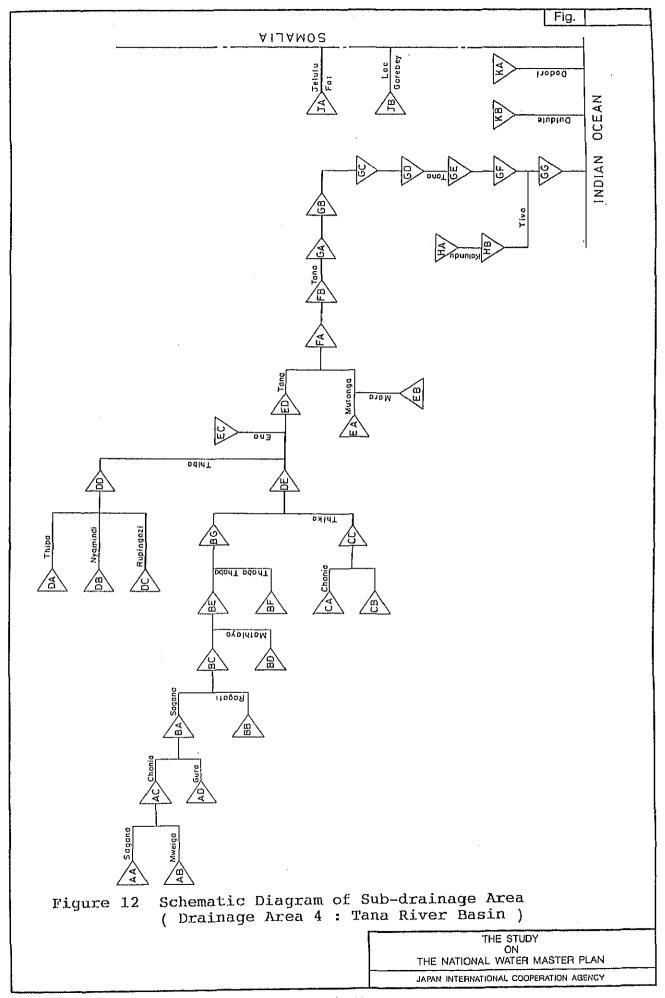


Figure 12 Schematic Diagram of Sub-drainage Area (Drainage Area 3 : Athi River and Coast)

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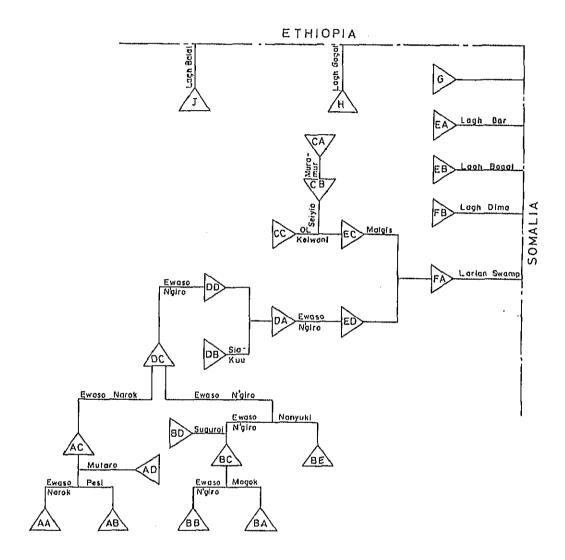
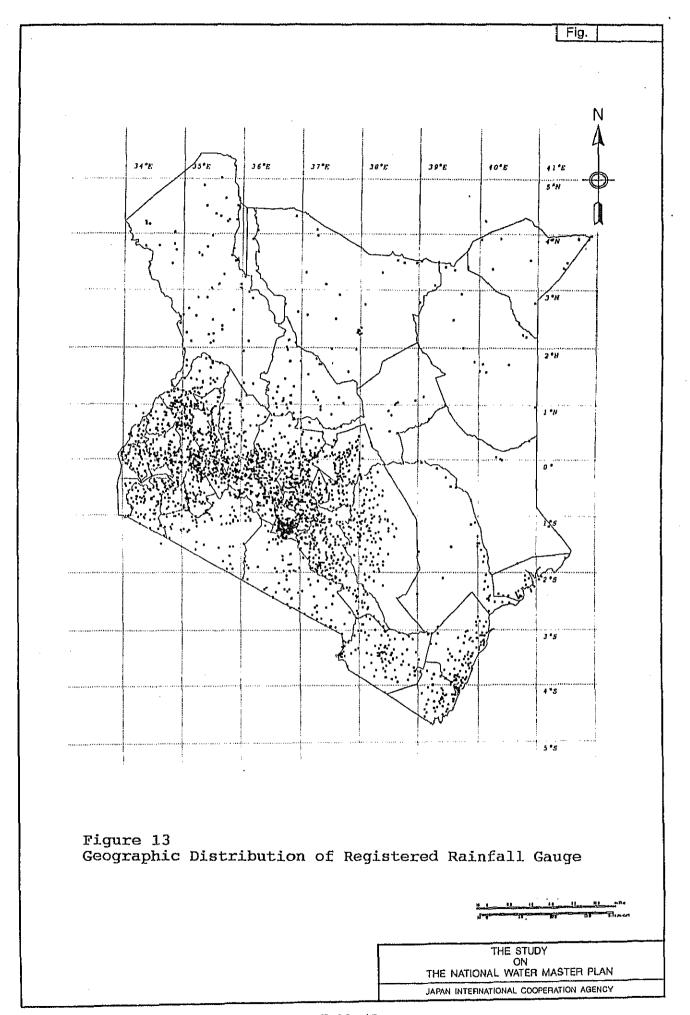
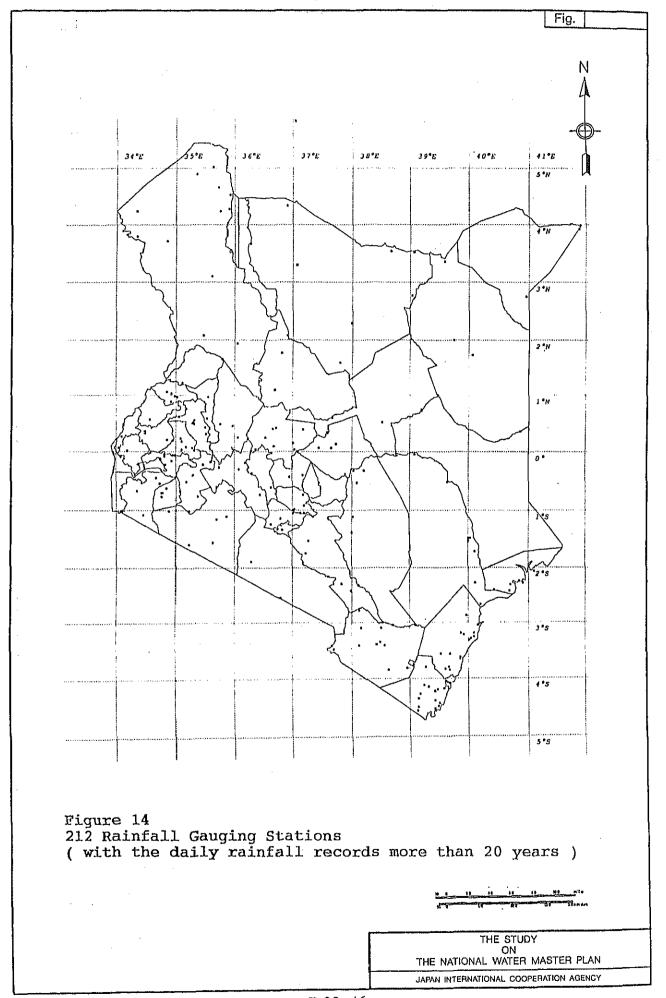
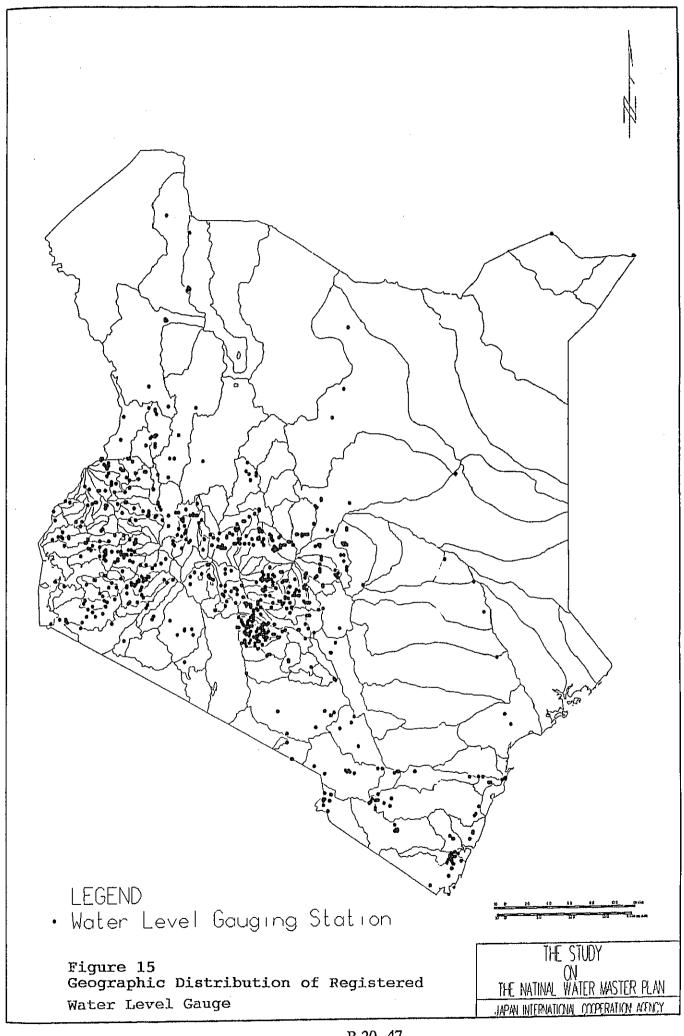


