

FIGURES

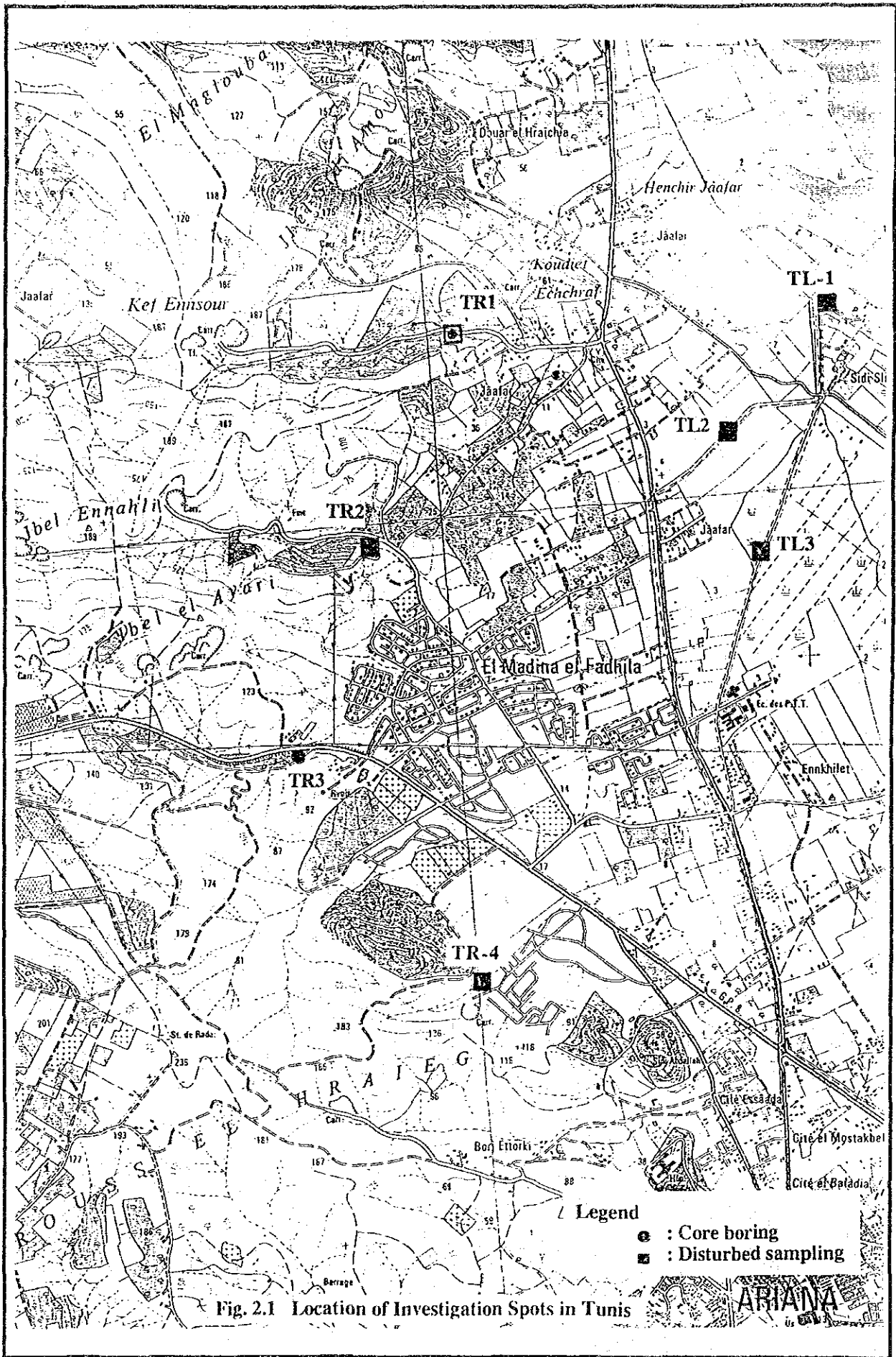


Fig. 2.1 Location of Investigation Spots in Tunis

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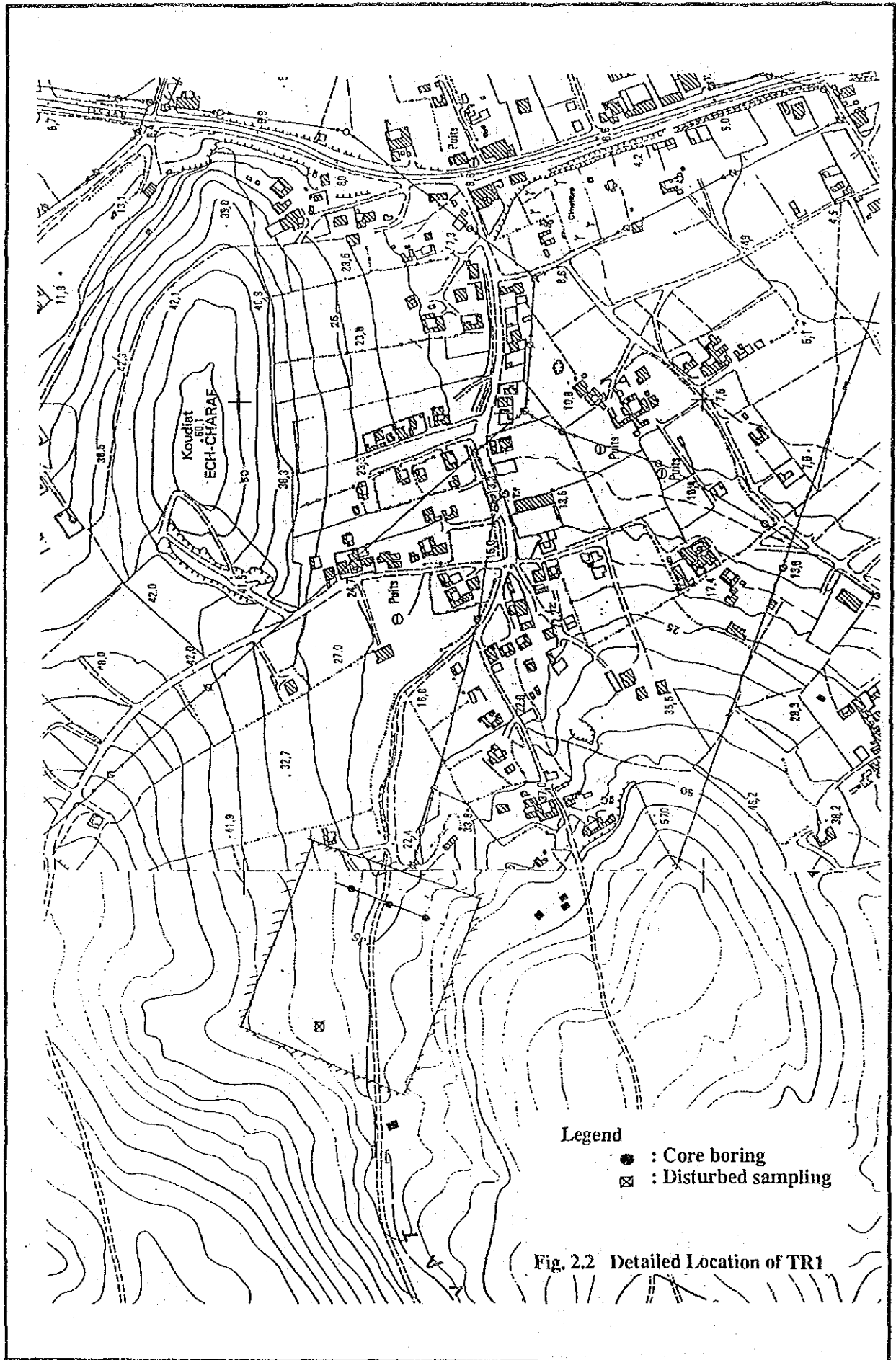
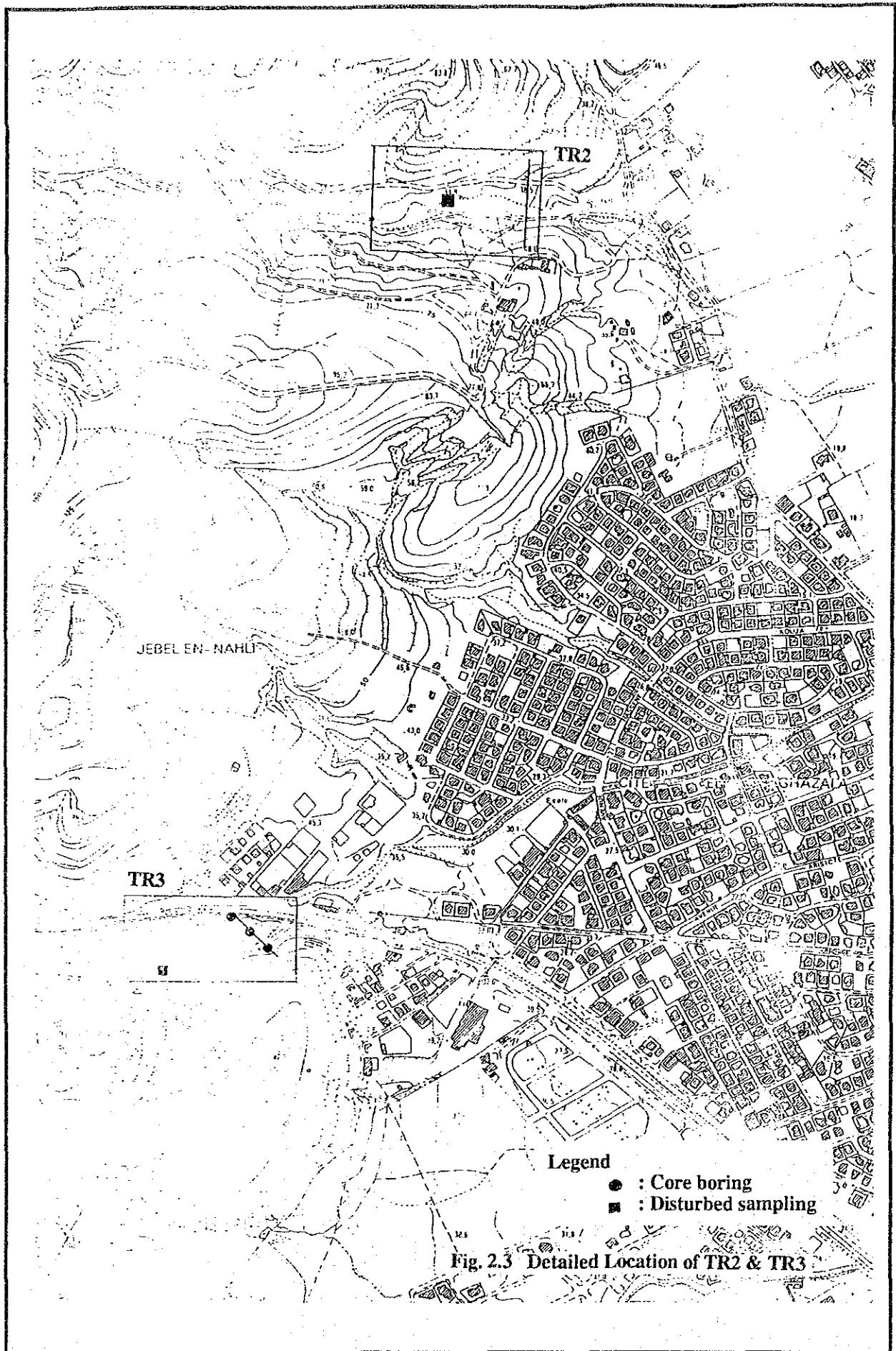
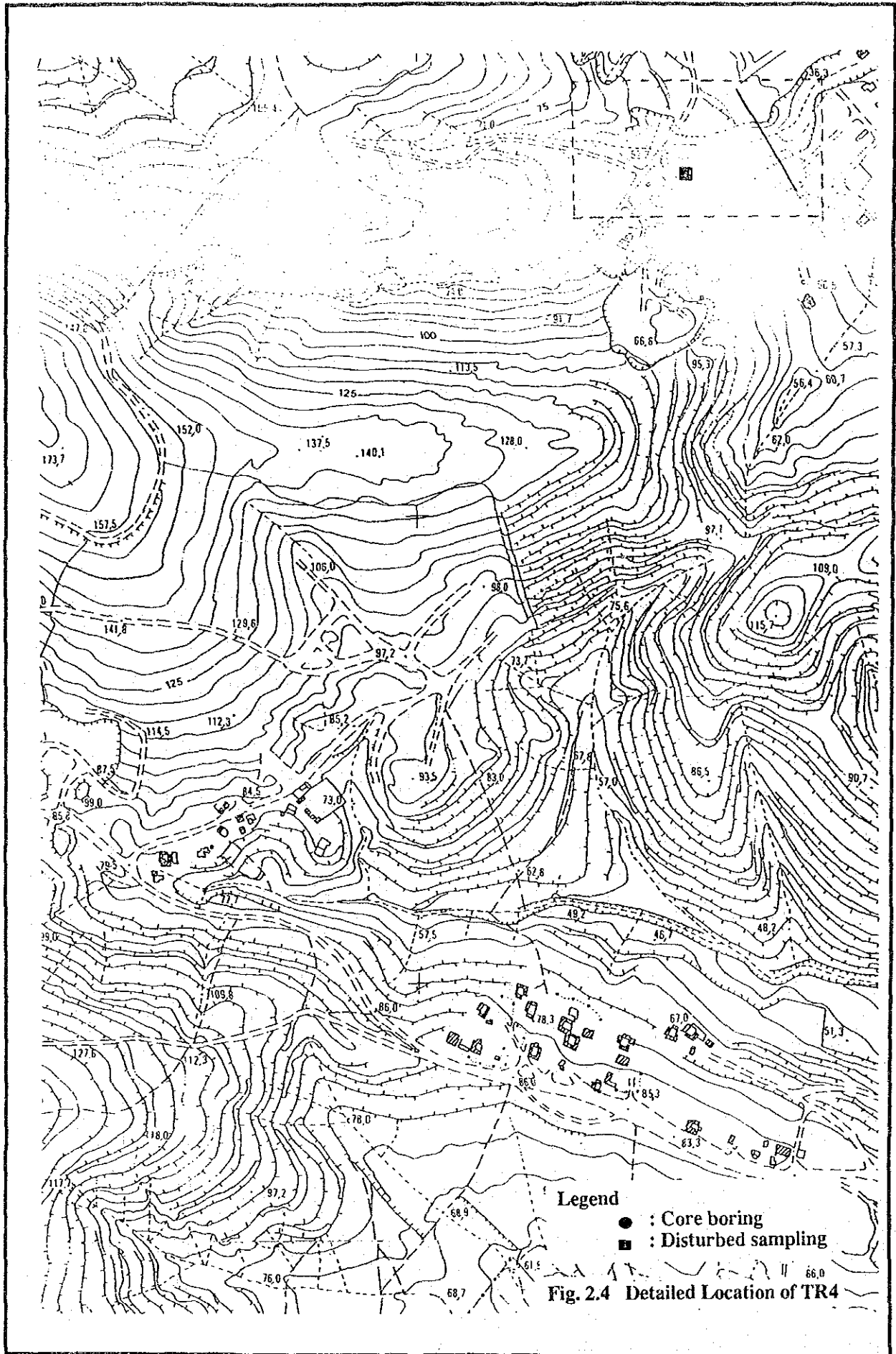
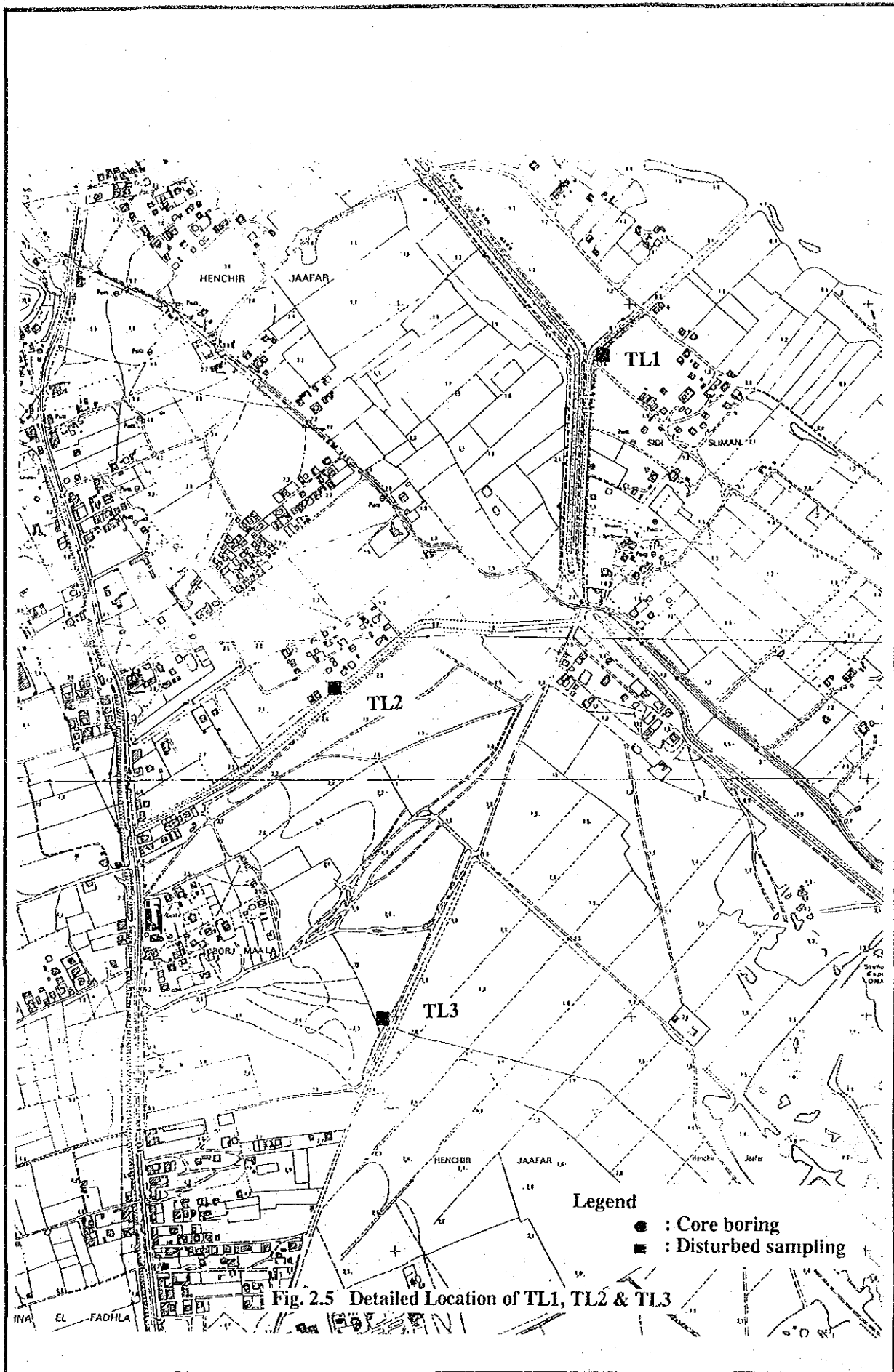


