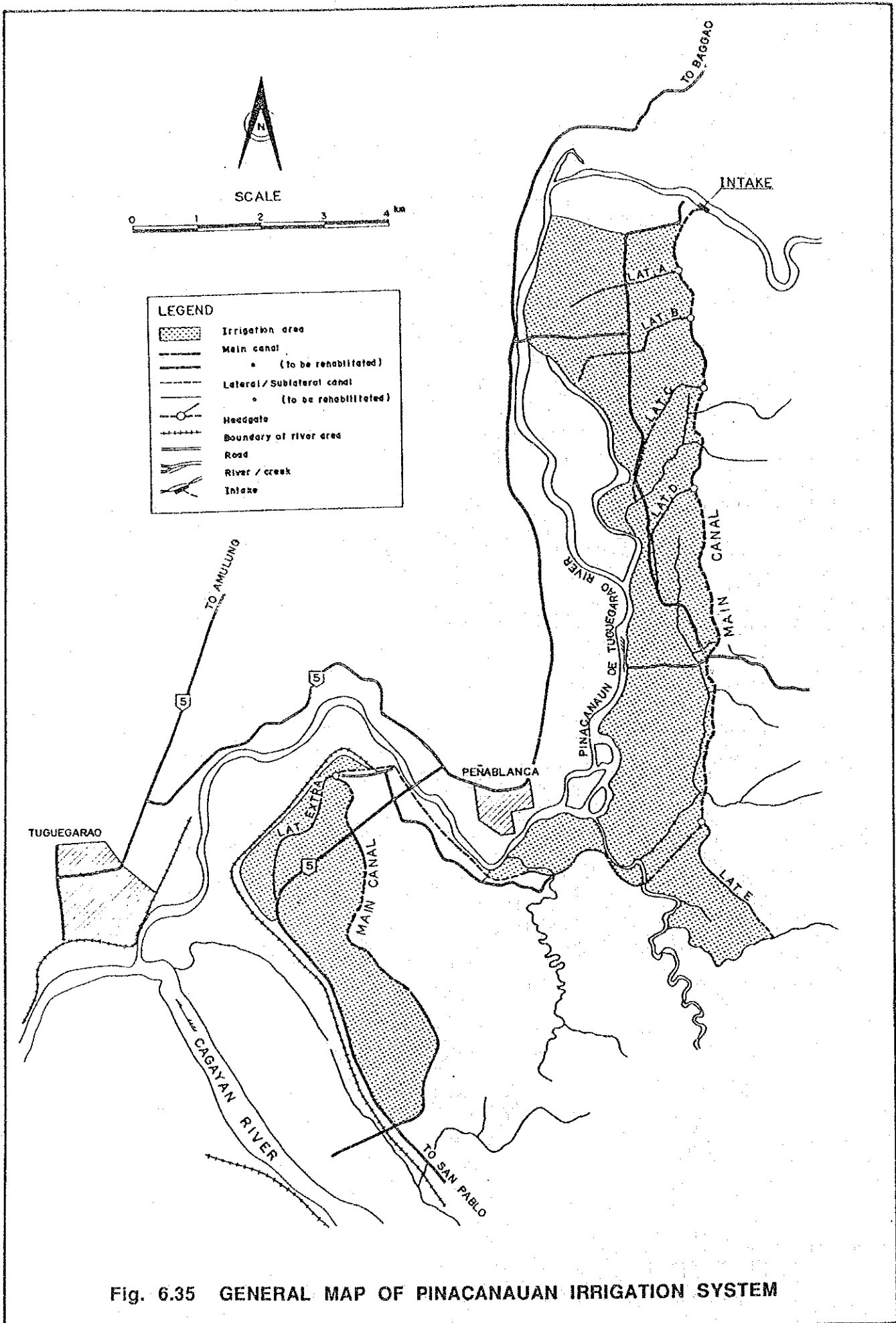


Fig. 6.35 GENERAL MAP OF PINACANAUAN IRRIGATION SYSTEM

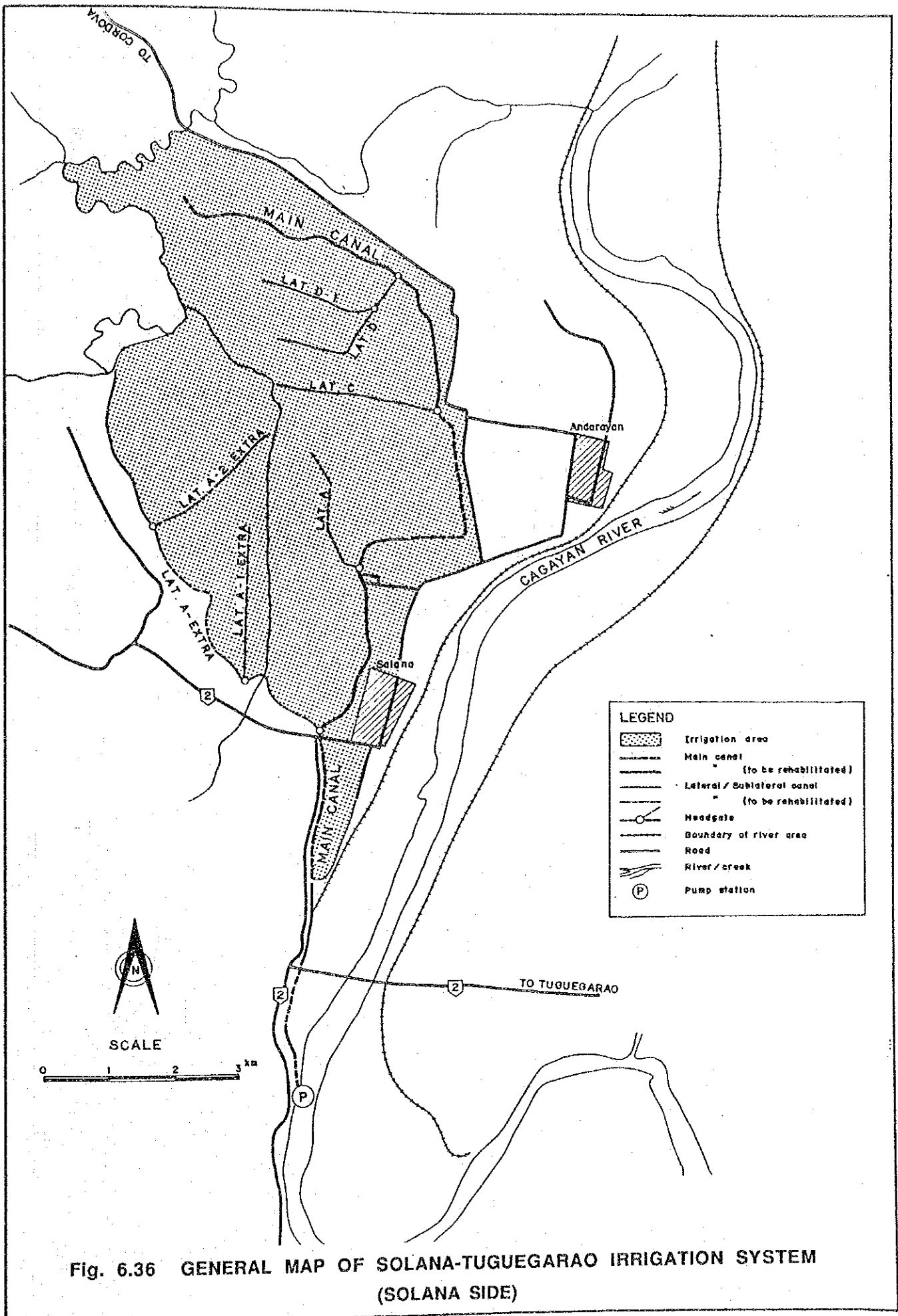


Fig. 6.36 GENERAL MAP OF SOLANA-TUGUEGARAO IRRIGATION SYSTEM (SOLANA SIDE)

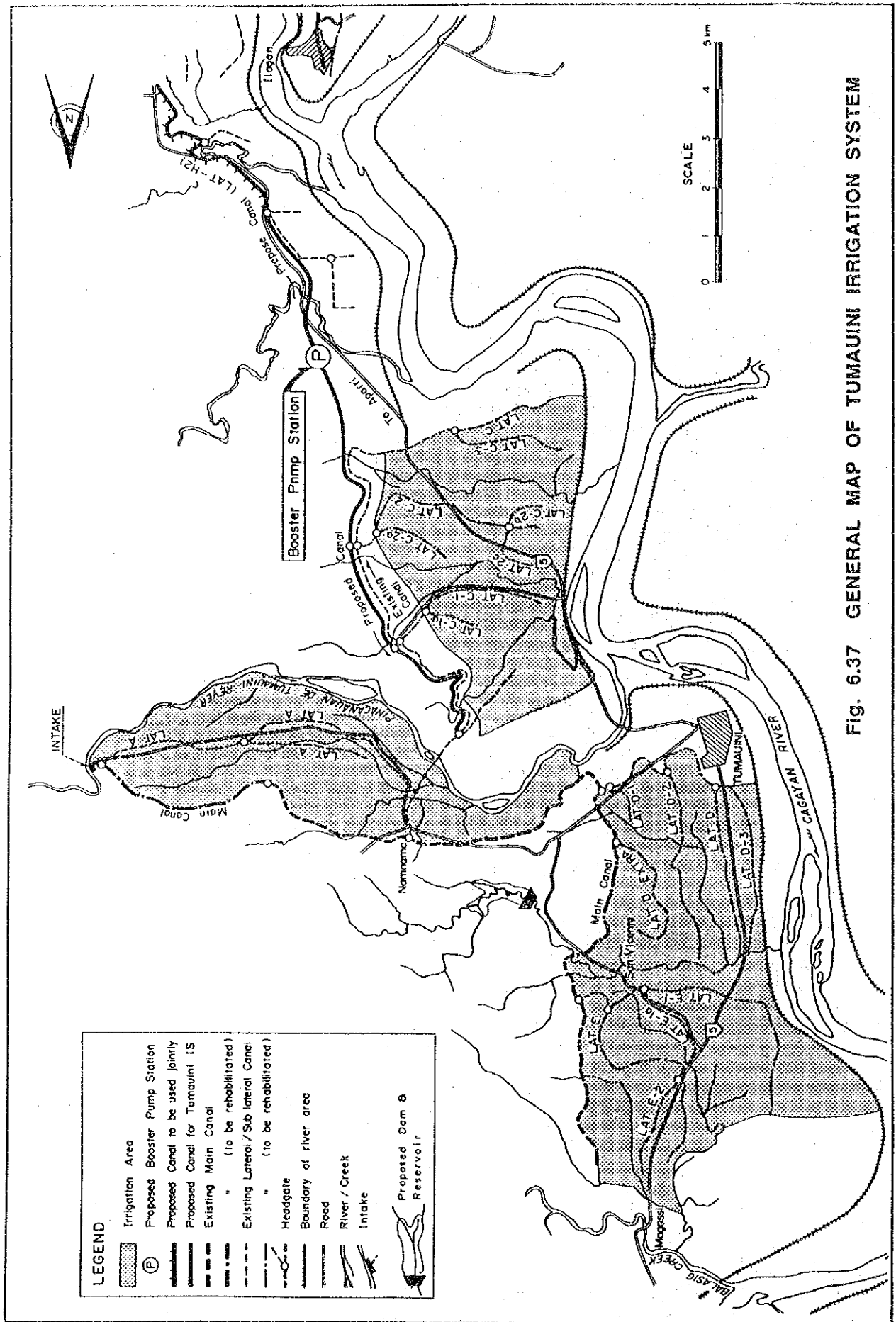


Fig. 6.37 GENERAL MAP OF TUMAUNI IRRIGATION SYSTEM

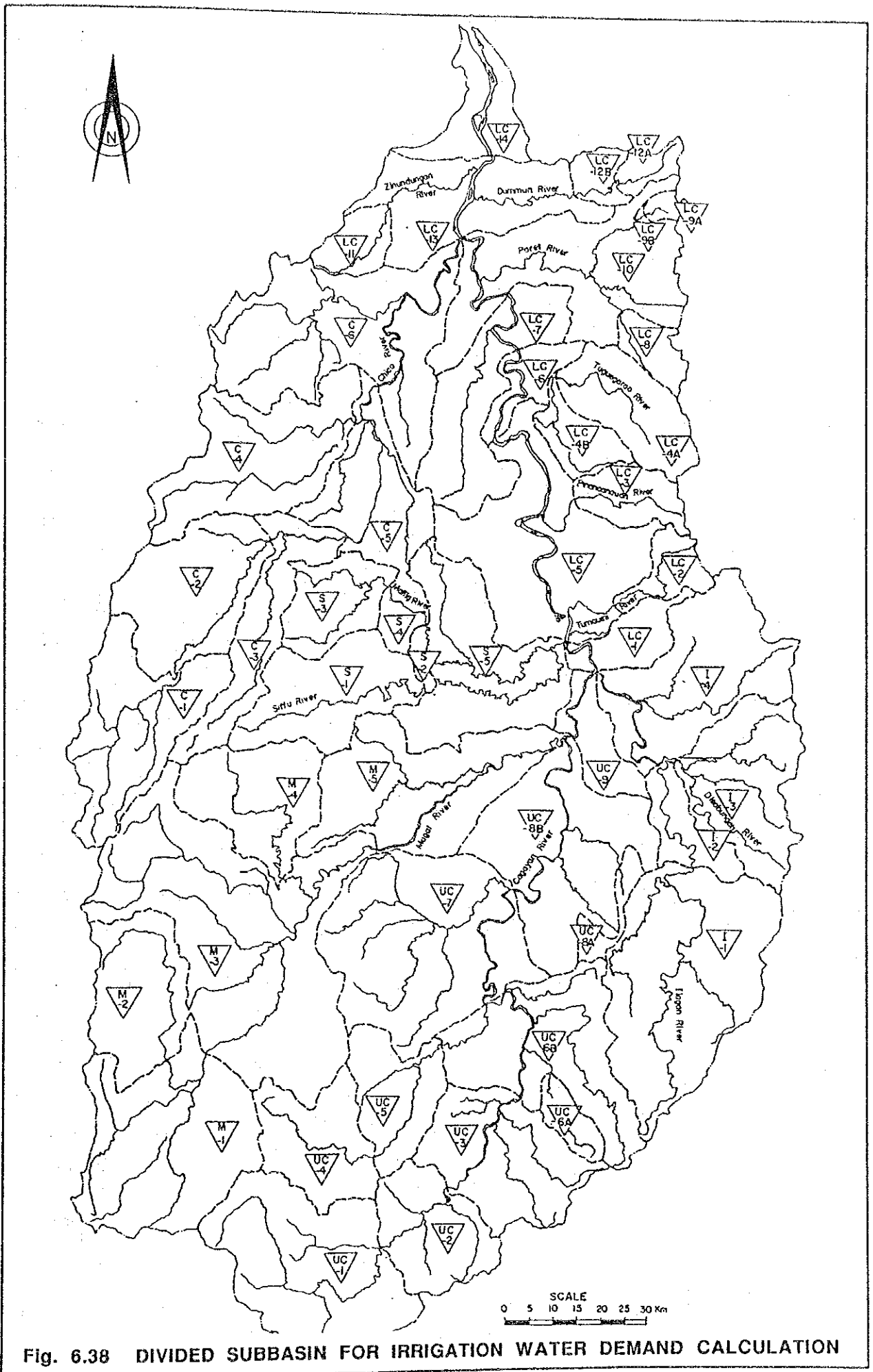


Fig. 6.38 DIVIDED SUBBASIN FOR IRRIGATION WATER DEMAND CALCULATION

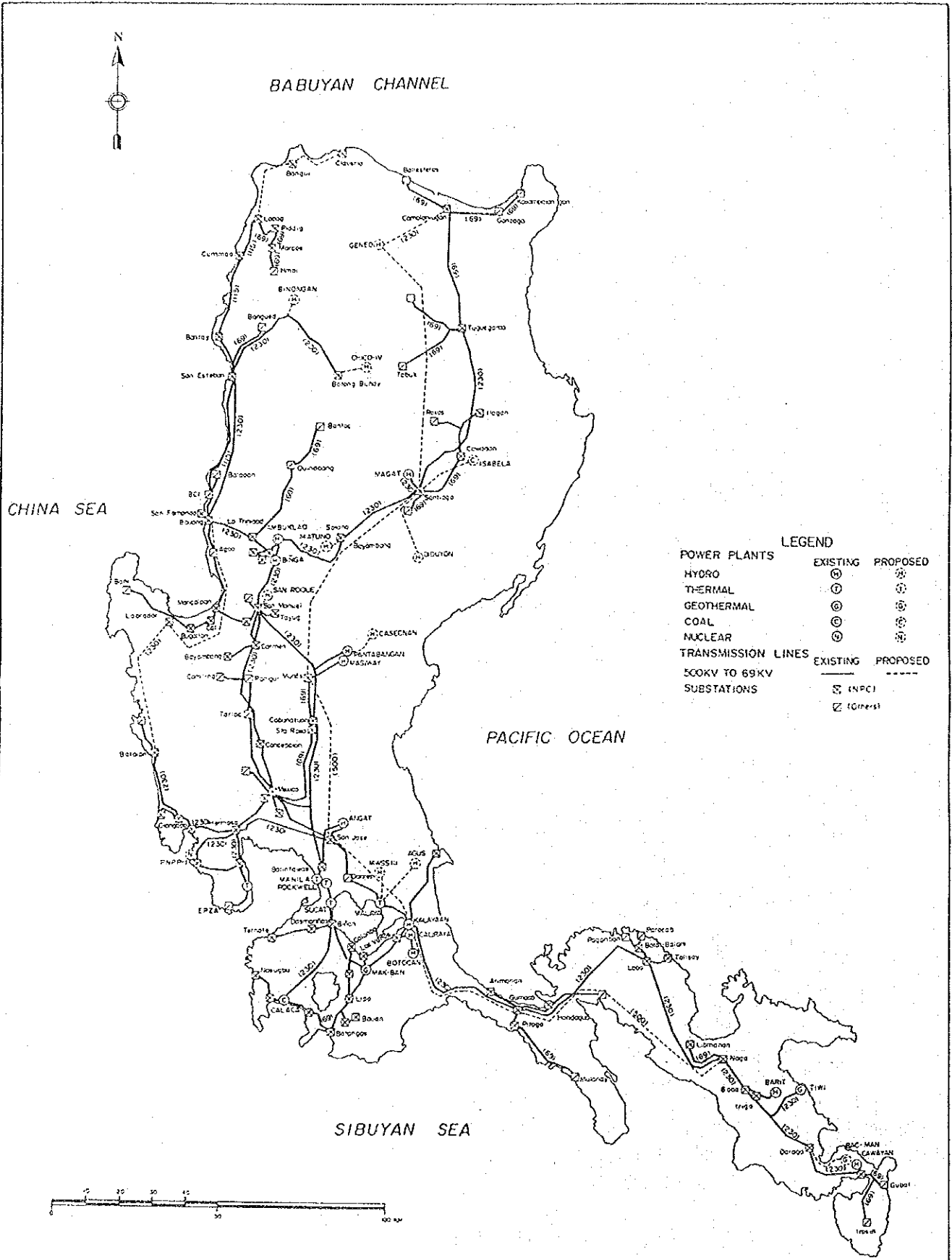


Fig. 7.1 TRANSMISSION LINE SYSTEM IN LUZON GRID

DATE MAY 8, 1986

DAY THURSDAY

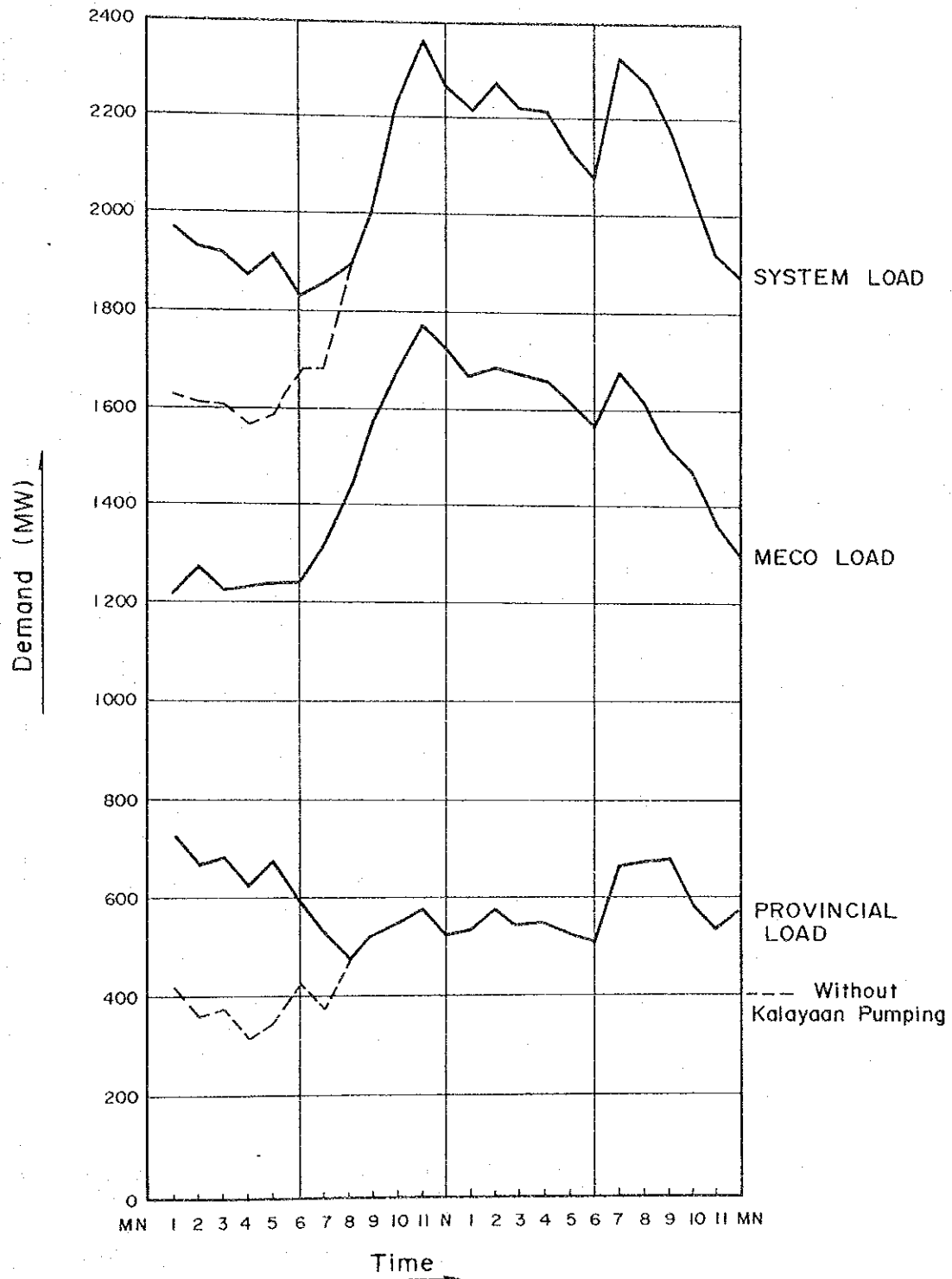


Fig. 7.2 TYPICAL WEEKDAY LOAD CURVE (DRY SEASON 1986)