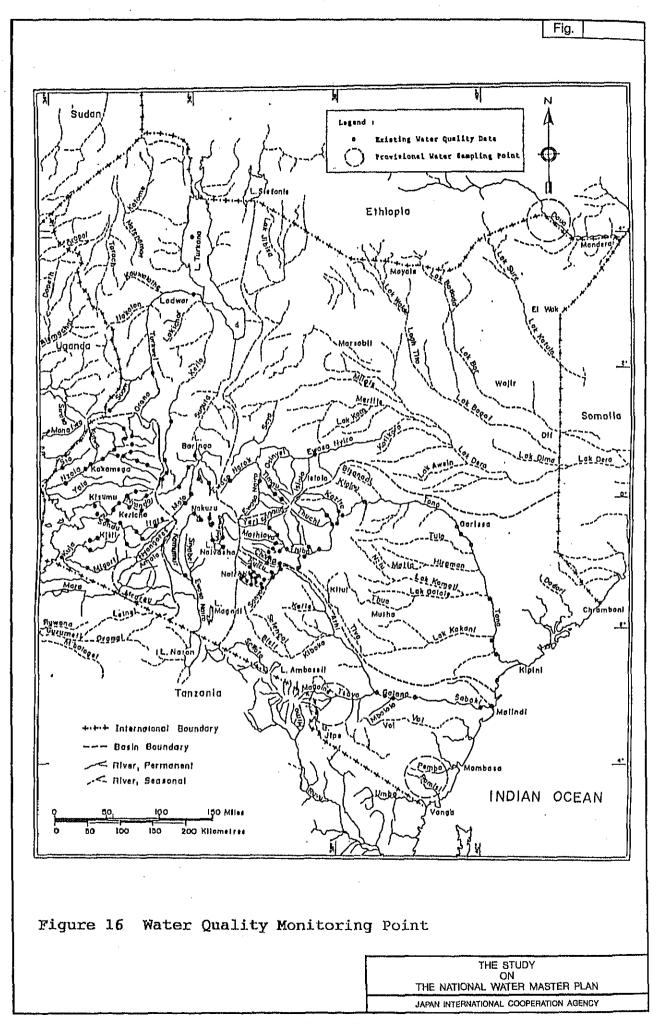
Figure 12 Schematic Diagram of Sub-drainage Area (Drainage Area 5: Ewaso Ngiro River and North)

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APPENDIX B.20.1

LIST OF WATER LEVEL GAUGING STATIONS FOR RELIABLE SURFACE WATER DATA GATHERING NETWORK

Table 1.1 List of Principal Stations in Kenya (1/2)

(1) Water Level Gauging Station in Perennial River

No.	Code	River	Remarks			
Drainage A	rea 1 (Lake Victo	ria)				
1	1DA02	Nzoia				
	1DD01	Nzoia				
3	1FG02	Yala	Rehabilitated by the NWMP			
2 3 4 5 6	1GD03	Nyando	Tollaballation by the 11 (17)			
5	1JG01	Sondu				
6	1KB05	Kuja(Gucha)				
7	1LA04	Mara	Rehabilitated by the NWMP			
Drainage Area 2 (Lift Valley)						
8	2B 30	Malmati				
9 -	2C 07	Ndo				
10	2EE07	Perkerra				
11	2GB01	Malewa				
12	2K 03	Narok	Rehabilitated by the NWMP			
Drainage A	rea 3 (Athi River	and Coast)				
13	3DA02	Athi				
14	3F 02	Athi				
15	3HA12	Galana	Rehabilitated by the NWMP			
16	3HA13	Sabaki	should be newly installed			
Drainage A	rea 4 (Tana River	· <u>)</u>				
17	4AC03	Chania				
18	4BE01	Maragua				
19	4BE10	Sagana				
20	4CC07	Yatta-furrow				
21	4DD02	Thiba				
22	4EA07	Mutonga				
23	4F 19	Kazita				
24	4F 13	Tana				
25	4G 01	Tana	Rehabilitated by the NWMP			
26	4G 04	Tana				
<u>Drainage A</u>	area 5 (Ewaso Ng	iro and North)				
27	5AC08	Ewaso Narok				
28	5E 03	Ewaso Ngiro				
29	5H 01	Daua	Rehabilitated by the NWMP			

Note: The above stations are also observatory stations of flood flow.

Table A.1 List of Principal Stations in Kenya (2/2)

(2) Lake

No.	Code	Lake	Remarks	
1 2 3 4 5 6	1HB05 2B 14 2EH01 2FC04 2GD06 3J 17	Victoria Turkana Bogoria Nakuru Naivasha Chala		
7	3J 03	Jipe		

(3) Spring

No.	Code	Spring	Remarks	
1	3G 03	Muzima		
2	3J 05B	Njoro Kubwa		

(4) Dam Operation Data

No.	Damsite	River	Remarks	
1 2 3	Masinga Kiambere Turkwel	Tana Tana Turkwel		

Table 1.2 List of Stations (Drainage Area 1)

(2) Priority 3

No.	Code	River	No.	Code	River
1	1AH01	Sio	1	1AD02	Malakis i
2	1BD02	Nzoia *	2	1BA01	Moiben
3	1EE01	Nzoia	3	1BE06	Kwaittobos
4	1BC01	Kaptant	4	1CB05	Sosian
5	1BB01	Moiben	5	1CD02	Kipkarren
6	1CE01	Kipkarer	б	1FC01	Remonde *
7	1BG07	Rongai	7	1FF03	Edzawa
8	1FE02	Yala *	8	1FE01	Yala
9	1FG01	Yala	9	1HA10	Luando
10	1GB03	Kapchuno *	10	1HB05	Awach Seme
11	1GD07	Nyando *	11	1HD04	Awach Kabuon
12	1JD03	Chemusiet	12	1HE01	Awach Tende
13	1JG08	Kipsonoi *	13	1GB05	Ainomotua *
14	1JF06	Kipsonoi *	14	1GC06	Nyando *
15	1KA09	Riana	15	1GD04	Nyando
16	1KB01A	Kuja	16	1GG01	Namuting
17	1KC04	Migori	17	1JC13	Sambret *
18	1LA03	Nyangoris *	18	1JA02	Kiptiget
19	1LB02	Amala *	1 9	1JE01	Sisi *
			20	1JF07	Kipsonoi
			21	1JG04	Miriu
			22	1KB02	Kuja (Gucha)
			23	1KB12	Kuja (Gucha)
			24	1KC03	Migori

Note: Marked (*) means an observatory station for flood flow.

Table 1.3 List of Stations (Drainage Area 2)

No.	Code	River	No.	Code	River
1	2B 17	Malmalte	1	2B 28	Wei wei
2	2B 20	Kunyao	2	2B 31	Morun
3	2B 21	Turkwel	3	2B 32	Morun
4	2C 08	Kerio	4	2C 05	Arror
5	2C 17	Kerio	5	2C 14	Endo
6	2D 01	Saguta	6	2C 16	Endo
7	2EB05	Waseges	7	2C 18	Arror
8	2EC04	Swamp canal	8	2EA01	Maji Matamu
9	2EE09	Perkerra	9	2EB03	Subukia
10	2FA08	Engare Mereroni	10	2EC03	Rongai
11	2FC10	Njoro	11	2FC05	Njoro
12	2GB05	Malewa	12	2GB04	Wanjohi
13	2GC04	Turasha	13	2GC05	Kitiri
14	2K 01	Ewaso Ngiro	14	2GC07	Turasha
15	2K 06	Seyabei	15	GC10	Mukungi

Table 1.4 List of Stations (Drainage Area 3)

No.	Code	River	No.	Code	River
1	3AA08	Mbagathi	1	3AA04	Mbagathi
2	3BA32	Nairobi	2	3BA29	Nairobi
3	3CB03	Ruabora	3	3BB09	Kamiti
4	3F 05	Athi - Kibwezi	4	3BB13	Kiu
5	3G 02	Tsavo	5	3BC12	Ruiru
6	3LA05	Voi	6	3BD02	Theta
7	3MA03	Mwachi	7	3BD05	Thiririka
8	3MH18	Kitanzi	8	3CB02	Ndarugu
9	3KB01	Ramisi	9	3F 06	Kibwezi
10	3KG02	Umba	10	3EA03	Maruba
			11	3ED01	Thwake
	·		12	3G 13	Tsavo
			13	3J 15C	Lumi
			14	3MH33	Sanga
			15	3HA11	Sabaki

Table 1.5 List of Stations (Drainage Area 4)

No.	Code	River	No.	Code	River
1	4AA01	Sagana	1	4AB01	Muringato
2	4AA05	Sagana	2	4AB05	Amboni
3	4AC09	Chania	3	4AC04	Chania
4	4AD01	Gura	4	4BE02	Tana p/s
5	4BB01	Ragati	5	4BF01	Thaba-Thaba
6	4BC01	Tana-Sagana	6	4CA04	Kimakia
7	4CA02	Chania	7	4CA23	Kariminu
8	4CB04	Thika	8	4CC03	Yatta-Furrow
9	4CC05	Thika	9	4DA10	Thiba
10	4EA06	Mutonaga	10	4DC03	Rupingazi
11	4EB06A	Ruguti	11	4EA01	Mutonga
12	4EB07	Thuchi	12	4EB01	Nithi
13	4EB11	Mara	13	4EB03	North, Mara
14	4F 09	Ura	14	4EB04	Thuchi
15	4F 16	Tana	15	4EB05	Ruguti
16	4G 02	Tana	16	4F 04	Thingishu
17	4G 08	Tana	17	4F 05	Mariara
			18	4F 10	Kazita
			19	4F 20	Thananto
			20	4F 29	Kazita
			21	4F 32	Rejewero

Table 1.6 List of Stations (Drainage Area 5)

No.	Code	River	No.	Code	River
1	5AC10	Ewaso Narok	1	5AA01	Narok
2	5AD03	Mutara	2	5AB04	Pesi
3	5BC04	Ewaso Ngiro	3	5AB05	Pesi
4	5BE20	Nanyuki	4	5AC15	Ewaso Narok
5	5D 05	Ewazo Ngiro	5	5BB02	Ewazo Ngiro
			6	5BC06	Burguret
			7	5BC08	Engore Ngobit
			8	5BE01	Nanyuki
			9	5BE02	Ontulili
			10	5BE03	Kongoni
			11	5BE06	Timau
	٠		12	5D 01	Ngare-Ndare

Table 1.7 River Gauging Equipment.