Fig. 2.2 Detailed Location of TR1





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Depth (m)	Sym- bol	Soil description	Blow numbers per each 15 cm			N-value									
			0	10	20	0	10	20	30	40	50				
0		Talus; Clay with angular gravel													
1			15	18	26										
2			17	22	31										
3		Clay; Yellowish red	17	23	33										
4			19	23	34										
5		Clay; Greenish yellow	18	21	31										
6			18	28	36										
7			18	29	36										
8			20	30	40										
9			18	28	36										
10															

Fig.2.6 Log of SC1

Depth (m)	Sym-bol	Soil description	Blow numbers per each 15 cm			N-value														
			0	1 0	2 0	3 0	4 0	5 0												
0		Talus; Alluvial clay with calcareous angular gravel																		
		Clay; Greenish grey; Compact																		
1			15	25	32															
		Clay with calcareous angular gravel; Red; Compact																		
2			18	34	40															
		Clay; Greenish yellow; Compact																		
3			21	38	45															
4			25	41	48															
5			19	45	52															
		Marl with intercalation of sand stone																		
6																				
7																				
8																				
9																				
10																				

Fig.2.7 Log of SC2

Depth (m)	Sym- bol	Soil description	Blow numbers per each 15 cm			N-value														
			0	10	20	30	40	50												
0		Clay; Greenish yellow																		
		Clay; Redish brown; Compact																		
1		Plastic clay, Light brown; intermingled with angular pebble	12	19	25															
2			11	18	27															
3			15	21	32															
4		Plastic clay with calcareous cobble	16	19	28															
5		Plastic clay; Redish brown	19	27	38															
6			19	28	41															
7			18	25	37															
8			20	34	41															
9		Clay with sand and gravel; Redish brown	22	38	51															
10																				

Fig.2.9 Log of SC4

Depth (m)	Symbol	Soil description	Blow numbers per each 15 cm			N-value														
			0	10	20	30	40	50												
0		Top soil with organic matters;																		
		Clay with angular pebbles in upper section; light brown																		
1		Marfaceous clay; Greenish yellow	12	20	22															
2		Clay with pebbles; Light brown	23	35	42															
3		Debris of marl & limestone	25	31	45															
4		Plastic clay; redish brown	22	35	41															
5		Debris of marl & limestone	22	34	49															
6		Limestone with sandstone seams																		
7		Marl with sporadic limestone																		
8		Marl with sporadic limestone																		
9		Marl with sporadic limestone																		
10		Marl with sporadic limestone																		

Fig.2.10 Log of SC5

Depth (m)	Symbol	Soil description	Blow numbers per each 15 cm			N-value														
						0	1 0	2 0	3 0	4 0	5 0									
0		Top soil with organic matters Clay with sand; Yellowish red																		
1			8	15	21															
		Debris of marl																		
2		Weathered marl; Greenish grey	16	23	38															
3			18	27	41															
		Debris of marl and limestone																		
4		Weathered marl; Greyey brown	25	34	45															
5			24	36	44															
		Weathered marl; Grey																		
6			30	38	51															
7			33	42	58															
8			25	33	50															
9			27	38	53															
10																				

Fig.2.11 Log of SC6

TR1		TR2		TR4	
Depth (m)	Sym-bol	Depth (m)	Sym-bol	Depth (m)	Sym-bol
Soil description		Soil description		Soil description	
0		0		0	
1		1		1	
2		2		2	
3		3		3	

Fig.2.12 Log of Sampling spots for Dam Embankment Materials

TL1

Depth (m)	Sym- bol	Soil description
0	Medium sand; Red
1	Fine sand; dark red
2	
3	

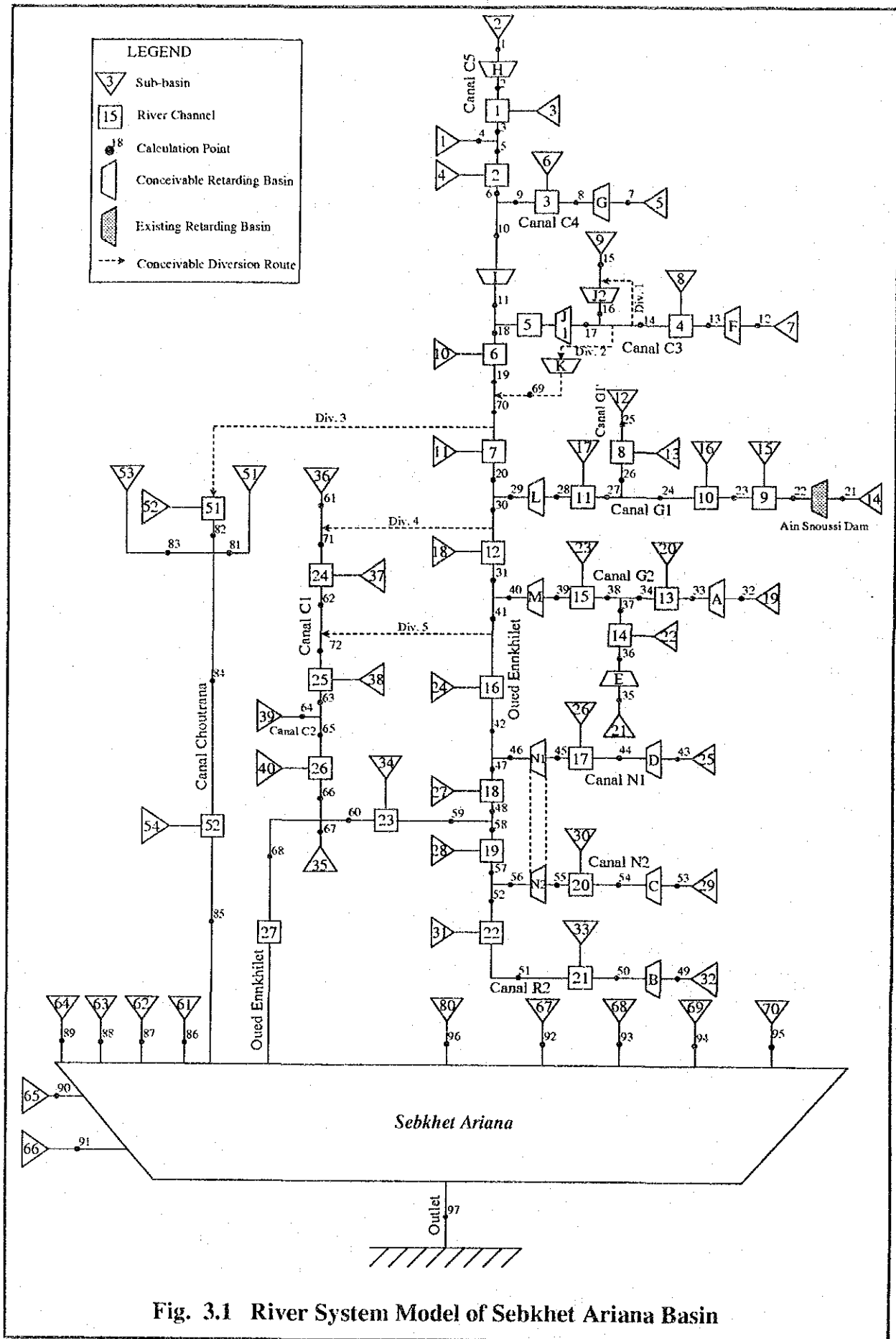
TL2

Depth (m)	Sym- bol	Soil description
0	Top soil with organic matters Calcareous clay; Light brown
1	Plastic clay; Grayish brown
2	Clay; Dark green
3	

TL3

Depth (m)	Sym- bol	Soil description
0	Top soil with organic matters Calcareous clay; Light brown
1	Plastic clay; Greenish yellow
2	
3	Medium sand; Dark red

Fig.2.13 Log of Sampling spots for Levee Embankment Materials



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Fig. 3.2 Runoff Hydrograph in Oued Enkhilet Basin (1/4)