Daily Load Factor 87.5%

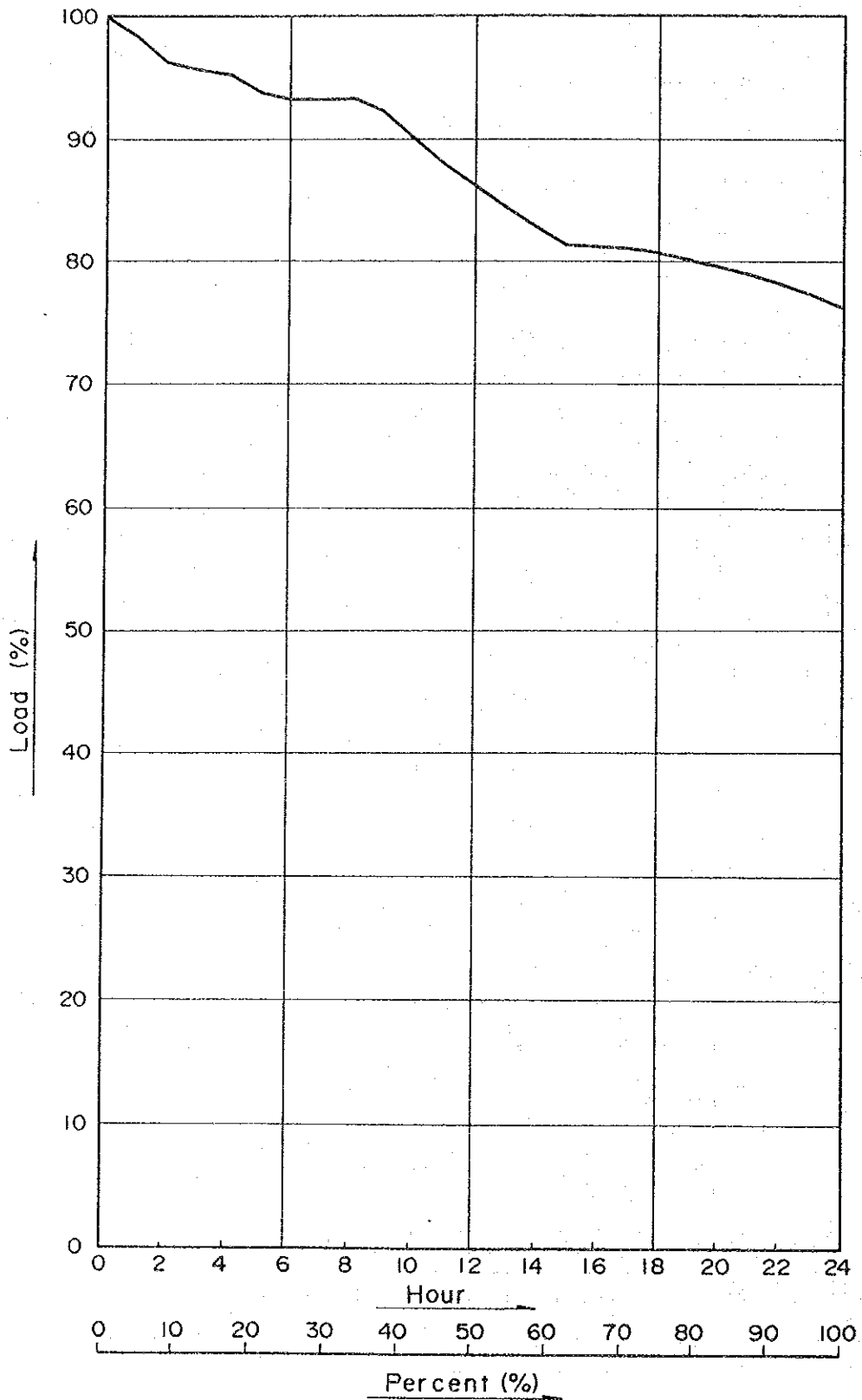


Fig. 7.3 LOAD DURATION CURVE IN LUZON GRID

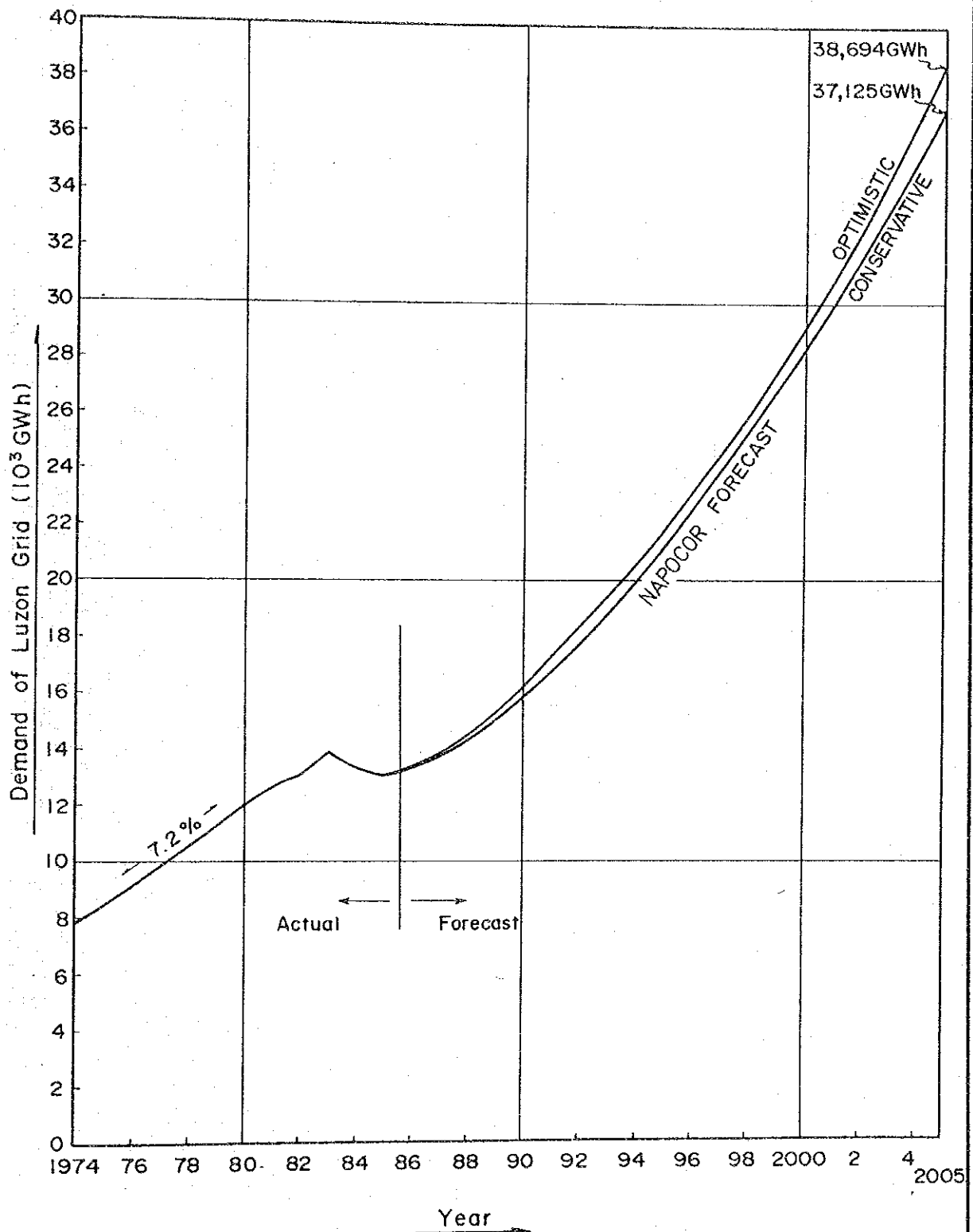


Fig. 7.4 DEMAND FORECAST (NAPOCOR SALES LEVEL)

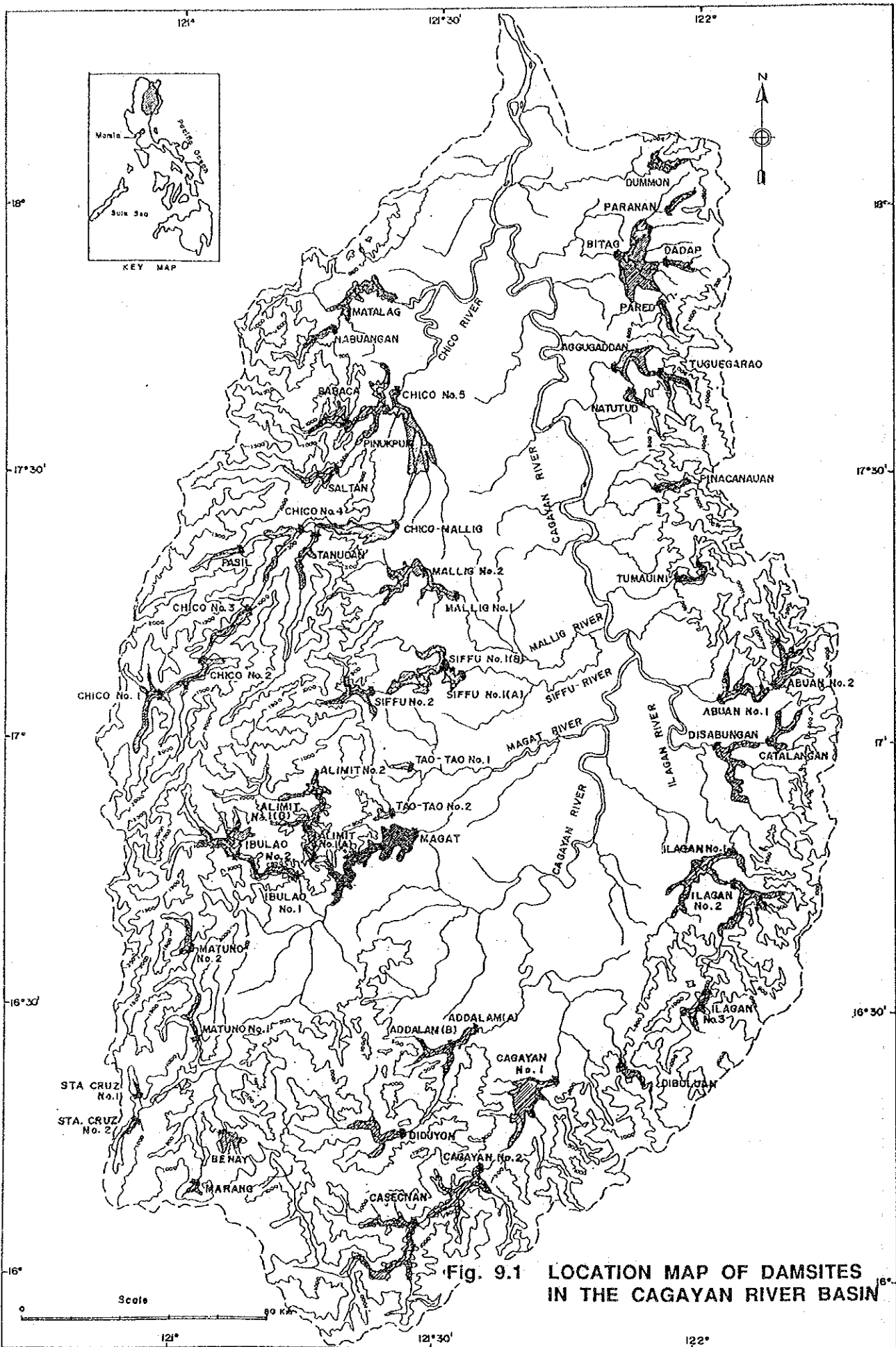


Fig. 9.1 LOCATION MAP OF DAMSITES IN THE CAGAYAN RIVER BASIN

No.	Name of Dam
1	GUISSING
2	BULAGAO
3	SAN LUIS
4	ASASSI
5	NABIALAN
6	MAGOGOD
7	MANALO
8	MAROBBOB
9	STA. BARBARA
10	BAYO
11	SAN JUAN
12	LIWAN NORTE
13	KINAMA
14	LIWAN WEST
15	SANTOR
16	MAGLATAC 1
17	MAGLATAC 2
18	MINAGBAG
19	LAGUINDAY
20	BUBUG
21	SAN VICENTE
22	STO. ROSARIO
23	MAUI
24	CARMENCITA
25	MIGUEL
26	MANGGA
27	MALALAO
28	TUROO
29	RANG-AYAN 1
30	RANG-AYAN 2
31	SINAMAR
32	SAN RAFAEL
33	MATUSALEM
34	EDEN
35	MAPAPI
36	MANGCURAM
37	PASA
38	FUYO
39	YEBAN
40	SAN FRANCISCO
41	SONG SONG
42	GUIBANG
43	BAGONG
44	STA. MARIA
45	CALAOGAN
46	BANNAWAG
47	LINGLINGAY
48	COLORADO
49	LOURDES
50	SALVACION
51	SAN FELIPE
52	BACRADAL
53	SAN SEBASTIAN
54	BELLO
55	FERMIN
56	SAN MARCOS