Classification according to the type and location of the gauging stations

A Classification of Rivers

- A.1 Wide rivers (upto 250m wide)
 - Staff or recorder type gauging station Cable car, cable, shackles etc.
 - 2.
 - Mobile team type a 3.
- **A.2** Swift rivers (upto 150m wide)
 - 1. Staff or recorder type gauging station
 - 2. Concrete blocks
 - 3. Mobile team type b
- A.3 Slow rivers (upto 100m wide)
 - 1. Staff or recorder type gauging station
 - 2. Mobile team type c
- A.4 Springs
 - 1. Weir type gauging station
 - Mobile team type d 2.

В. Break down of essential equipment

- B.1 Regular Gauging Station:
 - Staff gauge (installed) or Weir Observer's house
- B.2 Automatic Recorder Type Gauging Station
 - Staff gauge (installed) Recorder house 1.
 - 2.
 - 3. Recorder
 - Steel casing + intake pipe 4.
 - 5. Flushing system
 - Observer's house 6.

С. Mobile Team

C.1 Type a:

- Landrover 1.
- 2. Current meter (manual or remote control)
- 3.
- Survey (topo) equipment Suspended and bottom samplers 4.
- 5. Water sampling kit

C.2 Type b:

- Landrover 1.
- 2.
- Rubber dingy with outboard engine
 Portable winch system
 Current meter (manual or remote control) 4.
- Survey (topo) equipment 5.
- Suspended and bottom samplers 6.
- 7. Water sampling kit

C.3 Type c:

- 1. Landrover
- 2. 3. Rubber dingy with outboard engine
- Portable wire
- 4. Current meter (manual or remote control)
- 5. Survey (topo) equipment
- Suspended and bottom samplers 6.
- Water sampling kit

C.4 Type d:

- 1. Landrover
- 2. Survey (topo) equipment
- 3. Suspended and bottom samplers
- 4. Water sampling kit

APPENDIX B20.2

QUESTIONNAIRE TO HYDROLOGISTS IN THE FIELD OFFICE

Table B20.1 List of Water Level Gauging Stations (1/12)

Province	District	Field Office	Priority of	
FIGATUGE	DISCILCE	Field Ollice	First	Second
1 Nyanza	Kisumu	Kisumu	1GB5 1GB6 1JG1 1JG3 1JG4 1JG5 1HA1 1HA2 1HA4 1HA4	1GB6A
		Muhoroni	1HB5 1GD7 1GD3 1GD4	1GB3
	South Nyanza	Homa Bay	1KA9 1KB5 1KB1A	1HE3
		Migori Kendu Bay	None 1HD3 1HD4	None None
	Siaya	Siaya	1EF1 1EG2 1EE1 1FG2	None
		Yala	1FE1 1FF3 1FG1	None
	Nyamira	Nyamira	1KB12 1HD6	None
		Manga Ekerenyo Tinga	None 1JG 1HD	None None None
	Kisii	Kisii	1KB14 1KB8	1KA5 1KB10 1KB13
		Ogembo Keroka Kamagambo	None None None	None None None

Table B20.1 List of Water Level Gauging Stations (2/12)

Province	District	Field Office	Prior	ity of RGS
	DISCILCE	rieid Ollice	First	Second
2 Western	Kakamega	Kakamega Mbale Mumias	1EB2 1FE2 1DD1 1ED1	None None None
	Bungoma	Bungoma	1DD2 1BD2 1DB3	1DB1A
		Malakisi	1AA1 1AD2	None
		Webuye Kimilili	1DA2 1BG7	None None
	Busia	Busia	1AH1 1AE1	None
		Nambale	1AH1	1AF

Table B20.1 List of Water Level Gauging Stations (3/12)

, , , , , , , , , , , , , , , , , , ,	a dall lied and and the pure out year over med two one year that he had		Priority of RGS	
Province	District	Field Office	First	Second
3 Rift Valley		Lodwar	2B14 2B21 2B25	None
	West Pokot	Kapenguria	1BC1 1BC2 2B7 2B20 2B23 2B28 2B31 2B32 2B33 2C8	None
	Trans Nzoia	Kitale	1BE6 1BC4 1BC3 1BB1 1BB4	1BB2
	Uasin Gishu	Moi,s Bridge Eldoret	1BD1 1CB 1CB9 1CC1	None 1CB10 1BA1
		Turbo	1BD2 1CB5 1CA2 1CE1	None
	Samburu Nakuru	Maralal Nakuru	None 2EA1 2EC1 2FA2 2FA8 2FA10 2FC4 2FC7 2FC12 2FC13 2FC13 2FC15 2DC10	None 2FC6 2FC9

Table B20.1 List of Water Level Gauging Stations (4/12)

Province	District	Field Office	Priori	y of RGS
LIOATUCE	DISCILCE	rield Office	First	Second
3 Rift Valley	Nakuru	Naivasha	2GB1 2GB2 2GB5 2GA5 2GA6 2GC4 2GC5 2GC10 2GD1 2GD4 2GD6 2GD7	2GC7
		Molo	2EG1 2EG2 2EG4 2EG6 2EC6 2EC7 2EC8 2EG2	2EG7
		Njoro	2FC5 2FC8 2FC11 2EC3 2FC3	2FC9
	Kajiado	Kajiado	2K4 2K7 2K11 2K12 2K13 2K14 2K15 2K16	None
	Nandi	Oloitokitok Kapsabet	3G6 1CD1 1CD2 1FC1	None 1CC2
De 1-10 1-10 1-10 1-10 1-10 1-10 1-10 1-1	Elgeyo Marakwet	Iten	2C17 2C18	2C5 2C12

Table B20.1 List of Water Level Gauging Stations (5/12)

Province	Dietwiet	Kabarnet 2C4 2C9 2C7 2EF 2C13 2EF 2C14 2EF 2C15 2EG 2C16 2EF 2D2		ty of RGS
Province	District	rieid Office	First	Second
3 Rift Valley	Baringo	Kabarnet	2C7 2C13 2C14 2C15 2C16	2C9 2EE3 2EE7 2EE10 2EG8 2EH2
		Eldama Ravine	2ED1 2ED2 2ED3 2EE8 2EE9 2EF1 2EF2 2EF3 2EF4A	None
	Kericho	Kericho	1JD3 1JC13 1JC16 1JA2 1JA7 1JA5 1JF4 1JF6 1JF7	1GC5 1GC4
		Kipkelion	1GC6 1GG1	None
		Bomet	1LA3 1LB2	None
	Narok	Narok	1LA4 1LB 2K1 2K2 2K3 2K6 2K9 2K10	None

Table B20.1 List of Water Level Gauging Stations (6/12)

Province	District	Field Office	Prior	ity of RGS
Province	DISCITCE	Fleid Office	First	Second
3 Rift Valley	Laikipia	Nanyuki	5AC8 5AC10 5AD3 5BA2 5BC2 5BC4 5BC6 5BC8 5BE1 5BE3 5BE4 5BE5 5BE6 5BE7 5BE11 5BE12 5BE 5BE20 5BE21 5BE21 5BE21 5BE21	None
		Rumuruti	5AB2 5AC2 5AC3 5AC4 5AC6 5AC11 5AC15	None
,		Naro Moru	5BB2 5BC2 5BC6	None

Table B20.1 List of Water Level Gauging Stations (7/12)

Decrison		riald Office	Prior	ity of RGS
Province	District	Field Office	First	Second
4 Central	Nyeri	Nyeri	4AB1	4AB7
•			4AB9	4AB8
			4AC4	4AC6
			4AC5	
		Karatina	4AA5	None
			4AC3	
•			4AC7	
			4BB2	
			4BB3	
			4BB4	
			4B B5	
		Othaya	4AD1	None
			4AD2	
•			4AD3	
			4AD4	
			4AD5	
			4AD6	
		Kiganjo	4AAl	4AA6
			4AA2	
			4AA4	
			4AB5	
	Muranga	Muranga	4BD3	None
		Kiganjo Muranga	4BE1	
			4BF2	
			4CB7	
			4BD6	
			4BD7	
			4BE3	
			4BE9	
		Gatura	4CA4	None
·	•		4CA9	
			4CA10	
			4CA11	
			4CA15	
			4CA20	
			4CB5	
	,	Kangari	4BE5	None
			4BE6	
			4BE7	
			4BE8	

