

CHAPTER B PROJECT ENGINEERING



Table B-1 INVENTORY OF EXISTING WATER SUPPLY FACILITIES

Name of Town / Village	Category of Water Source	Supply (m ³ /day)	Size of Facility	Remarks
Mnduli Town	-TMA Pipeline	45	TMA~Bp: ϕ 6" GS pipe, L=2.9km Bp: ϕ 3" Pump 1 no. & Tank (5,000 gal) Bp~MCE: ϕ 3" GS pipe, L=3.1km & Elevated Tank (30,000 gal)	Bp=Booster Pump
	-Kilimani Spring	130	ϕ 2" GS pipe, L=4.5km	To Monduli Town
	-Rasharasha "	20	ϕ 2" GS pipe, L=2.9km & Tanks (20,000 galx2)	To Monduli Town
	-Lekishirititi "	=0	ϕ 2" GS pipe, L= ? km	To MCE
	-Ardai Dam	(113)	Dam, L=271m, B=4m, H=2m	Breached
	-Ardai Charco-1	(5)	Dam, L=175m, B=3m, H=2m	Breached
	-Ardai Charco-2	(45)	Dam, L=148m, B=3m, H=2.5m	Breached
Lendikinya	-Lendikinya Spring	=0		
	-Alkaria Dam (old)	-	Dam, L=250m, B=4m, H=7m	Breached
	-Alkaria Dam (new)	(142)	Dam, L=210m, B=4m, H=6m	Intake & LCT
	-Mrandawa Dam	(15)	Dam, L=106m, B=3m, H=2m	
Enguik	-Oldeani Spring	66	ϕ 4" GS pipe, L=4.6km & Tank (10,000 gal)	
	-Enguik Dam	(51)	Dam, L=112m, B=4m, H=6m	For livestock
Arkatan	-Nongilili Cha-1	(6)	Dam, L=160m, B=3m, H=1m	
	-Nongilili Cha-2	(19)	Dam, L=100m, B=2m, H=4m	With LCT
	-Ardai Ranch Dam	(23)	Dam, L=191m, B=5m, H=3m	Breached
	-Nadosoito Dam	(362)	Dam, L=292m, B=4m, H=2m	
	-Loikumashi Dam	(5)	Dam, L= 60m, B=3m, H=6m	
	-Nanja Dam	(2,678)	Dam, L=320m, B=5m, H=7m	
	-Rain harvesting-1	(400)	Collector 10mx26.5m, & Tank (44,000 galx2)	
	-Rain harvesting-2	-		Collapsed
Lossimngori	-Lossimngori Dam	(81)	Dam, L=320m, B=4m, H=4m	With LCT
	-Rasha Rasha Dam	(48)	Dam, L=164m, B=4m, H=5m	Breached
Lepurko	-Lepurko Dam	(169)	Dam, L=250m, B=4m, H=6m	
	-Kitasho Dam	(40)	Dam, L=150m, B=3m, H=2m	
Meserani Juu	-TMA pipeline	43	ϕ 2" GS pipe, L=6.7km	4 DWPs
	-Ngooi Kumen Dam	(77)	Dam, L=327m, B=3m, H=12m	
Nengungu	-TMA pipeline	20	1 DWP	
	-Komesha Dam	(0)	Dam, L=255m, B=4m, H=1m	Silted, Breached
	-Hamsini Dam	(12)	Dam, L=139m, B=4m, H=3m	
	-Mboori Charco	(10)	Pit, H=3m,	No embankment
	-Levi Dam	(101)	Dam, L=308m, B=4m, H=4m	
Mbita Kiloriti	-Orngarwa Dam	(95)	Dam, L=300m, B=2m, H=4m	
	-Ekivuk Dam	(178)	Dam, L=218m, B=4m, H=10m	LCT & DWP
	-Enao Ekivuk Dam	(67)	Dam, L=200m, B=3m, H=3m	

Name of Town / Village	Category of Water Source	Supply (m ³ /day)	Size of Facility	Remarks
Mbita	-Ndulele Dam	(61)	Dam, L=160m, B=3m, H=4m	
Brawani	-Kilimatinde Cha.	(10)	Dam, L=100m, B=3m, H=4m	
Meserani	-Naalarami Dam	(97)	Dam, L=150m, B=2m, H=3m	
Brawani	-Olnjapatwa Dam	(6)	Dam, L=150m, B=3m, H=2m	
	-Meserani Dam	(750)	Dam, L=250m, B=2m, H=4m	Breached
Mbuyuni	-Mbuyuni Dam-1	(102)	Dam, L=340m, B=4m, H=3m	
	-Mbuyuni Dam-2	(13)	Dam, L=149m, B=4m, H=3m	
	-Mbuyuni Dam-3	(0)	Dam, L=300m, B=4m, H=7m	Breached, Silted
Iolkisale	-Leteti Spring	69	φ 2½" GS pipe, L=415m	
	-Lengolwa "	35	-	No facility
	-Dug Wells	?	-	Dig small pits
Tukusi	-Spring	11	φ 2" Outlet	
	-River	77	Dig the riverbed	
Makuyuni	-Borehole-1	135	φ 4" GS pipe, L=4.1km, 1 Elevated Tank (10,000 gal) & 3 DWPs	
	-Borehole-2	-	(No pipe system)	Pump broken
	-Makuyuni Dam	(85)	Dam, L=200m, B=4m, H=5m	
	-Lemiyoni Dam	(16)	Dam, L=160m, B=3m, H=2m	
	-J.K.T Dam-1	(65)	Dam, L=120m, B=2m, H=6m	
	-J.K.T Dam-2	(13)	Dam, L=110m, B=3m, H=3m	
	-J.K.T Dam-3	(19)	Dam, L=100m, B=3m, H=3m	Breached
Naitolia	-Naitolia Dam	(23)	Dam, L=350m, B=3m, H=3m	
Sub-Village	-Nguvukazi Dam	(139)	Dam, L=350m, B=3m, H=4m	
Oltukai	-Oltukai Dam	(264)	Dam, L=280m, B=2m, H=7m	Breached
Sub-Village	-Dug Wells	?		Dig the riverbed
Mwakini	-Mwakini Borehole	75	BH~Bp: φ 3" PVC L=1.5km Bp~Tk: φ 2½" GS L=4.5km & Elev. Tank (10,000 gal) Bp~LCT: φ 2" GS L=2.1km Bp~MCO: φ 3" GS L=8.5km	5,000 gal. Tank Pipe broken
	-Mwakini Dam	(45)	Dam, L=370m, B=2m, H=2m	MCO=MIPCO Breached
	-Mwakini Charco	(21)	Dam, L=330m, B=3m, H=4m	Breached
Emairete	-Springs	6		High turbidity
	-Deep Well	-		Hand pump broken
	-Monduli Juu Dam	(271)	Dam, L=164m, B=4m, H=8m	For livestock
	-Soimineri Dam	(69)	Dam, L=154m, B=4m, H=4m	
	-Emairete Cha.	(15)		

N.B. In the column of Supply, figures in () show the capacity of dams or charcos in 1,000m³

Table B-2 EXISTING DAM AND RESERVOIR

S.No	Village	Name of Dam	Catchment Area (km ²)	Storage (1,000 m ³)	Reservoir Area (m ²)
21	Monduli Town	Ardai C. No. 2	4.28	(45)	(24,700)
28	Monduli Town	Ardai	36.68	(113)	(84,700)
30	Monduli Town	Ardai C. No. 1	0.80	(5)	(2,710)
24	Lendikinya	Murandawa	0.56	15	13,800
25	Lendikinya	Alkaria(old)	14.80	(0)	(0)
26	Lendikinya	Alkaria(new)	14.80	142	54,450
37	Enguik	Enguik	6.41	51	25,410
22	Arkatan	Nongilili-1	0.38	6	8,470
23	Arkatan	Nongilili-2	0.51	19	7,000
29	Arkatan	Ardai Ranch	27.19	(23)	(17,000)
27	Arkatan	Nadosoito	32.83	362	209,090
34	Arkatan	Loikumashi	10.47	5	2,900
38	Arkatan	Nanja	122.53	2,678	630,000
9	Lossimingori	Lossimingori	5.13	81	60,500
12	Lossimingori	Rasha Rasha	30.57	(48)	(24,200)
39	Lepurko	Kitasho	2.00	40	24,200
40	Lepurko	Lepurko	4.00	169	72,600
15	Meserani Juu	Ngooi Kumen	44.85	77	38,720
19	Nengungu	Komesha	2.26	(0)	(0)
20	Nengungu	Hamsini	0.24	12	10,890
31	Nengungu	Mboori C.	0.30	10	7,000
33	Nengungu	Levi	1.00	101	60,500
16	Moita Kiloriti	Orngarwa	4.63	95	63,530
17	Moita Kiloriti	Ekivuk	7.95	178	76,230
18	Moita Kiloriti	Emao Ekivuk	5.36	67	57,480
42	Moita Bwawani	Ndulele	22.42	61	45,380
11	Moita Bwawani	Kilimatinde C.	0.91	10	5,810
4	Meserani Bwawani	Naalarani	161.50	97	72,600
41	Meserani Bwawani	Olnjapatwa	32.06	6	9,680
46	Meserani Bwawani	Meserani	186.69	(750)	(450,000)
10	Mbuyuni	Mbuyuni No.1	21.06	102	72,600
13	Mbuyuni	Mbuyuni No.2	13.77	13	9,440
14	Mbuyuni	Mbuyuni No.3	87.88	(0)	(0)
2	Makuyuni	Lemiyoni	2.13	16	24,200
7	Makuyuni	Makuyuni	224.83	85	36,300
43	Makuyuni J.K.T.	No-1	3.40	65	24,200
44	Makuyuni J.K.T.	No-2	0.90	13	9,680
45	Makuyuni J.K.T.	No-3	12.12	(19)	(14,520)
6	Naitolia	Naitolia	3.29	23	19,970
1	Naitolia	Nguvu Kazi	12.79	139	99,000
5	Oltukai	Oltukai	161.23	(264)	72,600
3	Mswakini	Mswakini No.1	29.15	(45)	(68,000)
8	Mswakini	Mswakini C.	1.70	(21)	(11,000)
32	Emairete	Soimineri	3.46	69	23,040
35	Emairete	Emairete	0.30	15	12,830
36	Emairete	Monduli Juu	8.05	271	77,400

N.B. () shows dams breached and figure 0 in the storage column shows dams heavily silted up.