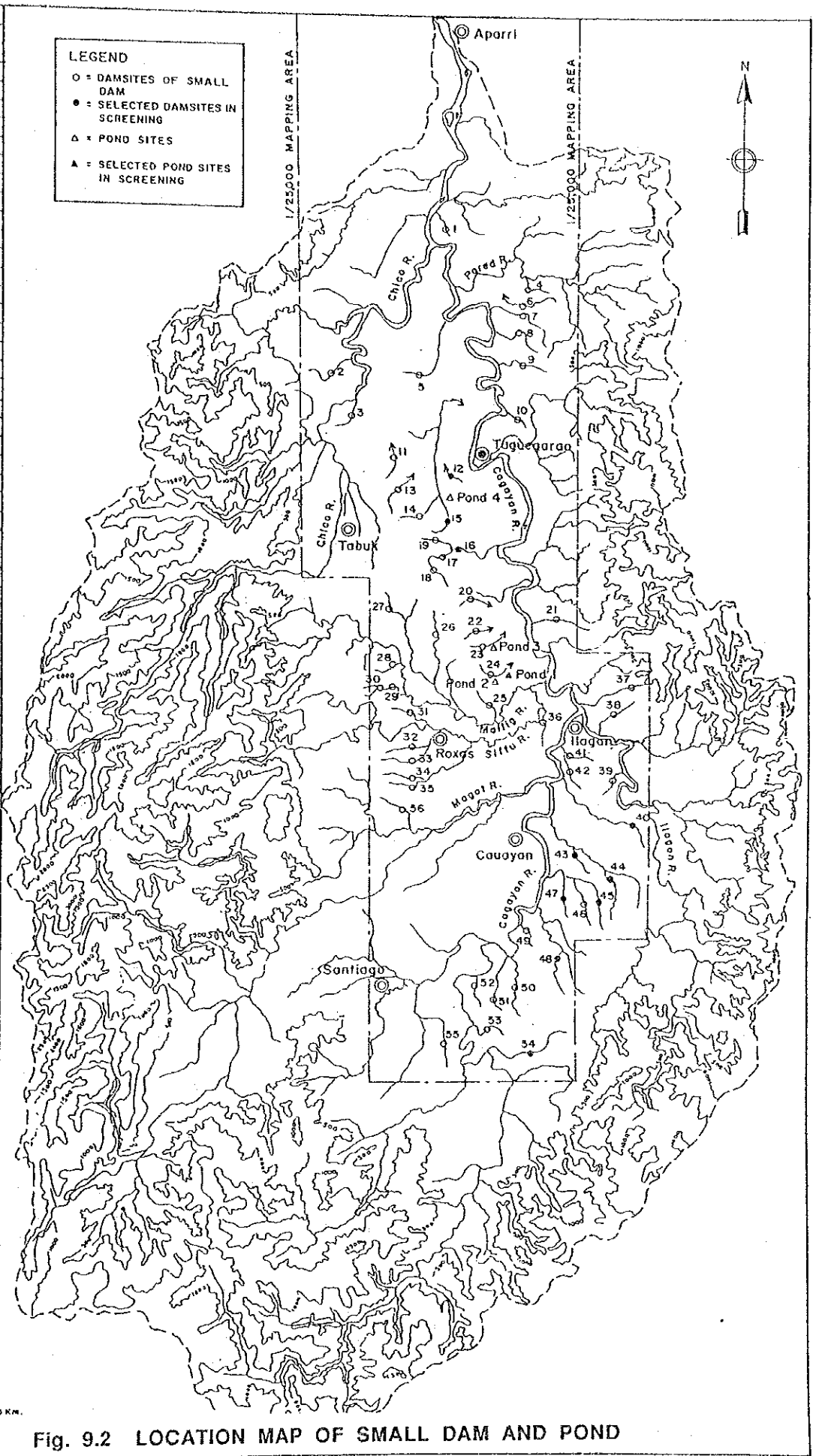


Fig. 9.2 LOCATION MAP OF SMALL DAM AND POND

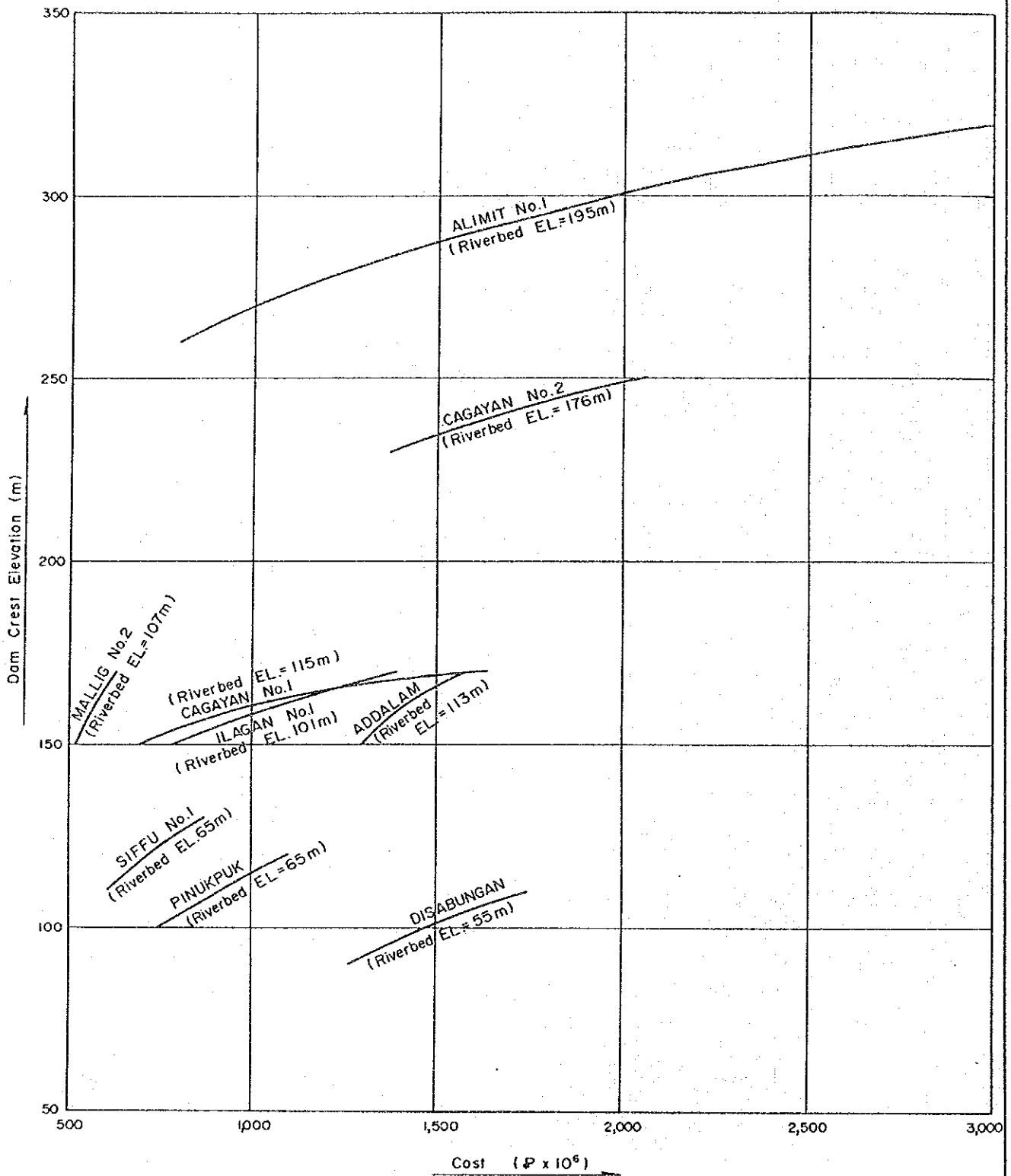
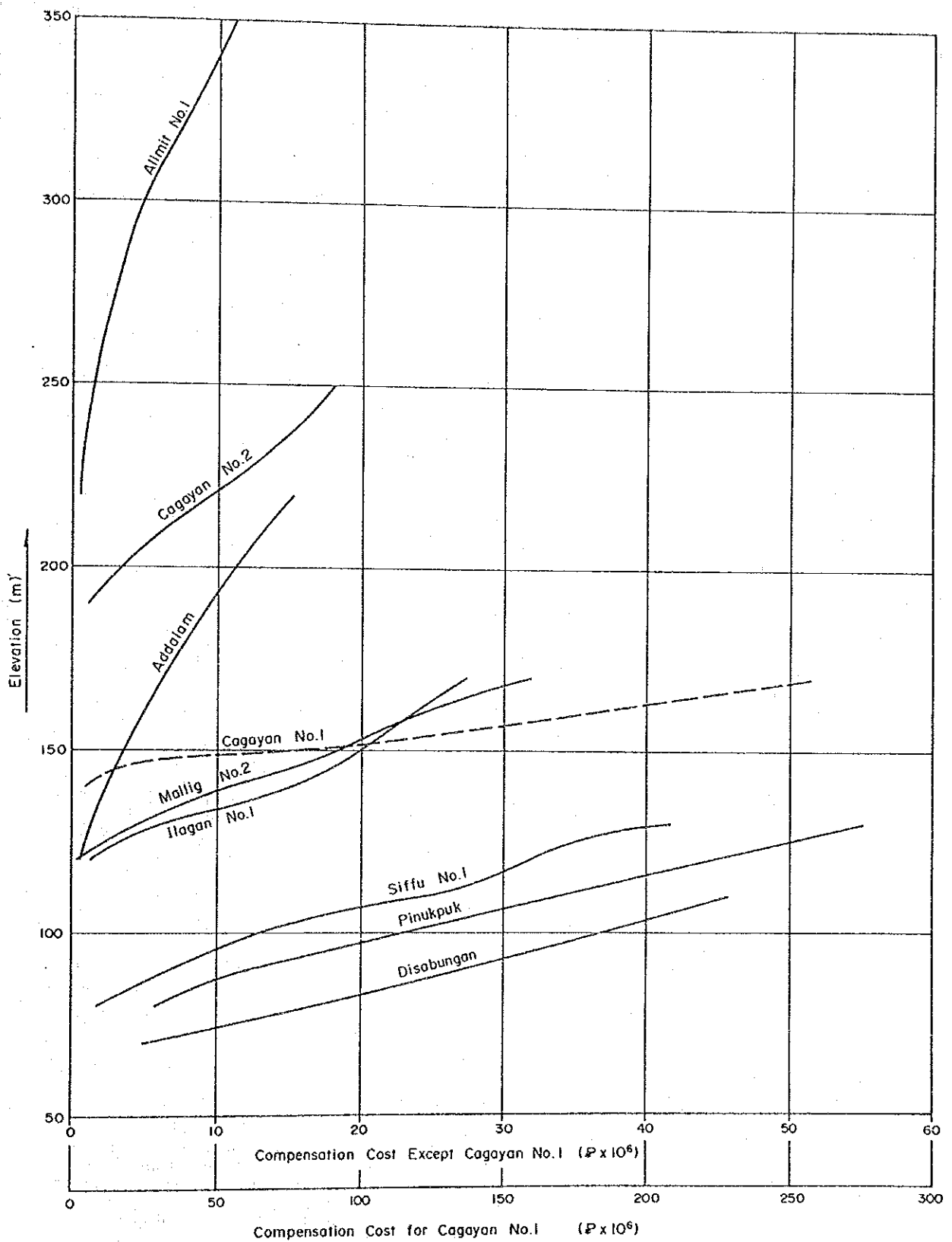