Table B20.1 List of Water Level Gauging Stations (8/12)

Province	District	Field Office	Prior	riority of RGS	
FIOVINCE	DISCLICE	rield Ollice	First	Second	
4 Central	Kirinyaga	Kerugoya Baricho	None 4BC5 4BC6 4BC7 4DA10 4DA12	None None	
		Kianyaga	4DA11 4DA13 4DA14	None	
		Wanguru	4DA6 4DB3 4DB5 4DC2	None	
		Sagana	4BB1 4BC2 4BC4 4BE10	None	
	Nyandarua	Nyahururu	2EB6 2EK1 5AA1 5AA2A 5AA4 5AA5 5AB3	2EB1 2EB4	
		Ol Kalou	2GB3 2GB4 2GB7	None	
	Kiambu	Njabini Kiambu	4CA14 3BB9 3BB10 3BC8 3BC19 3BC24 3BD8 3CA19 3CB6 3CB7 3CB8 4CA2	None None	
on the to be an in the later and the control of the			4CA23 4CB4		

Table B20.1 List of Water Level Gauging Stations (9/12)

		n: ld Office	Priority of RG	
Province	District	Field Office	First	Second
4 Central	Kiambu	Banana	3BA17 3BA18	None
			3BA35 3BA39	
		Ruiru	3BB11 3BB12	None
			3BB13	
		Githunguri	3BC12 3BC7	None
		OI CHAILG ALL	3BC9	None
			3BC13 3BC15	
		Gatamayu	3BC20	None
		Gatundu	3BC23 3BD2	None
			3BD4	
		Juja	3CB2 3BA5	None
		Munyu/	3BA32 3CB5	None
		Gatuanyaga	3DA2	
		Githiga	3BB15 3BC25	None
		Thika	4CA2	None
			4CA23 4CB4	,
		Gikuni	3BA42	None
			3BA43 3BA44	

Table B20.1 List of Water Level Gauging Stations (10/12)

Province	District	Field Office	Priority of RG	
TOATHCE	DISCITCE	rierd Office	First	Second
Eastern	Embu	Embu	4DC3	None
			4DC6	
			4DC8	
			4EA	
			4EB13	
			4EB15	
		Runyenjes	4EB4	None
			4EB5	
	•		4EB14	
•		Kairuri	4DC4	None
			4DC5	
			4DC7	
		Mate Road	4EA6	None
			4EB6	
			4EB7	
			4EB11	
	Machakos	Machakos	3EA3A	None
			3EA3B	
•			3EB1	
		•	3DB1	
			3F6	
			3F9	
			3F10	,
		Matuu	4CC3	None
			4CC3A	
			4CC6	
			4CC7	
		Kiboko	3F'7	None
			3F8	
			3F11	
		Makueni	3F2	None
			3F9	
			3F10	
			3F6	
			3DB1	
	Meru	Meru	4F13	None
			4F19	
			4F20	
		-	4F25	
			4F26	
			4F4	
			4F5	
,			4EA3	
*	•		5D14	

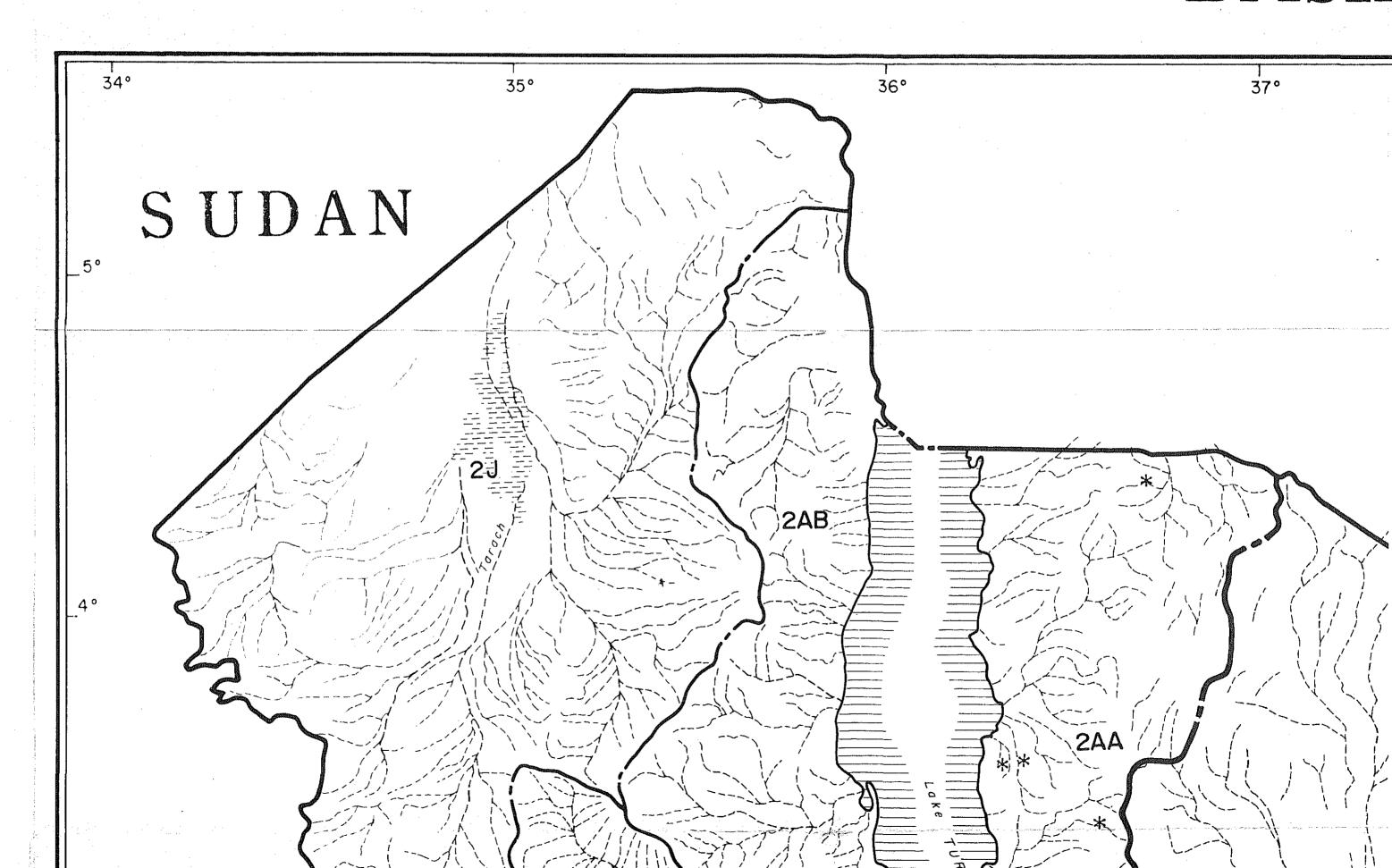
Table B20.1 List of Water Level Gauging Stations (11/12)

Province	District	Field Office	Priori	ty of RGS
FIOATUCE	DIBCTICC	rield Office	First	Second
5 Eastern	Meru	Chuka	4EA1 4EB1 4EB19 4EB12	None
•		Maua Mikinduri	None 4F24 4F33 4F36 4F37	None None
		Kakinduri	4F24 4F33 4F36 4F37	None
		Kathithine	4F8 4F9 4F21 4F22 4F23	None
		Marimanti	4F10 4F17	None
	Kitui Marsabit Isiolo	Kitui Marsabit Isiolo	None None 5D8	None None None
6 North Eastern	Garissa Wajir Mandera	Garissa Wajir Mandera	4G1 None 5H1	4G8 None None

Table B20.1 List of Water Level Gauging Stations (12/12)

Province	District	Fiold Office	Prior	ity of RGS
Province	District	Field Office	First	Second
7 Coast	Mombasa	Mombasa	3K1 3KB1 3KC4 3KD6 3MA3	None
	Kilifi	Malindi	3HA6 3HA13 3LC2	None
	Kwale	Kwale	3MH4 3MH5 3MH7 3MH15 3MH17 3MH18 3MH24 3MH26	3MH1
	Tana River	Hola Garsen	4G4 4G2 4G9	None None
	Taita Taveta	Wundanyi	3G3 3G14 3LA5 3LA8 3LA9 3LA10 3LA11 3LA12	None
		Rukanga	3MA5 3MA29	3MA4 3MA27 3MA28
		Voi Taveta	None 3J2 3J5B 3J5C	None None
	Lamu	Lamu	None	None