Table B-3 EFFECTIVE RESERVOIR STORAGE IN 2014

S.No	Village	Name of Dam	Catchment Area (km ²)	Storage (1,000 m ³)	Reservoir Area (m ²)
21	Monduli Town	Ardai C. No. 2	4.28	(0)	(0)
28	Monduli Town	Ardai	36.68	(36.3)	(84,700)
30	Monduli Town	Ardai C. No. 1	0.80	(0)	(0)
24	Lendikinya	Murandawa	0.56	8.8	13,800
25	Lendikinya	Alkaria(old)	-	-	-
26	Lendikinya	Alkaria(new)	14.80	111.1	54,450
37	Enguik	Enguik	6.41	0	0
22	Arkatan	Nongilili-1	0.38	1.8	8,470
23	Arkatan	Nongilili-2	0.51	13.4	7,000
29	Arkatan	Ardai Ranch	27.19	x	x
27	Arkatan	Nadosoito	32.83	293.4	209,090
34	Arkatan	Loikumashi	10.47	0	0
38	Arkatan	Nanja	122.53	2,584.9	630,000
9	Lossimingori	Lossimingori	5.13	24.5	60,500
12	Lossimingori	Rasha Rasha	30.57	(0)	(0)
39	Lepurko	Kitasho	2.00	18.0	24,200
40	Lepurko	Lepurko	4.00	124.9	72,600
15	Meserani Juu	Ngooi Kumen	44.85	0	0
19	Nengungu	Komasha	2.26	(0)	-
20	Nengungu	Hamsini	0.24	9.4	10,890
31	Nengungu	Mboori C.	0.30	6.7	7,000
33	Nengungu	Levi	1.00	98.8	60,500
16	Moita Kiloriti	Orngarwa	4.63	44.0	63,530
17	Moita Kiloriti	Ekiyuk	7.95	90.4	76,230
18	Moita Kiloriti	Emao Ekiyuk	5.36	7.9	57,480
42	Moita Bwawani	Ndulele	22.42	14.1	45,380
11	Moita Bwawani	Kilimatinde C.	0.91	0	0
4	Meserani Bwawani	Naalarani	161.50	0	0
41	Meserani Bwawani	Olnjapatwa	32.06	0	0
46	Meserani Bwawani	Meserani	186.69	(608.1)	(450,000)
10	Mbuyuni	Mbuyuni No.1	21.06	58.0	72,600
13	Mbuyuni	Mbuyuni No.2	13.77	0	0
14	Mbuyuni	Mbuyuni No.3	87.88	(0)	(0)
2	Makuyuni	Lemiyoni	2.13	0	0
7	Makuyuni	Makuyuni	224.83	0	0
43	Makuyuni J.K.T.	No-1	3.40	27.5	24,200
44	Makuyuni J.K.T.	No-2	0.90	3.1	9,680
45	Makuyuni J.K.T.	No-3	12.12	(0)	(0)
6	Naitolia	Naitolia	3.29	0	0
1	Naitolia	Nguvu Kazi	12.79	0	0
5	Oltukai	Oltukai	161.23	(141.5)	(72,600)
3	Mswakini	Mswakini No.1	29.15	(0)	(0)
8	Mswakini	Mswakini C.	1.70	(2.3)	(11,000)
32	Emairete	Soimineri	3.46	30.9	23,040
35	Emairete	Emairete	0.30	11.7	12,830
36	Emairete	Monduli Juu	8.05	182.3	77,400

N.B. () shows dams breached and figure 0 in the storage column shows dams heavily silted up.

Table B-4 WATER DEMAND IN 2014

S.No.	Name of Village	Population		Water Consumptive Use(m ³ /day)			
		People(2014)	Livestock Unit	People	Livestock	Others	Depend on Dam
1	Lendikinya	6,295	5,503	188.9	137.6	16.3	342.8
2	Enguik	8,961	1,936	268.3	48.4	15.8	266.5
3	Arkatan	3,786	5,458	113.6	136.5	12.5	262.6
4	Lossimingori	3,769	5,158	113.1	129.0	12.1	254.2
5	Lepurko	6,665	9,176	200.0	229.4	21.5	450.9
6	Meserani Juu	6,540	5,555	196.2	138.9	16.8	185.9
7	Nengungu	3,036	1,761	91.1	44.0	6.8	120.9
8	Moita Kiloriti	3,692	5,740	110.8	143.5	12.7	267.0
9	Moita Bwawani	8,619	11,249	258.6	281.2	27.0	566.8
10	Meserani Bwawani	2,517	3,628	75.5	90.7	8.3	174.5
11	Mbuyuni	8,107	2,226	243.2	55.7	14.9	313.8
12	Lolkisale	9,634	8,252	289.0	206.3	11.7	467.0
13	Tukusi	3,376	1,228	101.3	30.7	6.6	127.6
14	Makuyuni	4,134	6,212	124.0	155.3	7.8	163.1
15	Naitolia Sub-Village	1,444	4,413	43.3	110.3	7.7	161.3
16	Oltukai Sub-Village	726	5,189	21.8	129.7	7.6	159.1
17	Mswakini	5,239	8,062	157.2	201.6	10.1	211.7
18	Enairete	10,241	4,798	307.2	120.0	21.4	398.6
Total		131,635	99,166	-	-	-	-

Table B-5(1) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Lendikinya

Catchment Area (km ²)		Unit WCU (m ³ /d)		Reservoir Area (m ²)		Storage Capacity (m ³)		Remarks	
15.36		260.6		68,250					
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)		
10	31	0	0	8,079	10,579	0	0	0	
11	30	12,600	193,536	7,818	9,419	176,300	176,300	157,000	Max. Capacity
12	31	14,550	223,488	8,079	7,439	207,970	384,270	157,000	
1	31	9,900	152,064	8,079	9,760	134,226	518,495	157,000	
2	28	11,250	172,800	7,297	7,849	157,654	676,150	157,000	
3	31	21,450	329,472	8,079	7,849	313,545	989,694	157,000	
4	30	32,850	504,576	7,818	7,371	489,387	1,479,081	157,000	
5	31	12,450	191,232	8,079	6,552	176,601	1,655,683	157,000	
6	30	0	0	7,818	6,757	-14,575	1,641,108	142,425	
7	31	0	0	8,079	6,552	-14,631	1,626,477	127,795	
8	31	0	0	8,079	9,077	-17,156	1,609,322	110,639	
9	30	0	0	7,818	11,876	-19,694	1,589,628	90,945	
10	31	0	0	8,079	10,579	-18,657	1,570,971	72,288	Storage Ratio: 43%

Table B-5(2) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Enguik

Catchment Area (km²) 6.41 Unit WCU (m³/d) 86.3
 Storage Capacity (m³) 51,000 Reservoir Area (m²) 25,410

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)		
10	31	0	0	2,675	3,939	0	0	0	
11	30	12,600	80,766	2,589	3,507	74,670	74,670	51,000	Max. Capacity
12	31	14,550	98,266	2,675	2,770	87,821	162,491	51,000	
1	31	9,900	63,459	2,675	3,634	57,150	219,641	51,000	
2	28	11,250	72,113	2,416	2,922	66,774	286,415	51,000	
3	31	21,450	137,495	2,675	2,922	131,897	418,312	51,000	
4	30	32,850	210,569	2,589	2,744	205,235	623,547	51,000	
5	31	12,450	79,805	2,675	2,439	74,690	698,237	51,000	
6	30	0	0	2,589	2,516	-5,105	693,132	45,895	
7	31	0	0	2,675	2,439	-5,115	688,018	40,781	
8	31	0	0	2,675	3,380	-6,055	681,963	34,726	
9	30	0	0	2,589	4,421	-7,010	674,953	27,716	
10	31	0	0	2,675	3,939	-6,614	668,339	21,102	Storage Ratio: 41%

Table B-5(3) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Arkatan

Month	Day	Unit Dis-charge (m ³ /Am ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		Catchment Area (km ²)	166.72		Unit WCU (m ³ /d)	218.4			
		Storage Capacity (m ³)	3,070,000		Reservoir Area (m ²)	857,460			
10	31	0	0	6,770	132,906	0	0	0	
11	30	12,600	2,100,672	6,552	118,329	1,975,791	1,975,791	1,975,791	
12	31	14,550	2,425,776	6,770	93,463	2,325,542	4,301,333	3,070,000	Max. Capacity
1	31	9,900	1,650,528	6,770	122,617	1,521,141	5,822,474	3,070,000	
2	28	11,250	1,875,600	6,115	98,608	1,770,877	7,593,351	3,070,000	
3	31	21,450	3,576,144	6,770	98,608	3,470,766	11,064,116	3,070,000	
4	30	32,850	5,476,752	6,552	92,606	5,377,594	16,441,711	3,070,000	
5	31	12,450	2,075,664	6,770	82,316	1,986,577	18,428,288	3,070,000	
6	30	0	0	6,552	84,889	-91,441	18,336,848	2,978,559	
7	31	0	0	6,770	82,316	-89,087	18,247,761	2,889,473	
8	31	0	0	6,770	114,042	-120,813	18,126,948	2,768,660	
9	30	0	0	6,552	149,198	-155,750	17,971,198	2,612,910	
10	31	0	0	6,770	132,906	-139,677	17,831,522	2,473,234	Storage Ratio: 80%

Table B-5(4) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Lossimingori

Catchment Area (km²) 5.13 Unit WCU (m³/d) 229.7
 Storage Capacity (m³) 81,000 Reservoir Area (m²) 60,500

Month	Day	Unit Dis-charge (m ³ /m ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	7,121	9,378	0	0	0	
11	30	12,600	64,638	6,891	8,349	49,398	49,398	49,398	
12	31	14,550	74,642	7,121	6,595	60,926	110,324	81,000	Max. Capacity
1	31	9,900	50,787	7,121	8,652	35,015	145,339	81,000	
2	28	11,250	57,713	6,432	6,958	44,323	189,663	81,000	
3	31	21,450	110,039	7,121	6,958	95,960	285,623	81,000	
4	30	32,850	168,521	6,891	6,534	155,096	440,718	81,000	
5	31	12,450	63,869	7,121	5,808	50,940	491,658	81,000	
6	30	0	0	6,891	5,990	-12,881	478,778	68,120	
7	31	0	0	7,121	5,808	-12,929	465,849	55,191	
8	31	0	0	7,121	8,047	-15,167	450,682	40,024	
9	30	0	0	6,891	10,527	-17,418	433,264	22,606	
10	31	0	0	7,121	9,378	-16,498	416,766	6,107	Storage Ratio: 7.5%

Table B-5(5) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Lepurko

Catchment Area (km²) 6 Unit WCU (m³/d) 408.3
 Storage Capacity (m³) 209,000 Reservoir Area (m²) 96,800

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	12,657	15,004	0	0	0	
11	30	12,600	75,600	12,249	13,358	49,993	49,993	49,993	
12	31	14,550	87,300	12,657	10,551	64,092	114,084	114,084	
1	31	9,900	59,400	12,657	13,842	32,900	146,984	146,984	
2	28	11,250	67,500	11,432	11,132	44,936	191,920	191,920	
3	31	21,450	128,700	12,657	11,132	104,911	296,831	209,000	Max. Capacity
4	30	32,850	197,100	12,249	10,454	174,397	471,227	209,000	
5	31	12,450	74,700	12,657	9,293	52,750	523,977	209,000	
6	30	0	0	12,249	9,583	-21,832	502,145	187,168	
7	31	0	0	12,657	9,293	-21,950	480,195	165,218	
8	31	0	0	12,657	12,874	-25,532	454,663	139,686	
9	30	0	0	12,249	16,843	-29,092	425,571	110,594	
10	31	0	0	12,657	15,004	-27,661	397,910	82,933	Storage Ratio: 40%