Fig. 9.3 TOTAL CONSTRUCTION COST OF CIVIL WORKS FOR DIVERSION, DAM AND SPILLWAY



**Fig. 9.4 COMPENSATION COST FOR DAM DEVELOPMENT**

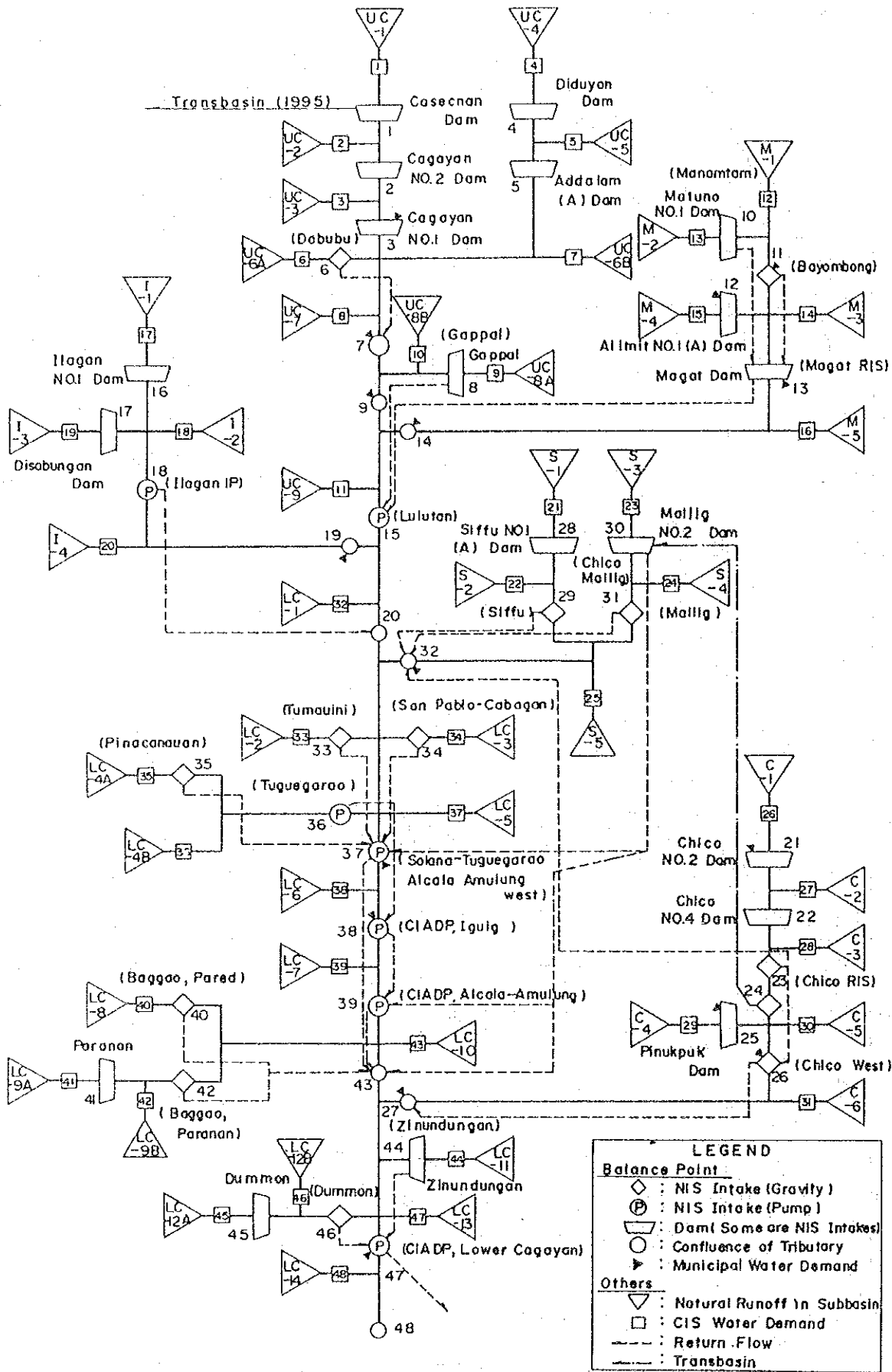


Fig. 10.1 BASIN MODEL FOR WATER BALANCE STUDY

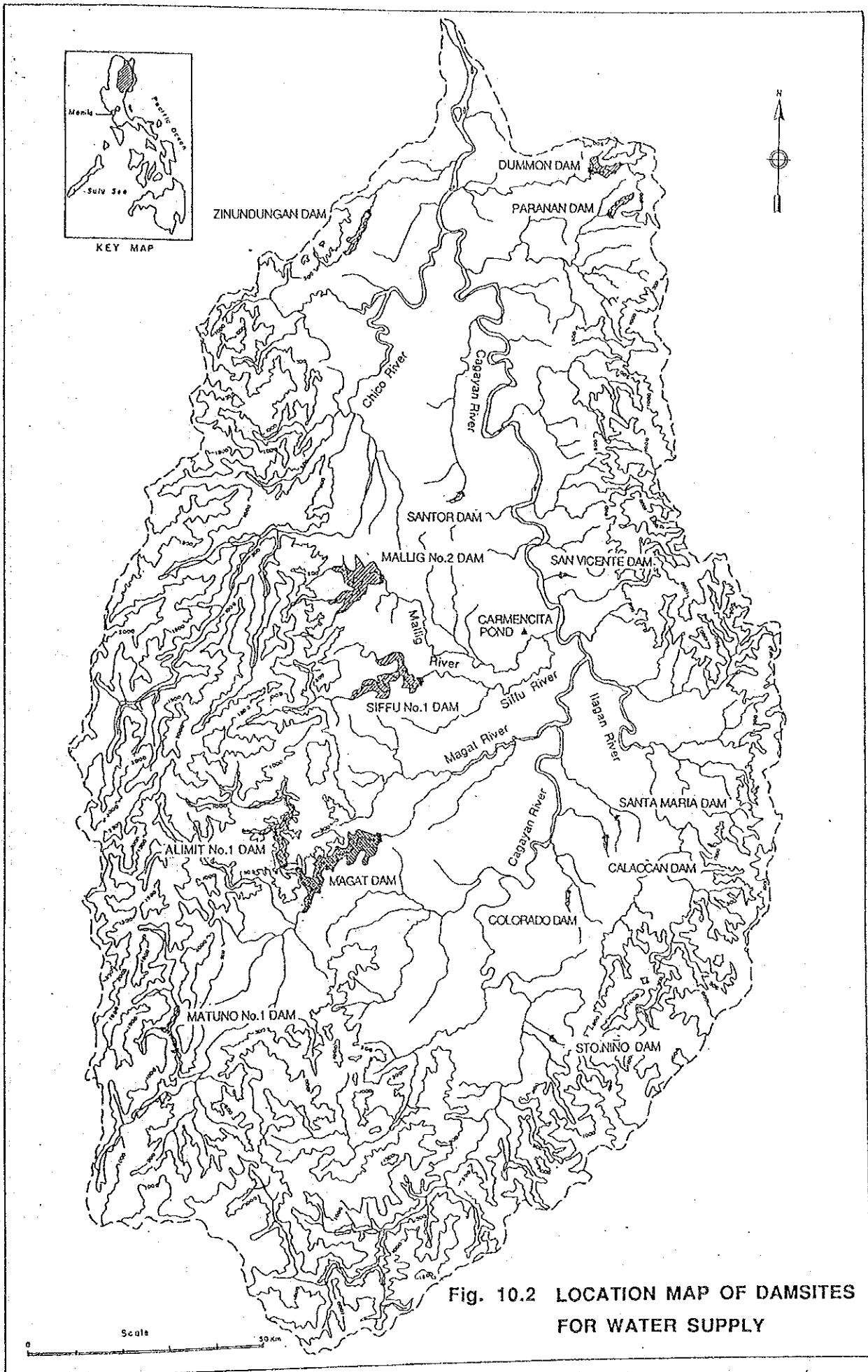


Fig. 10.2 LOCATION MAP OF DAMSITES FOR WATER SUPPLY



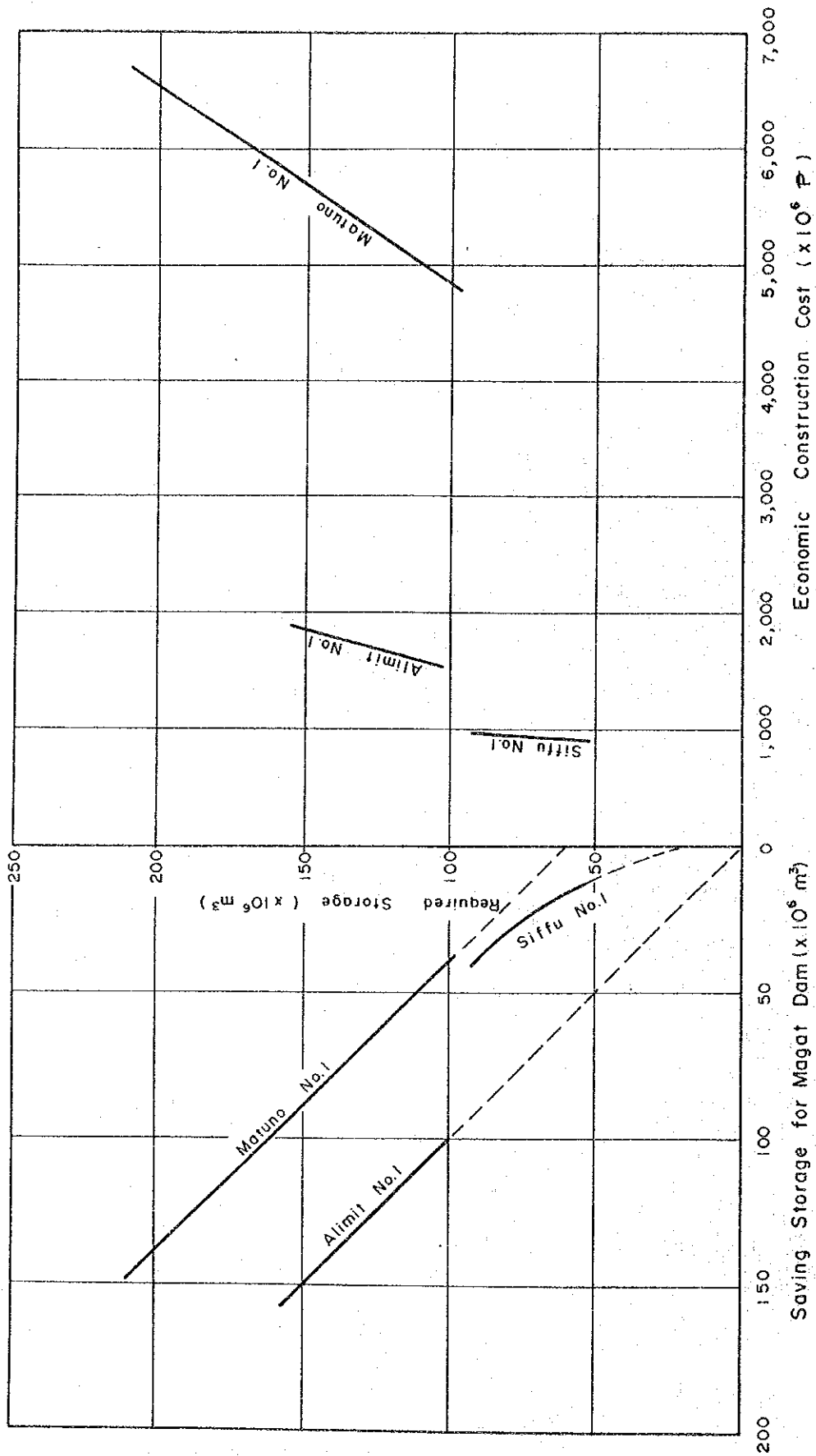


Fig. 11.1 COST ESTIMATE FOR SAVING STORAGE OF MAGAT RESERVOIR

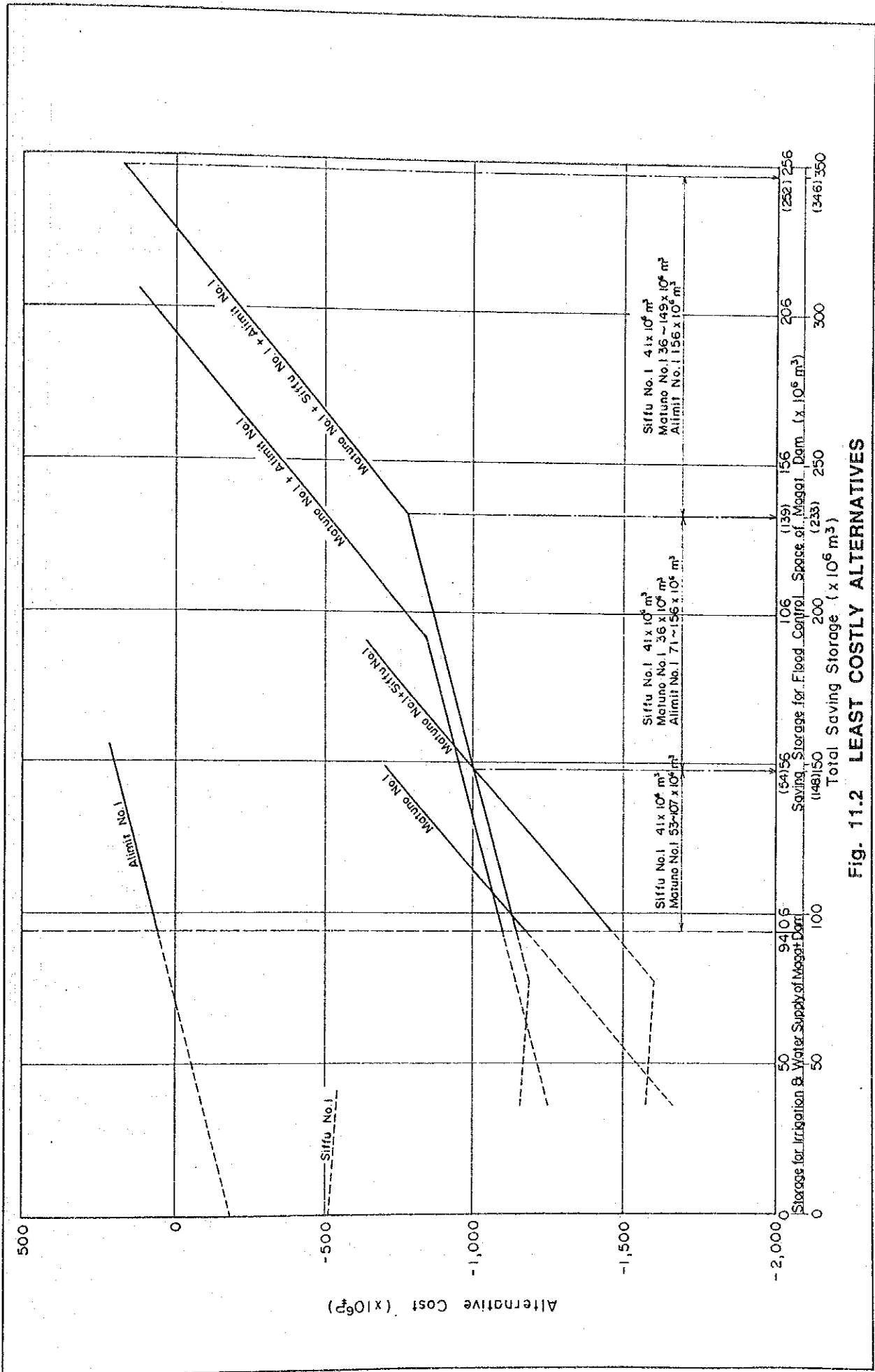


Fig. 11.2 LEAST COSTLY ALTERNATIVES

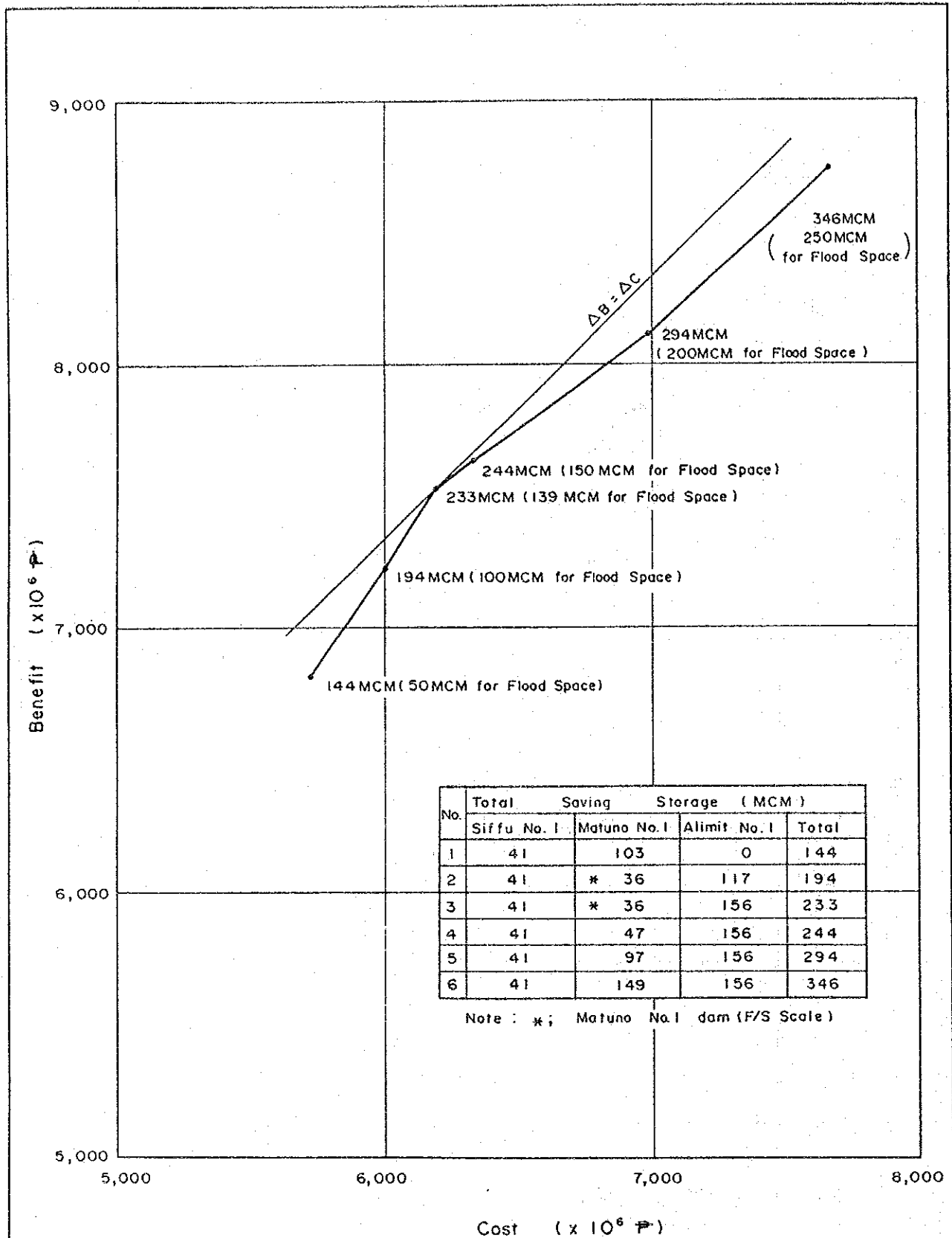


Fig. 11.3 BENEFITS AND COSTS FOR ALTERNATIVE SPACES OF MAGAT RESERVOIR

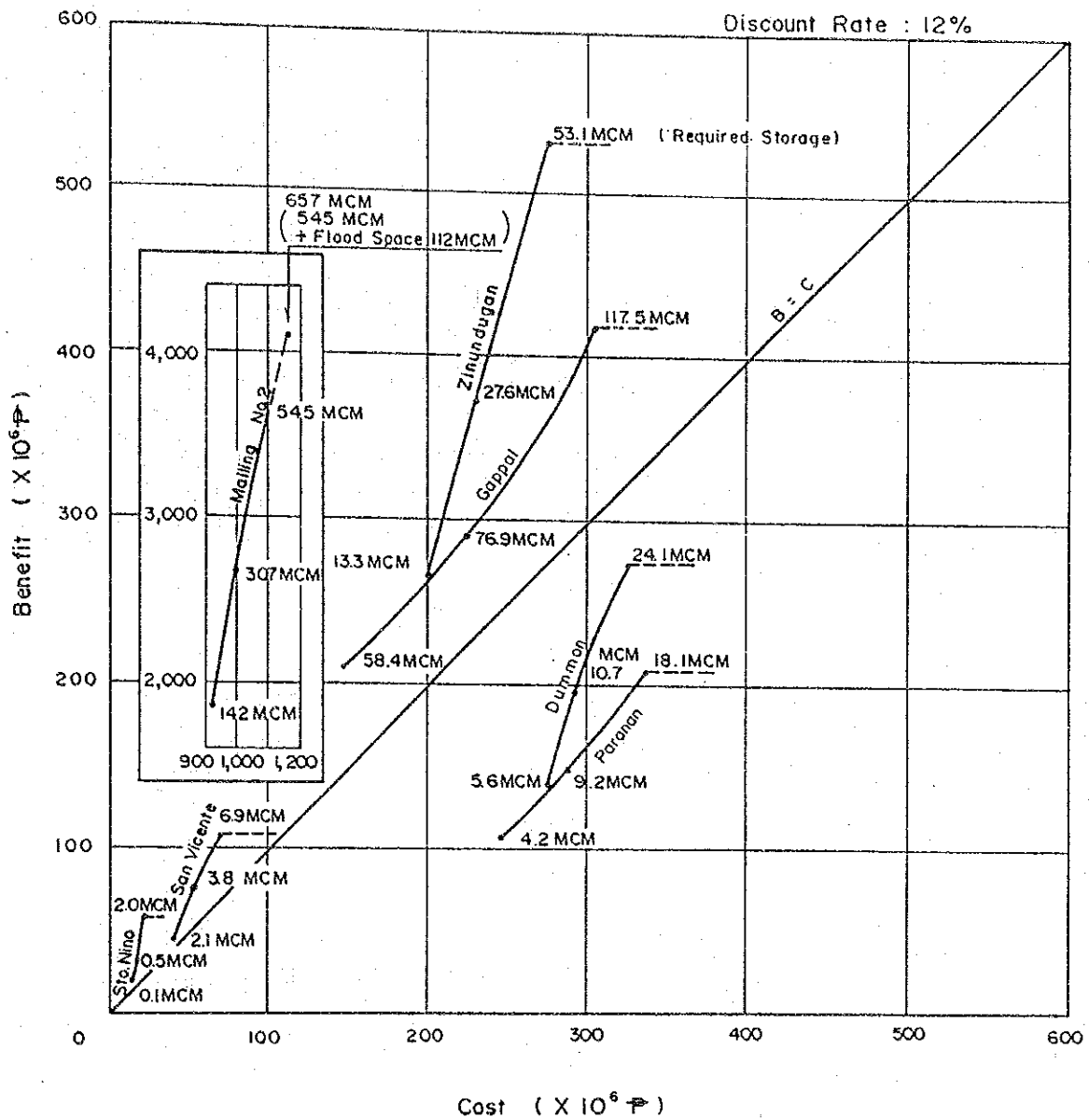
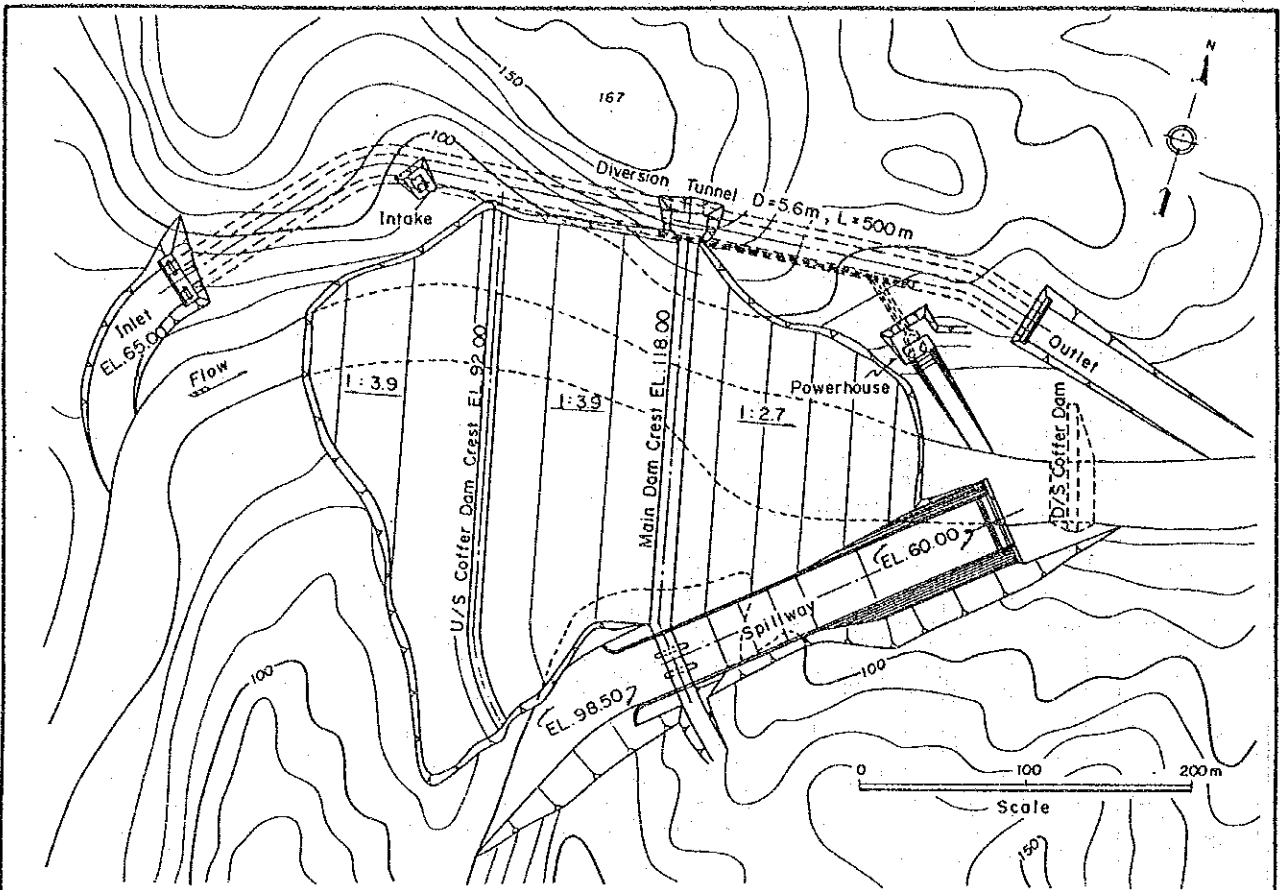
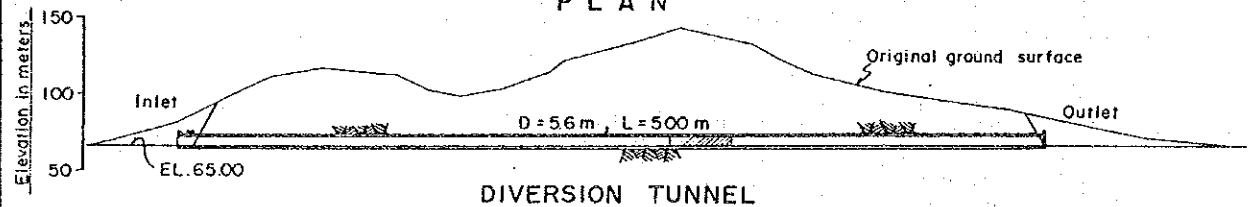


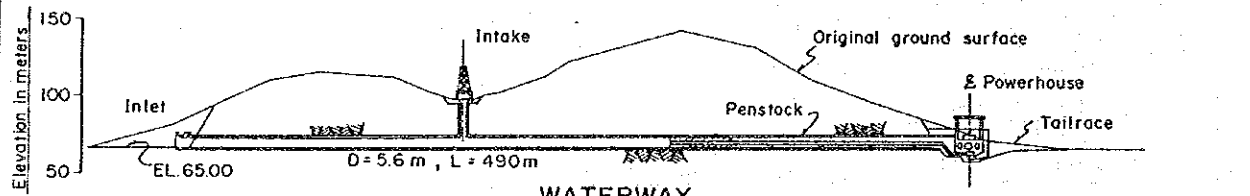
Fig. 11.4 BENEFITS AND COSTS FOR ALTERNATIVE SCALES OF DAM



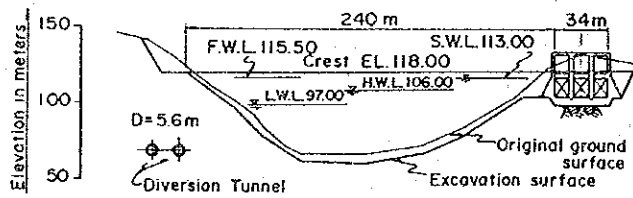
PLAN



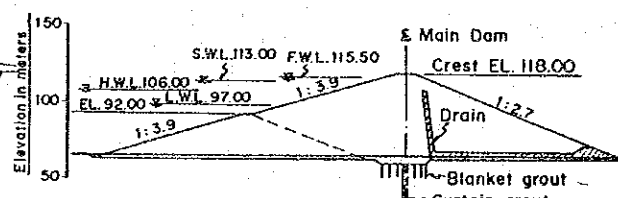
DIVERSION TUNNEL



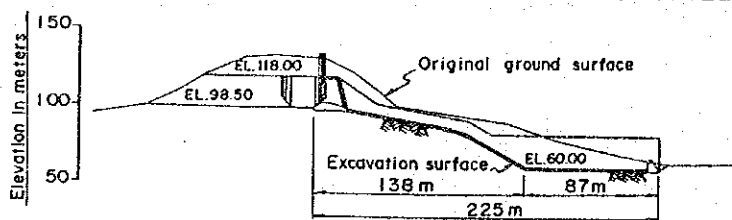
WATERWAY



SECTION OF DAM

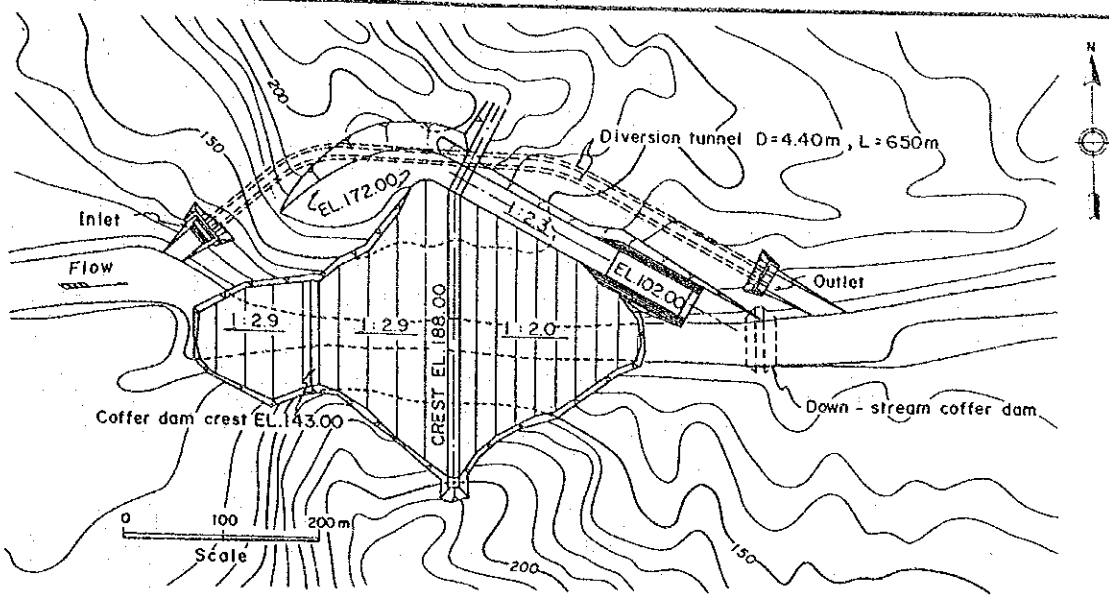


PROFILE OF DAM

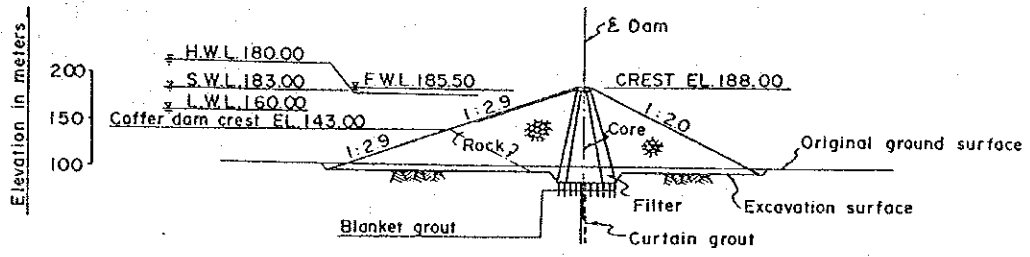


PROFILE OF SPILLWAY

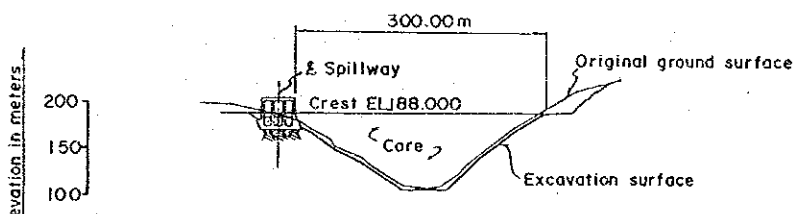
Fig. 11.5 LAYOUT PLAN OF SIFFU NO. 1 DAM