BASII



BASIN BOUNDARY MAP

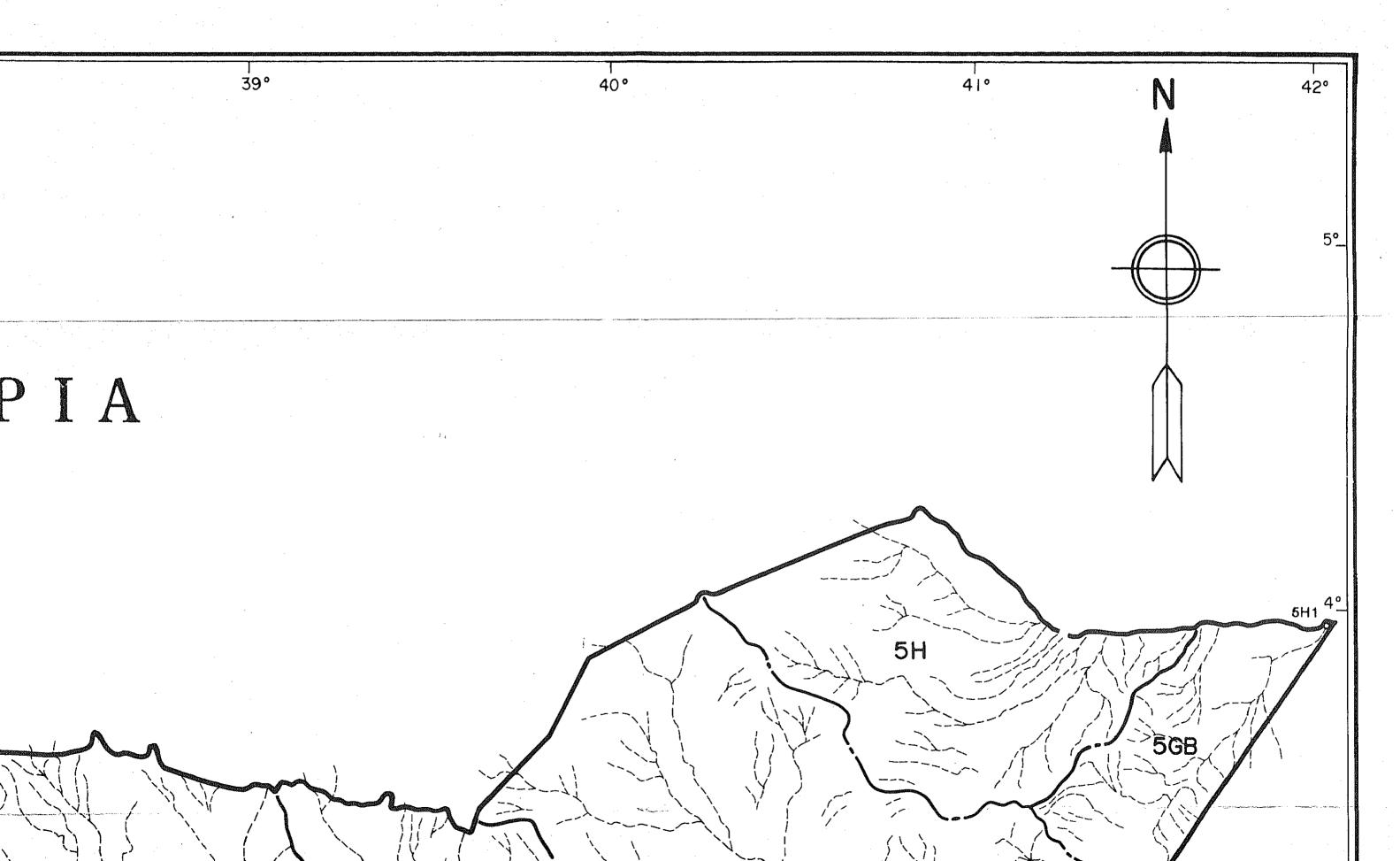
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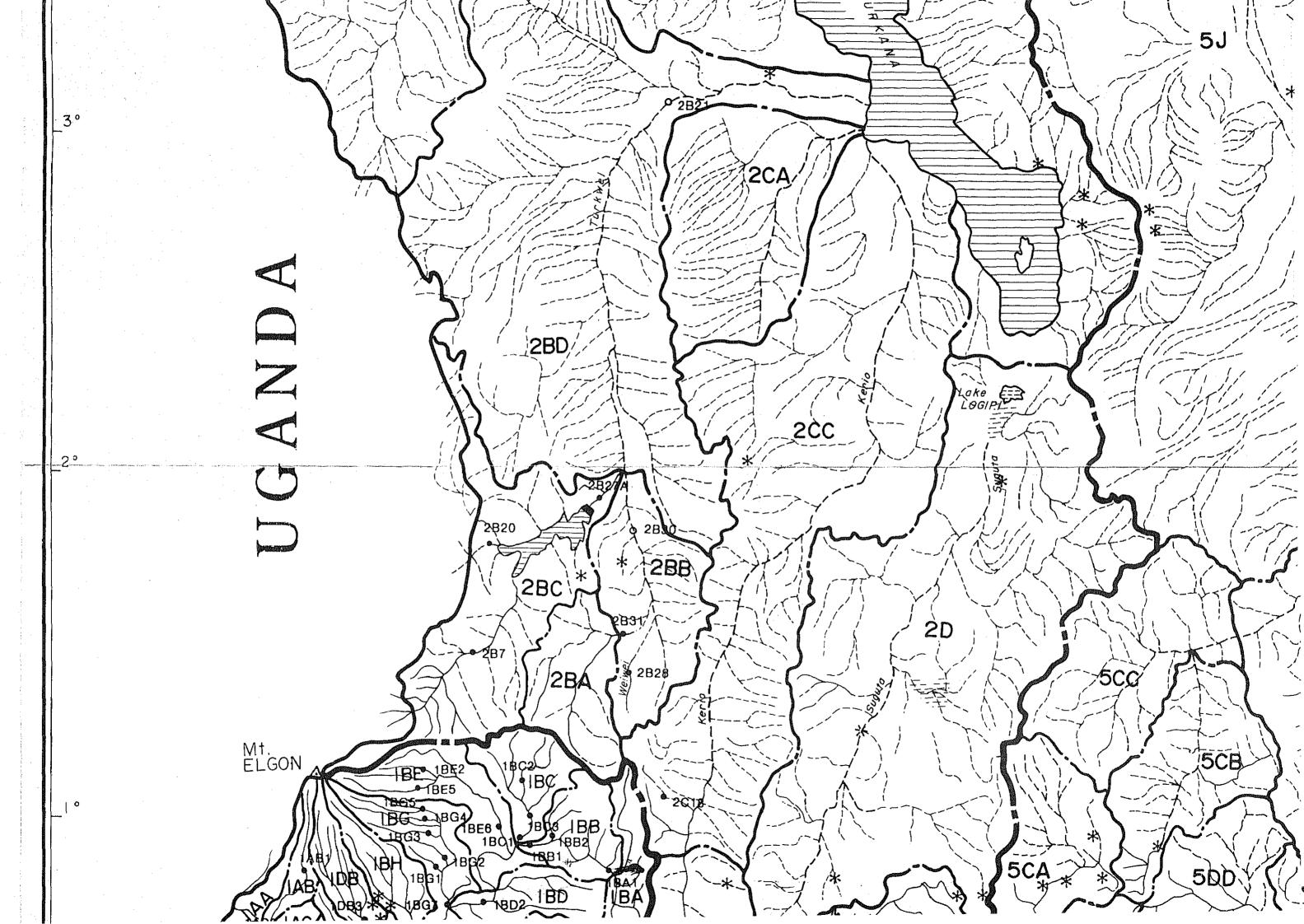
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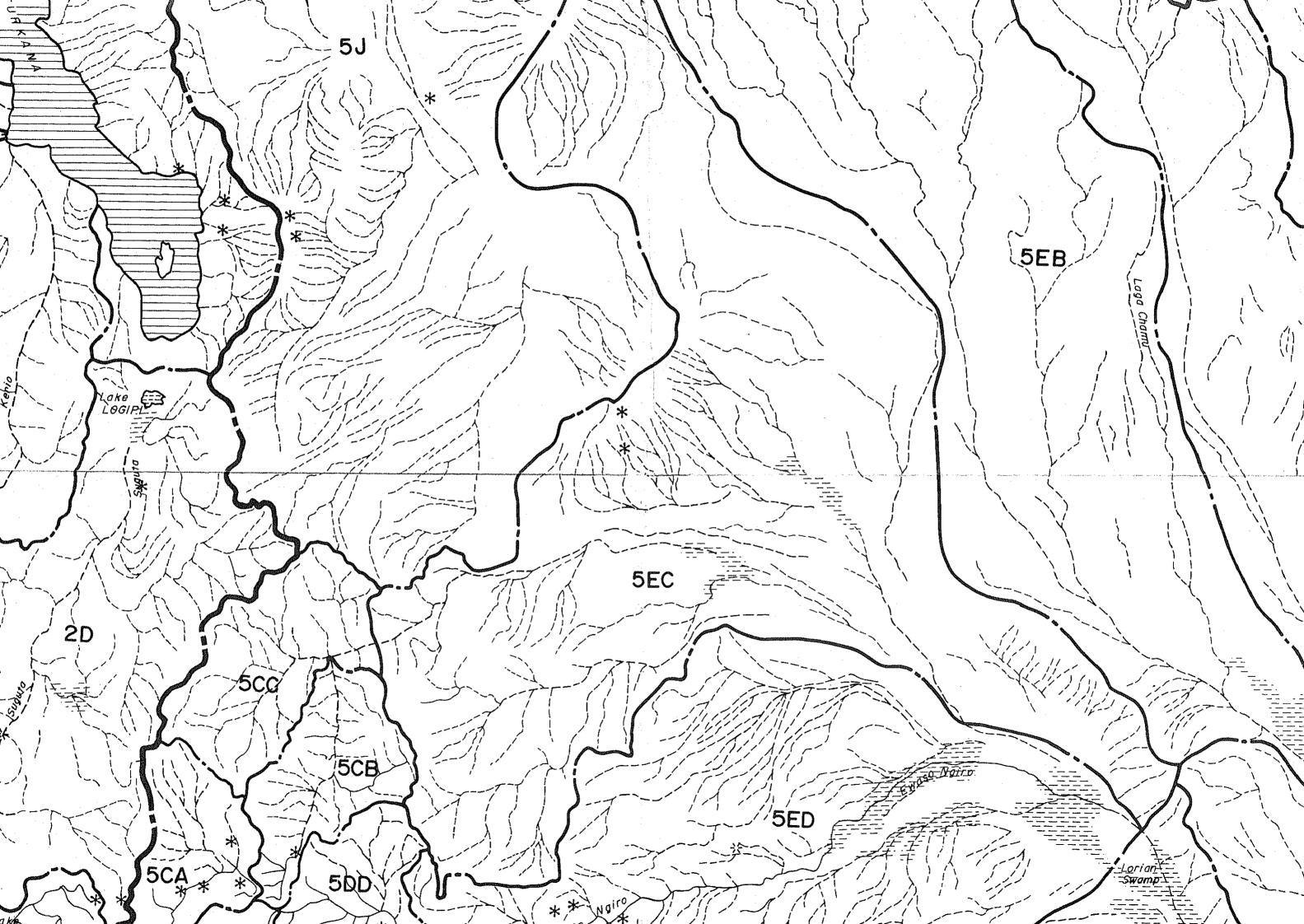