Table B-5(6) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Meserani Juu

Catchment Area (km ²)		44.85	Unit WCU (m ³ /d)		177.6				
Storage Capacity (m ³)		77,000	Reservoir Area (m ²)		38,720				
Month	Day	Unit Dis-charge (m ³ /m ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	5,506	6,002	0	0	0	
11	30	12,600	565,110	5,328	5,343	554,439	554,439	77,000	Max. Capacity
12	31	14,550	652,568	5,506	4,220	642,841	1,197,280	77,000	
1	31	9,900	444,015	5,506	5,537	432,972	1,630,253	77,000	
2	28	11,250	504,563	4,973	4,453	495,137	2,125,389	77,000	
3	31	21,450	962,033	5,506	4,453	952,074	3,077,464	77,000	
4	30	32,850	1,473,323	5,328	4,182	1,463,813	4,541,276	77,000	
5	31	12,450	558,383	5,506	3,717	549,160	5,090,436	77,000	
6	30	0	0	5,328	3,833	-9,161	5,081,275	67,839	
7	31	0	0	5,506	3,717	-9,223	5,072,052	58,616	
8	31	0	0	5,506	5,150	-10,655	5,061,397	47,961	
9	30	0	0	5,328	6,737	-12,065	5,049,331	35,895	
10	31	0	0	5,506	6,002	-11,507	5,037,824	24,388	Storage Ratio: 32%

Table B-5(7) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Nengungu

		Catchment Area (km ²)	1.54	Unit WCU (m ³ /d)	82.5				
		Storage Capacity (m ³)	123,000	Reservoir Area (m ²)	78,390				
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)		
10	31	0	0	2,558	12,150	0	0	0	
11	30	12,600	19,404	2,475	10,818	6,111	6,111	6,111	
12	31	14,550	22,407	2,558	8,545	11,305	17,416	17,416	
1	31	9,900	15,246	2,558	11,210	1,479	18,895	18,895	
2	28	11,250	17,325	2,310	9,015	6,000	24,895	24,895	
3	31	21,450	33,033	2,558	9,015	21,461	46,356	46,356	
4	30	32,850	50,589	2,475	8,466	39,648	86,004	86,004	
5	31	12,450	19,173	2,558	7,525	9,090	95,094	95,094	
6	30	0	0	2,475	7,761	-10,236	84,858	84,858	
7	31	0	0	2,558	7,525	-10,083	74,775	74,775	
8	31	0	0	2,558	10,426	-12,983	61,792	61,792	
9	30	0	0	2,475	13,640	-16,115	45,677	45,677	
10	31	0	0	2,558	12,150	-14,708	30,969	30,969	Storage Ratio: 25%

Table B-5(8) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Moita Kiloriti

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		Catchment Area (km ²)	17.94		Unit WCU (m ³ /d)	234.3			
		Storage Capacity (m ³)	340,000		Reservoir Area (m ²)	197,240			
10	31	0	0	7,263	30,572	0	0	0	
11	30	12,600	226,044	7,029	27,219	191,796	191,796	191,796	
12	31	14,550	261,027	7,263	21,499	232,265	424,060	340,000	Max. Capacity
1	31	9,900	177,606	7,263	28,205	142,137	566,198	340,000	
2	28	11,250	201,825	6,560	22,688	172,582	738,780	340,000	
3	31	21,450	384,813	7,263	22,683	354,867	1,093,647	340,000	
4	30	32,850	589,329	7,029	21,302	560,998	1,654,645	340,000	
5	31	12,450	223,353	7,263	18,935	197,155	1,851,800	340,000	
6	30	0	0	7,029	19,527	-26,556	1,825,244	313,444	
7	31	0	0	7,263	18,935	-26,198	1,799,046	287,246	
8	31	0	0	7,263	26,233	-33,496	1,765,549	253,750	
9	30	0	0	7,029	34,320	-41,349	1,724,201	212,401	
10	31	0	0	7,263	30,572	-37,836	1,686,365	174,565	Storage Ratio: 51%

Table B-5(9) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Moita Brawani

		Catchment Area (km ²)	23.33	Unit WCU (m ³ /d)	445.9			
		Storage Capacity (m ³)	71,000	Reservoir Area (m ²)	51,190			
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	13,823	7,934	0	0	
11	30	12,600	293,958	13,377	7,064	273,517	71,000	Max. Capacity
12	31	14,550	339,452	13,823	5,580	320,049	71,000	
1	31	9,900	230,967	13,823	7,320	209,824	71,000	
2	28	11,250	262,463	12,485	5,887	244,090	71,000	
3	31	21,450	500,429	13,823	5,887	480,719	71,000	
4	30	32,850	766,391	13,377	5,529	747,485	71,000	
5	31	12,450	290,459	13,823	4,914	271,721	71,000	
6	30	0	0	13,377	5,068	-18,445	52,555	
7	31	0	0	13,823	4,914	-18,737	33,818	
8	31	0	0	13,823	6,808	-20,631	13,187	
9	30	0	0	13,377	8,907	-22,284	0	
10	31	0	0	13,823	7,934	-21,757	0	Storage Ratio: 0%

Table B-5(10) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Meserani Bwawani

Catchment Area (km²) 193.56 Unit WCU (m³/d) 139.1
 Storage Capacity (m³) 103,000 Reservoir Area (m²) 82,280

Month	Day	Unit Dis-charge (m ³ /km ² /h)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	4,312	12,753	0	0	0	
11	30	12,600	2,438,856	4,173	11,355	2,423,328	2,423,328	103,000	Max. Capacity
12	31	14,550	2,816,298	4,312	8,969	2,803,017	5,226,346	103,000	
1	31	9,900	1,916,244	4,312	11,766	1,900,166	7,126,512	103,000	
2	28	11,250	2,177,550	3,895	9,462	2,164,193	9,290,705	103,000	
3	31	21,450	4,151,862	4,312	9,462	4,138,088	13,428,792	103,000	
4	30	32,850	6,358,446	4,173	8,886	6,345,387	19,774,179	103,000	
5	31	12,450	2,409,822	4,312	7,899	2,397,611	22,171,790	103,000	
6	30	0	0	4,173	8,146	-12,319	22,159,471	90,681	
7	31	0	0	4,312	7,899	-12,211	22,147,260	78,470	
8	31	0	0	4,312	10,943	-15,255	22,132,005	63,215	
9	30	0	0	4,173	14,317	-18,490	22,113,515	44,725	
10	31	0	0	4,312	12,753	-17,066	22,096,450	27,660	Storage Ratio: 27%

Table B-5(11) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Mbuyuni

		Catchment Area (km ²)	122.71	Unit WCU (m ³ /d)	160.6				
		Storage Capacity (m ³)	115,000	Reservoir Area (m ²)	82,040				
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	4,979	12,716	0	0	0	
11	30	12,600	1,546,146	4,818	11,322	1,530,006	1,530,006	115,000	Max. Capacity
12	31	14,550	1,785,481	4,979	8,942	1,771,510	3,301,516	115,000	
1	31	9,900	1,214,829	4,979	11,732	1,198,119	4,499,635	115,000	
2	28	11,250	1,380,488	4,497	9,435	1,366,586	5,866,191	115,000	
3	31	21,450	2,632,130	4,979	9,435	2,617,716	8,483,907	115,000	
4	30	32,850	4,031,024	4,818	8,860	4,017,345	12,501,252	115,000	
5	31	12,450	1,527,740	4,979	7,876	1,514,835	14,016,137	115,000	
6	30	0	0	4,818	8,122	-12,940	14,003,197	102,060	
7	31	0	0	4,979	7,876	-12,854	13,990,343	89,206	
8	31	0	0	4,979	10,911	-15,890	13,974,453	73,316	
9	30	0	0	4,818	14,275	-19,093	13,955,360	54,223	
10	31	0	0	4,979	12,716	-17,695	13,937,665	36,528	Storage Ratio: 32%

Table B-5(12) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Makuyuni Town

Catchment Area (km²) 231.26 Unit WCU (m³/d) 234.8
 Storage Capacity (m³) 179,000 Reservoir Area (m²) 94,380

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)		
10	31	0	0	7,279	14,629	0	0	0	
11	30	12,600	2,913,876	7,044	13,024	2,893,808	2,893,808	179,000	Max. Capacity
12	31	14,550	3,364,833	7,279	10,287	3,347,267	6,241,074	179,000	
1	31	9,900	2,289,474	7,279	13,496	2,268,699	8,509,773	179,000	
2	28	11,250	2,601,575	6,574	10,854	2,584,247	11,094,020	179,000	
3	31	21,450	4,960,527	7,279	10,854	4,942,395	16,036,415	179,000	
4	30	32,850	7,596,891	7,044	10,193	7,579,654	23,616,069	179,000	
5	31	12,450	2,879,187	7,279	9,060	2,862,848	26,478,916	179,000	
6	30	0	0	7,044	9,344	-16,388	26,462,529	162,612	
7	31	0	0	7,279	9,060	-16,339	26,446,189	146,273	
8	31	0	0	7,279	12,553	-19,831	26,426,358	126,442	
9	30	0	0	7,044	16,422	-23,466	26,402,892	102,976	
10	31	0	0	7,279	14,629	-21,908	26,380,984	81,068	Storage Ratio: 45%

Table B-5(13) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Naitolia

Catchment Area (km²) 16.08 Unit WCU (m³/d) 176.2
 Storage Capacity (m³) 162,000 Reservoir Area (m²) 118,970

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	5,462	18,440	0	0	0	
11	30	12,600	202,608	5,286	16,418	180,904	180,904	162,000	Max. Capacity
12	31	14,550	233,964	5,462	12,968	215,534	396,438	162,000	
1	31	9,900	159,192	5,462	17,013	136,717	533,155	162,000	
2	28	11,250	180,900	4,934	13,682	162,285	695,440	162,000	
3	31	21,450	344,916	5,462	13,682	325,772	1,021,212	162,000	
4	30	32,850	528,228	5,286	12,849	510,093	1,531,306	162,000	
5	31	12,450	200,196	5,462	11,421	183,313	1,714,618	162,000	
6	30	0	0	5,286	11,778	-17,064	1,697,554	144,936	
7	31	0	0	5,462	11,421	-16,883	1,680,671	128,053	
8	31	0	0	5,462	15,823	-21,285	1,659,386	106,767	
9	30	0	0	5,286	20,701	-25,987	1,633,399	80,781	
10	31	0	0	5,462	18,440	-23,903	1,609,496	56,878	Storage Ratio: 35%

Table B-5(14) WATER BALANCE (PRESENT CONDITIONS)

Village Name : Emairete

Catchment Area (km²) 11.81 Unit WCU (m³/d) 162.0
 Storage Capacity (m³) 355,000 Reservoir Area (m²) 113,270