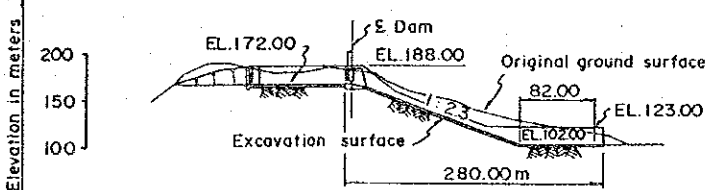
PLAN



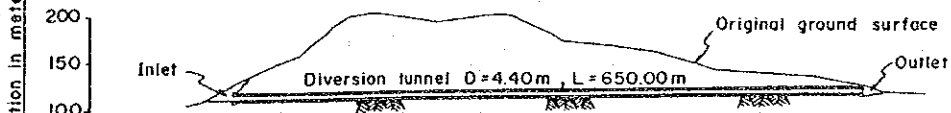
PROFILE OF DAM



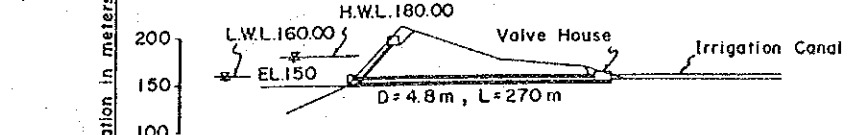
ELEVATION



PROFILE OF SPILLWAY

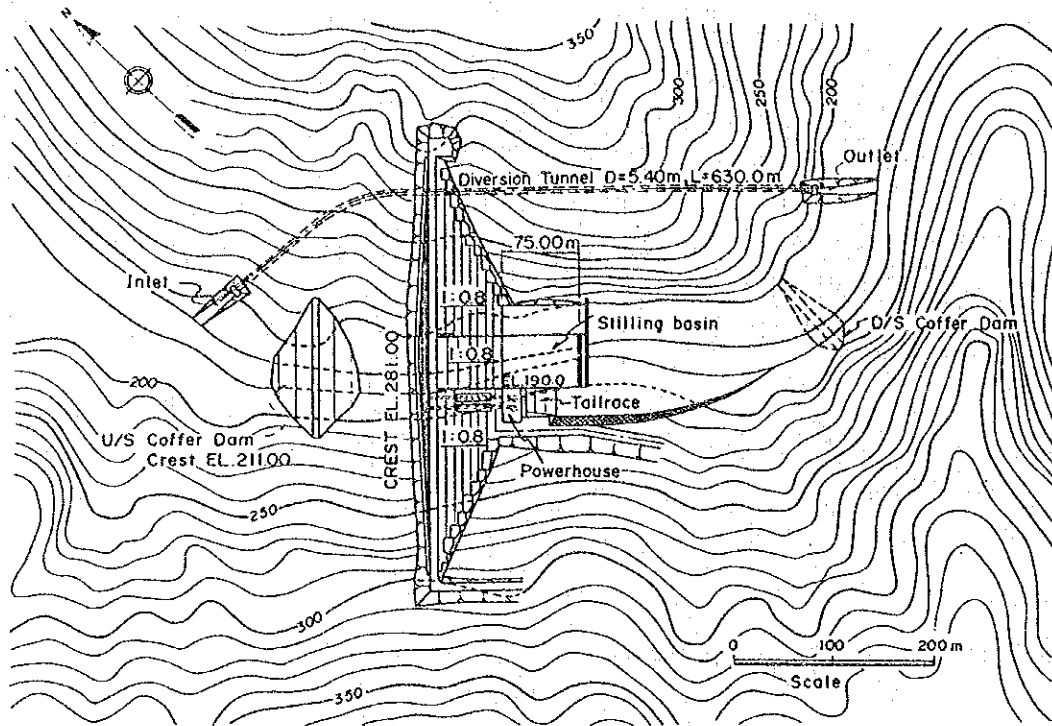


PROFILE OF DIVERSION TUNNEL

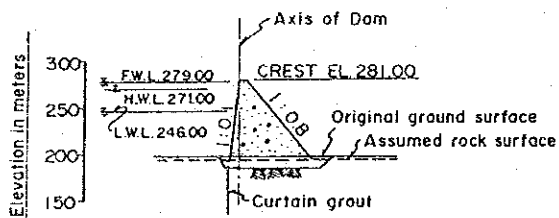


PROFILE OF WATERWAY

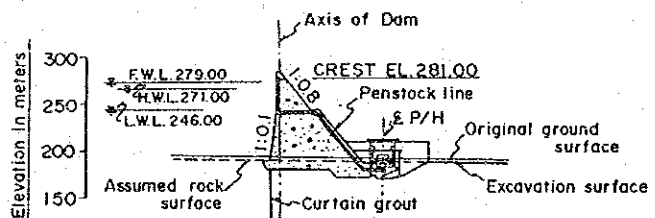
Fig. 11.6 LAYOUT PLAN OF MALLIG NO. 2 DAM



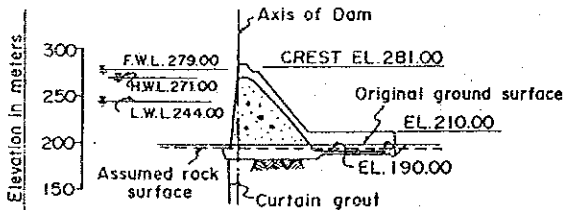
PLAN



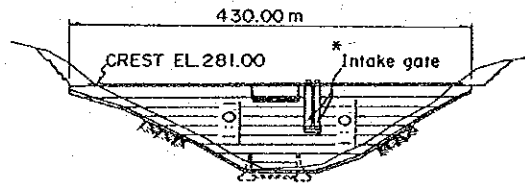
TYPICAL SECTION



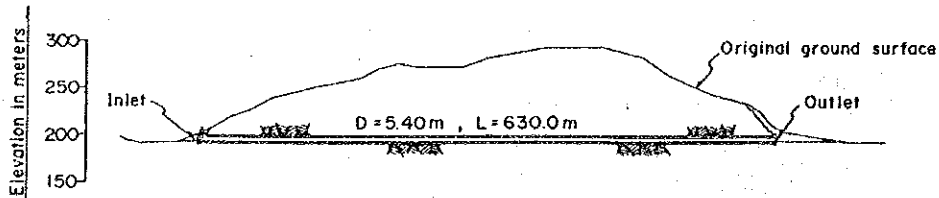
PROFILE OF POWER LINE



OVERFLOW SECTION



ELEVATION



PROFILE OF DIVERSION TUNNEL

Fig. 11.7 LAYOUT PLAN OF ALIMIT NO. 1 DAM

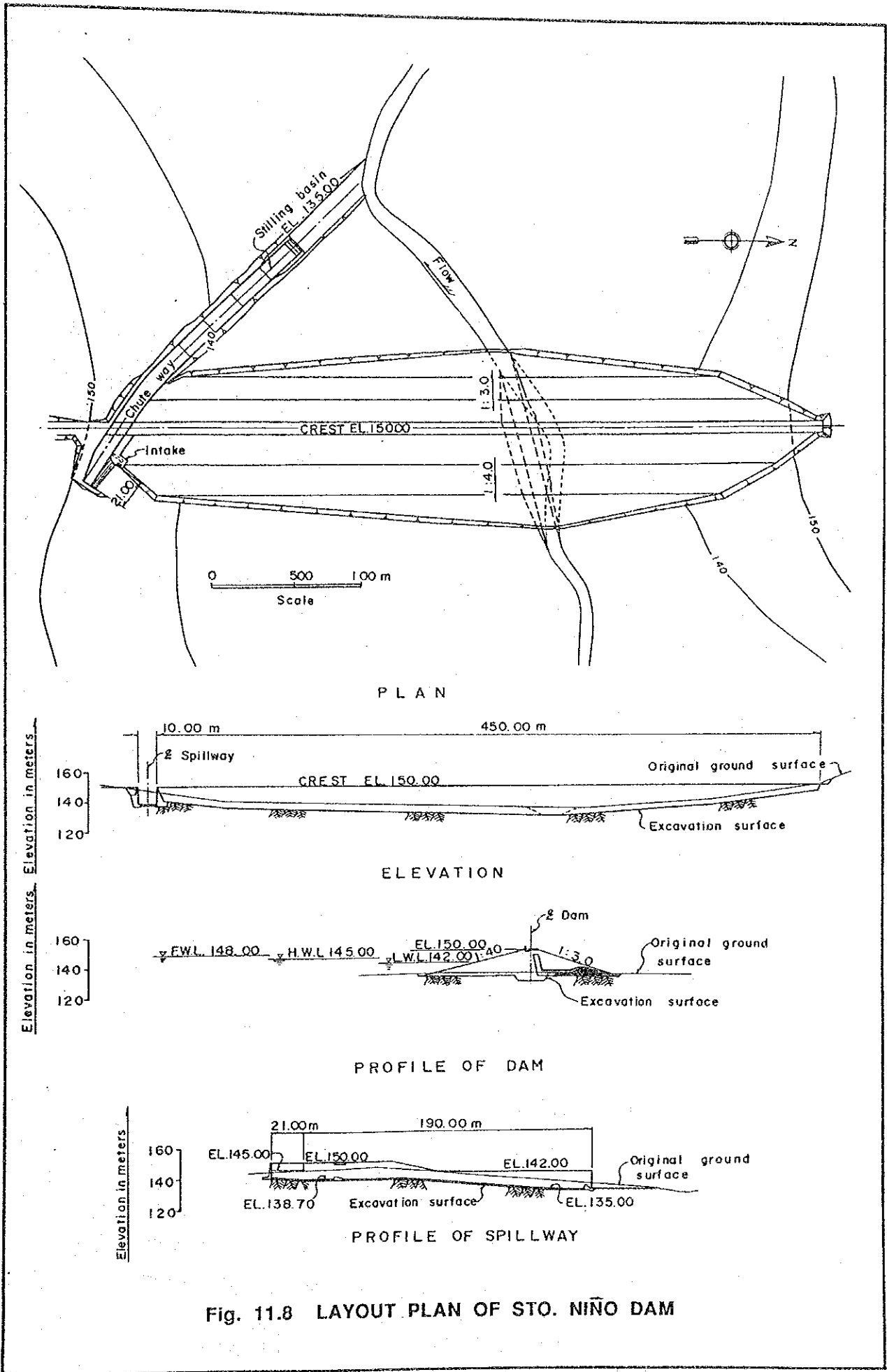
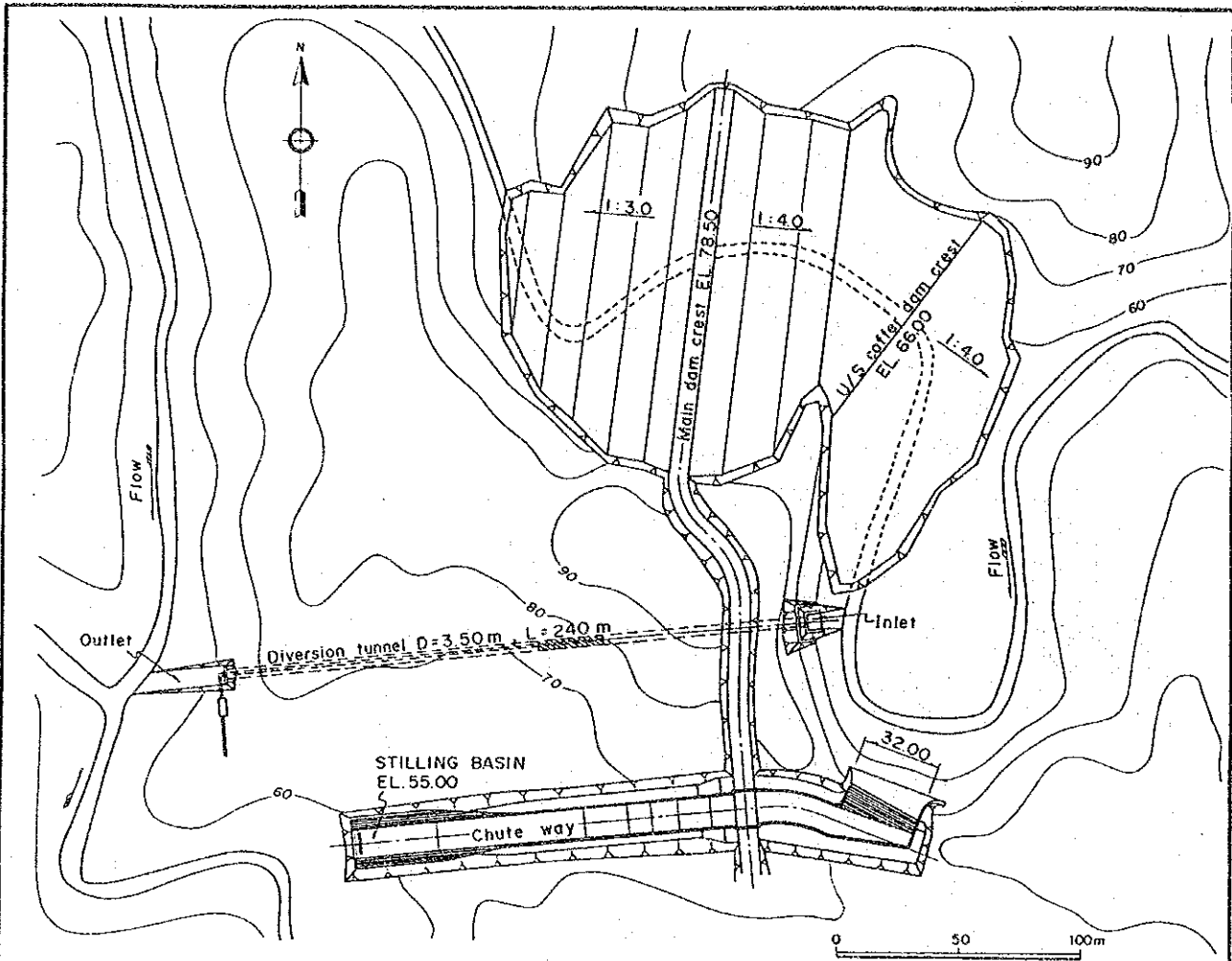
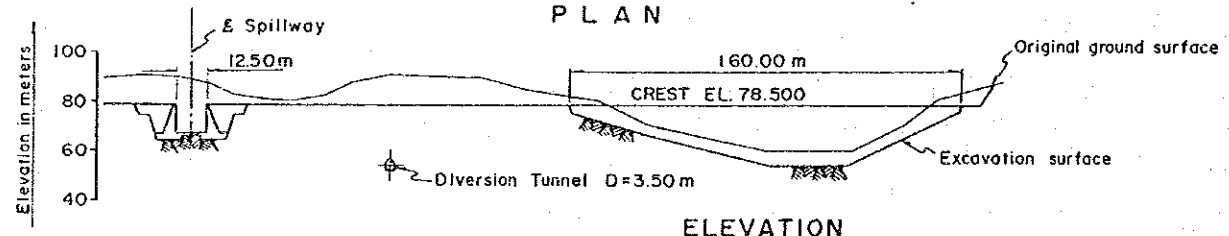
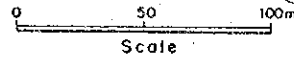