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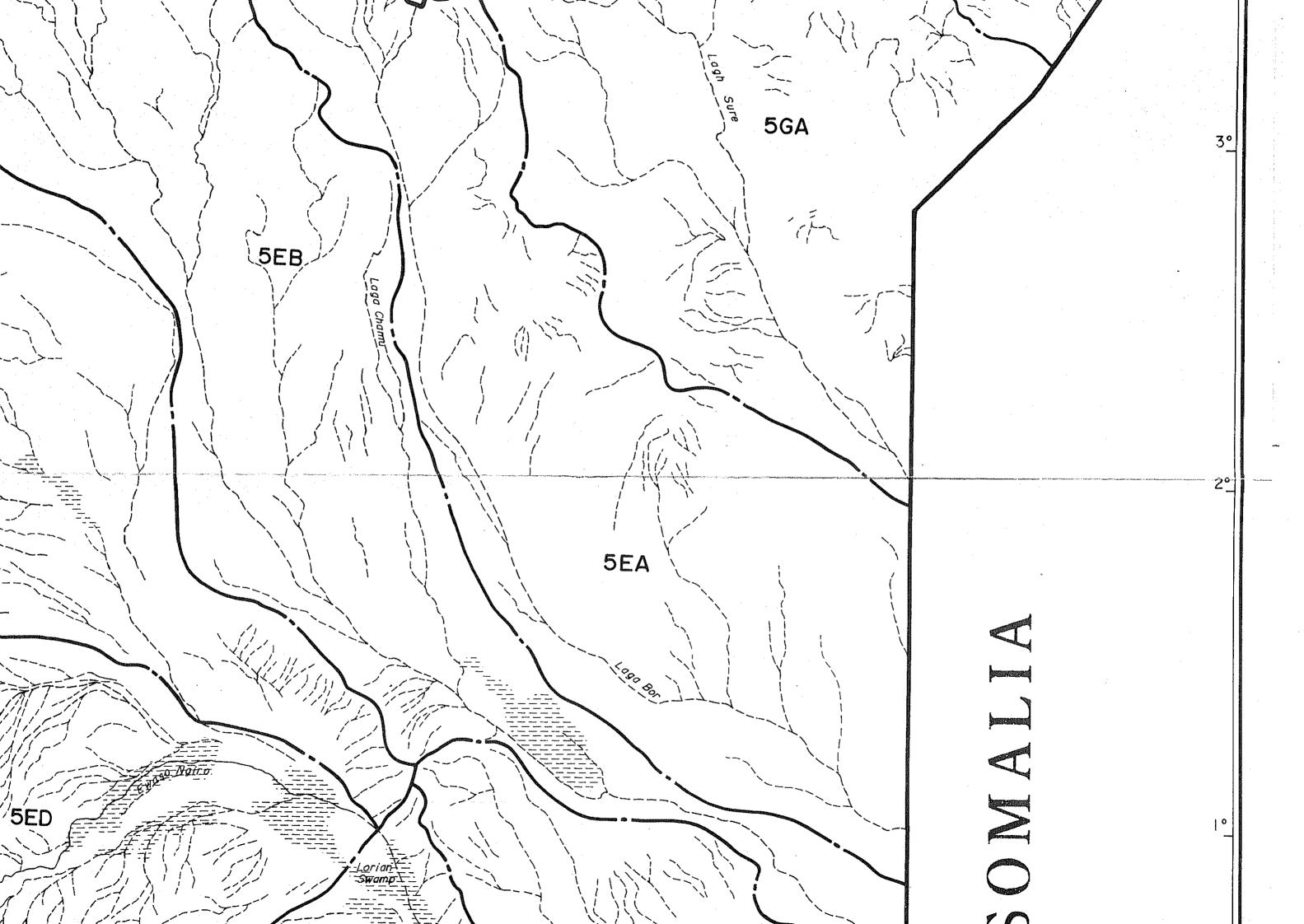
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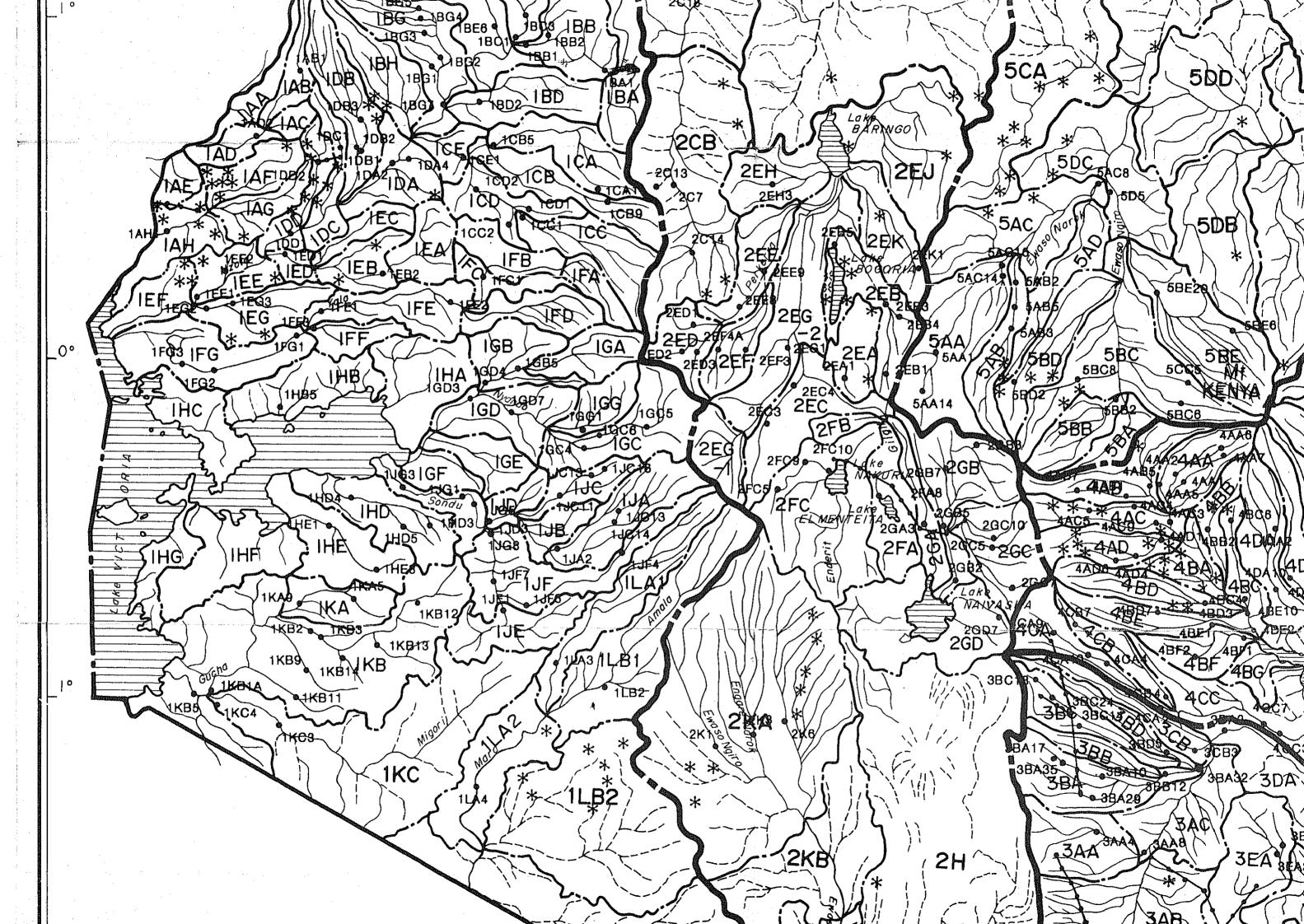
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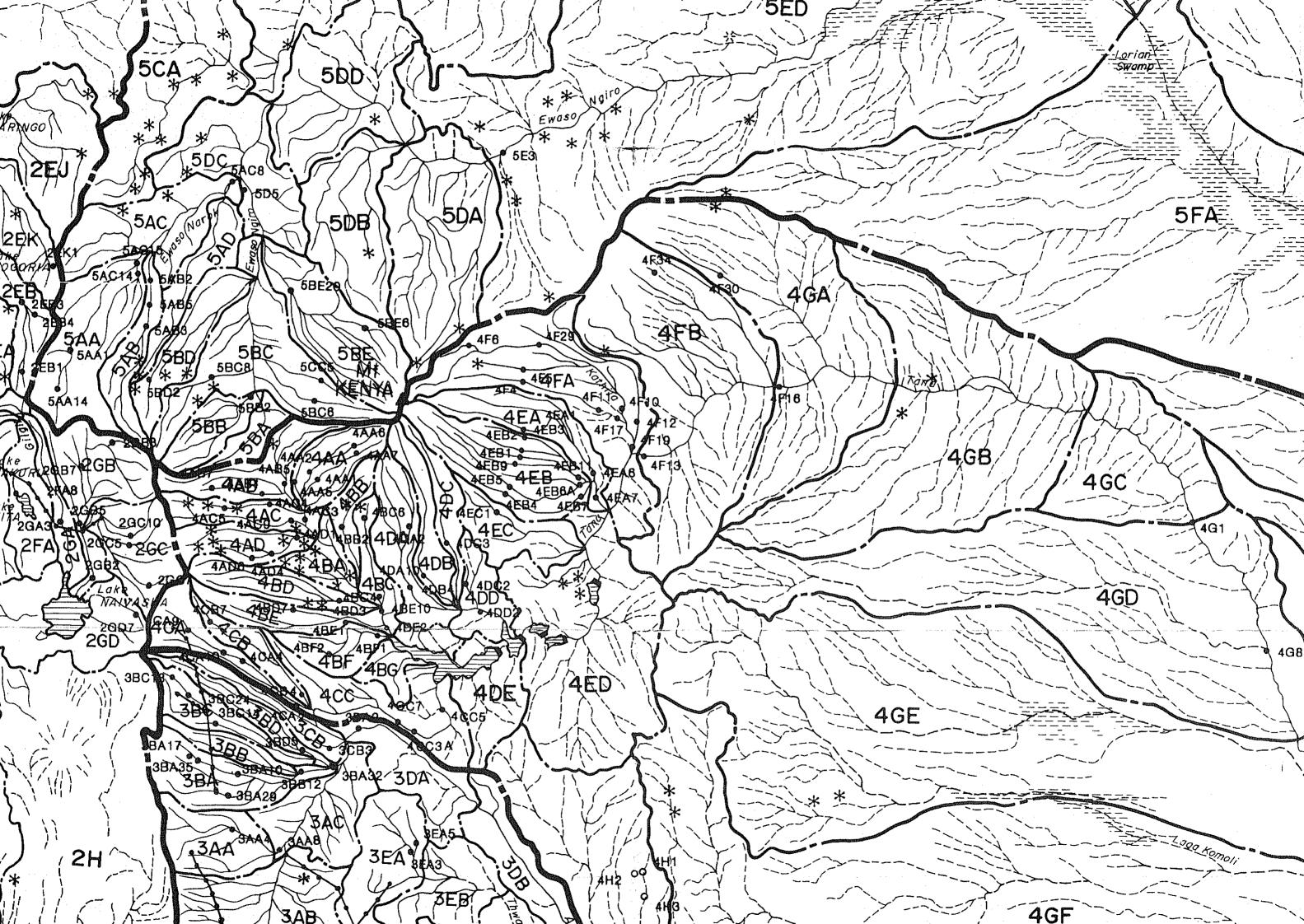