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
10	31	0	0	5,022	17,557	0	0	0	
11	30	12,600	148,806	4,860	15,631	128,315	128,315	128,315	
12	31	14,550	171,886	5,022	12,346	154,467	282,782	282,782	
1	31	9,900	116,919	5,022	16,198	95,699	378,481	355,000	Max. Capacity
2	28	11,250	132,863	4,536	13,026	115,300	493,782	355,000	
3	31	21,450	253,325	5,022	13,026	235,276	729,058	355,000	
4	30	32,850	387,959	4,860	12,233	370,865	1,099,923	355,000	
5	31	12,450	147,035	5,022	10,874	131,139	1,231,062	355,000	
6	30	0	0	4,860	11,214	-16,074	1,214,988	338,926	
7	31	0	0	5,022	10,874	-15,896	1,199,092	323,030	
8	31	0	0	5,022	15,065	-20,087	1,179,005	302,943	
9	30	0	0	4,860	19,709	-24,569	1,154,436	278,374	
10	31	0	0	5,022	17,557	-22,579	1,131,858	255,796	Storage Ratio: 72%

Table B-6(1) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Lendikinya

		Catchment Area (km ²)	15.36	UWCU (m ³ /d)	326.5	Reservoir Area (m ²)		68,250	
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	9,142	7,849	0	0	0	
3	31	31,184	478,986	10,122	7,849	461,016	461,016	119,900	
4	30	37,530	576,461	9,795	7,371	559,295	1,020,311	119,900	Max. Capacity
5	31	0	0	10,122	6,552	-16,674	1,003,637	103,227	
6	30	0	0	9,795	6,757	-16,552	987,086	86,675	
7	31	0	0	10,122	6,552	-16,674	970,412	70,001	
8	31	0	0	10,122	9,077	-19,199	951,213	50,803	
9	30	0	0	9,795	11,876	-21,671	929,543	29,132	
10	31	0	0	10,122	10,579	-20,700	908,843	8,432	
11	30	0	0	9,795	9,419	-19,214	889,629	-10,782	Storage Ratio: 0%
12	31	0	0	10,122	7,439	-17,561	872,068	-28,343	
1	31	0	0	10,122	9,760	-19,881	852,187	-48,224	
2	28	0	0	9,142	7,849	-16,991	835,196	-65,215	

Table B-6(2) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Arkatan

Catchment Area (km²) 156.25 UWCU (m³/d) 250.1
 Storage Capacity (m³) 2,893,500 Reservoir Area (m²) 854,560

Month	Day	Unit Dis-charge (m ³ /km ² /h)	Inflow to Dam (m ³ /m)	FCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	7,003	98,274	0	0	0	
3	31	31,184	4,872,500	7,753	98,274	4,766,473	4,766,473	2,893,500	
4	30	37,530	5,864,063	7,503	92,292	5,764,267	10,530,740	2,893,500	Max. Capacity
5	31	0	0	7,753	82,038	-89,791	10,440,949	2,803,709	
6	30	0	0	7,503	84,601	-92,104	10,348,844	2,711,605	
7	31	0	0	7,753	82,038	-89,791	10,259,053	2,621,814	
8	31	0	0	7,753	113,656	-121,410	10,137,644	2,500,404	
9	30	0	0	7,503	148,693	-156,196	9,981,447	2,344,208	
10	31	0	0	7,753	132,457	-140,210	9,841,237	2,203,998	
11	30	0	0	7,503	117,929	-125,432	9,715,805	2,078,566	
12	31	0	0	7,753	93,147	-100,900	9,614,905	1,977,666	
1	31	0	0	7,753	122,202	-129,955	9,484,950	1,847,710	
2	28	0	0	7,003	98,274	-105,277	9,379,673	1,742,433	Storage Ratio: 60%

Table B-6(3) WATER BALANCE(AT TARGET YEAR - 1)

Village Name : Lossimingori

Month	Day	Catchment Area (km ²)	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		5.13						242.1		
		24,500						60,500		
							(4) = (1-2-3)	(5)	(6)	
2	28	0	0	0	6,779	6,958	0	0	0	
3	31	31,184	0	159,974	7,505	6,958	145,511	145,511	24,500	Max. Capacity
4	30	37,530	0	192,529	7,263	6,534	178,732	324,243	24,500	
5	31	0	0	0	7,505	5,808	-13,313	310,930	11,187	
6	30	0	0	0	7,263	5,990	-13,263	297,678	-2,066	Storage Ratio: 0%
7	31	0	0	0	7,505	5,808	-13,313	284,365	-15,379	
8	31	0	0	0	7,505	8,047	-15,552	268,813	-30,930	
9	30	0	0	0	7,263	10,527	-17,790	251,023	-48,720	
10	31	0	0	0	7,505	9,378	-16,883	234,140	-65,603	
11	30	0	0	0	7,263	8,349	-15,612	218,528	-81,215	
12	31	0	0	0	7,505	6,595	-14,100	204,429	-95,315	
1	31	0	0	0	7,505	8,652	-16,157	188,272	-111,471	
2	28	0	0	0	6,779	6,958	-13,736	174,536	-125,207	

Table B-6(4) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Lepurko

Catchment Area (km²) 6 WCU (m³/d) 429.4
 Storage Capacity (m³) 142,900 Reservoir Area (m²) 96,800

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4)=(1-2-3)	(5)	(6)	
2	28	0	0	12,023	11,132	0	0	0	
3	31	31,184	187,104	13,311	11,132	162,661	162,661	142,900	
4	30	37,530	225,180	12,882	10,454	201,844	364,504	142,900	Max. Capacity
5	31	0	0	13,311	9,293	-22,604	341,900	120,296	
6	30	0	0	12,882	9,583	-22,465	319,435	97,831	
7	31	0	0	13,311	9,293	-22,604	296,831	75,226	
8	31	0	0	13,311	12,874	-26,186	270,645	49,041	
9	30	0	0	12,882	16,843	-29,725	240,920	19,315	
10	31	0	0	13,311	15,004	-23,315	212,604	-9,000	Storage Ratio: 0%
11	30	0	0	12,882	13,353	-26,240	186,364	-35,240	
12	31	0	0	13,311	10,551	-23,863	162,501	-59,103	
1	31	0	0	13,311	13,842	-27,154	135,347	-86,257	
2	28	0	0	12,023	11,132	-23,155	112,192	-109,412	

Table B-6(5) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Nengungu

Catchment Area (km²) 1.54 JWCU (m³/d) 114.1
 Storage Capacity (m³) 114,900 Reservoir Area (m²) 78,390

Month	Day	Unit Dis-charge (m ³ /km ² /d)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4)=(1-2-3)	(5)	(6)	
2	28	0	0	3,195	9,015	0	0	0	
3	31	31,184	48,023	3,537	9,015	35,471	35,471	35,471	
4	30	37,530	57,796	3,423	8,466	45,907	81,378	81,378	
5	31	0	0	3,537	7,525	-11,063	70,316	70,316	
6	30	0	0	3,423	7,761	-11,184	59,132	59,132	
7	31	0	0	3,537	7,525	-11,063	48,070	48,070	
8	31	0	0	3,537	10,426	-13,963	34,107	34,107	
9	30	0	0	3,423	13,640	-17,063	17,044	17,044	
10	31	0	0	3,537	12,150	-15,688	1,356	1,356	
11	30	0	0	3,423	10,818	-14,241	-12,884	-12,884	Storage Ratio: 0%
12	31	0	0	3,537	8,545	-12,082	-24,966	-24,966	
1	31	0	0	3,537	11,210	-14,747	-39,713	-39,713	
2	28	0	0	3,195	9,015	-12,210	-51,923	-51,923	

Table B-6(6) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Moita Kiloriti

Catchment Area (km²) 17.94 UVCU (m³/d) 254.3
 Storage Capacity (m³) 142,300 Reservoir Area (m²) 197,240

Month	Day	Unit Dis-charge (m ³ /m ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
	28	0	0	7,120	22,683	0	0	0	
	31	31,184	559,441	7,883	22,683	528,875	528,875	142,300	
	30	37,530	673,288	7,629	21,302	644,357	1,173,232	142,300	Max. Capacity
	31	0	0	7,883	18,935	-26,818	1,146,414	115,482	
	30	0	0	7,629	19,527	-27,156	1,119,258	88,326	
	31	0	0	7,883	18,935	-26,818	1,092,440	61,508	
	31	0	0	7,883	26,233	-34,116	1,058,324	27,391	
	30	0	0	7,629	34,320	-41,949	1,016,375	-14,557	Storage Ratio: OK
	31	0	0	7,883	30,572	-38,456	977,919	-53,013	
	30	0	0	7,629	27,219	-34,848	943,071	-87,861	
	31	0	0	7,883	21,499	-29,382	913,689	-117,244	
	31	0	0	7,883	28,205	-36,089	877,600	-153,332	
	28	0	0	7,120	22,683	-29,803	847,797	-183,135	

Table B-6(7) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Moita Brawani

Catchment Area (km²) 22.42 UVCU (m³/c) 539.8
 Storage Capacity (m³) 14,100 Reservoir Area (m²) 45,380

Month	Day	Unit Dis-charge (m ³ /Am ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	15,114	5,219	0	0	0	
3	31	31,184	699,145	16,734	5,219	677,193	677,193	14,100	
4	30	37,530	841,423	16,194	4,901	820,328	1,497,520	14,100	Max. Capacity
5	31	0	0	16,734	4,356	-21,090	1,476,430	-6,990	Storage Ratio: OK
6	30	0	0	16,194	4,493	-20,687	1,455,743	-27,677	
7	31	0	0	16,734	4,356	-21,090	1,434,653	-48,767	
8	31	0	0	16,734	6,036	-22,769	1,411,884	-71,537	
9	30	0	0	16,194	7,896	-24,090	1,387,794	-95,627	
10	31	0	0	16,734	7,034	-23,768	1,364,026	-119,394	
11	30	0	0	16,194	6,262	-22,456	1,341,570	-141,851	
12	31	0	0	16,734	4,946	-21,680	1,319,889	-163,531	
1	31	0	0	16,734	6,489	-23,223	1,296,666	-186,754	
2	28	0	0	15,114	5,219	-20,333	1,276,333	-207,087	

Table B-6(8) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Mbuyuni

Catchment Area (km²) 21.06 UWCJ (m³/d) 298.9
 Storage Capacity (m³) 58,000 Reservoir Area (m²) 72,600

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	RCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	8,369	8,349	0	0	0	
3	31	31,184	656,735	9,266	8,349	639,120	639,120	58,000	
4	30	37,530	790,382	8,967	7,841	773,574	1,412,694	58,000	Max. Capacity
5	31	0	0	9,266	6,970	-16,236	1,396,459	41,765	
6	30	0	0	8,967	7,187	-16,154	1,380,304	25,610	
7	31	0	0	9,266	6,970	-16,236	1,364,069	9,375	
8	31	0	0	9,266	9,656	-18,922	1,345,147	-9,547	Storage Ratio: OK
9	30	0	0	8,967	12,632	-21,599	1,323,548	-31,147	
10	31	0	0	9,266	11,253	-20,519	1,303,029	-51,665	
11	30	0	0	8,967	10,019	-18,986	1,284,043	-70,651	
12	31	0	0	9,266	7,913	-17,179	1,266,864	-87,831	
1	31	0	0	9,266	10,382	-19,648	1,247,216	-107,478	
2	28	0	0	8,369	8,349	-16,718	1,230,498	-124,196	