Calculation Point No.30

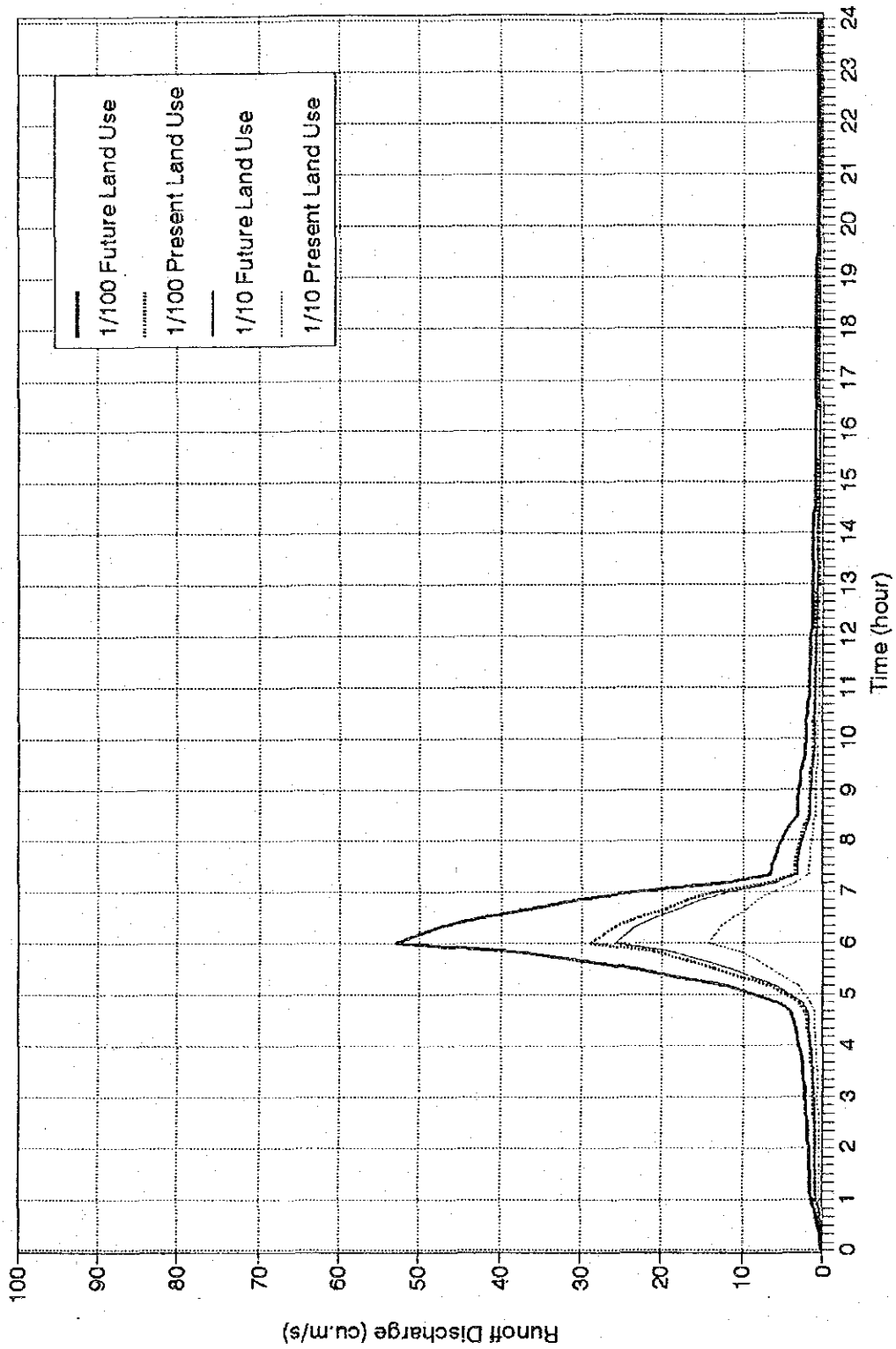


Fig. 3.2 Runoff Hydrograph in Oued Enkhilet Basin (2/4)
 Calculation Point No.48

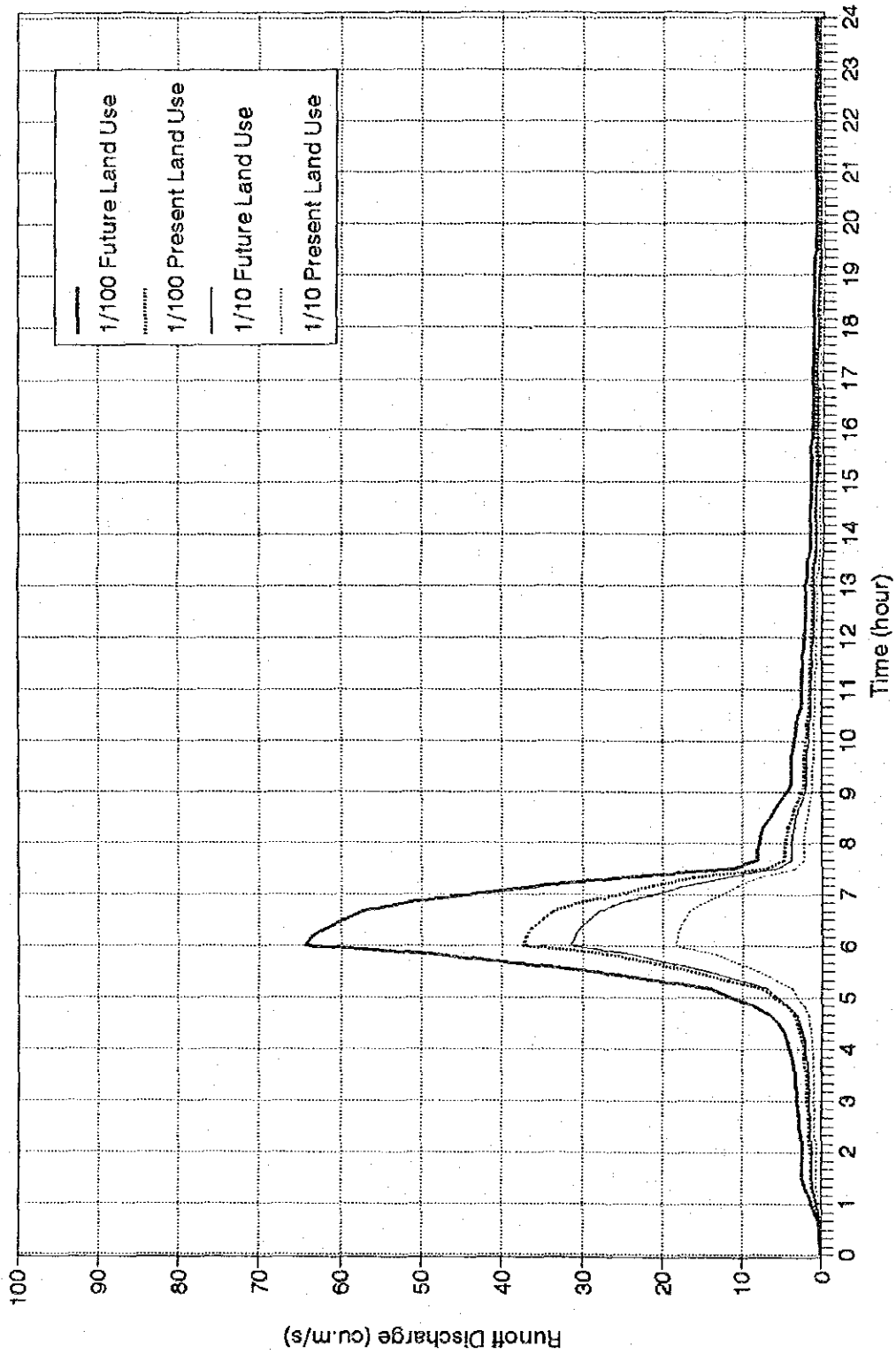


Fig. 3.2 Runoff Hydrograph in Oued Ennkhilllet Basin (3/4)
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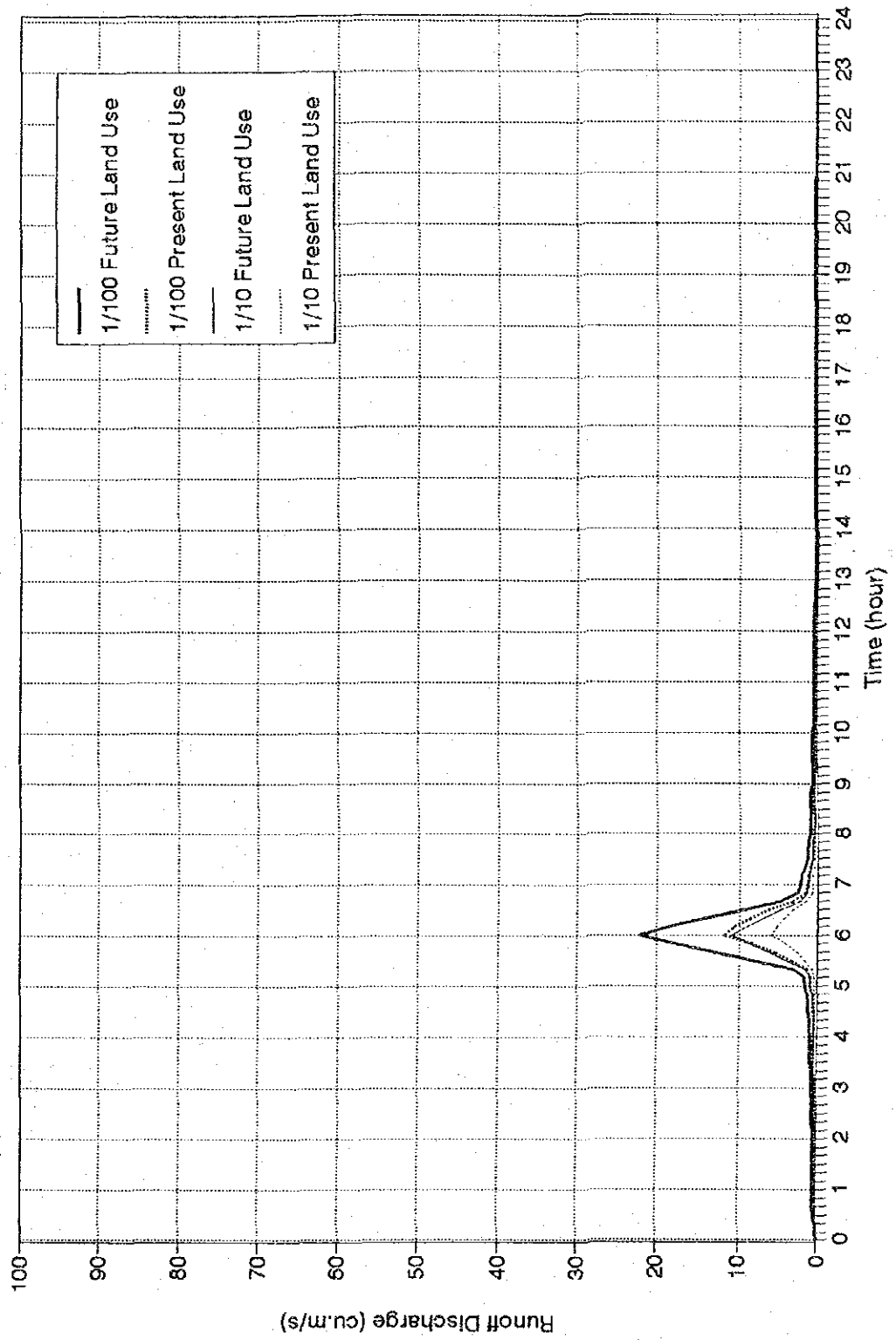


Fig. 3.2 Runoff Hydrograph in Oued Ennkhilet Basin (4/4)
 Calculation Point No.68

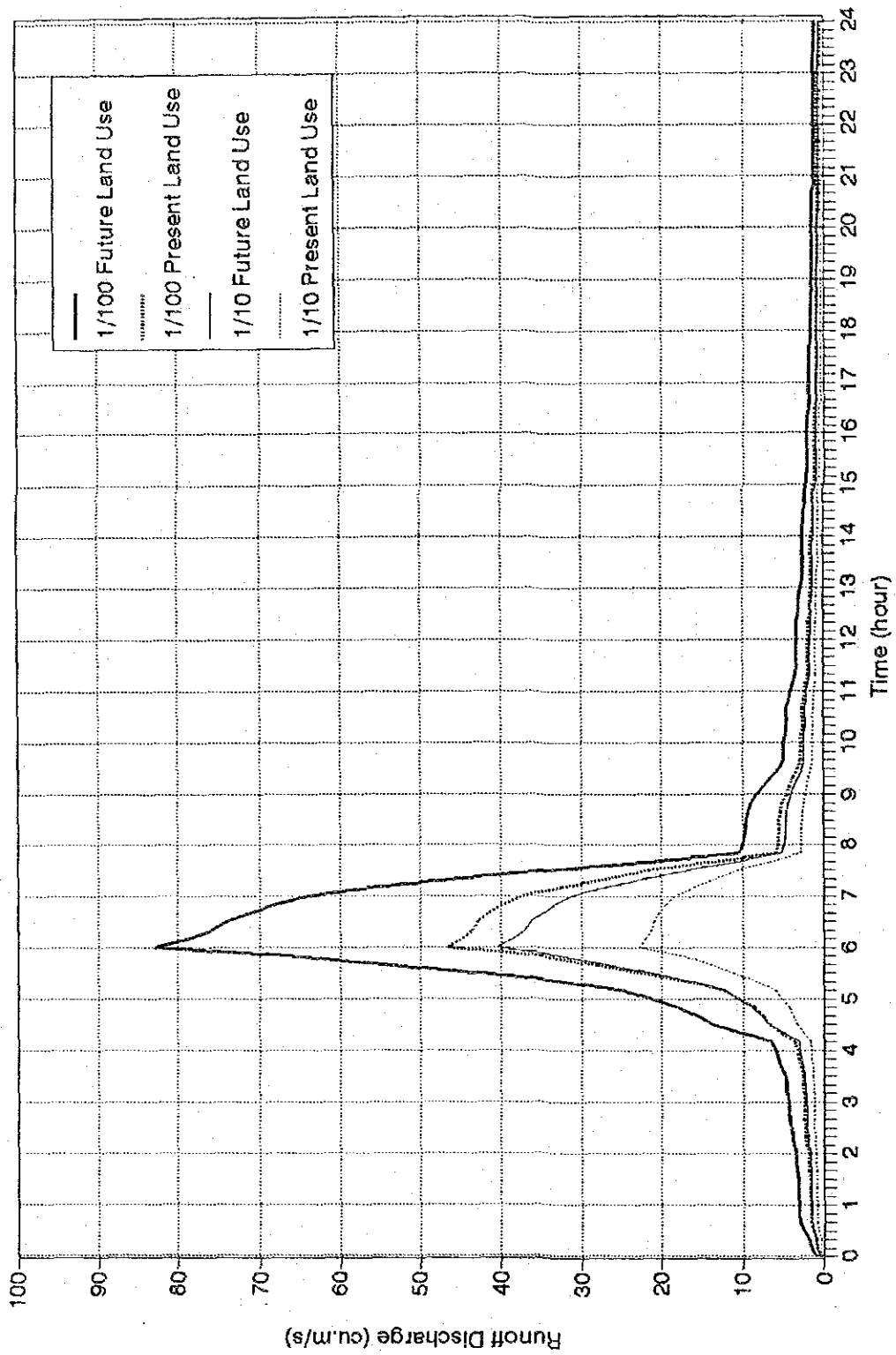


Fig. 3.3 Runoff Hydrograph with Existing Flood Control Facilities (1/4)
 Calculation Point No.22

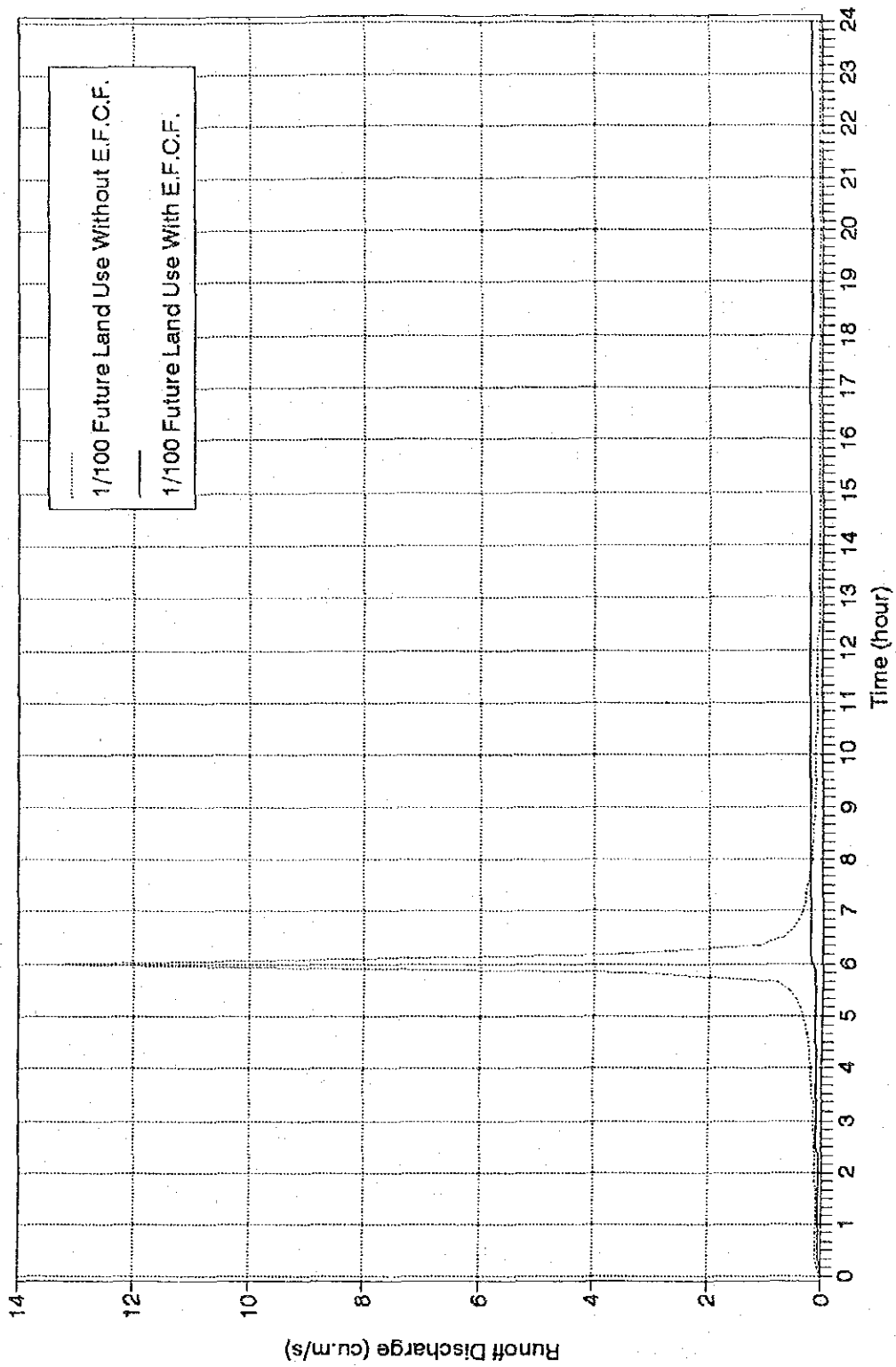


Fig. 3.3 Runoff Hydrograph with Existing Flood Control Facilities (2/4)
 Calculation Point No.24

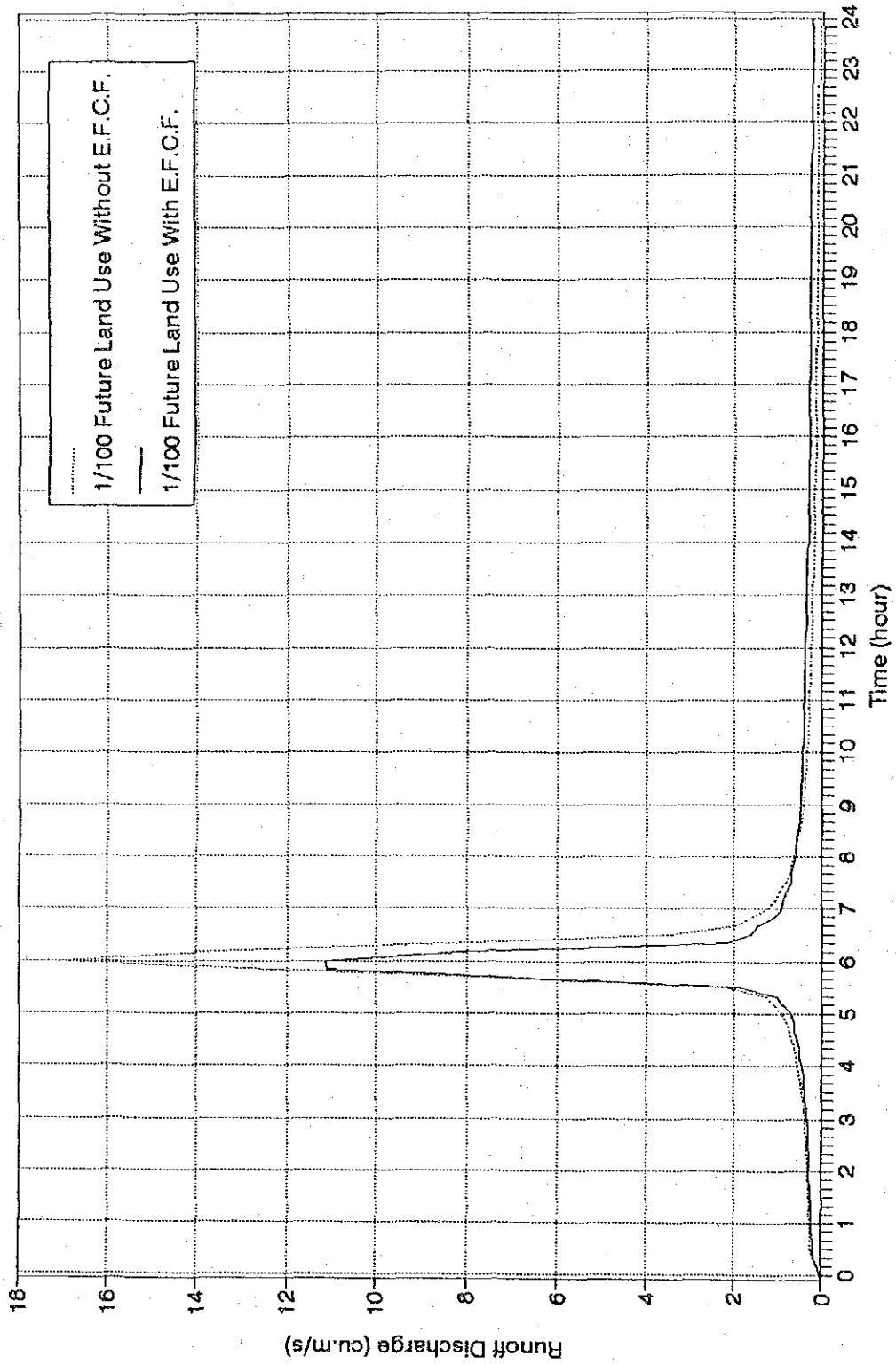


Fig. 3.3 Runoff Hydrograph with Existing Flood Control Facilities (3/4)
 Calculation Point No.28