Fig. 11.8 LAYOUT PLAN OF STO. NIÑO DAM

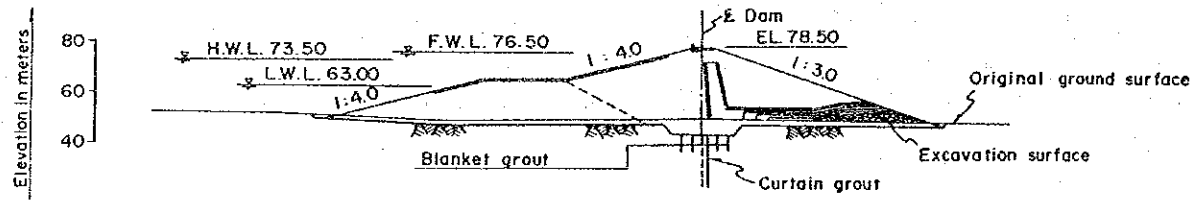




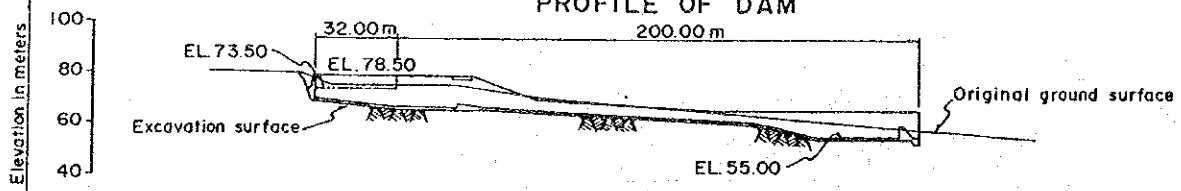
PLAN



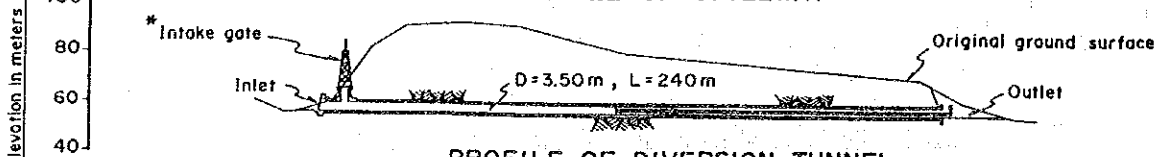
ELEVATION



PROFILE OF DAM

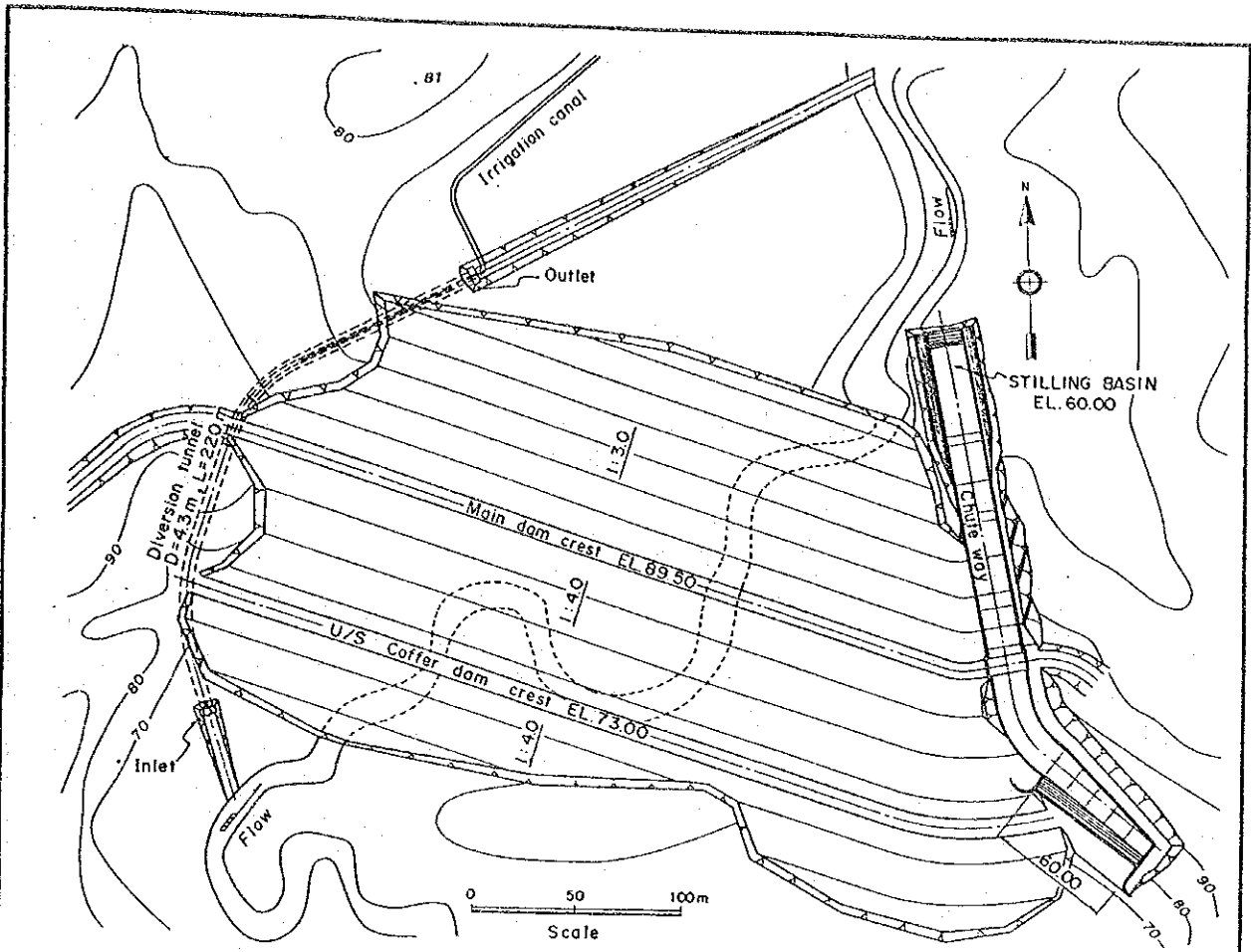


PROFILE OF SPILLWAY

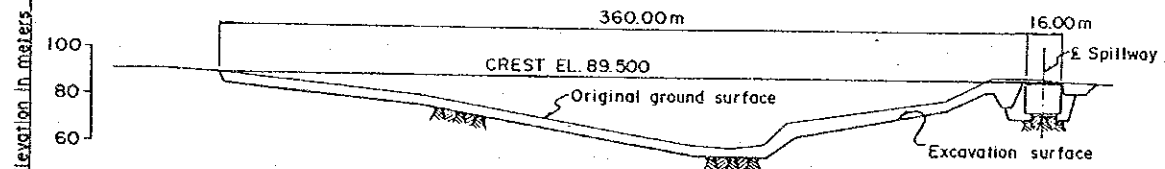


PROFILE OF DIVERSION TUNNEL

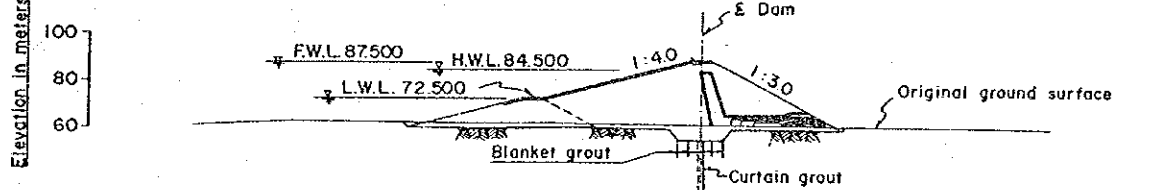
Fig. 11.9 LAYOUT PLAN OF STA. MARIA DAM



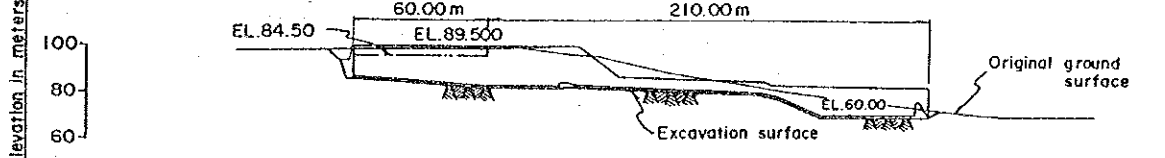
PLAN



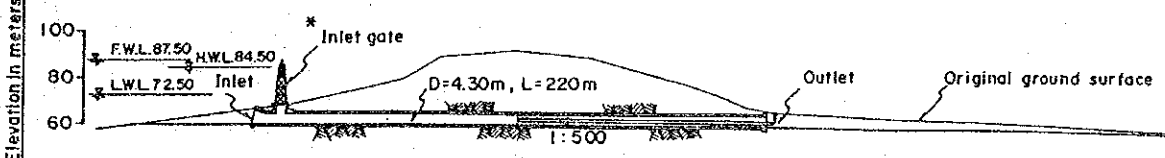
ELEVATION



PROFILE OF DAM

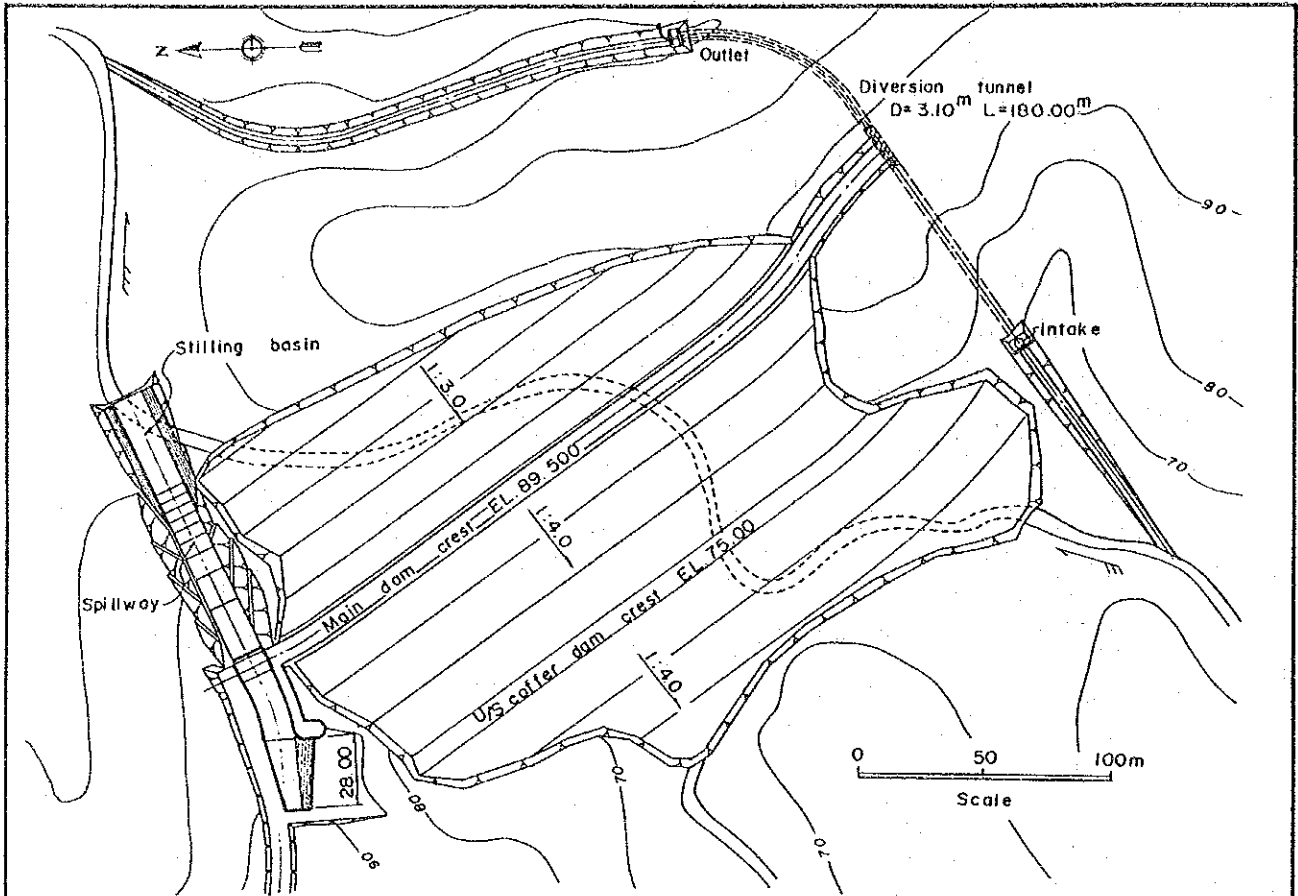


PROFILE OF SPILLWAY

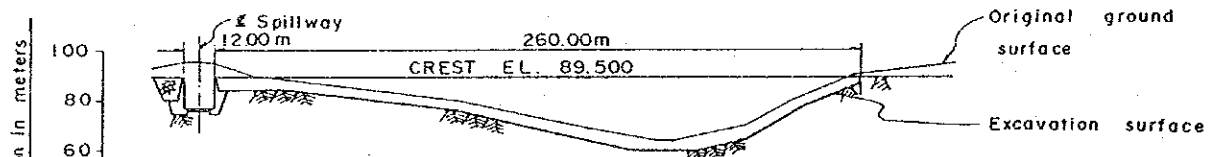


PROFILE OF DIVERSION TUNNEL

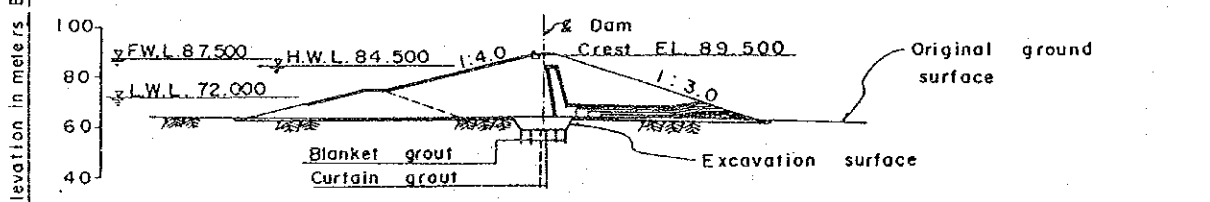
Fig. 11.10 LAYOUT PLAN OF COLORADO DAM



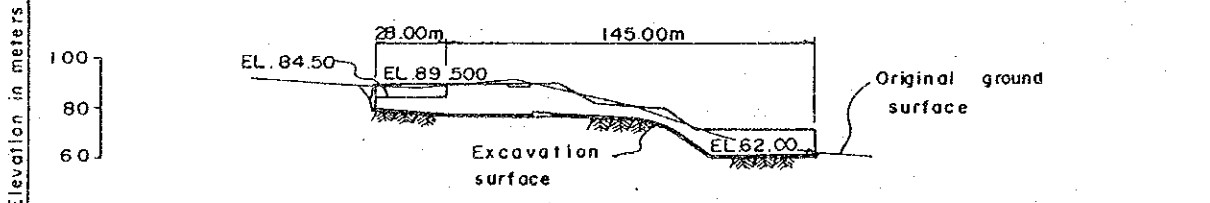
PLAN



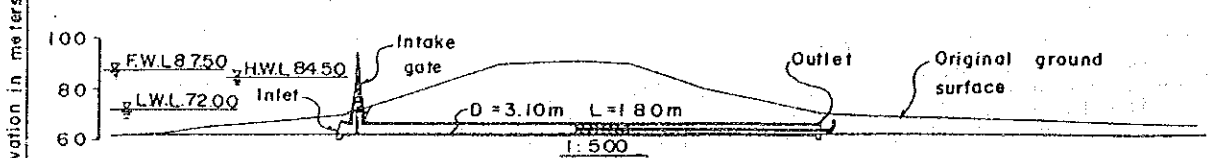
ELEVATION



PROFILE OF DAM

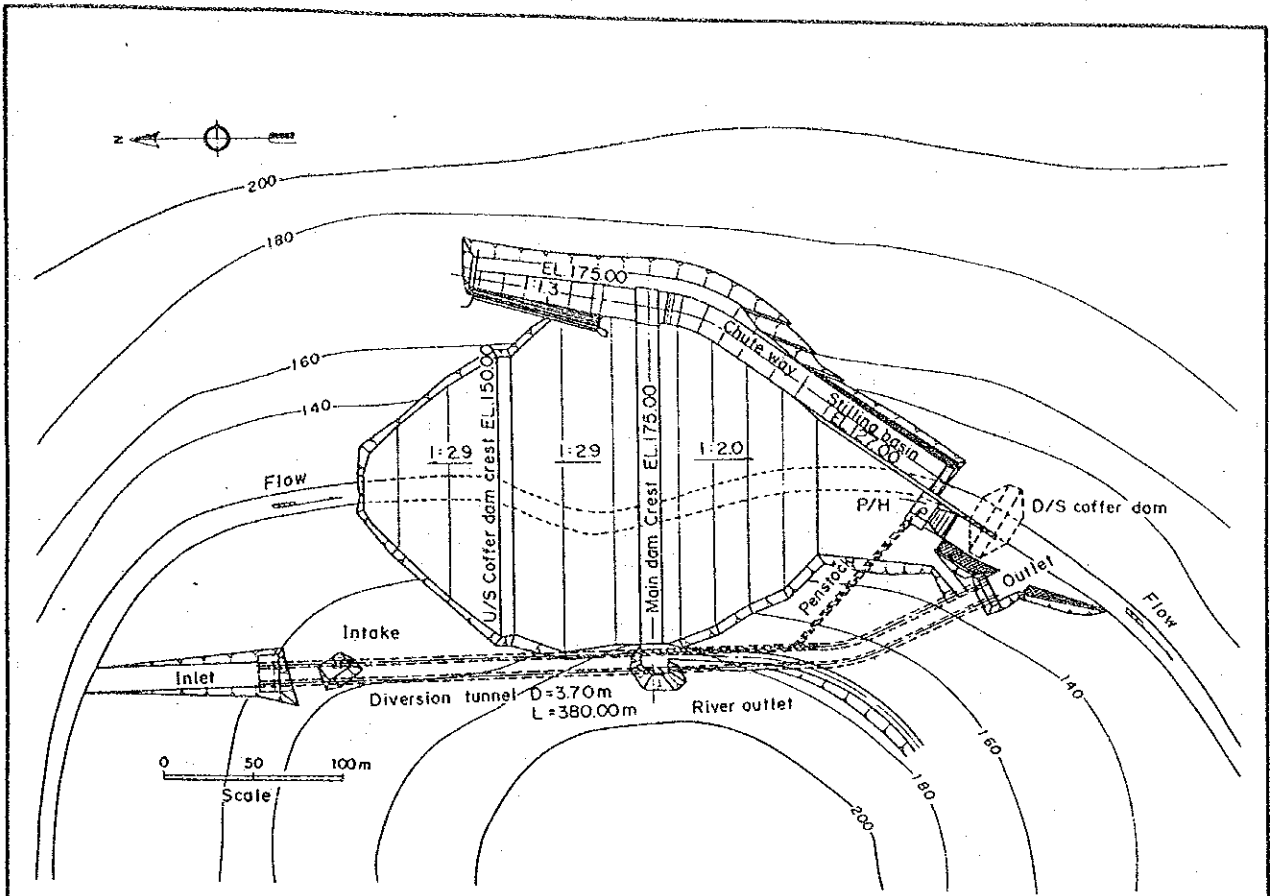


PROFILE OF SPILLWAY



PROFILE OF DIVERSION TUNNEL

Fig. 11.11 LAYOUT PLAN OF CALAOACAN DAM



PLAN

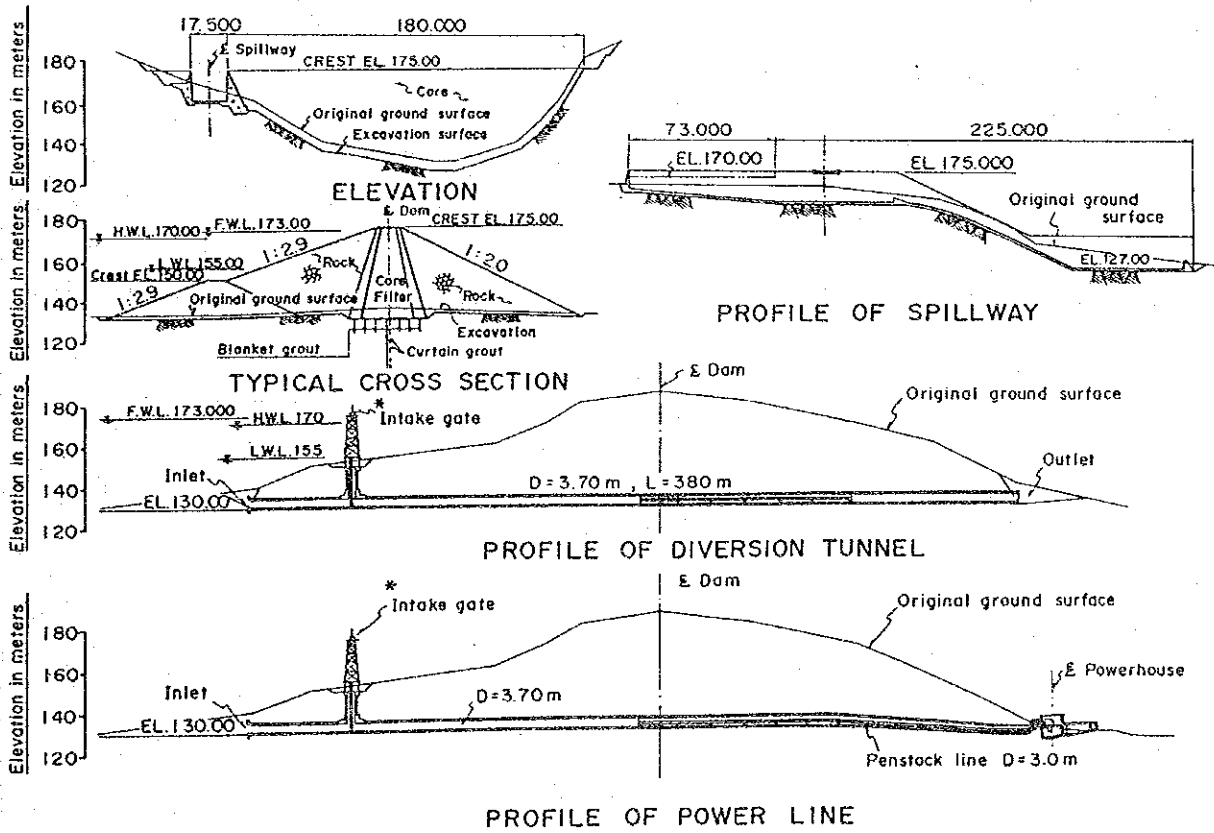
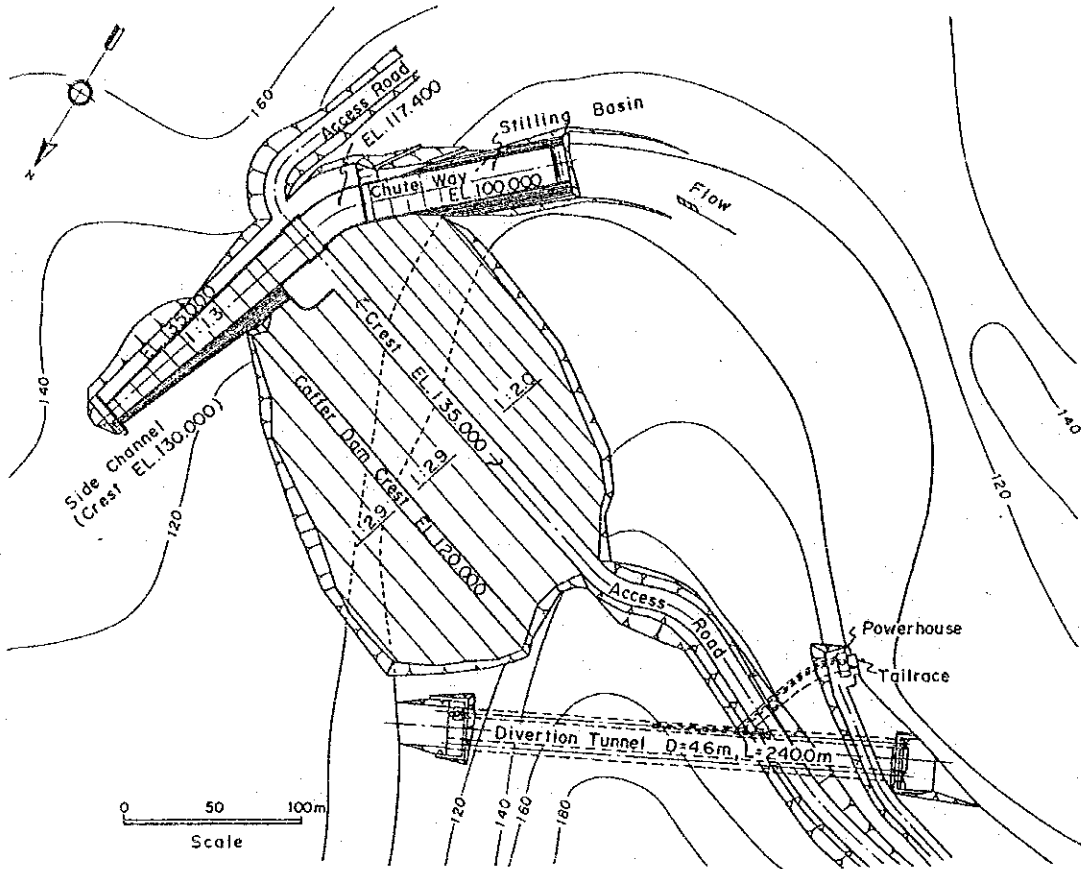
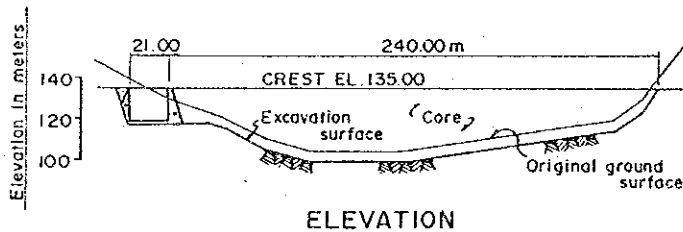