Table B-6(9) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Makuyuni

Catchment Area (km ²)		UWCU (m ³ /d)		155.3					
Storage Capacity (m ³)		Reservoir Area (m ²)		33,880					
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	4,348	3,896	0	0	0	
3	31	31,184	134,091	4,814	3,896	125,381	125,381	30,600	
4	30	37,530	161,379	4,659	3,659	153,061	278,442	30,600	Max. Capacity
5	31	0	0	4,814	3,252	-8,067	270,375	22,533	
6	30	0	0	4,659	3,354	-8,013	262,362	14,520	
7	31	0	0	4,814	3,252	-8,067	254,295	6,453	
8	31	0	0	4,814	4,506	-9,320	244,975	-2,867	Storage Ratio: OK
9	30	0	0	4,659	5,895	-10,554	234,421	-13,421	
10	31	0	0	4,814	5,251	-10,066	224,355	-23,487	
11	30	0	0	4,659	4,675	-9,334	215,020	-32,821	
12	31	0	0	4,814	3,693	-8,507	206,513	-41,329	
1	31	0	0	4,814	4,845	-9,659	196,854	-50,988	
2	28	0	0	4,348	3,896	-8,245	188,609	-59,232	

Table B-6(10) WATER BALANCE (AT TARGET YEAR - 1)

Village Name : Enairete

Catchment Area (km²) 11.81 WCU (m³/d) 377.2
 Storage Capacity (m³) 224,900 Reservoir Area (m²) 113,270

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	10,562	13,026	0	0	0	
3	31	31,184	368,283	11,693	13,026	343,564	343,564	224,900	
4	30	37,530	443,229	11,316	12,233	419,680	763,244	224,900	Max. Capacity
5	31	0	0	11,693	10,874	-22,567	740,677	202,333	
6	30	0	0	11,316	11,214	-22,530	718,147	179,803	
7	31	0	0	11,693	10,874	-22,567	695,580	157,236	
8	31	0	0	11,693	15,065	-26,758	668,822	130,478	
9	30	0	0	11,316	19,709	-31,025	637,797	99,453	
10	31	0	0	11,693	17,557	-29,250	608,547	70,203	
11	30	0	0	11,316	15,631	-26,947	581,600	43,256	
12	31	0	0	11,693	12,346	-24,040	557,560	19,216	
1	31	0	0	11,693	16,198	-27,891	529,669	-8,675	Storage Ratio: 0%
2	28	0	0	10,562	13,026	-23,588	506,081	-32,262	

Table B-7(1) WATER BALANCE(AT TARGET YEAR - 2)

Village Name : Lendikinya

Catchment Area (km²) 15.36 UVCU (m³/d) 326.5
 Storage Capacity (m³) 186,000 Reservoir Area (m²) 68,250

Month	Day	Unit Dis-charge (m ³ /m ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)		
2	28	0	0	9,142	7,849	0	0	0	
3	31	31,184	478,986	10,122	7,849	461,016	461,016	186,000	
4	30	37,530	576,461	9,795	7,371	559,295	1,020,311	186,000	Max. Capacity
5	31	0	0	10,122	6,552	-16,674	1,003,637	152,775	
6	30	0	0	9,795	6,757	-16,552	987,086	136,101	
7	31	0	0	10,122	6,552	-16,674	970,412	116,903	
8	31	0	0	10,122	9,077	-19,199	951,213	95,232	
9	30	0	0	9,795	11,876	-21,671	929,543	74,532	
10	31	0	0	10,122	10,579	-20,700	908,843	55,318	
11	30	0	0	9,795	9,419	-19,214	889,629	37,758	
12	31	0	0	10,122	7,439	-17,561	872,068	17,876	
1	31	0	0	10,122	9,760	-19,881	852,187	886	Storage Ratio: 0%
2	28	0	0	9,142	7,849	-16,991	835,196		

Table B-7(2) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Enguik

Catchment Area (km²) 6.41 WCU (m³/d) 48.4
 Storage Capacity (m³) 47,000 Reservoir Area (m²) 25,410

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	1,355	2,922	0	0	0	
3	31	31,184	199,889	1,500	2,922	195,467	195,467	47,000	
4	30	37,530	240,567	1,452	2,744	236,371	283,371	47,000	
5	31	0	0	1,500	2,439	-3,940	43,060	43,060	
6	30	0	0	1,452	2,516	-3,968	39,093	39,093	
7	31	0	0	1,500	2,439	-3,940	35,153	35,153	
8	31	0	0	1,500	3,380	-4,880	30,273	30,273	
9	30	0	0	1,452	4,421	-5,873	24,400	24,400	
10	31	0	0	1,500	3,939	-5,439	18,961	18,961	
11	30	0	0	1,452	3,507	-4,959	14,002	14,002	
12	31	0	0	1,500	2,770	-4,270	9,732	9,732	
1	31	0	0	1,500	3,634	-5,134	4,598	4,598	
2	28	0	0	1,355	2,922	-4,277	321	321	Storage Ratio: 0%

Table B-7(3) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Lossimingori

Catchment Area (km²) 35.7 WCU (m³/d) 242.1
 Storage Capacity (m³) 181,000 Reservoir Area (m²) 84,700

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	6,779	9,741	0	0	0	
3	31	31,184	1,113,269	7,505	9,741	1,096,023	1,096,023	181,000	
4	30	37,530	1,339,821	7,263	9,148	1,323,410	2,419,434	181,000	Max. Capacity
5	31	0	0	7,505	8,131	-15,636	2,403,797	165,364	
6	30	0	0	7,263	8,385	-15,648	2,388,149	149,715	
7	31	0	0	7,505	8,131	-15,636	2,372,513	134,079	
8	31	0	0	7,505	11,265	-18,770	2,353,743	115,309	
9	30	0	0	7,263	14,738	-22,001	2,331,742	93,308	
10	31	0	0	7,505	13,129	-20,634	2,311,108	72,675	
11	30	0	0	7,263	11,689	-18,952	2,292,157	53,723	
12	31	0	0	7,505	9,232	-16,737	2,275,419	36,986	
1	31	0	0	7,505	12,112	-19,617	2,255,802	17,368	
2	28	0	0	6,779	9,741	-16,519	2,239,283	849	Storage Ratio: 0%

Table B-7(4) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Lepurko

Catchment Area (km²) 10 UMCU (m³/d) 429.4
 Storage Capacity (m³) 283,000 Reservoir Area (m²) 121,000

Month	Day	Unit Dis-charge (m ³ /m ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(5)	
2	28	0	0	12,023	13,915	0	0	0	
3	31	31,184	311,840	13,311	13,915	284,614	284,614	283,000	
4	30	37,530	375,300	12,882	13,068	349,350	633,964	283,000	Max. Capacity
5	31	0	0	13,311	11,616	-24,927	609,036	258,073	
6	30	0	0	12,882	11,979	-24,861	584,175	233,212	
7	31	0	0	13,311	11,616	-24,927	559,248	208,284	
8	31	0	0	13,311	16,093	-29,404	529,843	178,880	
9	30	0	0	12,882	21,054	-33,936	495,907	144,944	
10	31	0	0	13,311	18,755	-32,066	463,841	112,877	
11	30	0	0	12,882	16,698	-29,580	434,261	83,297	
12	31	0	0	13,311	13,189	-26,500	407,761	56,797	
1	31	0	0	13,311	17,303	-30,614	377,146	26,183	
2	28	0	0	12,023	13,915	-25,938	351,208	244	Storage Ratio: 0%

Table B-7(5) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Meserani Juu

		Catchment Area (km ²)	44.85	UWCU (m ³ /d)	169.1			
		Storage Capacity (m ³)	101,000	Reservoir Area (m ²)	38,720			
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	4,735	0	0	0	
3	31	31,184	1,398,602	4,453	1,388,908	1,388,908	101,000	
4	30	37,530	1,683,221	4,182	1,673,966	3,062,873	101,000	Max. Storage
5	31	0	0	3,717	-8,959	3,053,914	92,041	
6	30	0	0	3,833	-8,906	3,045,008	83,135	
7	31	0	0	3,717	-8,959	3,036,049	74,175	
8	31	0	0	5,150	-10,392	3,025,657	63,783	
9	30	0	0	6,737	-11,810	3,013,846	51,973	
10	31	0	0	6,002	-11,244	3,002,603	40,729	
11	30	0	0	5,343	-10,416	2,992,186	30,313	
12	31	0	0	4,220	-9,453	2,982,724	20,851	
1	31	0	0	5,537	-10,779	2,971,945	10,071	
2	28	0	0	4,735	-9,188	2,962,757	884	Storage Ratio: 0%

Table B-7(6) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Nengungu

Catchment Area (km²) 3.8 URCU (m³/d) 114.1
 Storage Capacity (m³) 165,000 Reservoir Area (m²) 102,600

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	URCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	3,195	11,799	0	0	0	
3	31	31,184	118,499	3,537	11,799	103,163	103,163	103,163	
4	30	37,530	142,614	3,423	11,081	128,110	231,273	165,000	Max. Capacity
5	31	0	0	3,537	9,850	-13,387	217,887	151,613	
6	30	0	0	3,423	10,157	-13,580	204,306	138,033	
7	31	0	0	3,537	9,850	-13,387	190,920	124,646	
8	31	0	0	3,537	13,646	-17,183	173,737	107,463	
9	30	0	0	3,423	17,852	-21,275	152,461	86,188	
10	31	0	0	3,537	15,903	-19,440	133,021	66,748	
11	30	0	0	3,423	14,159	-17,582	115,439	49,166	
12	31	0	0	3,537	11,183	-14,721	100,719	34,446	
1	31	0	0	3,537	14,672	-18,209	82,510	16,237	
2	28	0	0	3,195	11,799	-14,994	67,516	1,243	Storage Ratio: 0%

Table B-7(7) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Moita Kiloriti

Catchment Area (km²) 17.94 WUCU (m³/d) 254.3
 Storage Capacity (m³) 423,000 Reservoir Area (m²) 274,000

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	(6)	
2	28	0	0	7,120	31,510	0	0	0	
3	31	31,184	559,441	7,883	31,510	520,048	520,048	423,000	
4	30	37,530	673,288	7,629	29,592	636,067	1,156,115	423,000	Yax. Capacity
5	31	0	0	7,883	26,304	-34,187	1,121,928	388,813	
6	30	0	0	7,629	27,126	-34,755	1,087,173	354,058	
7	31	0	0	7,883	26,304	-34,187	1,052,985	319,870	
8	31	0	0	7,883	36,442	-44,326	1,008,660	275,545	
9	30	0	0	7,629	47,676	-55,305	953,355	220,240	
10	31	0	0	7,883	42,470	-50,353	903,002	169,887	
11	30	0	0	7,629	37,812	-45,441	857,561	124,446	
12	31	0	0	7,883	29,866	-37,749	819,811	86,697	
1	31	0	0	7,883	39,182	-47,065	772,746	39,631	
2	28	0	0	7,120	31,510	-38,630	734,116	1,001	Storage Ratio: 0%

Table B-7(8) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Moita Bwawani

Catchment Area (km²) 22.42 UWCU (m³/d) 539.8
 Storage Capacity (m³) 320,000 Reservoir Area (m²) 122,000