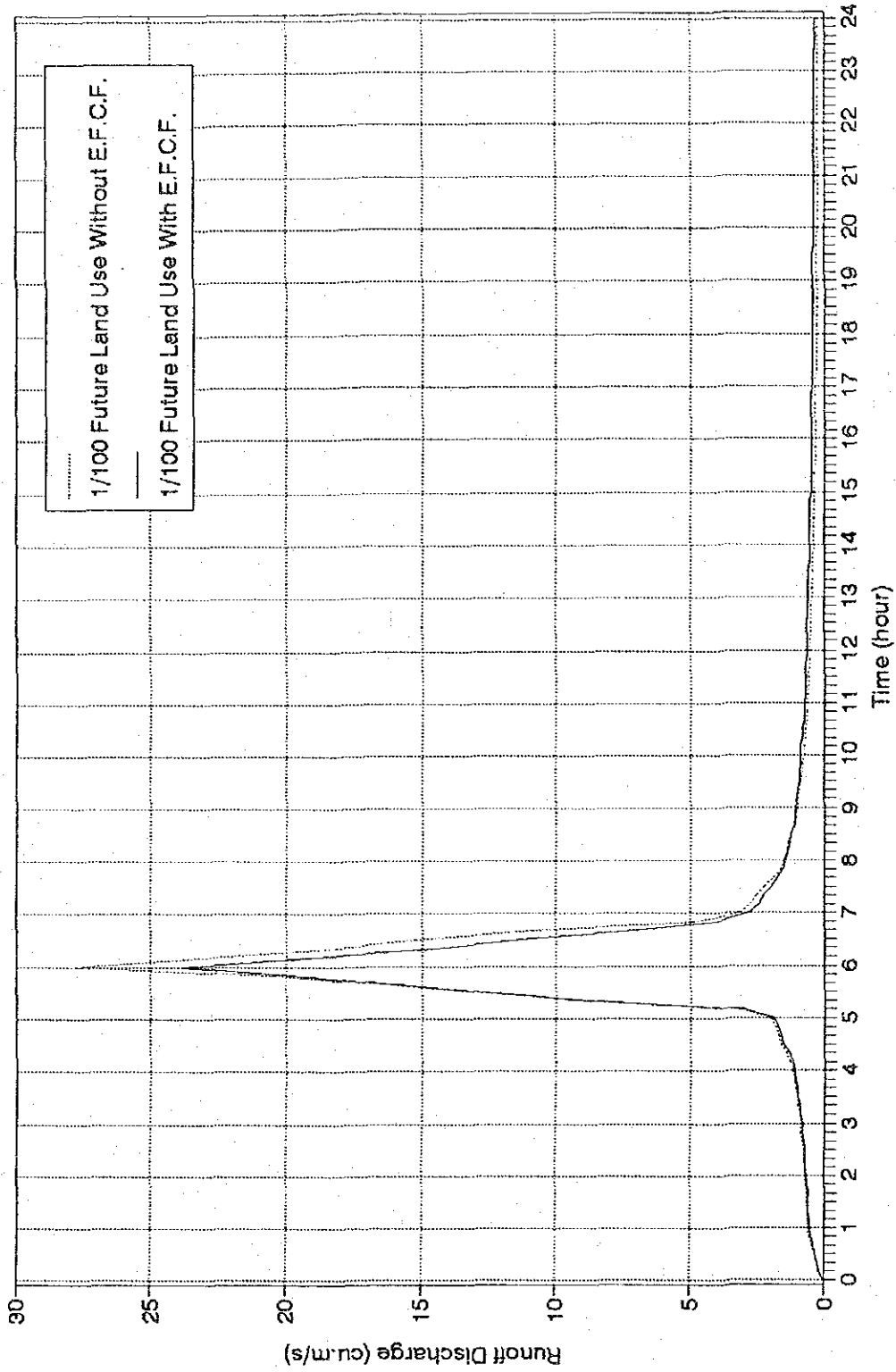
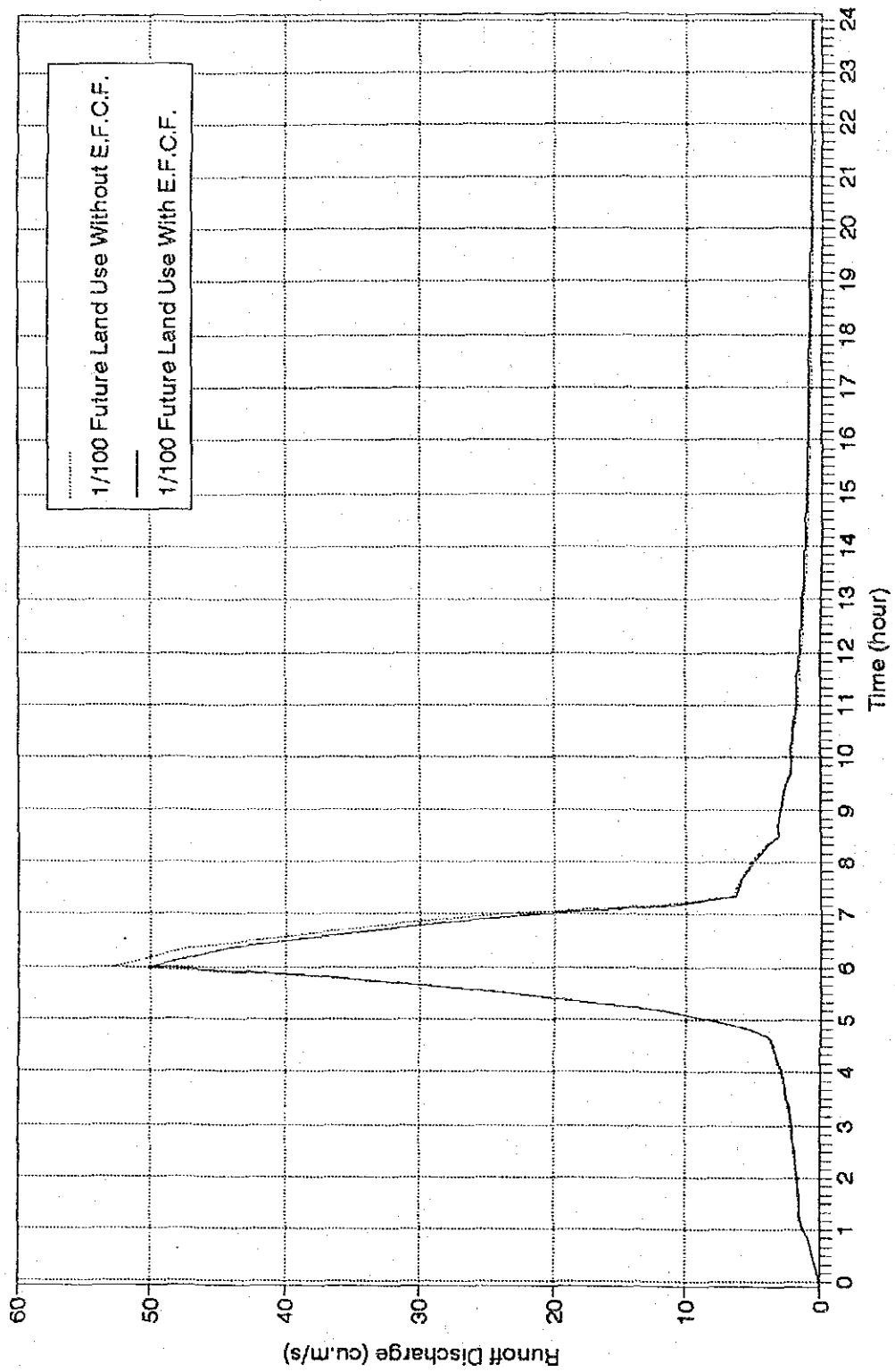
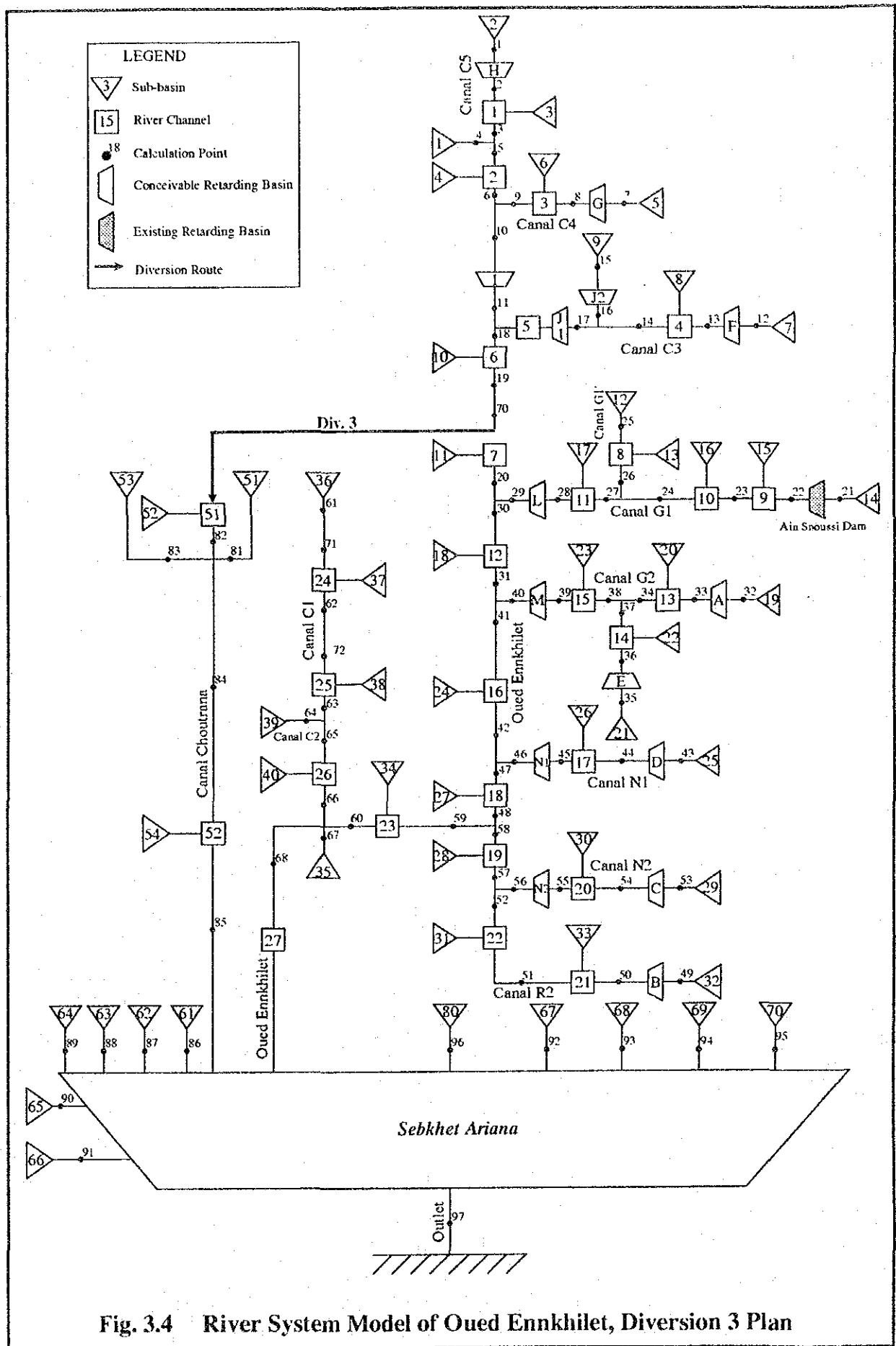
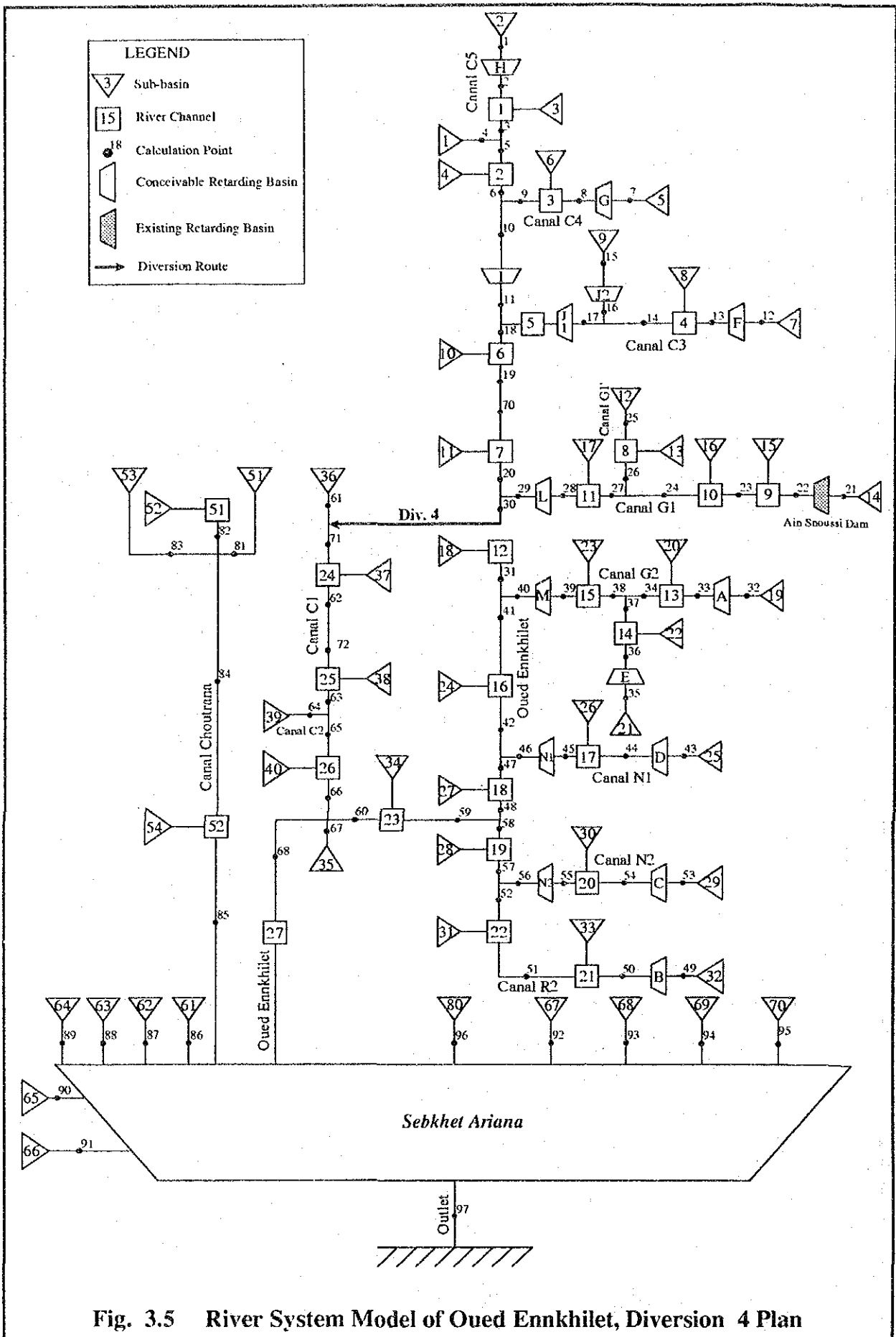


Fig. 3.3 Runoff Hydrograph with Existing Flood Control Facilities (4/4)
Calculation Point No.30