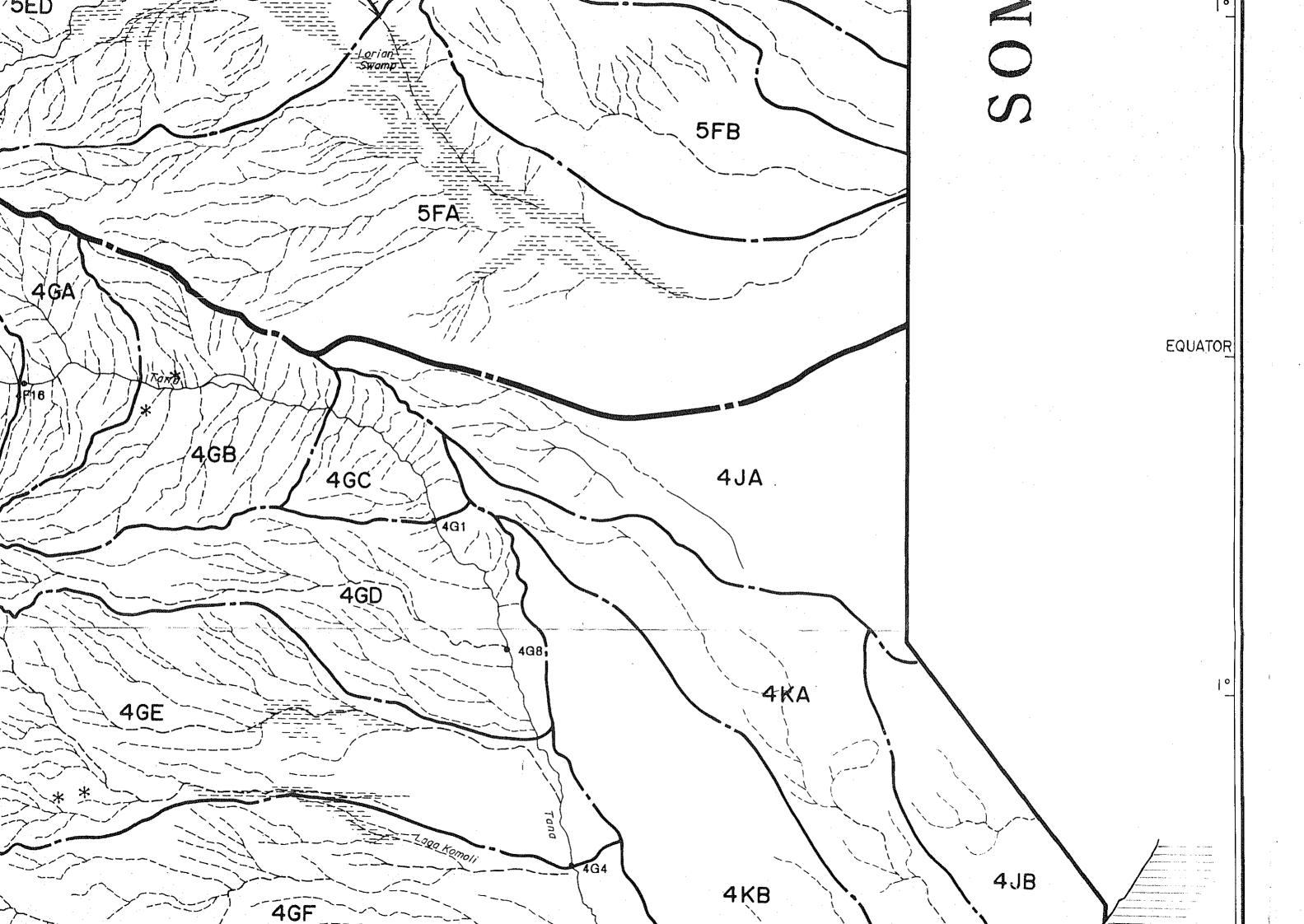


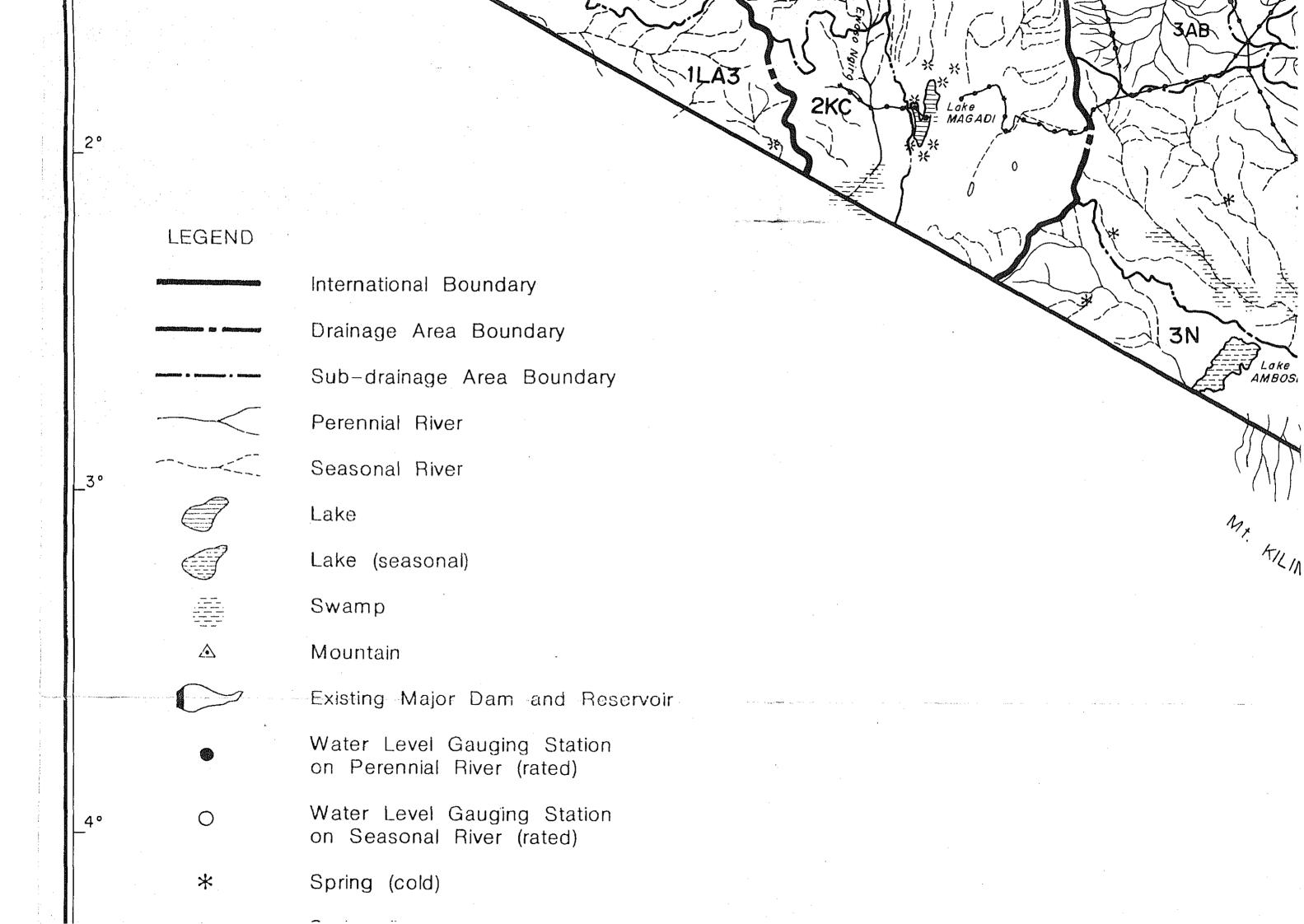


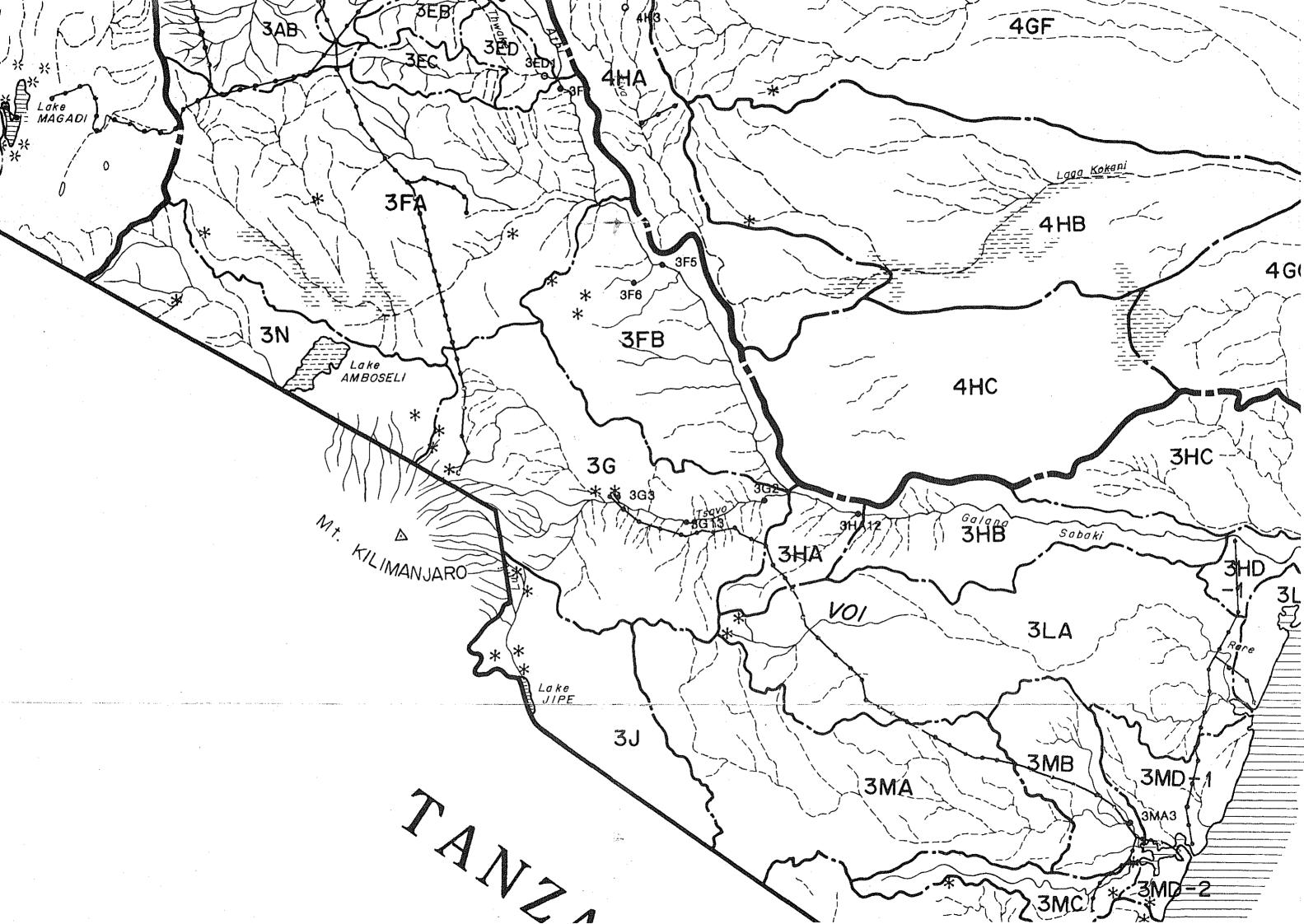


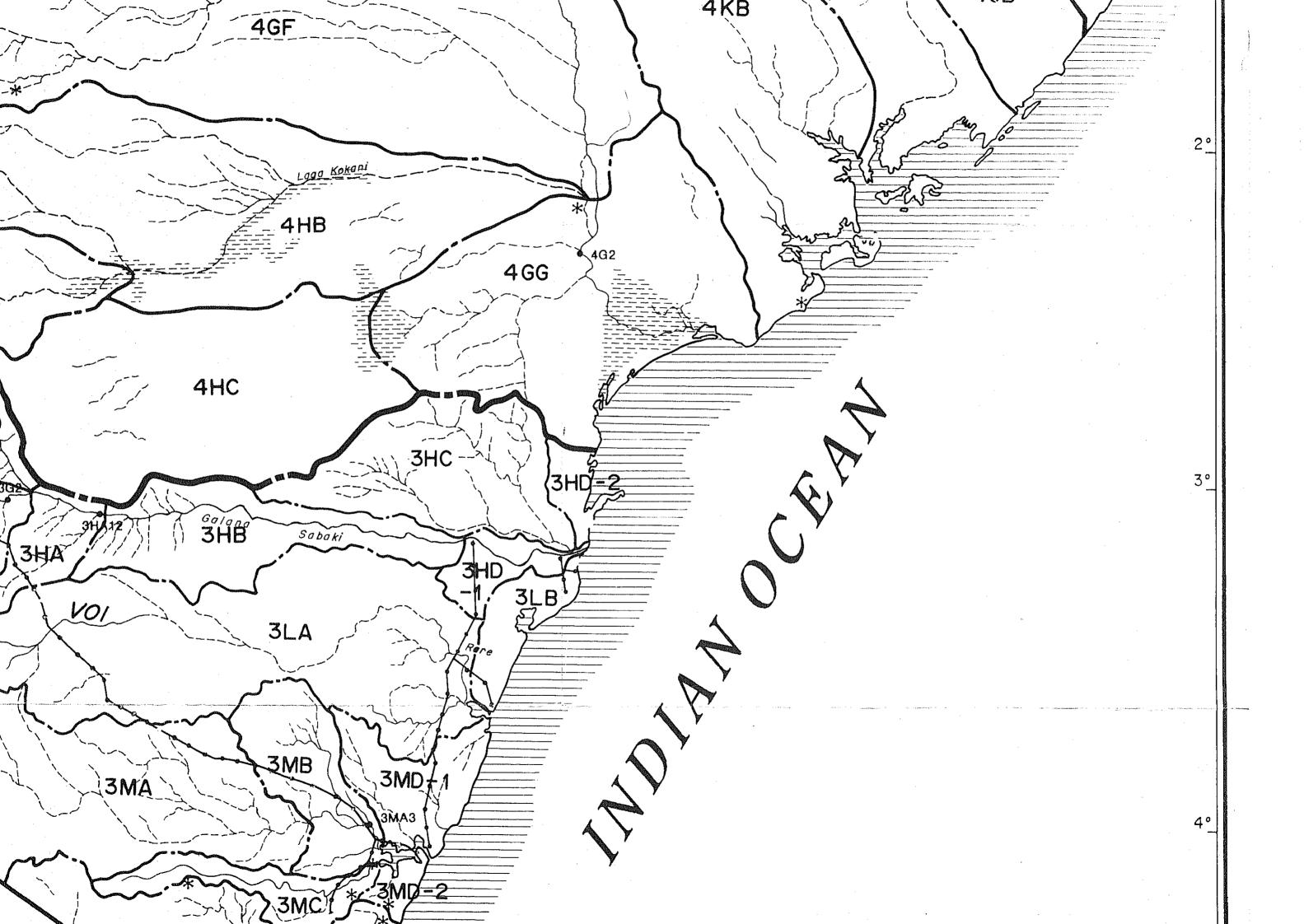












		International Boundary		3	
		Drainage Area Boundary			3N
A Principal Consequence	Accordances to deconstruction of successions	Sub-drainage Area Boundary			Lake AMBOS
		Perennial River			
3°		Seasonal River			
		Lake			N.
		Lake (seasonal)			4/2,
		Swamp			
		Mountain			
Na v est deservices a services		Existing Major Dam and Reservoir			
	•	Water Level Gauging Station on Perennial River (rated)			
4°		Water Level Gauging Station on Seasonal River (rated)			
	*	Spring (cold)			
	**	Spring (hot)	x		
	- 	Existing Major Pipeline			
349)	35°	36°		37°