Month	Day	Unit Dis-charge (m ³ /km ² /d)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	15,114	14,030	0	0	0	
3	31	31,184	699,145	16,734	14,030	668,381	668,381	320,000	
4	30	37,530	841,423	16,194	13,176	812,053	1,480,434	320,000	Max. Capacity
5	31	0	0	16,734	11,712	-28,446	1,451,988	291,554	
6	30	0	0	16,194	12,078	-28,272	1,423,716	263,282	
7	31	0	0	16,734	11,712	-28,446	1,395,270	234,836	
8	31	0	0	16,734	16,226	-32,960	1,362,311	201,877	
9	30	0	0	16,194	21,228	-37,422	1,324,889	164,455	
10	31	0	0	16,734	18,910	-35,644	1,289,245	128,811	
11	30	0	0	16,194	16,836	-33,030	1,256,215	95,781	
12	31	0	0	16,734	13,298	-30,032	1,226,183	65,749	
1	31	0	0	16,734	17,446	-34,180	1,192,003	31,569	
2	28	0	0	15,114	14,030	-29,144	1,162,859	2,425	Storage Ratio: 0%

Table B-7(9) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Meserani Bwawani

Catchment Area (km²) 186.69 WCU (m³/d) 166.2
 Storage Capacity (m³) 618,000 Reservoir Area (m²) 450,000

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	4,654	51,750	0	0	0	
3	31	31,184	5,821,741	5,152	51,750	5,764,839	5,764,839	618,000	
4	30	37,530	7,006,476	4,986	48,600	6,952,890	12,717,728	618,000	Max. Capacity
5	31	0	0	5,152	43,200	-48,352	12,669,376	569,648	
6	30	0	0	4,986	44,550	-49,536	12,619,840	520,112	
7	31	0	0	5,152	43,200	-48,352	12,571,488	471,760	
8	31	0	0	5,152	59,850	-65,002	12,506,486	406,757	
9	30	0	0	4,986	78,300	-83,286	12,423,200	323,471	
10	31	0	0	5,152	69,750	-74,902	12,348,298	248,569	
11	30	0	0	4,986	62,100	-67,086	12,281,212	181,483	
12	31	0	0	5,152	49,050	-54,202	12,227,009	127,281	
1	31	0	0	5,152	64,350	-69,502	12,157,507	57,779	
2	28	0	0	4,654	51,750	-56,404	12,101,104	1,375	Storage Ratio: 18%

Table B-7(10) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Mbuyuni

Catchment Area (km²) 122.71 WCU (m³/d) 298.9
 Storage Capacity (m³) 354,000 Reservoir Area (m²) 208,000

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ² /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	8,369	23,920	0	0	0	
3	31	31,184	3,826,589	9,266	23,920	3,793,403	5,793,403	354,000	
4	30	37,530	4,605,306	8,967	22,464	4,573,875	8,367,278	354,000	Max. Capacity
5	31	0	0	9,266	19,968	-29,234	8,338,044	324,766	
6	30	0	0	8,967	20,592	-29,559	8,308,485	295,207	
7	31	0	0	9,266	19,968	-29,234	8,279,251	265,973	
8	31	0	0	9,266	27,664	-36,930	8,242,321	229,043	
9	30	0	0	8,967	36,192	-45,159	8,197,162	183,884	
10	31	0	0	9,266	32,240	-41,506	8,155,656	142,378	
11	30	0	0	8,967	28,704	-37,671	8,117,985	104,707	
12	31	0	0	9,266	22,672	-31,938	8,086,048	72,770	
1	31	0	0	9,266	29,744	-39,010	8,047,038	33,760	
2	28	0	0	8,369	23,920	-32,289	8,014,748	1,470	Storage Ratio: 0%

Table B-7(11) WATER BALANCE (AT TARGET YEAR -2)

Village Name : Lolkisale

Catchment Area (km²) 12.79 UCU (m³/d) 455.3
 Storage Capacity (m³) 706,000 Reservoir Area (m²) 450,000

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	UCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)		
2	28	0	0	12,748	51,750	0	0	0	
3	31	31,184	398,843	14,114	51,750	332,979	332,979	332,979	
4	30	37,530	480,009	13,659	48,600	417,750	750,729	706,000	Max. Capacity
5	31	0	0	14,114	43,200	-57,314	693,414	648,686	
6	30	0	0	13,659	44,550	-58,209	635,205	590,477	
7	31	0	0	14,114	43,200	-57,314	577,891	533,162	
8	31	0	0	14,114	59,850	-73,964	503,927	459,198	
9	30	0	0	13,659	78,300	-91,959	411,968	367,239	
10	31	0	0	14,114	69,750	-83,864	328,104	283,375	
11	30	0	0	13,659	62,100	-75,759	252,345	207,616	
12	31	0	0	14,114	49,050	-63,164	189,180	144,452	
1	31	0	0	14,114	64,350	-78,464	110,716	65,987	
2	28	0	0	12,748	51,750	-64,498	46,218	1,489	Storage Ratio: 0%

Table B-7(12) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Fukusi

Catchment Area (km²) 5.13 UVCU (m³/d) 121.0
 Storage Capacity (m³) 114,000 Reservoir Area (m²) 61,000

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)		
2	28	0	0	3,388	7,015	0	0	0	
3	31	31,184	159,974	3,751	7,015	149,208	149,208	114,000	
4	30	37,530	192,529	3,630	6,588	182,311	331,519	114,000	Max. Capacity
5	31	0	0	3,751	5,856	-9,607	321,912	104,393	
6	30	0	0	3,630	6,039	-9,669	312,243	94,724	
7	31	0	0	3,751	5,856	-9,607	302,636	85,117	
8	31	0	0	3,751	8,113	-11,864	290,772	73,253	
9	30	0	0	3,630	10,614	-14,244	276,528	59,009	
10	31	0	0	3,751	9,455	-13,206	263,322	45,803	
11	30	0	0	3,630	8,418	-12,048	251,274	33,755	
12	31	0	0	3,751	6,649	-10,400	240,874	23,355	
1	31	0	0	3,751	8,723	-12,474	228,400	10,881	
2	28	0	0	3,388	7,015	-10,403	217,997	478	Storage Ratio: 0%

Table B-7(13) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Makuyuni

Catchment Area (km ²)		19.3		WCU (m ³ /d)		155.3			
Storage Capacity (m ³)		159,000		Reservoir Area (m ²)		88,330			
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	4,348	10,158	0	0	0	
3	31	31,184	601,851	4,814	10,158	586,879	586,879	159,000	
4	30	37,530	724,329	4,659	9,540	710,130	1,297,009	159,000	Max. Capacity
5	31	0	0	4,814	8,480	-13,294	1,283,715	145,706	
6	30	0	0	4,659	8,745	-13,404	1,270,312	132,302	
7	31	0	0	4,814	8,480	-13,294	1,257,018	119,008	
8	31	0	0	4,814	11,748	-16,562	1,240,455	102,446	
9	30	0	0	4,659	15,369	-20,028	1,220,427	82,418	
10	31	0	0	4,814	13,691	-18,505	1,201,922	63,912	
11	30	0	0	4,659	12,190	-16,849	1,185,073	47,064	
12	31	0	0	4,814	9,628	-14,442	1,170,631	32,622	
1	31	0	0	4,814	12,631	-17,445	1,153,185	15,176	
2	28	0	0	4,348	10,158	-14,506	1,138,679	670	Storage Ratio: 0%

Table B-7(14) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Naitoria

Catchment Area (km²) 16.08 UVCU (m³/d) 153.6
 Storage Capacity (m³) 199,000 Reservoir Area (m²) 120,000

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
		(1)	(2)	(3)	(4)=(1-2-3)	(5)	(6)		
2	28	0	4,301	13,800	0	0	0	0	
3	31	31,184	501,439	13,800	482,877	482,877	199,000	199,000	
4	30	37,530	603,482	12,960	585,914	1,068,792	199,000 Max. Capacity	182,718	
5	31	0	4,762	11,520	-16,282	1,052,510	166,230	149,949	
6	30	0	4,608	11,880	-16,488	1,036,022	129,227	103,739	
7	31	0	4,762	11,520	-16,282	1,019,740	80,378	59,210	
8	31	0	4,762	15,960	-20,722	999,019	41,368	19,446	
9	30	0	4,608	20,880	-25,488	973,531	89,238	871,137	
10	31	0	4,762	18,600	-23,362	950,169	19,446	1,346 Storage Ratio: 0%	
11	30	0	4,608	16,560	-21,168	929,001			
12	31	0	4,762	13,080	-17,842	911,160			
1	31	0	4,762	17,160	-21,922	889,238			
2	28	0	4,301	13,800	-18,101	871,137			

Table B-7(15) WATER BALANCE (AT TARGET YEAR -2)

Village Name : Oltukai

		Catchment Area (km ²)	161.23	UWCU (m ³ /d)	151.5				
		Storage Capacity (m ³)	141,000	Reservoir Area (m ²)	72,600				
Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	4,242	8,349	0	0	0	
3	31	31,184	5,027,796	4,697	8,349	5,014,751	5,014,751	141,000	
4	30	37,530	6,050,962	4,545	7,841	6,038,576	11,053,327	141,000	Max. Capacity
5	31	0	0	4,697	6,970	-11,666	11,041,661	129,334	
6	30	0	0	4,545	7,187	-11,732	11,029,928	117,602	
7	31	0	0	4,697	6,970	-11,666	11,018,262	105,935	
8	31	0	0	4,697	9,656	-14,352	11,003,910	91,583	
9	30	0	0	4,545	12,632	-17,177	10,986,733	74,406	
10	31	0	0	4,697	11,253	-15,950	10,970,783	58,456	
11	30	0	0	4,545	10,019	-14,564	10,956,219	43,892	
12	31	0	0	4,697	7,913	-12,610	10,943,609	31,283	
1	31	0	0	4,697	10,382	-15,078	10,928,531	16,204	
2	28	0	0	4,242	8,349	-12,591	10,915,940	3,613	Storage Ratio: 2.5%

Table B-7(16) WATER BALANCE(AT TARGET YEAR - 2)

Village Name : Mswakini

Catchment Area (km²) 60 UVCU (m³/d) 201.6
 Storage Capacity (m³) 163,000 Reservoir Area (m²) 80,000

Month	Day	Unit Dis-charge (m ³ /km ² /h)	Inflow to Dam (m ³ /m)	UVCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4)=(1-2-3)	(5)	(6)	
2	28	0	0	5,645	9,200	0	0	0	
3	31	31,184	1,871,040	6,250	9,200	1,855,590	1,855,590	163,000	
4	30	37,530	2,251,800	6,048	8,640	2,237,112	4,092,702	163,000	Max. Capacity
5	31	0	0	6,250	7,680	-13,930	4,078,773	149,070	
6	30	0	0	6,048	7,920	-13,968	4,064,805	135,102	
7	31	0	0	6,250	7,680	-13,930	4,050,875	121,173	
8	31	0	0	6,250	10,640	-16,890	4,033,986	104,283	
9	30	0	0	6,048	13,920	-19,968	4,014,018	84,315	
10	31	0	0	6,250	12,400	-13,650	3,995,368	65,666	
11	30	0	0	6,048	11,040	-17,088	3,978,280	48,578	
12	31	0	0	6,250	8,720	-14,970	3,963,310	33,608	
1	31	0	0	6,250	11,440	-17,690	3,945,621	15,918	
2	28	0	0	5,645	9,200	-14,845	3,930,776	1,074	Storage Ratio: 0%