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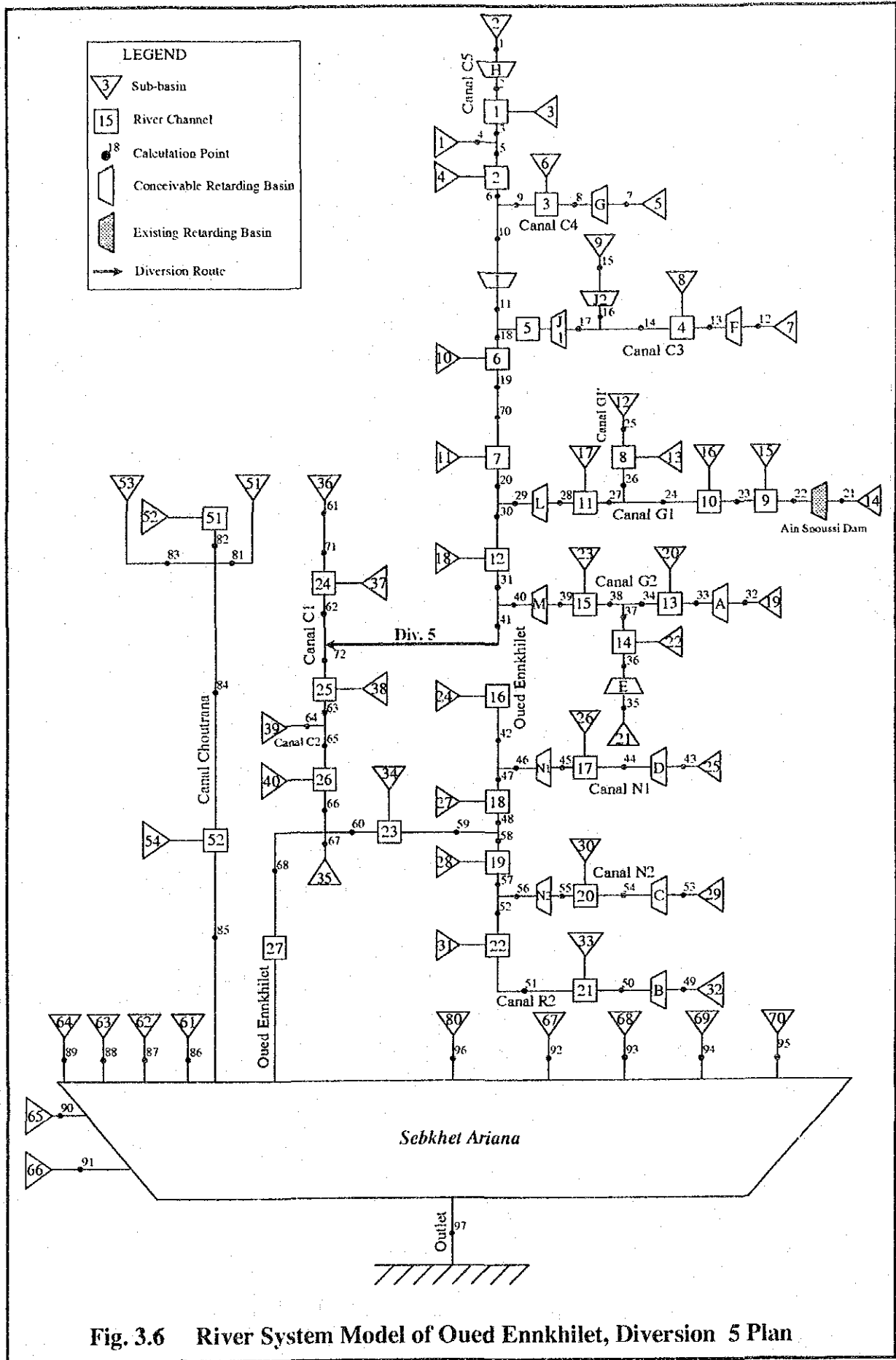
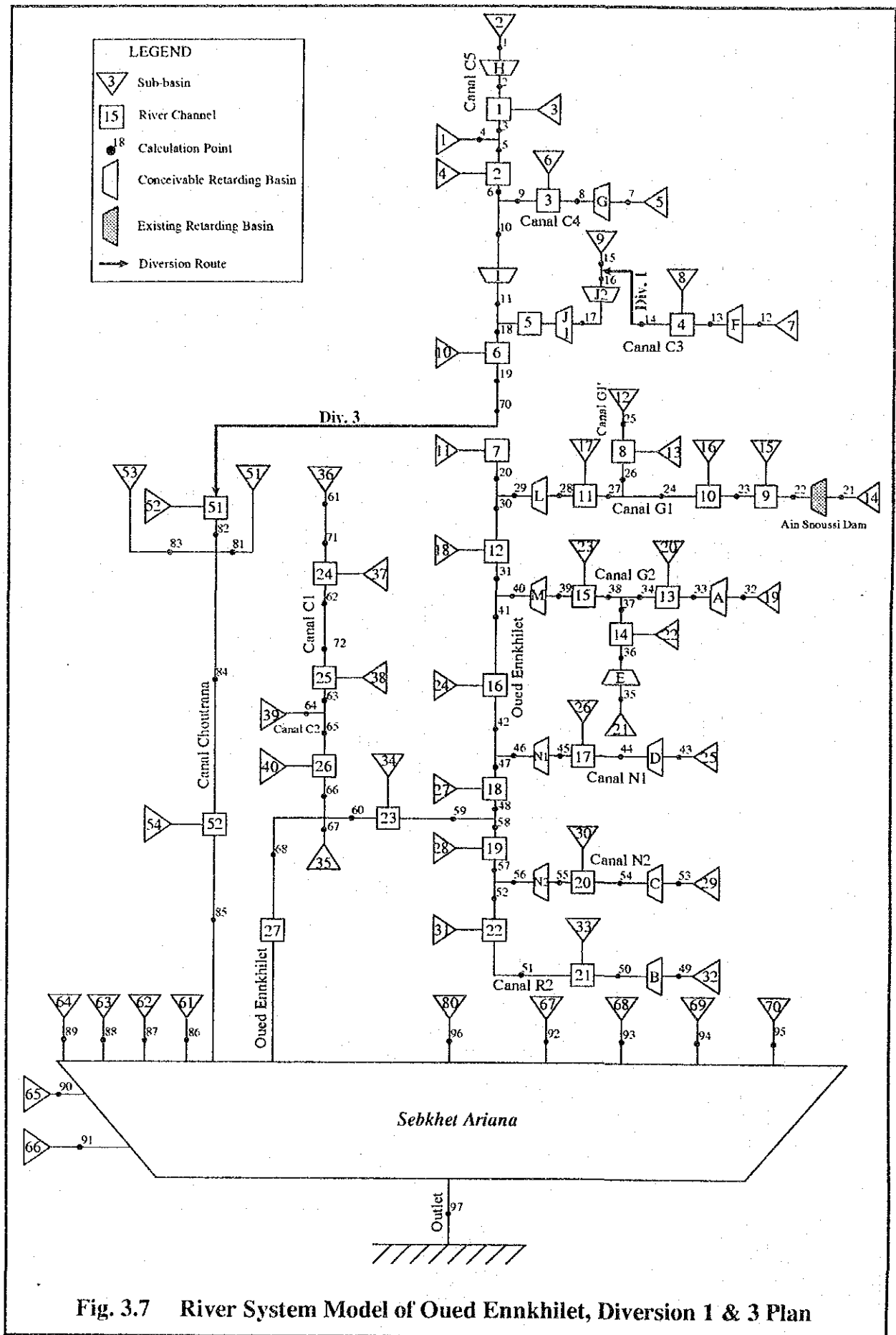
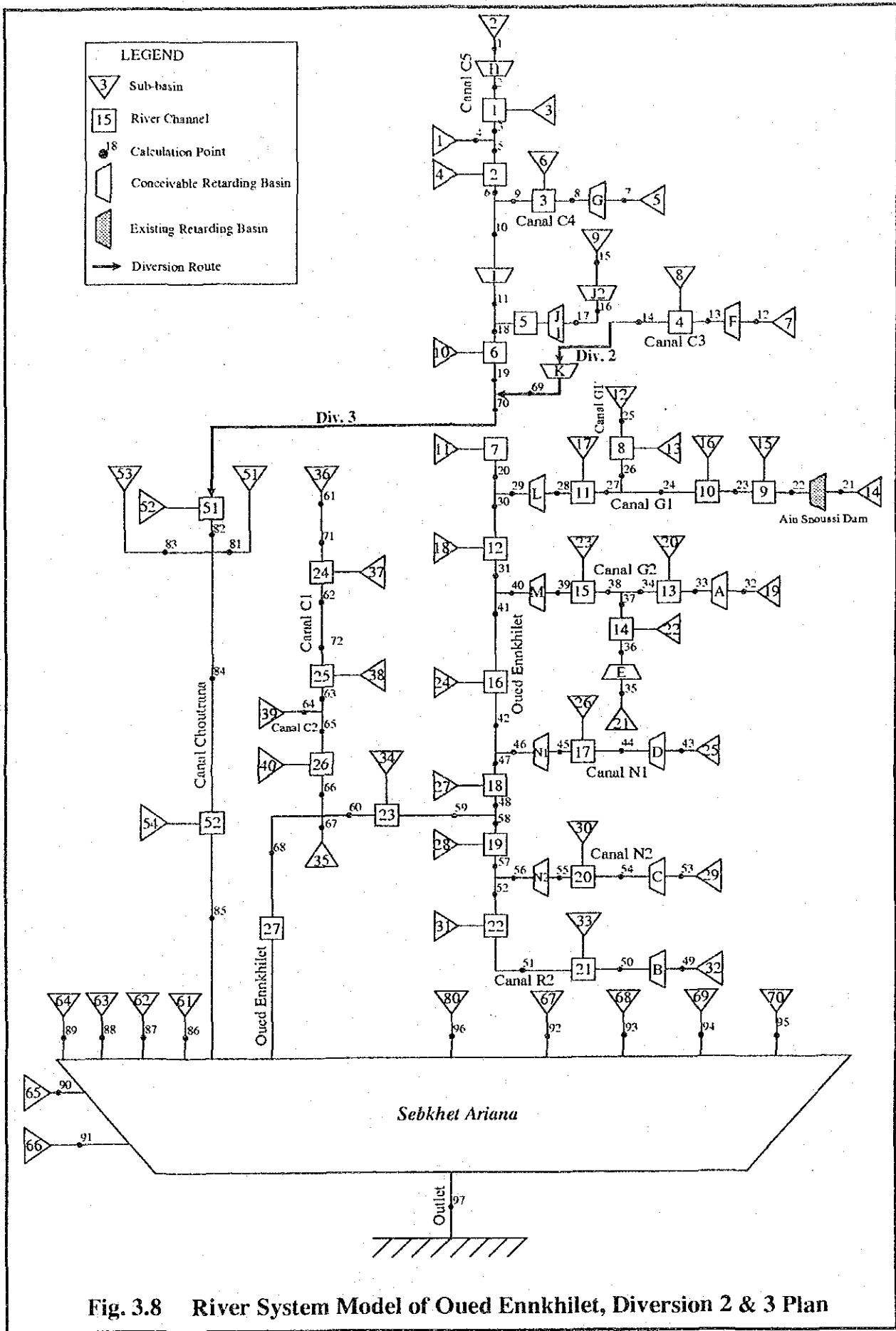


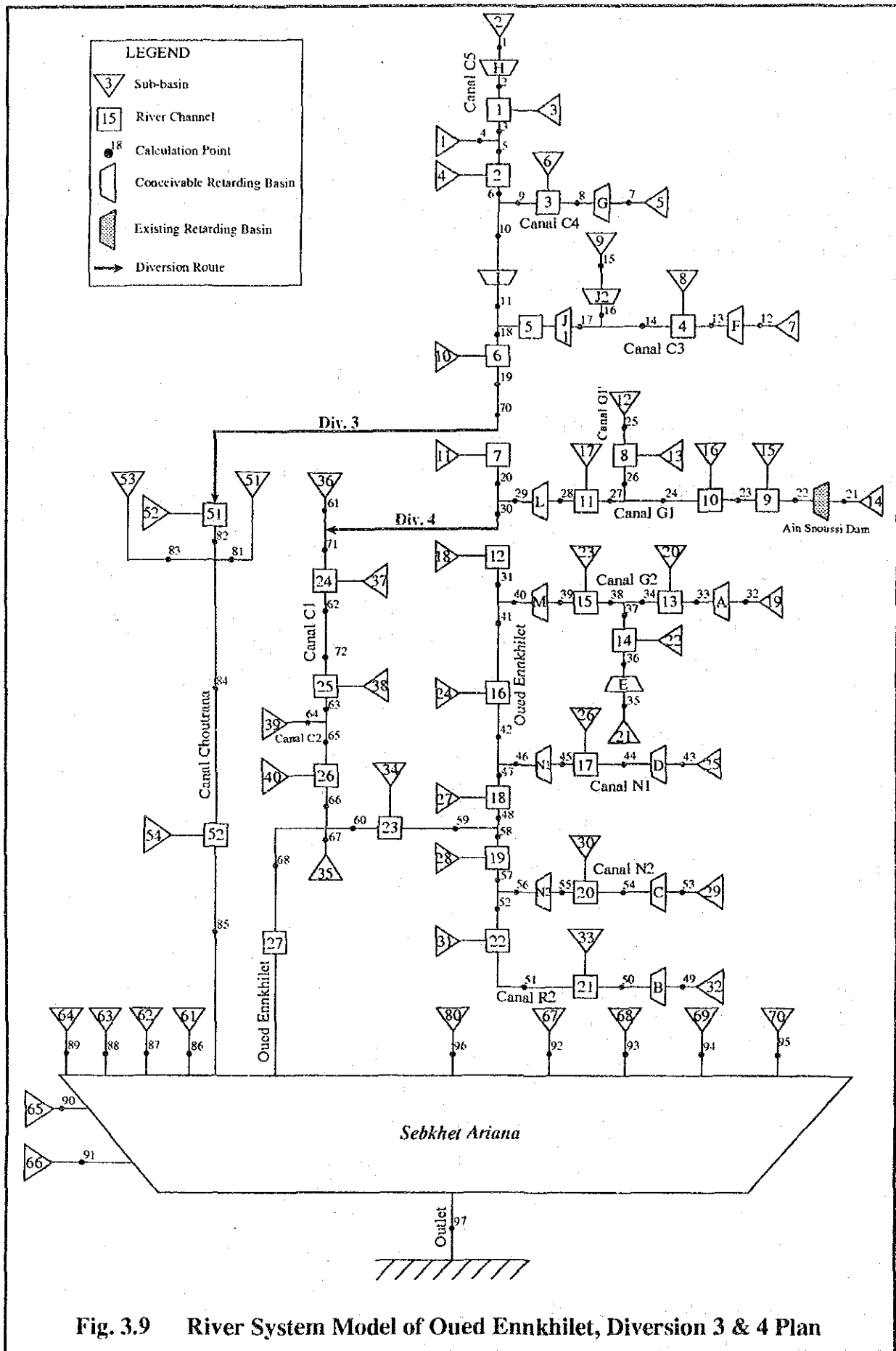
Fig. 3.6 River System Model of Oued Ennkhilet, Diversion 5 Plan

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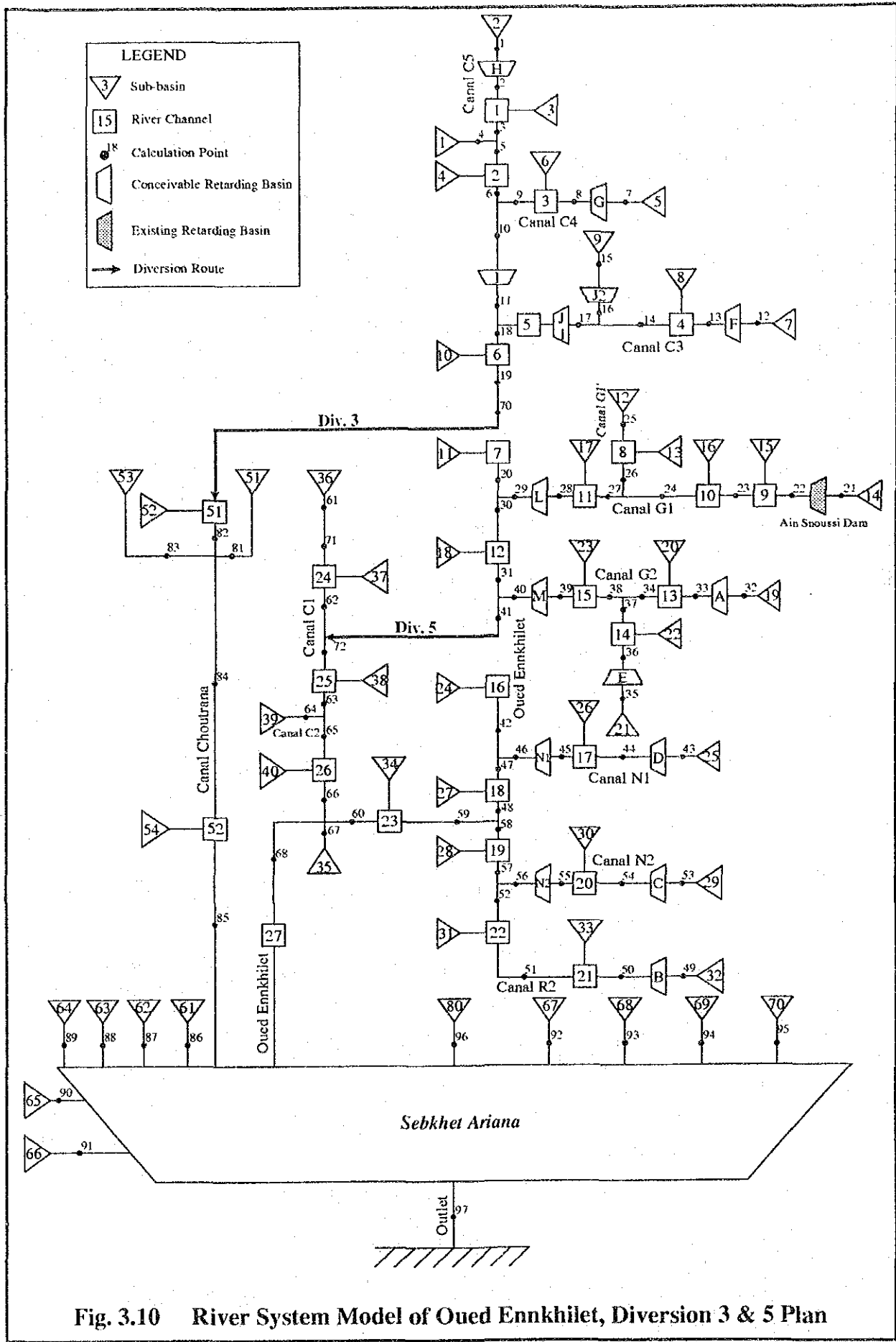


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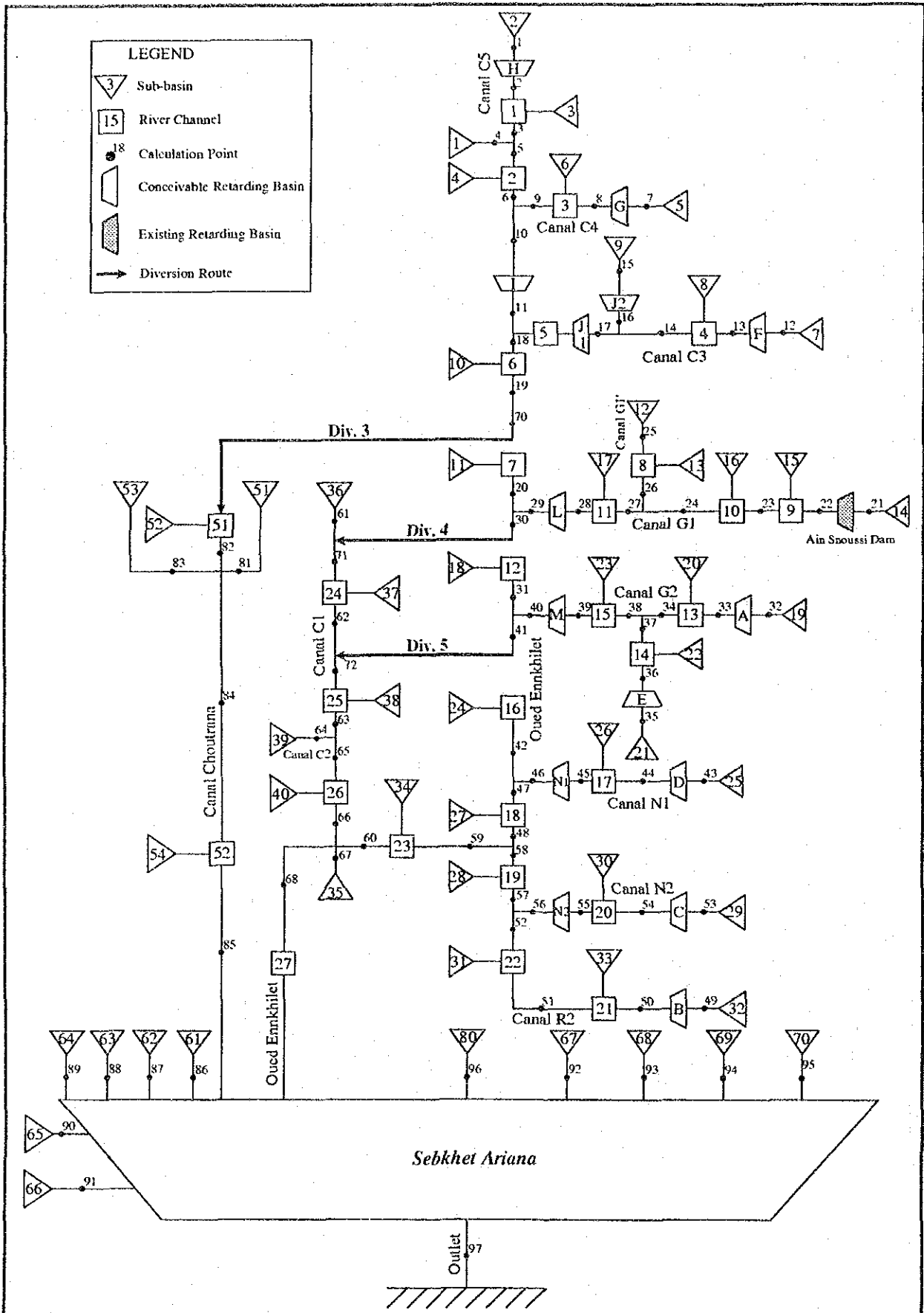