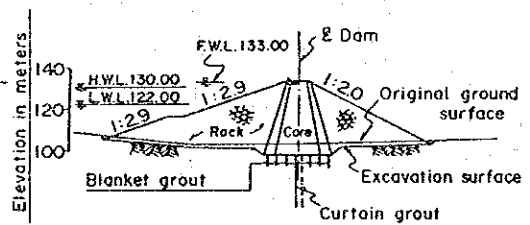
Fig. 11.12 LAYOUT PLAN OF PARANAN DAM



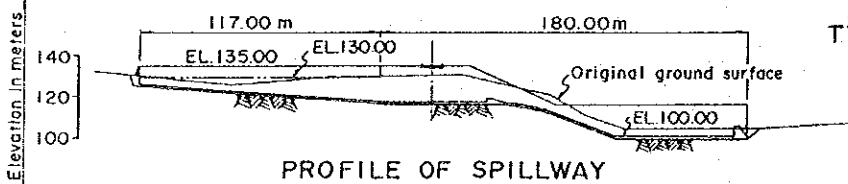
PLAN



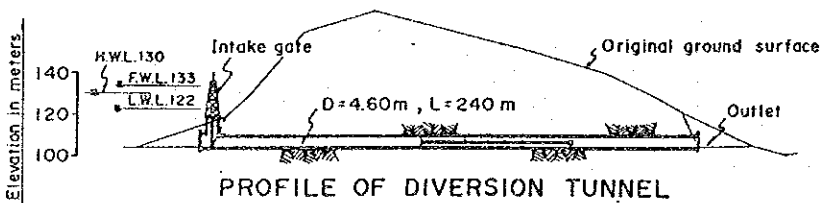
ELEVATION



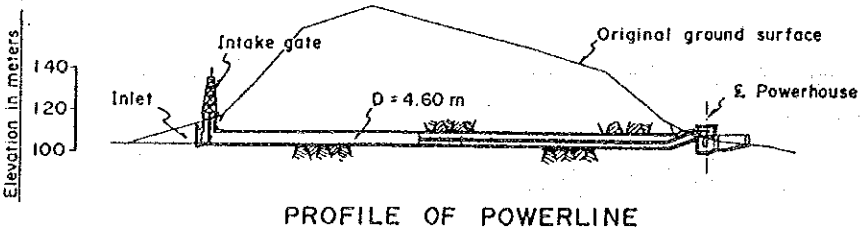
TYPICAL CROSS SECTION



PROFILE OF SPILLWAY

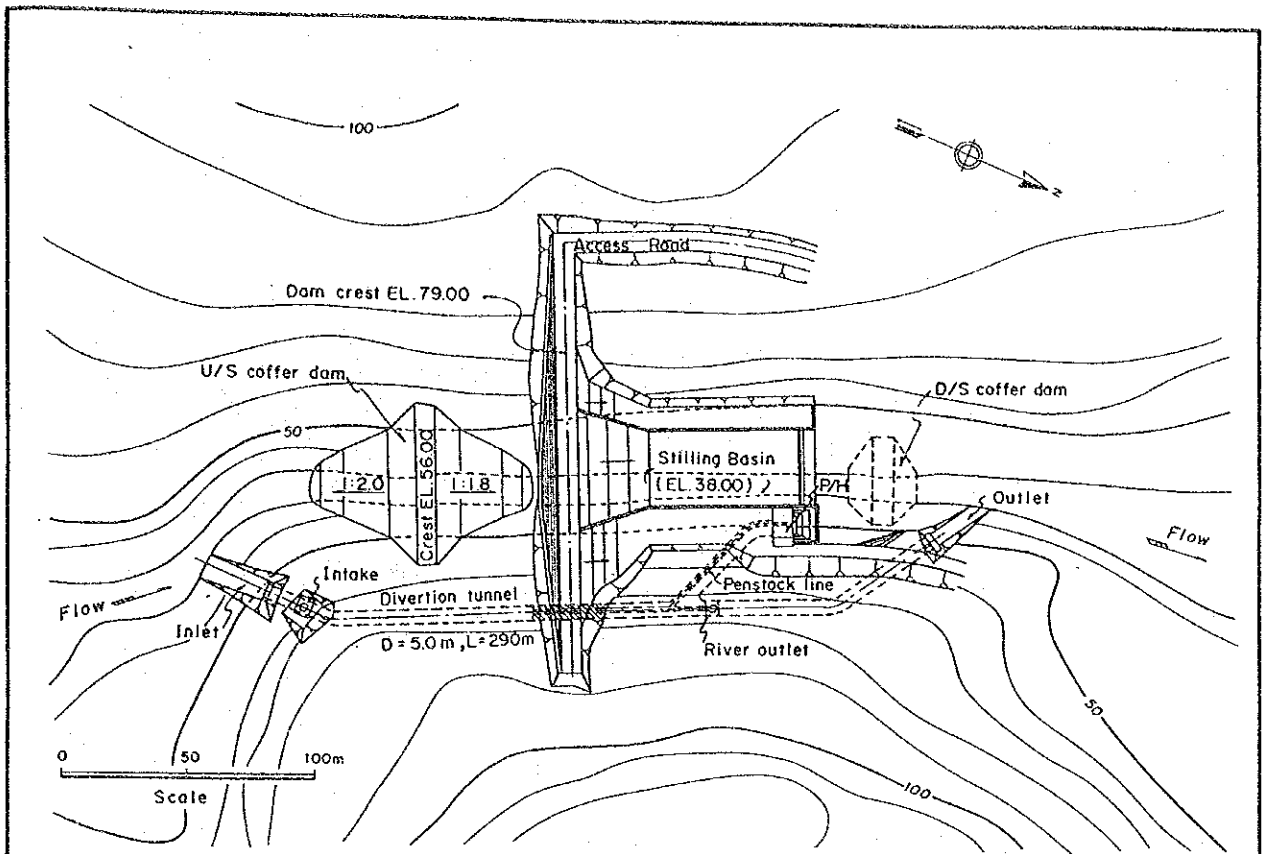


PROFILE OF DIVERSION TUNNEL

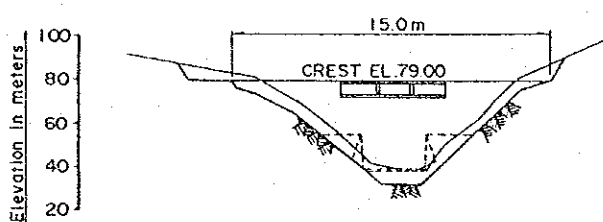


PROFILE OF POWERLINE

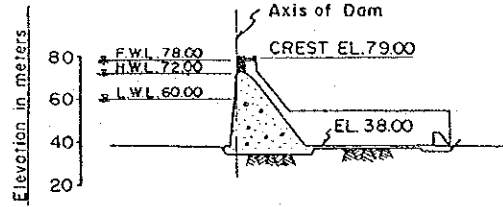
Fig. 11.13 LAYOUT PLAN OF DUMMON DAM



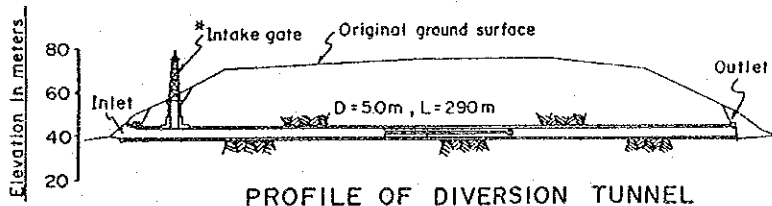
PLAN



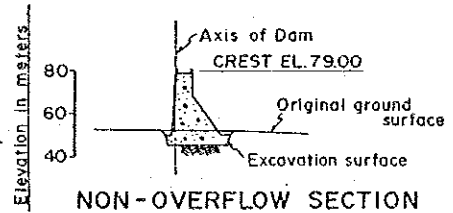
ELEVATION



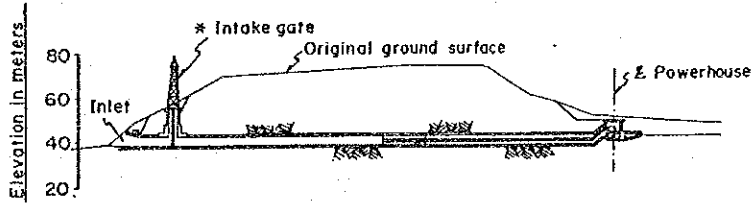
OVERFLOW SECTION



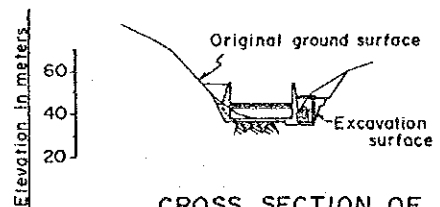
PROFILE OF DIVERSION TUNNEL



NON-OVERFLOW SECTION

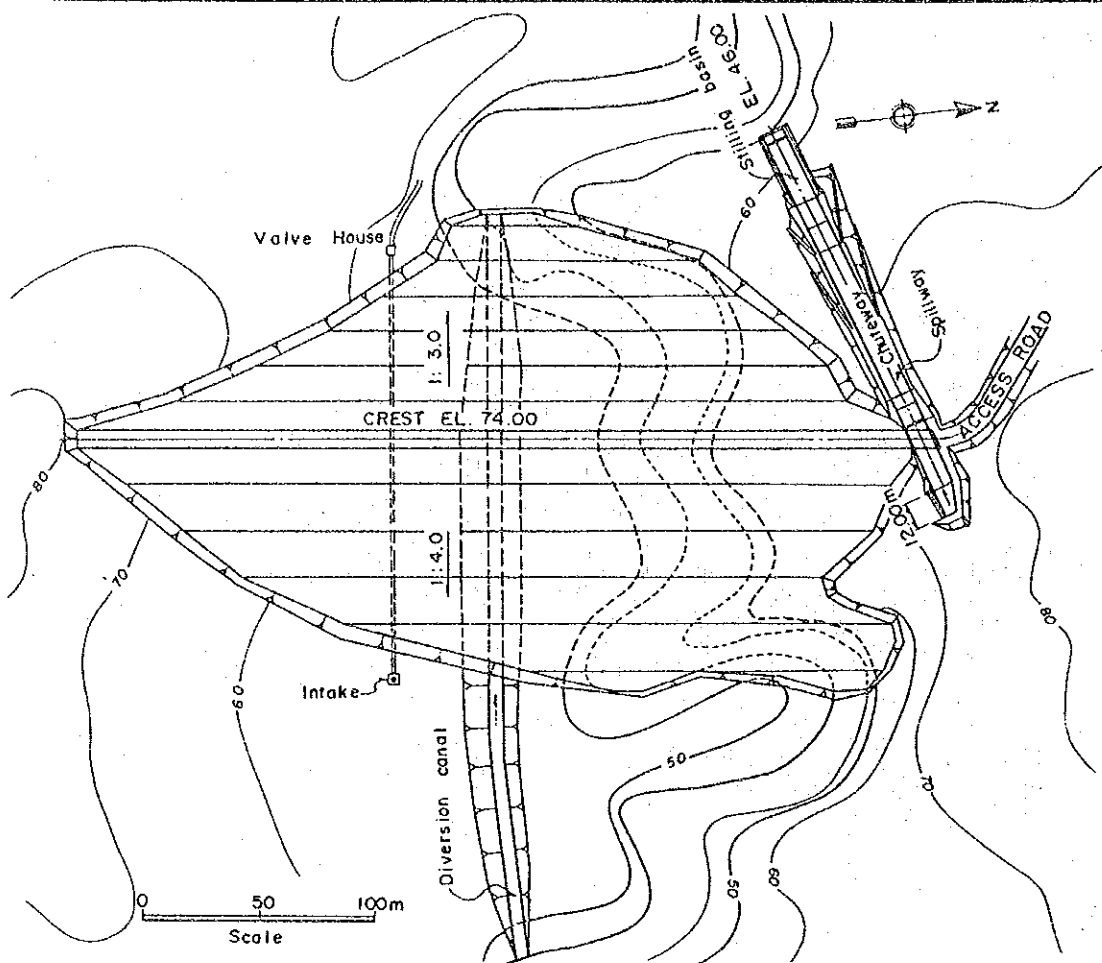


PROFILE OF POWER LINE

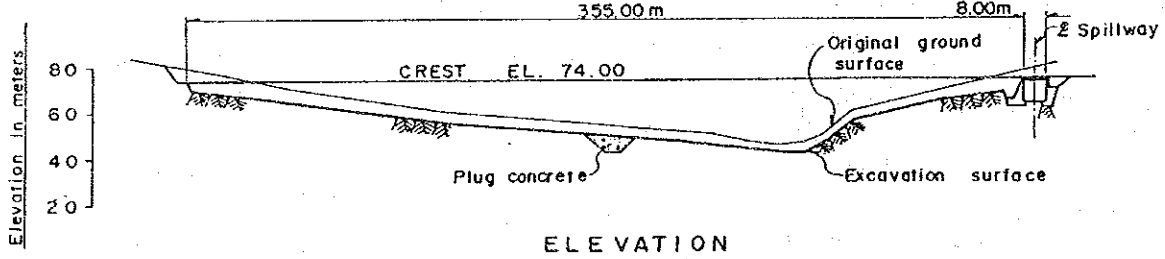


CROSS SECTION OF STILLING BASIN

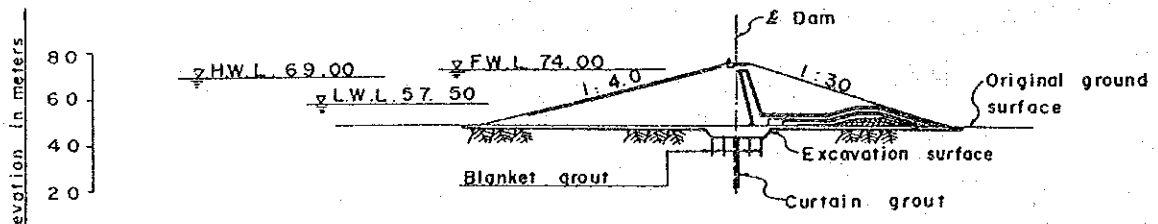
Fig. 11.14 LAYOUT PLAN OF ZINUNDUNGAN DAM