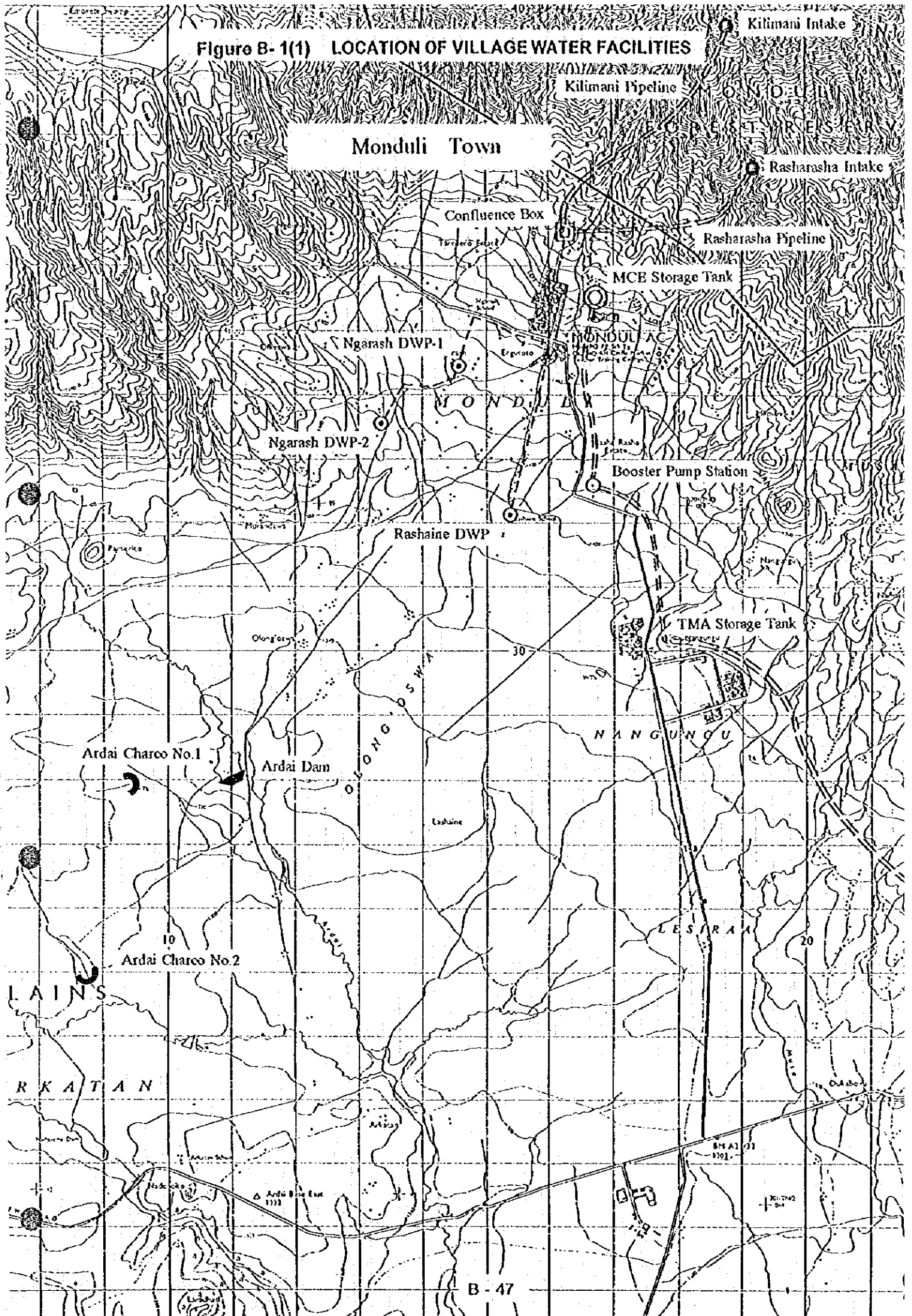
Table B-7(17) WATER BALANCE (AT TARGET YEAR - 2)

Village Name : Emairete

Catchment Area (km²) 15.27 WCU (m³/d) 377.2
 Storage Capacity (m³) 286,000 Reservoir Area (m²) 136,000

Month	Day	Unit Dis-charge (m ³ /km ² /m)	Inflow to Dam (m ³ /m)	WCU (m ³ /m)	Evaporation (m ³ /m)	Monthly Storage (m ³ /m)	Cumulative Storage (m ³)	Actual Storage (m ³)	Remarks
			(1)	(2)	(3)	(4) = (1-2-3)	(5)	(6)	
2	28	0	0	10,562	15,640	0	0	0	
3	31	31,184	476,180	11,693	15,640	448,846	448,846	288,000	
4	30	37,530	573,083	11,316	14,688	547,079	995,926	288,000	Max. Capacity
5	31	0	0	11,693	13,056	-24,749	971,176	268,251	
6	30	0	0	11,316	13,464	-24,780	946,396	238,471	
7	31	0	0	11,693	13,056	-24,749	921,647	213,722	
8	31	0	0	11,693	18,088	-29,781	891,866	188,940	
9	30	0	0	11,316	23,664	-34,980	856,886	148,960	
10	31	0	0	11,693	21,080	-32,773	824,113	116,187	
11	30	0	0	11,316	18,768	-30,084	794,029	86,103	
12	31	0	0	11,693	14,824	-26,517	767,512	59,586	
1	31	0	0	11,693	19,448	-31,141	736,370	28,445	
2	28	0	0	10,562	15,640	-26,202	710,169	2,243	Storage Ratio: 0%

Figure B- 1(1) LOCATION OF VILLAGE WATER FACILITIES



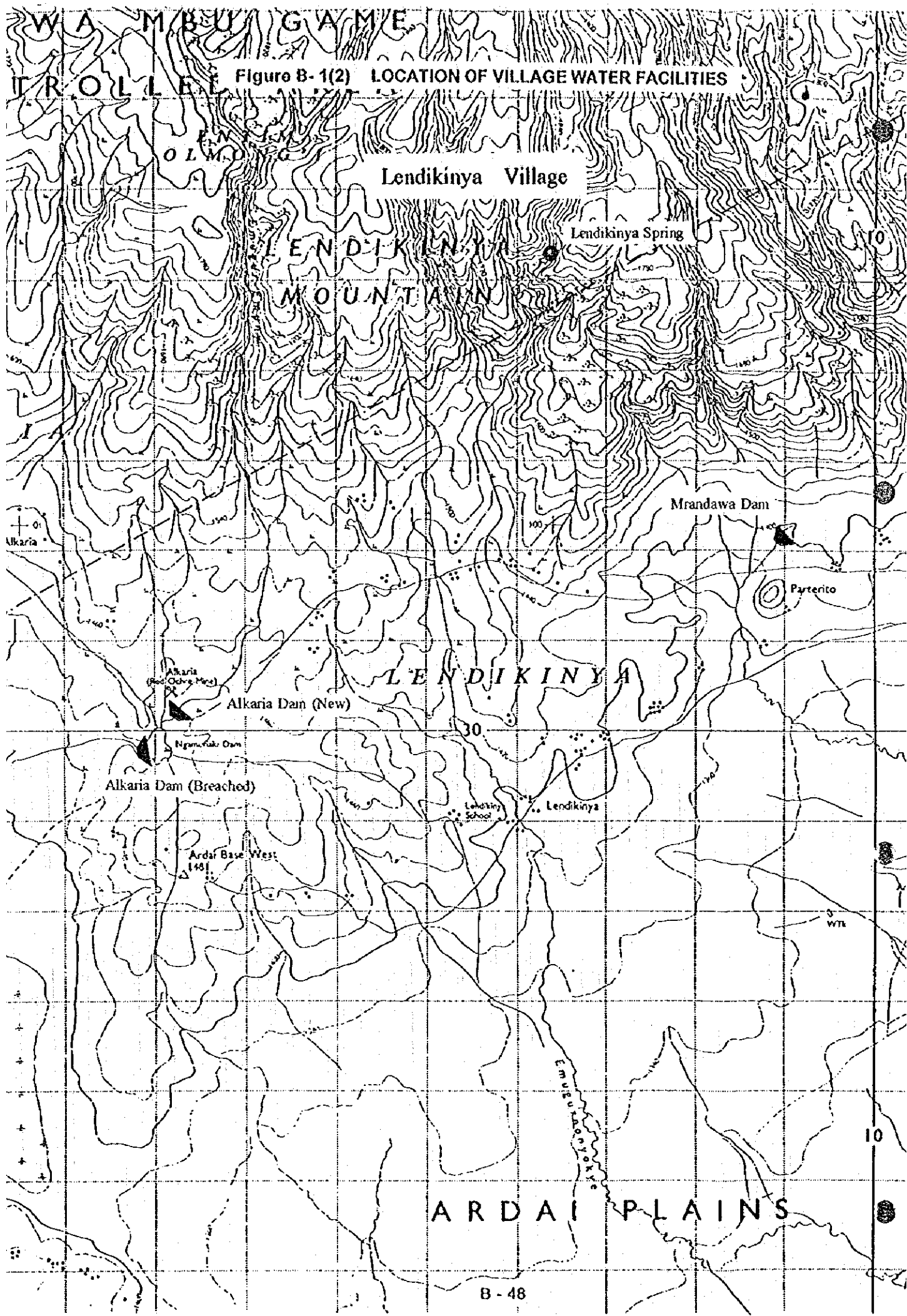


Figure B-1(2) LOCATION OF VILLAGE WATER FACILITIES

Lendikinya Village

Lendikinya Spring

LENDIKINYA
MOUNTAIN

Mrandawa Dam

Parrento

LENDIKINYA

Alkaria Dam (New)

Alkaria Dam (Breached)