Fig. 3.11 River System Model of Oued Ennkheit, Diversion 3, 4 & 5 Plan

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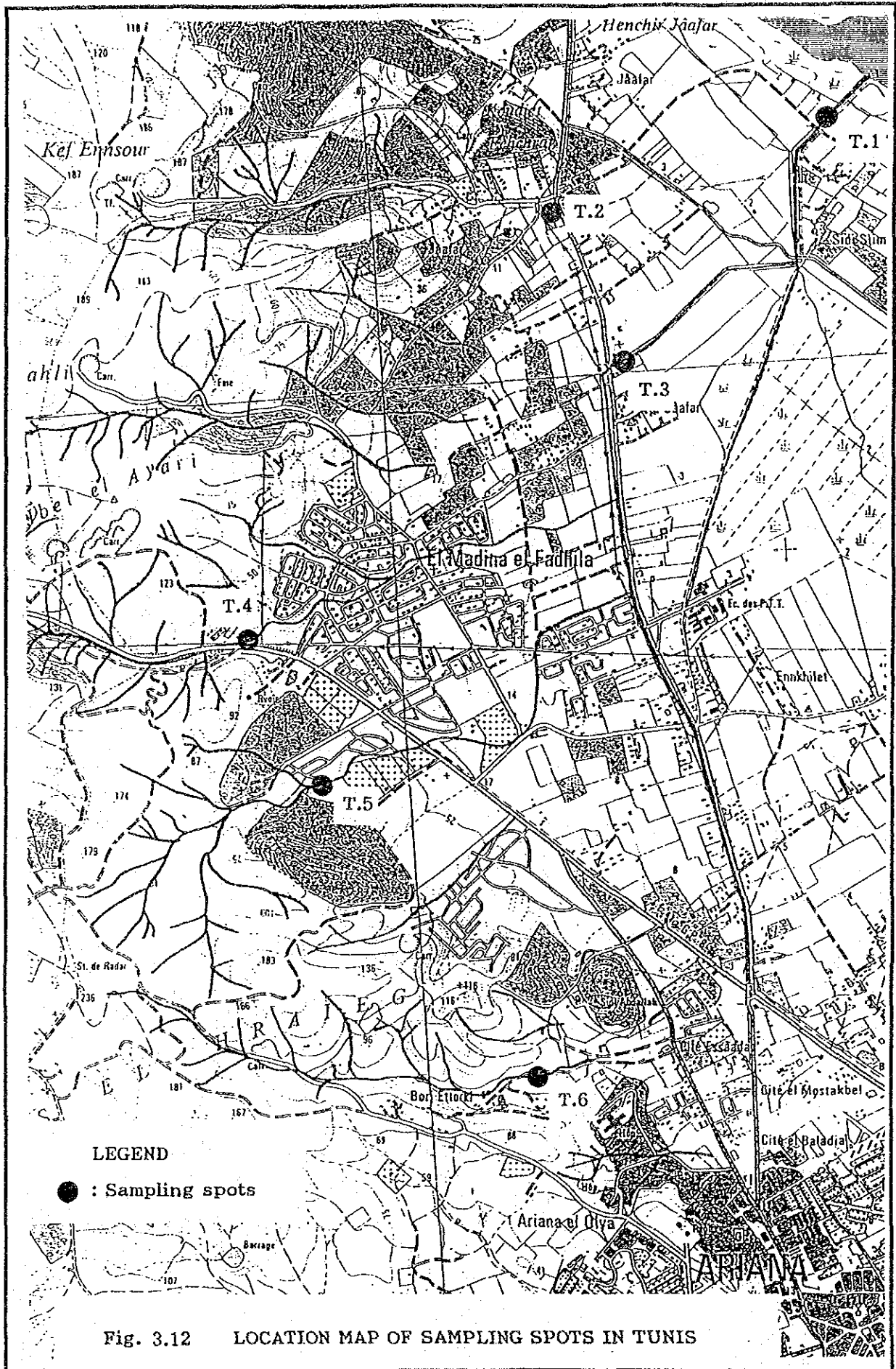
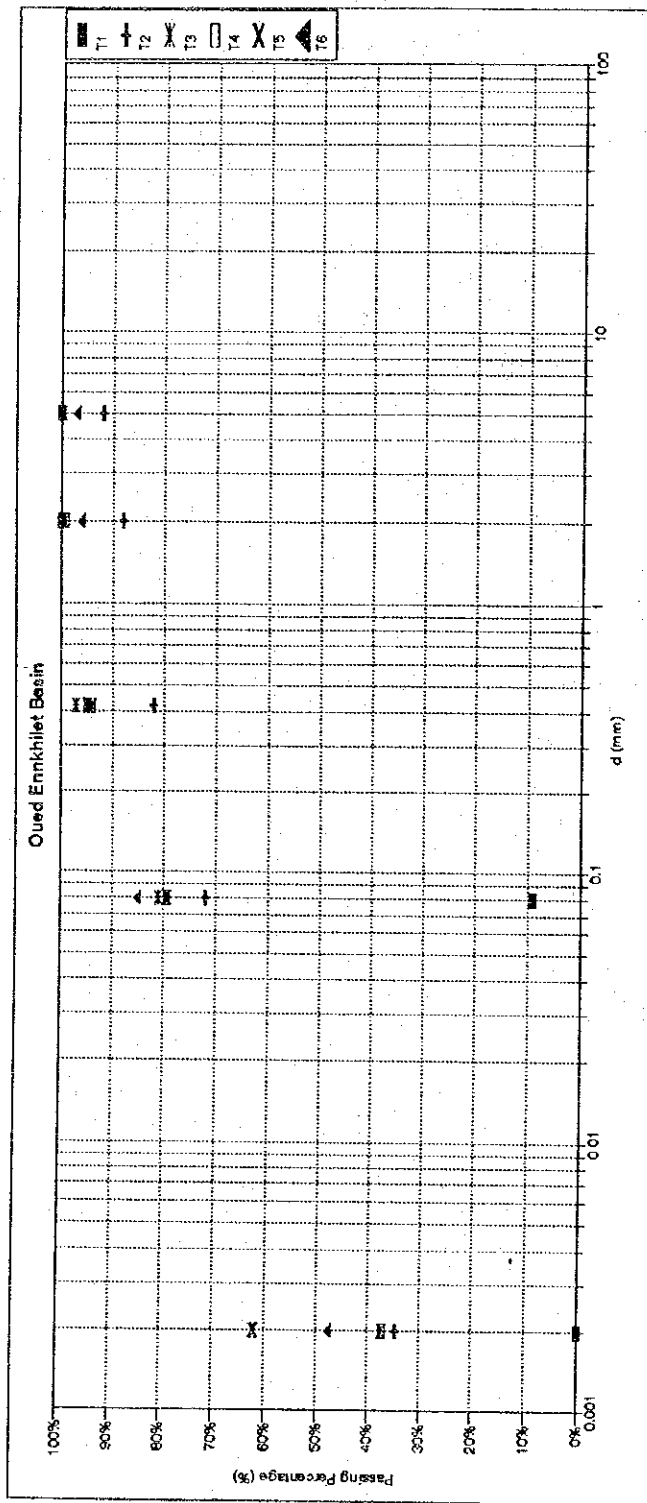


Fig. 3.12 LOCATION MAP OF SAMPLING SPOTS IN TUNIS

Fig. 3.13 Result of Gradation Test of Oued Ennkhhilet Basin



Sampling Point	Specific Gravity	Gradation Test (Passing Percentage)						d50 (mm)
		< 0.002mm	< 0.08mm	< 0.42mm	< 2mm	< 5mm	0.0220	
T1 (+ 0.3 km)	2.66	0.0%	9.0%	95.0%	100.0%	100.0%	0.0220	0.0080
T2 (+ 2.9 km)	2.68	34.5%	72.0%	82.0%	88.0%	92.0%	0.0060	0.0070
T3 (+ 2.1 km)	2.68	37.5%	81.0%	97.0%	100.0%	100.0%	0.0016	0.0026
T4 (+ 4.9 km)	2.68	37.0%	79.5%	94.0%	99.0%	100.0%		
T5 (+ 5.3 km)	2.68	62.0%	79.5%	95.0%	99.5%	100.0%		
T6 (+ 6.2 km)	2.67	47.5%	85.0%	94.0%	96.0%	97.0%		

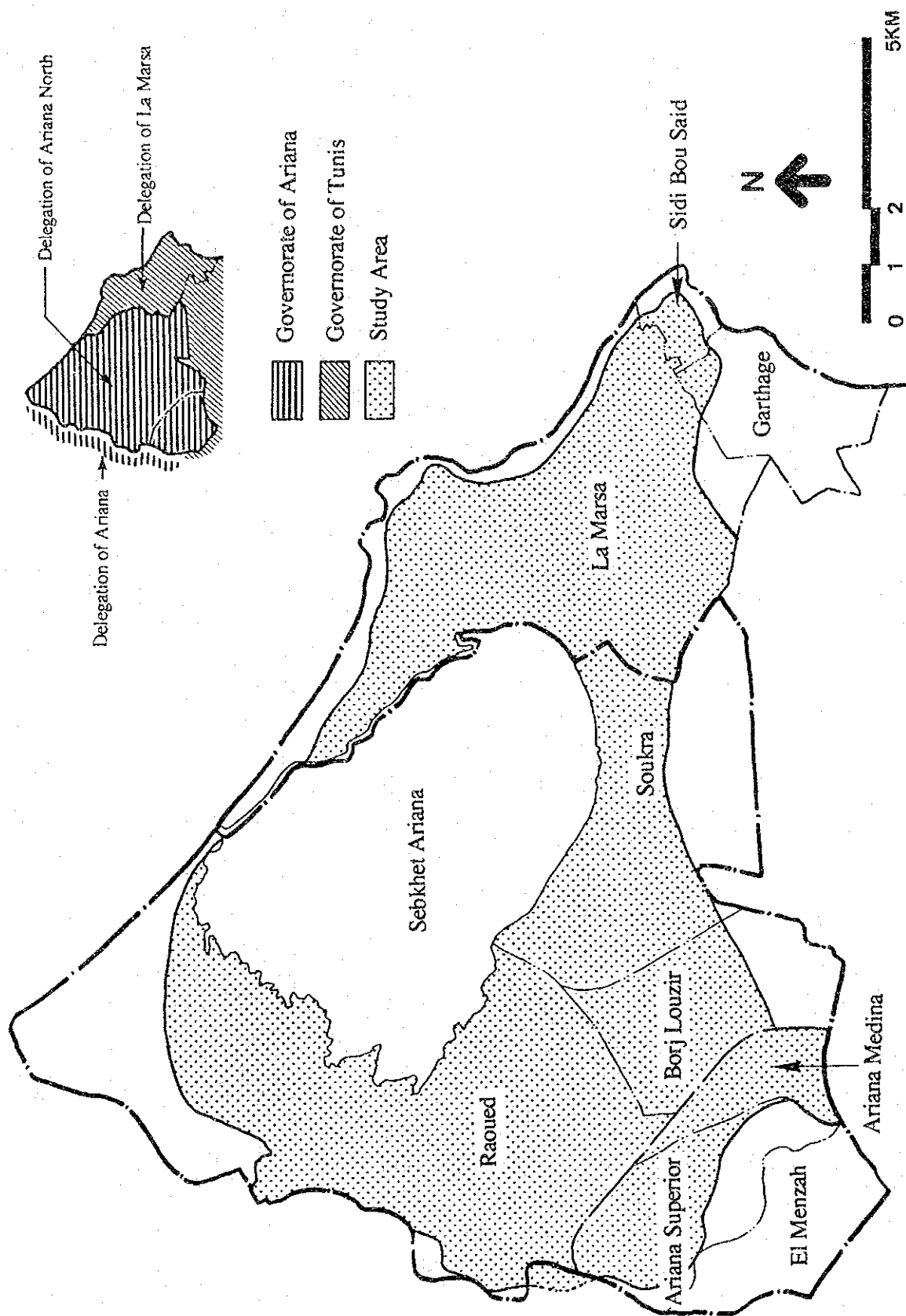
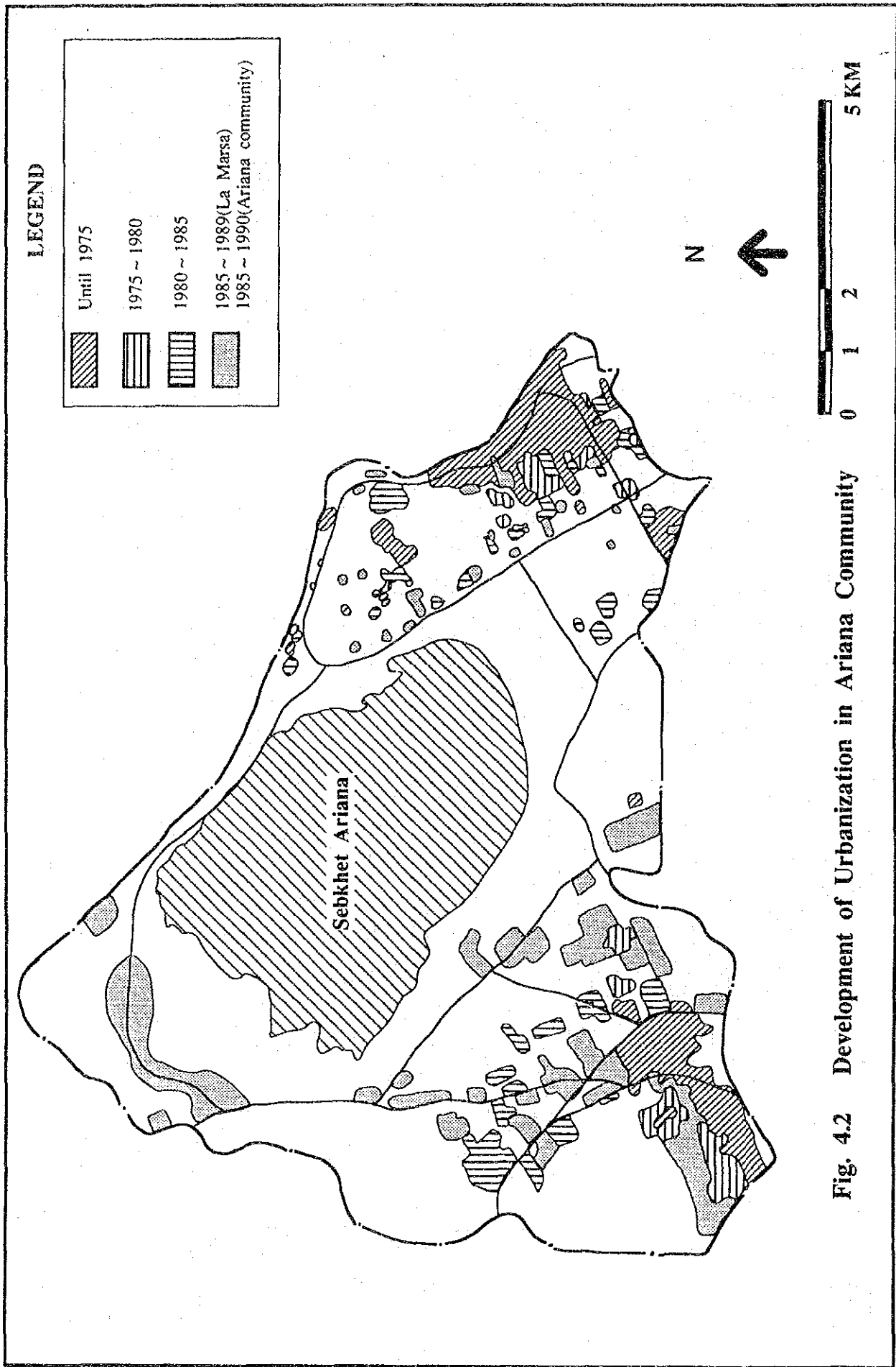