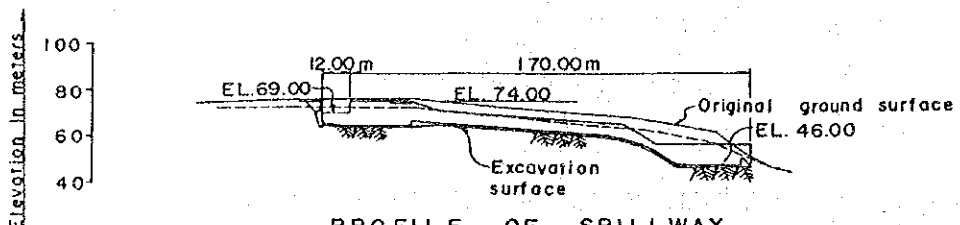
PLAN



ELEVATION

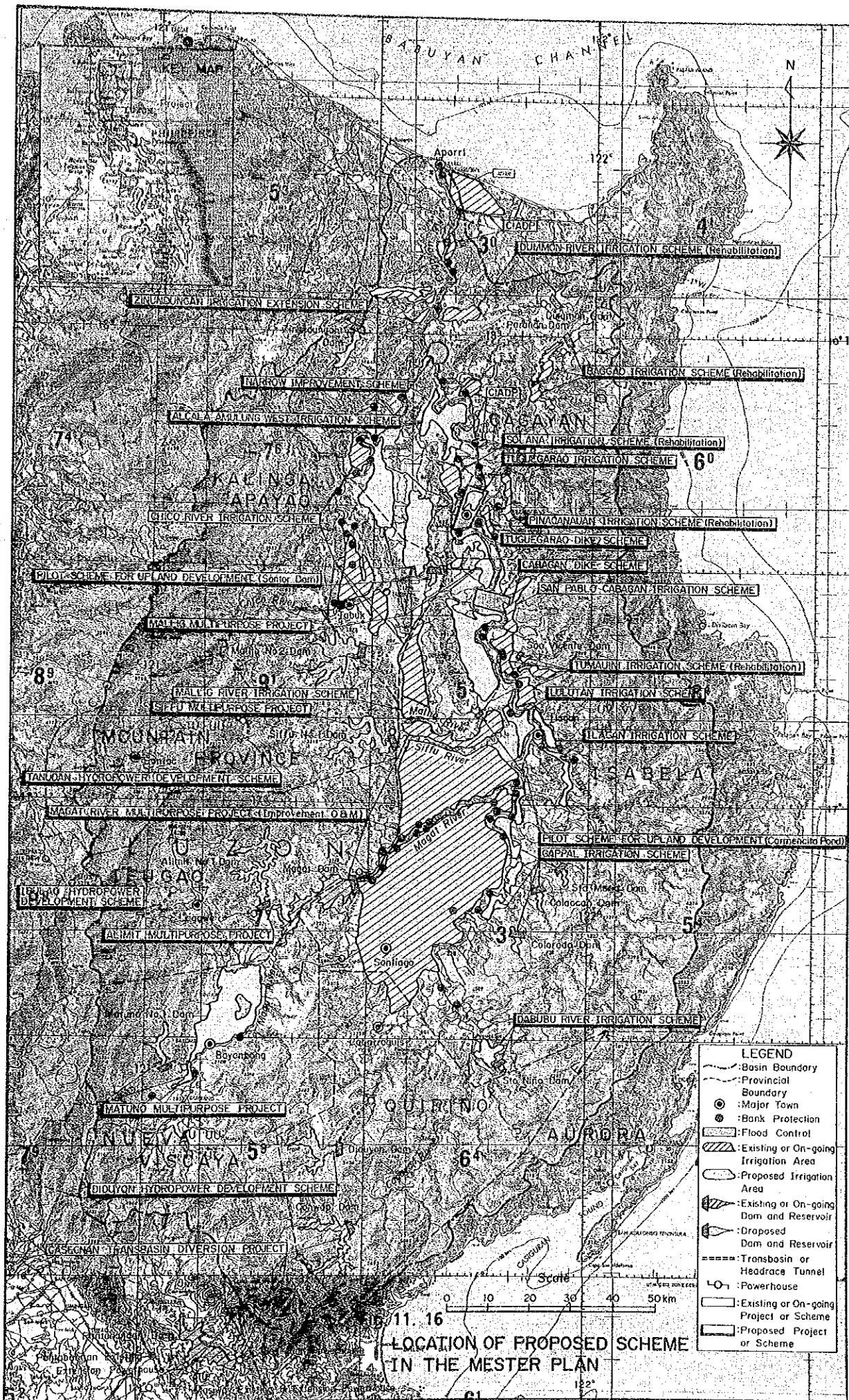


PROFILE OF DAM



PROFILE OF SPILLWAY

Fig. 11.15 LAYOUT PLAN OF SAN VICENTE DAM

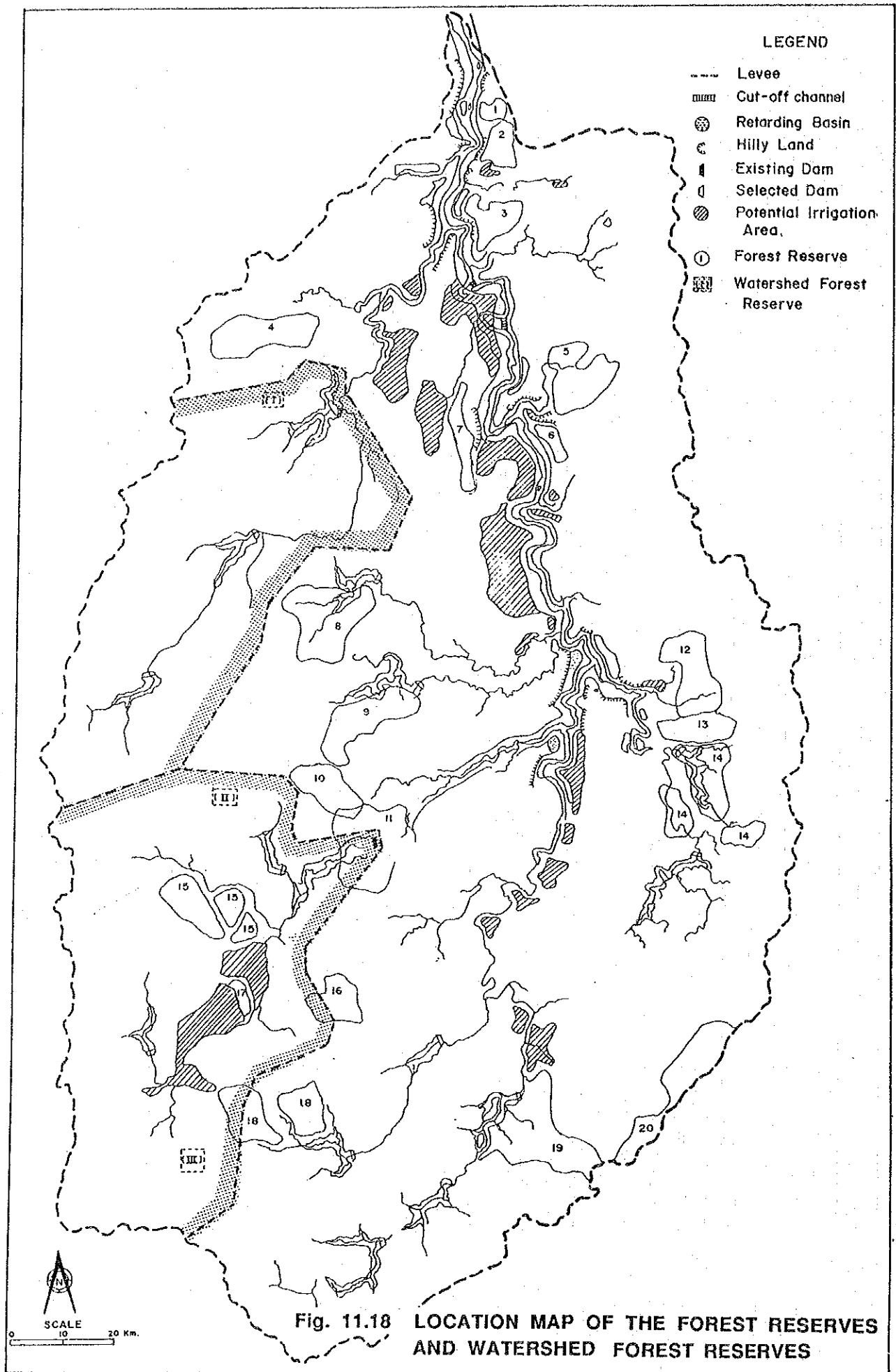


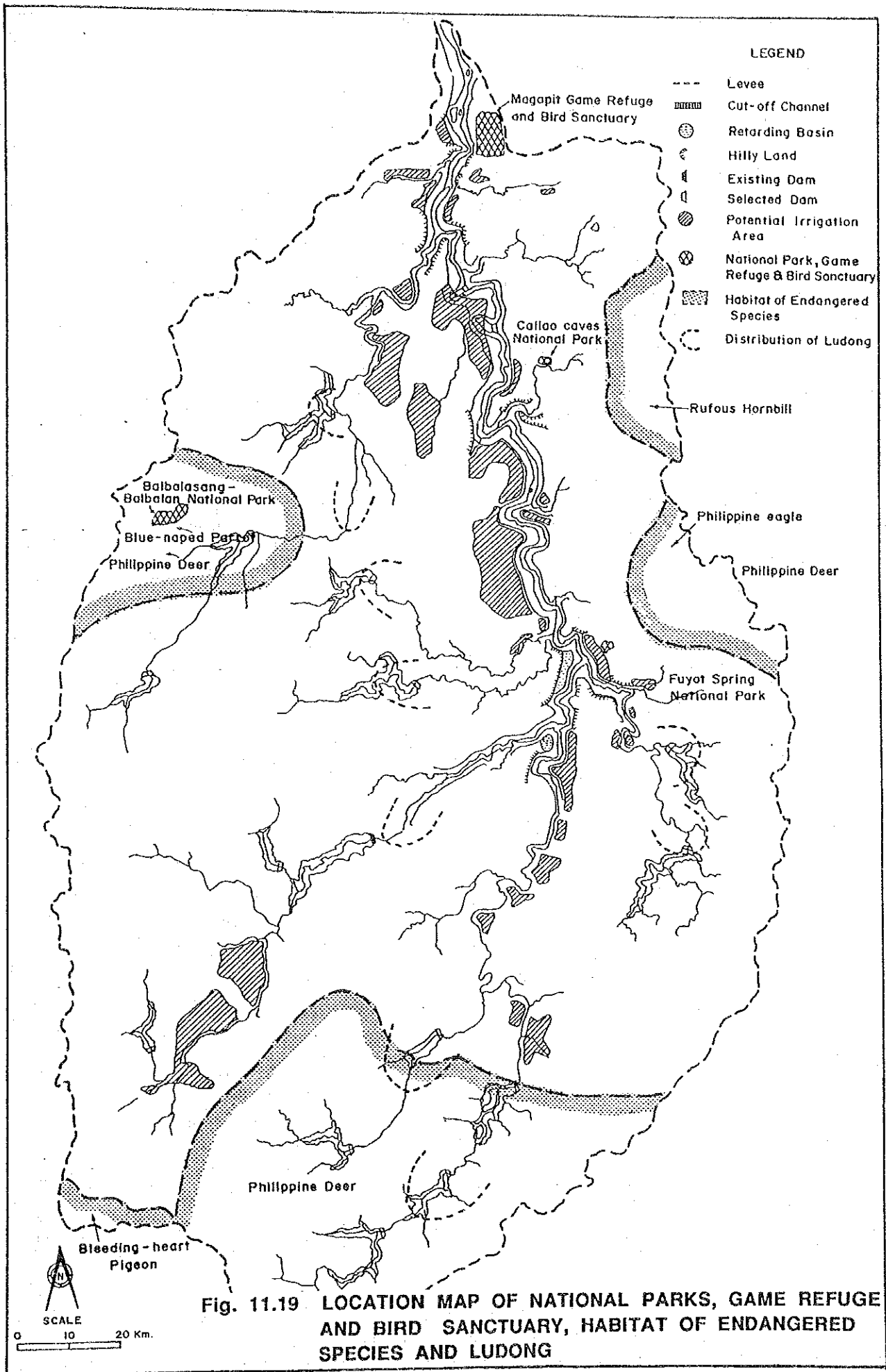




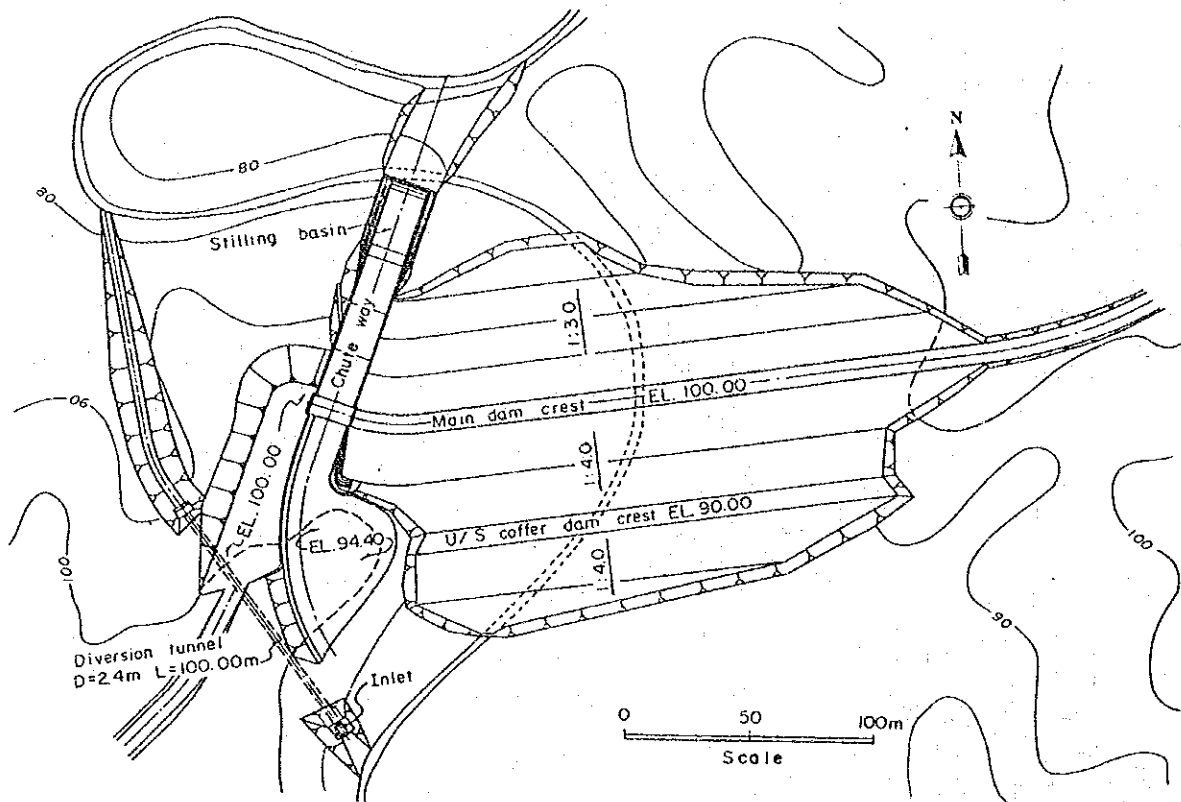
Item	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
<b>I. MULTIPURPOSE PROJECT</b>																			
1. Mailig Project (Chico-Mailig Irrigation and Flood Control)																			
2. Sifu Project (Flood Control, Hydropower and Subrogate of Magat Reservoir)																			
3. Mauno Project (Hydropower, Mauno Irrigation, M&I Water Supply and Subrogate of Magat Reservoir)																			
4. Alimat Project (Hydropower, Compensation and Subrogate of Magat Reservoir)																			
<b>II. FLOOD CONTROL PROJECT</b>																			
1. Tuguegarao Dike																			
2. Magasit (Nasiping Left, NLL)																			
3. Bank Protection																			
4. Cabagan Dike																			
5. Magasit (Nasiping Right, NLR)																			
<b>III. IRRIGATION PROJECT</b>																			
1. Pinacanaan RIS																			
2. Dabubu RIP																			
3. Lulutan IP																			
4. Solana IS																			
5. Gappal IP																			
6. Ilegan IP																			
7. Tuguegarao IP																			
8. Alicia Amung West IP																			
9. Bagao IS (With Hydropower)																			
10. Dumnon RIS (With Hydropower)																			
11. Tunautil IS																			
12. Zinundungan IEP (With Hydropower)																			
13. Magat O & M Improvement																			
<b>IV. HYDROPOWER (BY LHPPS Results)</b>																			
1. Ibusao																			
2. Tandian																			
3. Didayon																			

Fig. 11.17 IMPLEMENTATION SCHEDULE FOR MASTER PLAN

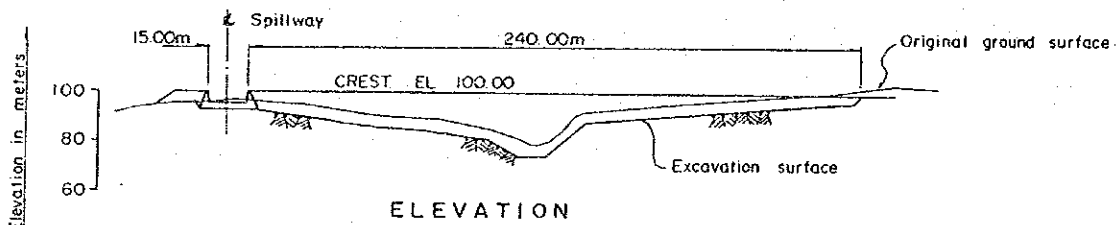




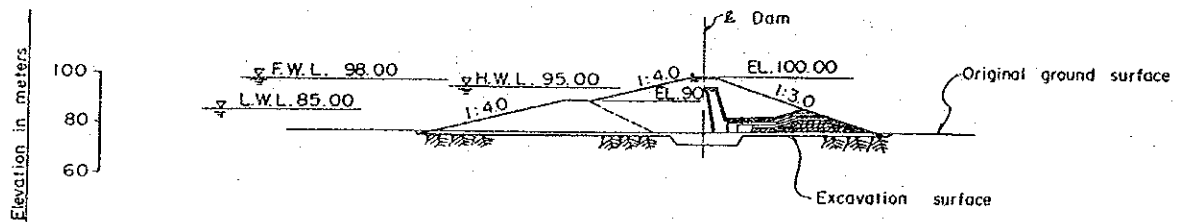
**Fig. 11.19 LOCATION MAP OF NATIONAL PARKS, GAME REFUGE AND BIRD SANCTUARY, HABITAT OF ENDANGERED SPECIES AND LUDONG**



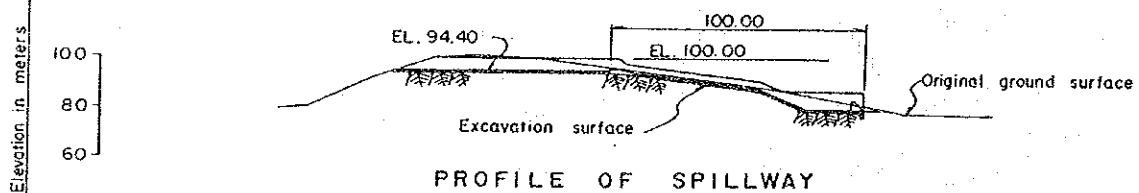
PLAN



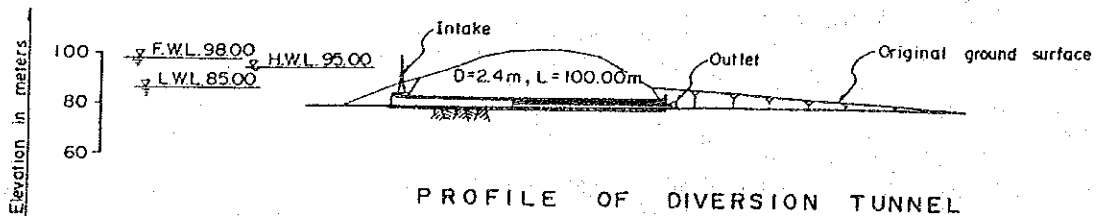
ELEVATION



PROFILE OF DAM

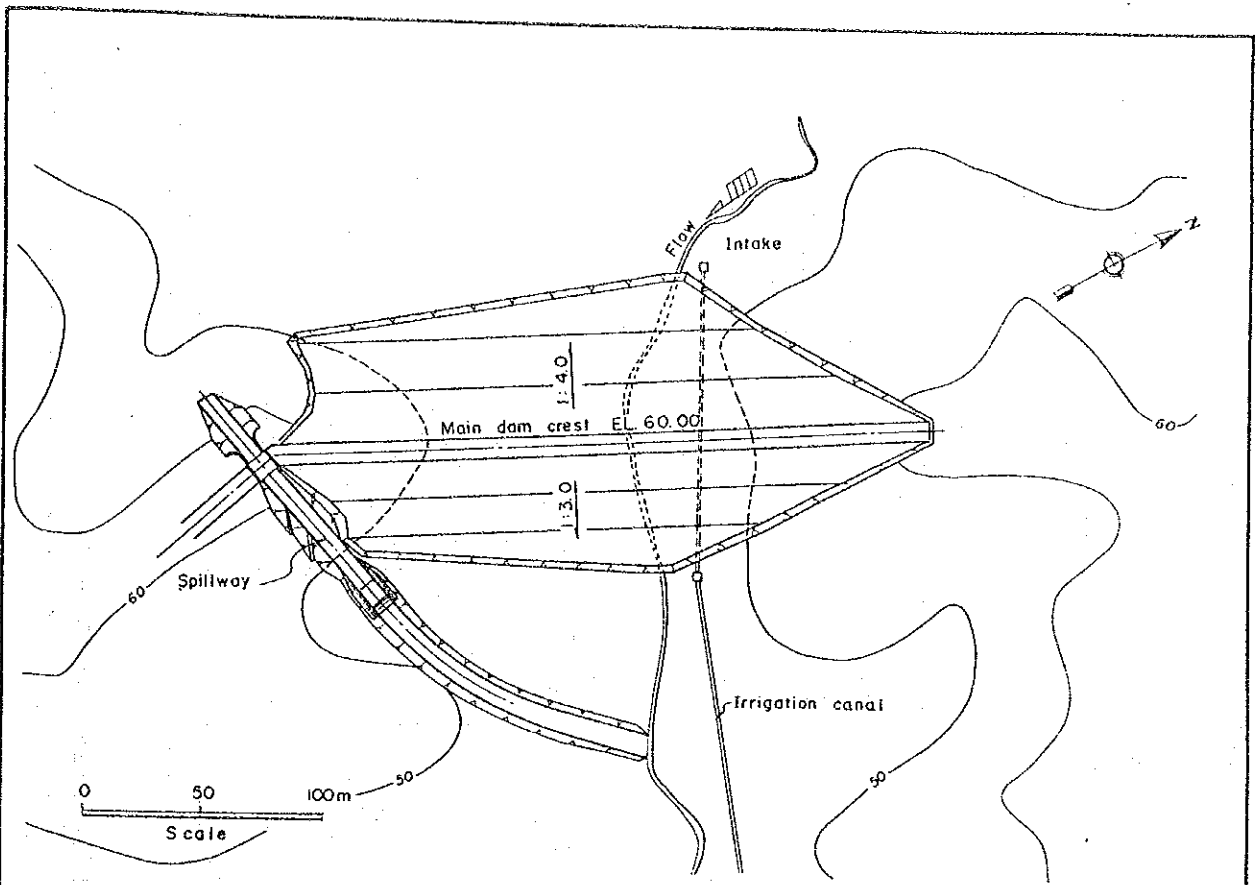


PROFILE OF SPILLWAY

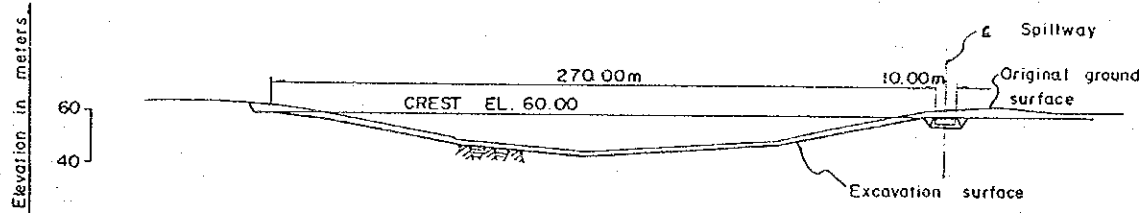


PROFILE OF DIVERSION TUNNEL

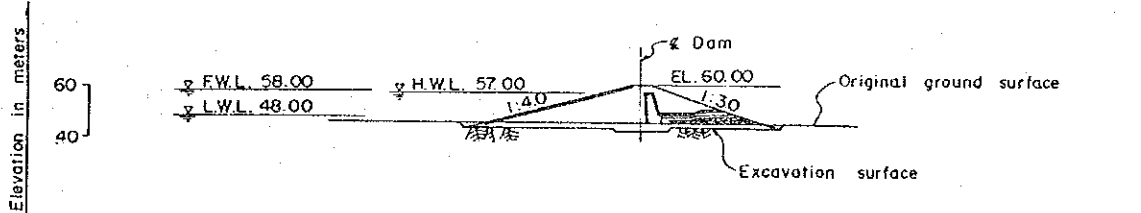
Fig. 12.1 LAYOUT PLAN OF SANTOR DAM



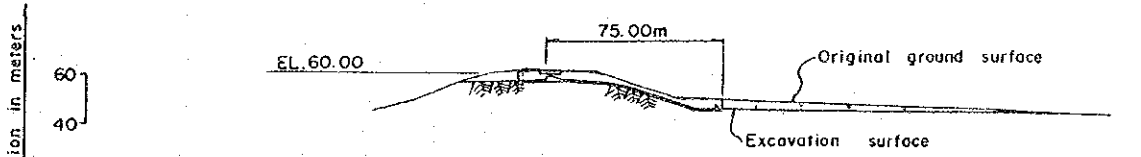
PLAN



ELEVATION



PROFILE OF DAM



PROFILE OF SPILLWAY

Fig. 12.2 LAYOUT PLAN OF CARMENCITA POND

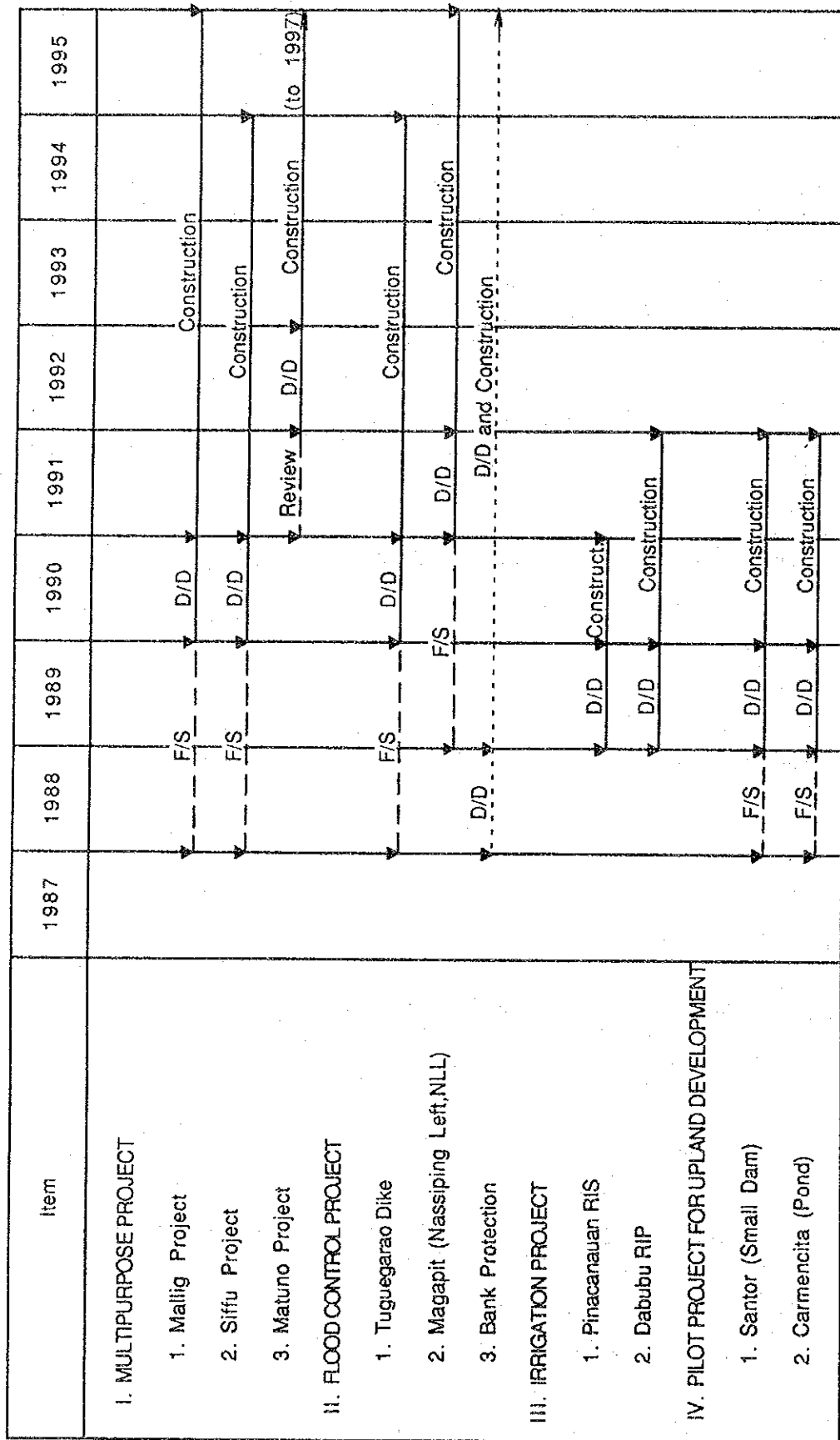


Fig. 12.3 IMPLEMENTATION SCHEDULE FOR SHORT TERM PLAN