Fig.4.1. The Location of Study Area



LEGEND






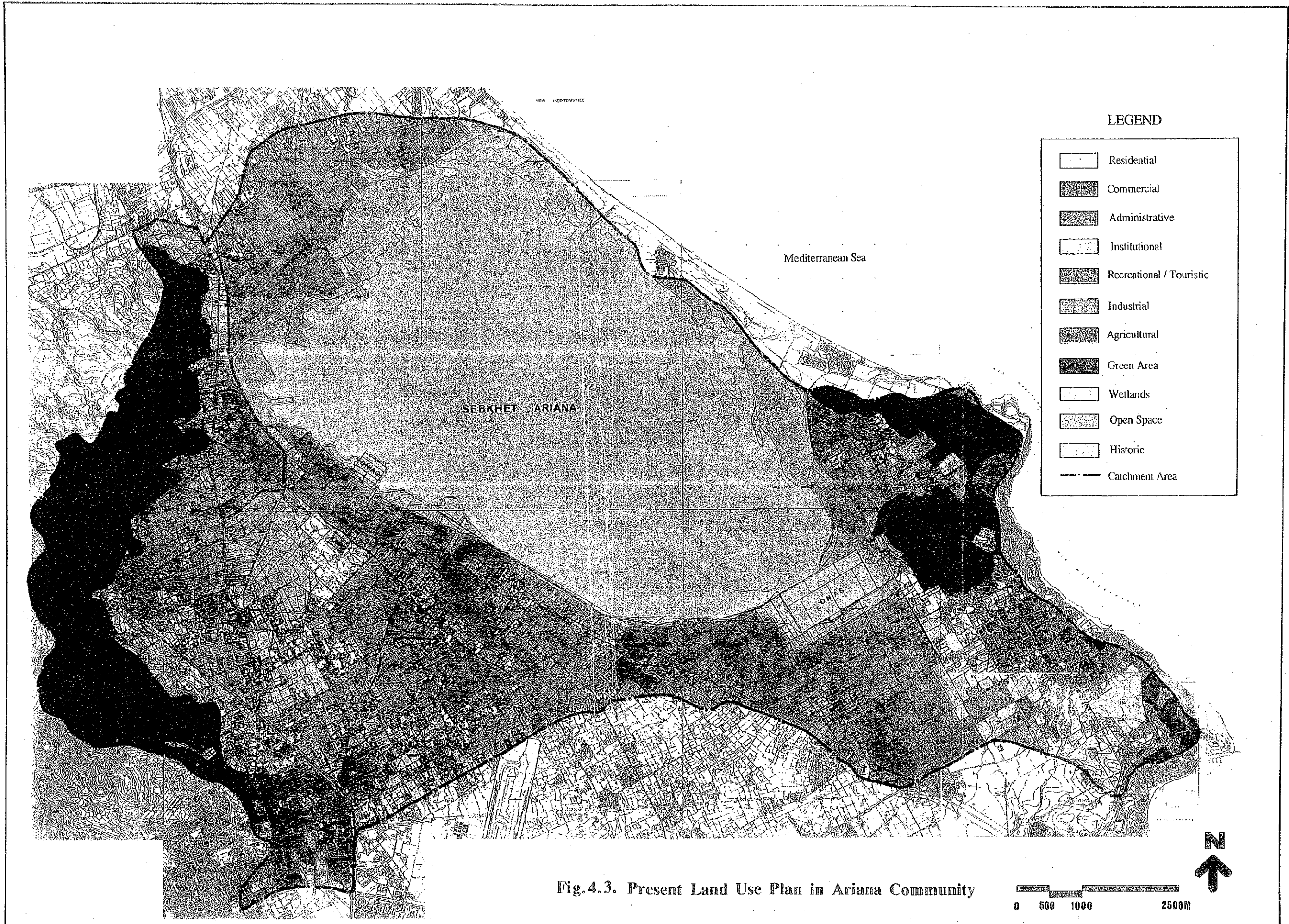
	Until 1975
	1975 ~ 1980
	1980 ~ 1985
	1985 ~ 1989 (La Marsa)
	1985 ~ 1990 (Ariana community)

Fig. 4.2 Development of Urbanization in Ariana Community



LEGEND

- Residential
- Commercial
- Administrative
- Institutional
- Recreational / Touristic
- Industrial
- Agricultural
- Green Area
- Wetlands
- Open Space
- Historic
- Catchment Area

Fig.4.3. Present Land Use Plan in Ariana Community

0 500 1000 2500M



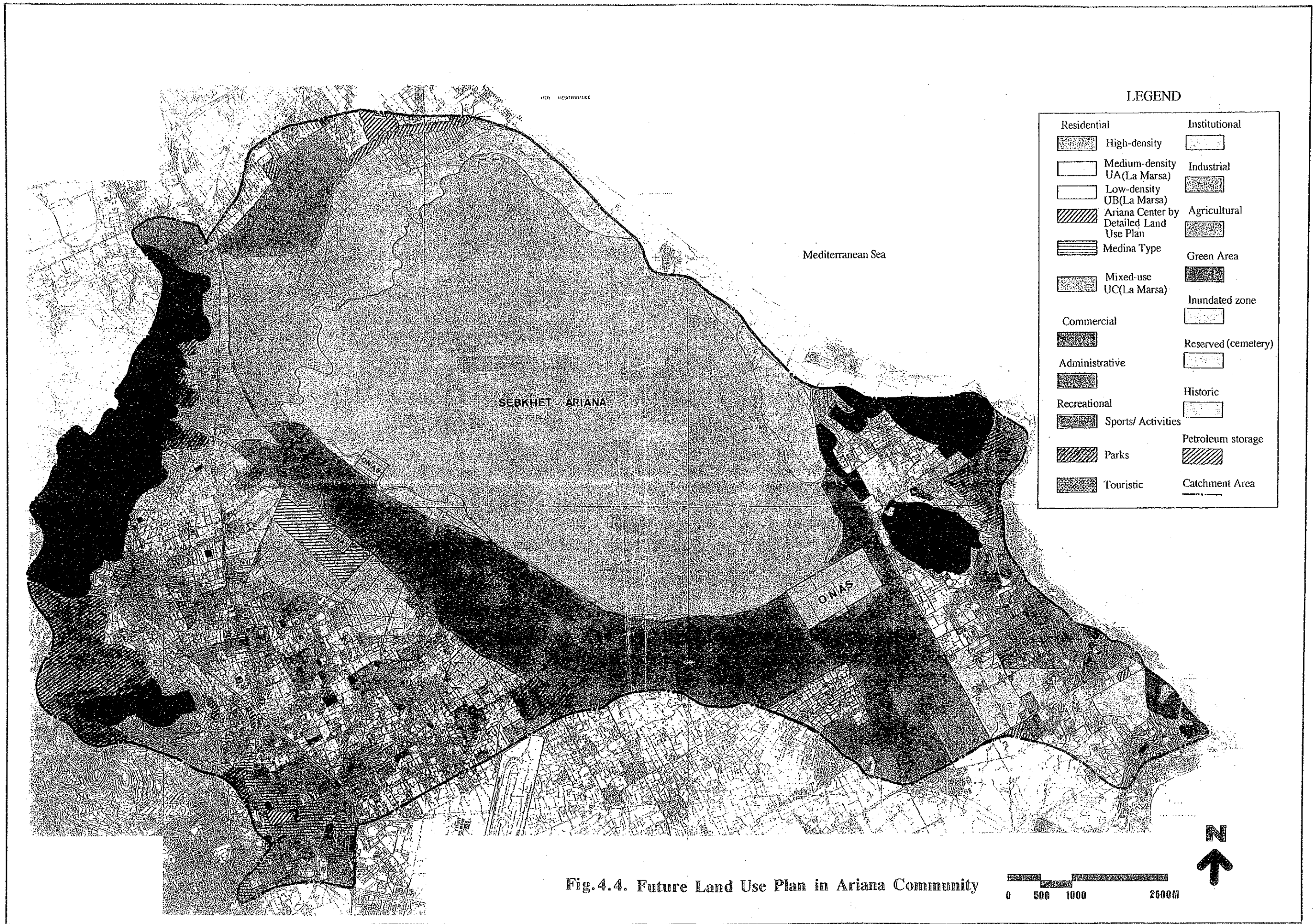


Fig.4.4. Future Land Use Plan in Ariana Community

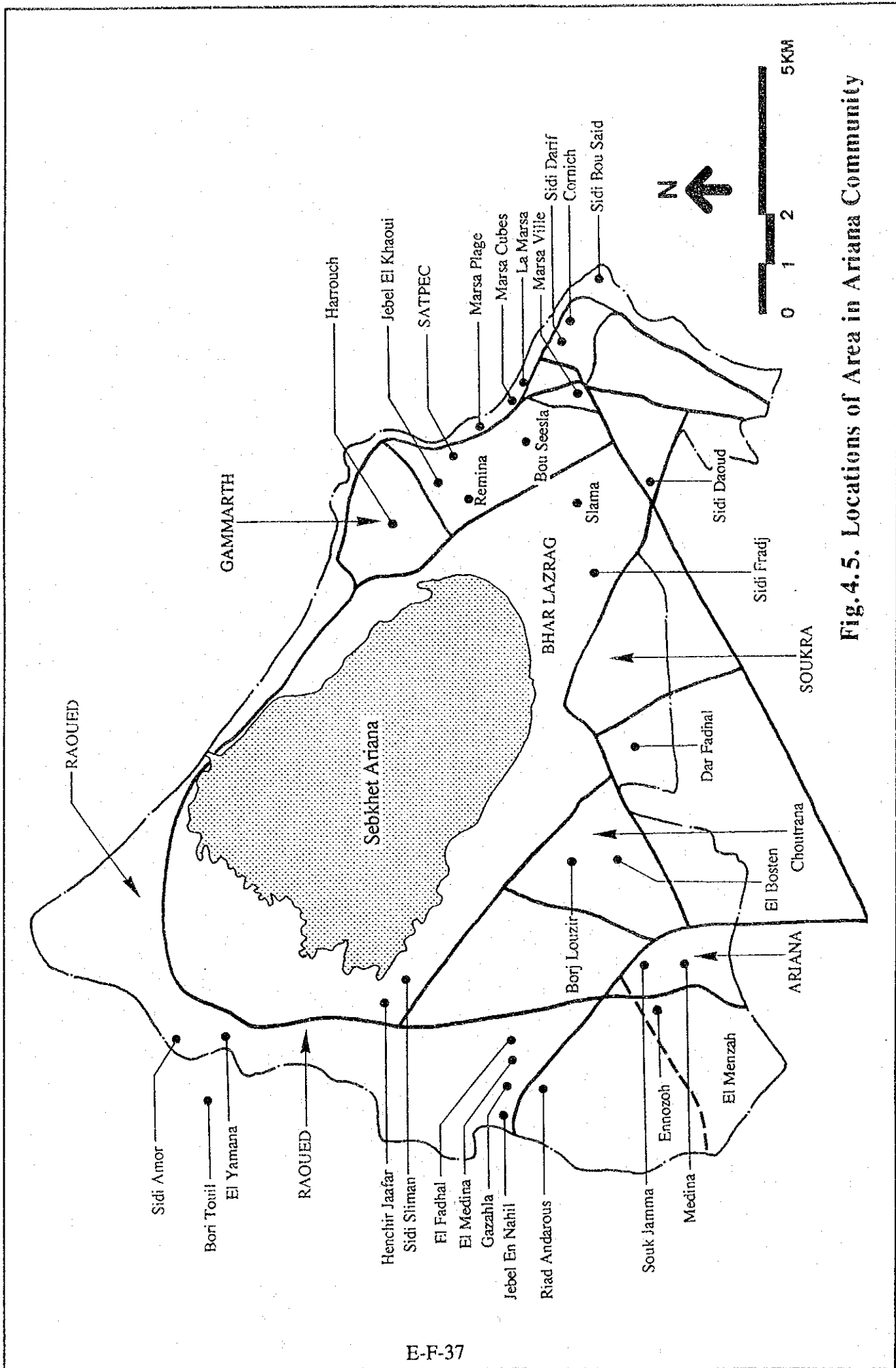


Fig.4.5. Locations of Area in Ariana Community

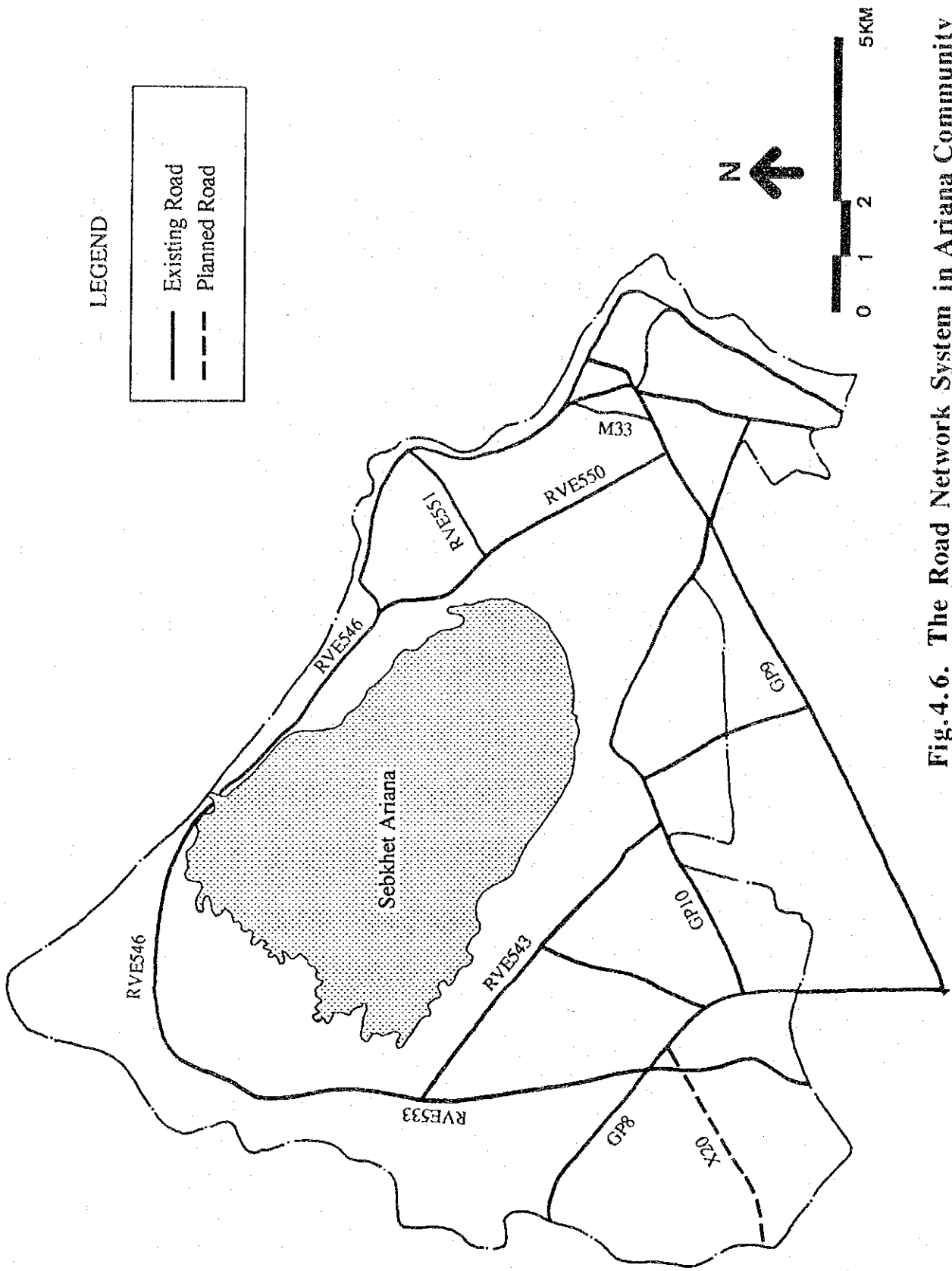


Fig.4.6. The Road Network System in Ariana Community

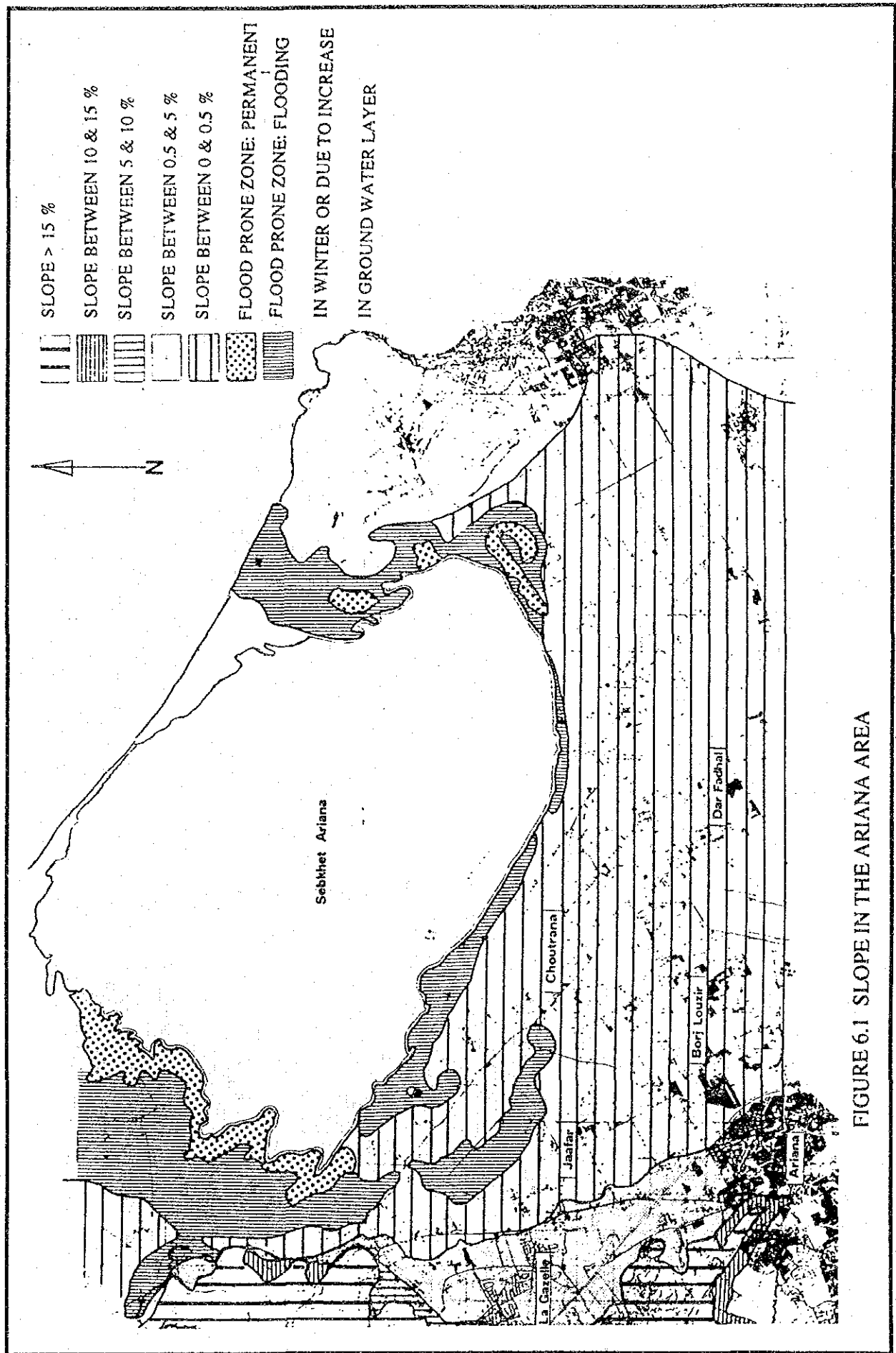


FIGURE 6.1 SLOPE IN THE ARIANA AREA

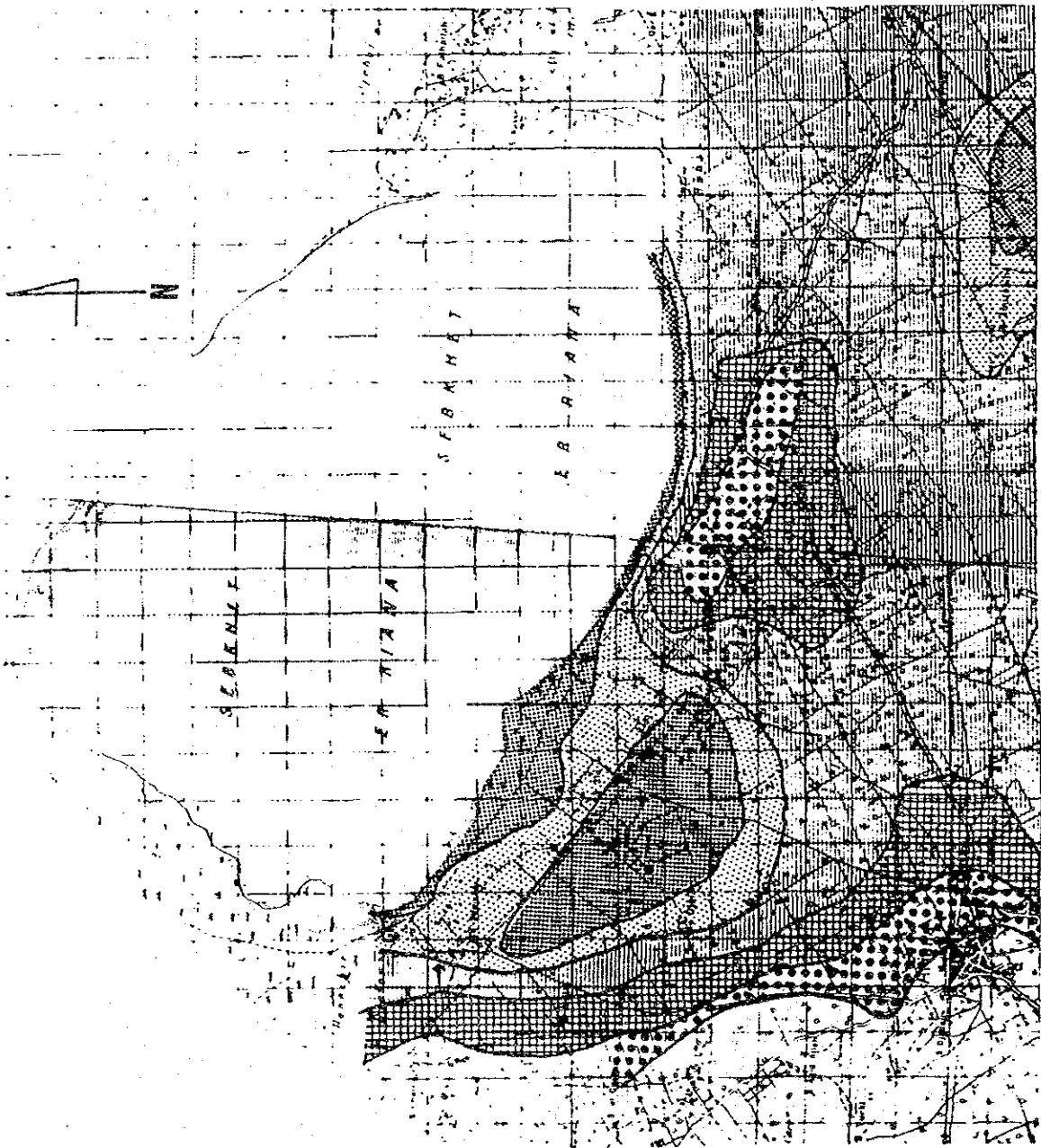
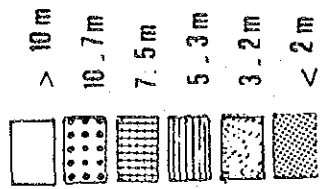


FIGURE 6.2 GROUND WATER DEPTH IN THE ARIANA AREA

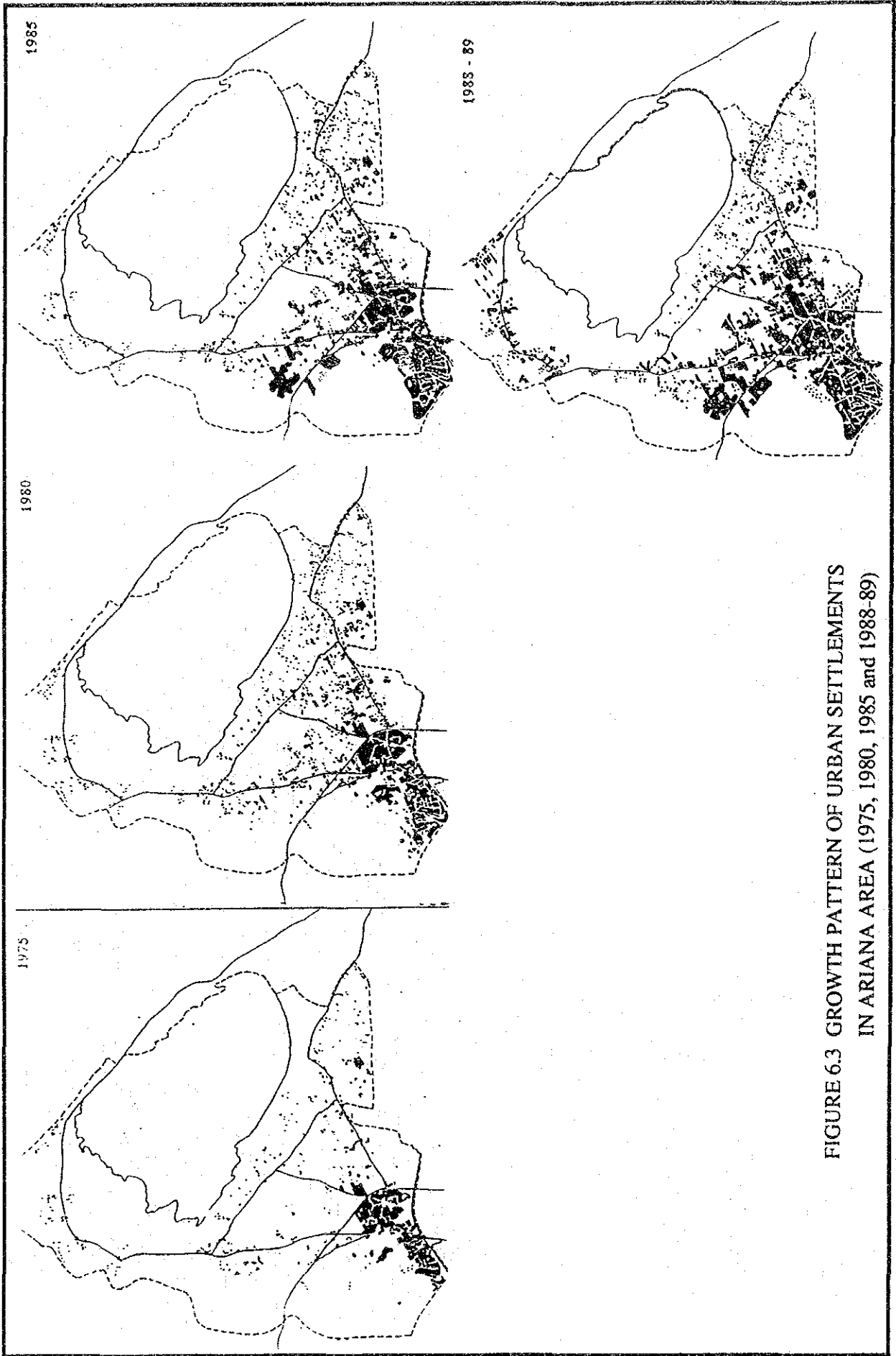


FIGURE 6.3 GROWTH PATTERN OF URBAN SETTLEMENTS
IN ARIANA AREA (1975, 1980, 1985 and 1988-89)

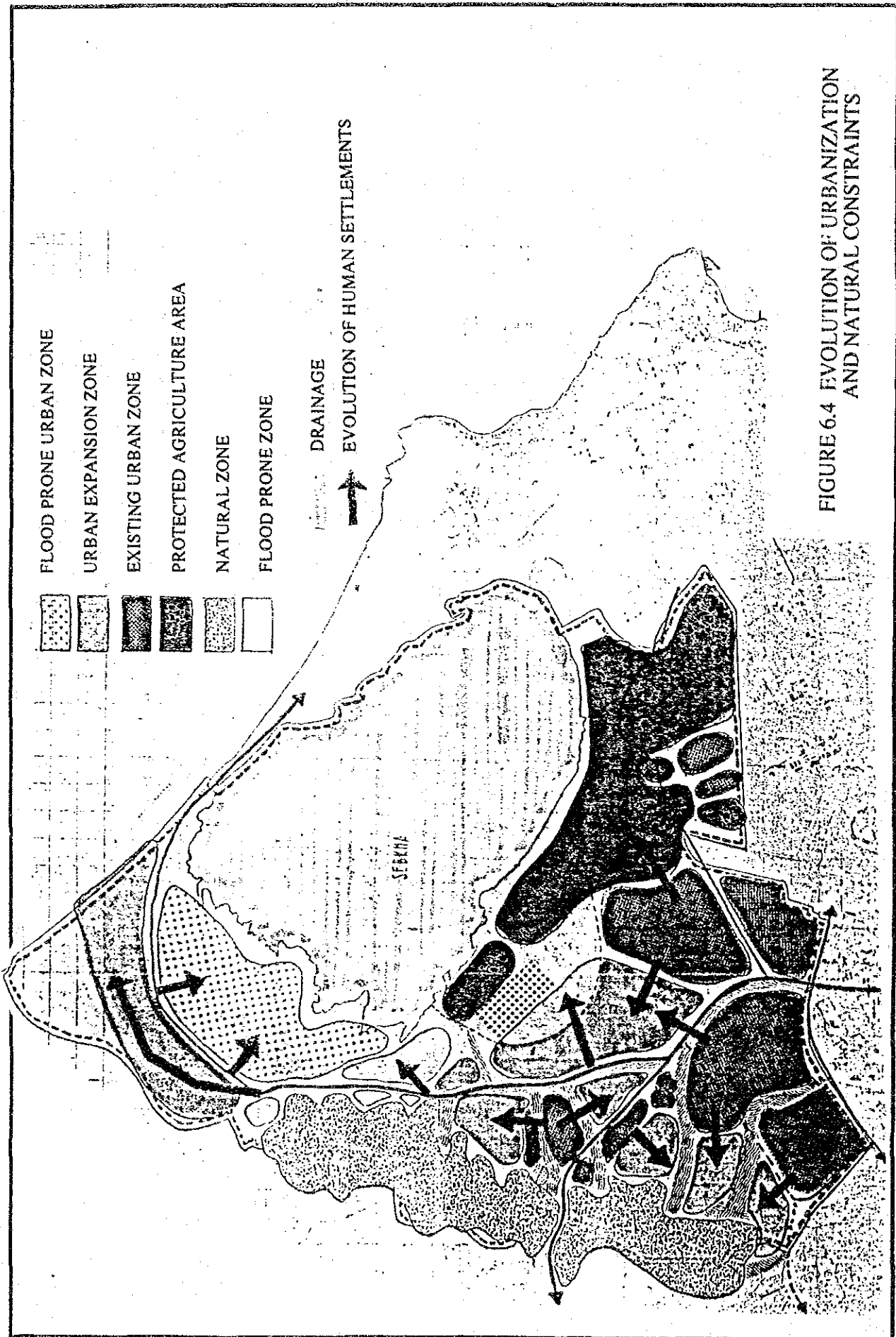


FIGURE 6.4 EVOLUTION OF URBANIZATION AND NATURAL CONSTRAINTS

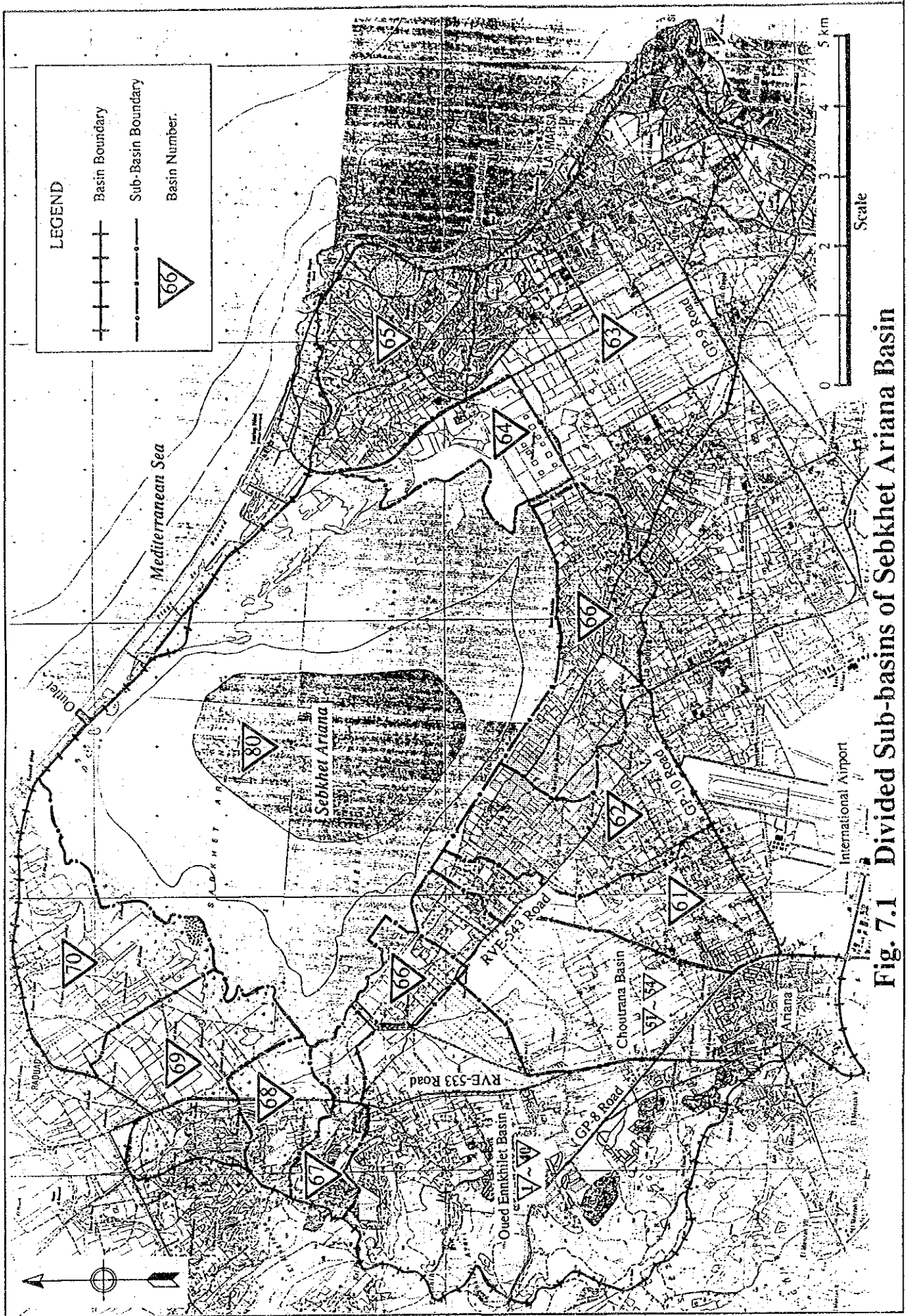


Fig. 7.1 Divided Sub-basins of Sebkhet Ariana Basin