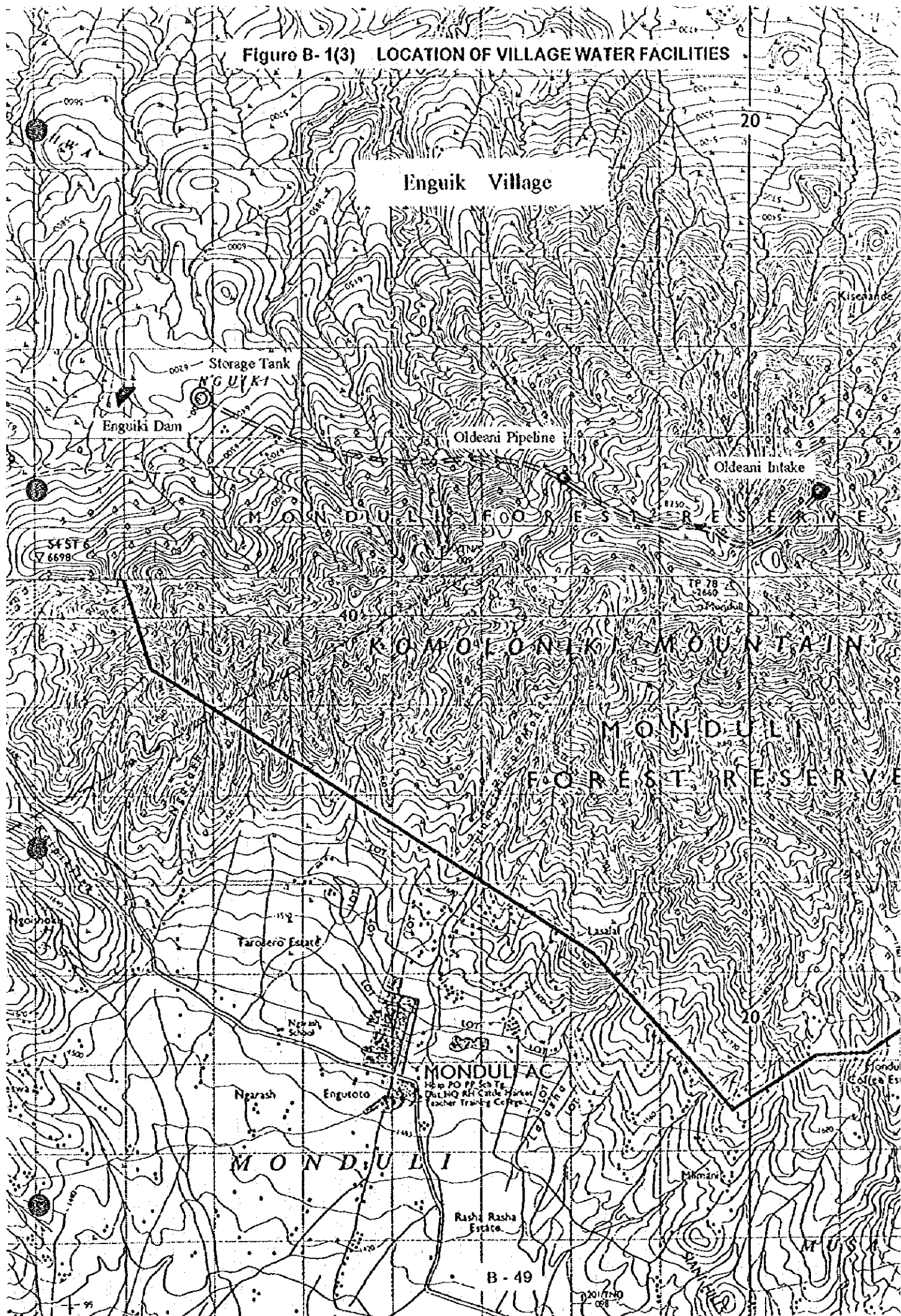
Lendikinya School

Lendikinya

Ardar Base West
(146)

ARDAI PLAINS

Figure B-1(3) LOCATION OF VILLAGE WATER FACILITIES



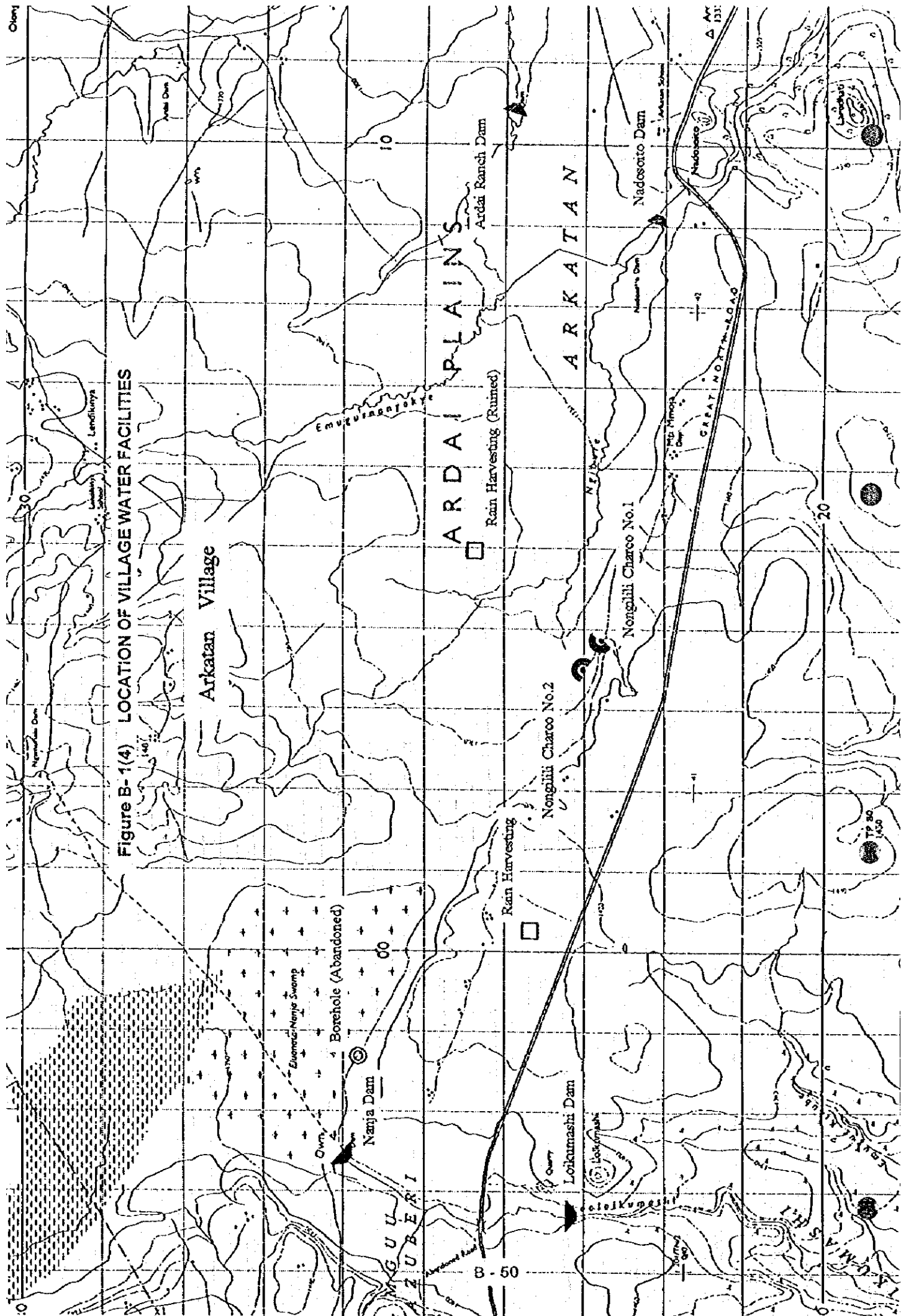


Figure B-1(4) LOCATION OF VILLAGE WATER FACILITIES

Arkatan Village

ARKATAN PLAINS

ARKATAN

MUGUUBI ZUBERI

B-50

Nonglii Charco No.1

Nonglii Charco No.2

Rain Harvesting (Ruined)

Rain Harvesting

Loikumashi Dam

Nanja Dam

Borehole (Abandoned)

Eboraci-Nanja Swamp

Arkatan Ranch Dam

Nadosoto Dam

Ar 131

Great North Road

20

0

0

Figure B-1(5) LOCATION OF VILLAGE WATER FACILITIES

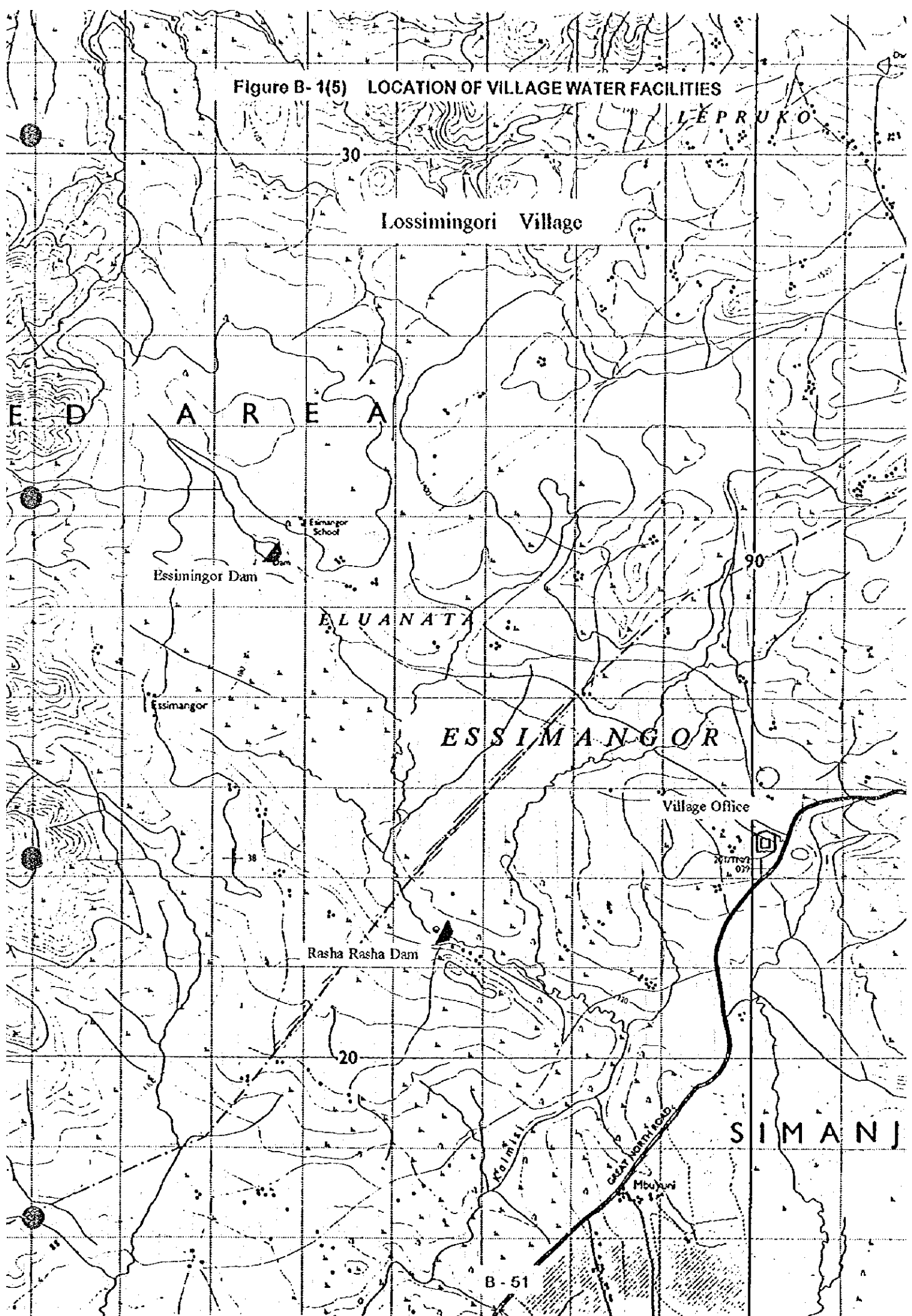


Figure B-1(6) LOCATION OF VILLAGE WATER FACILITIES

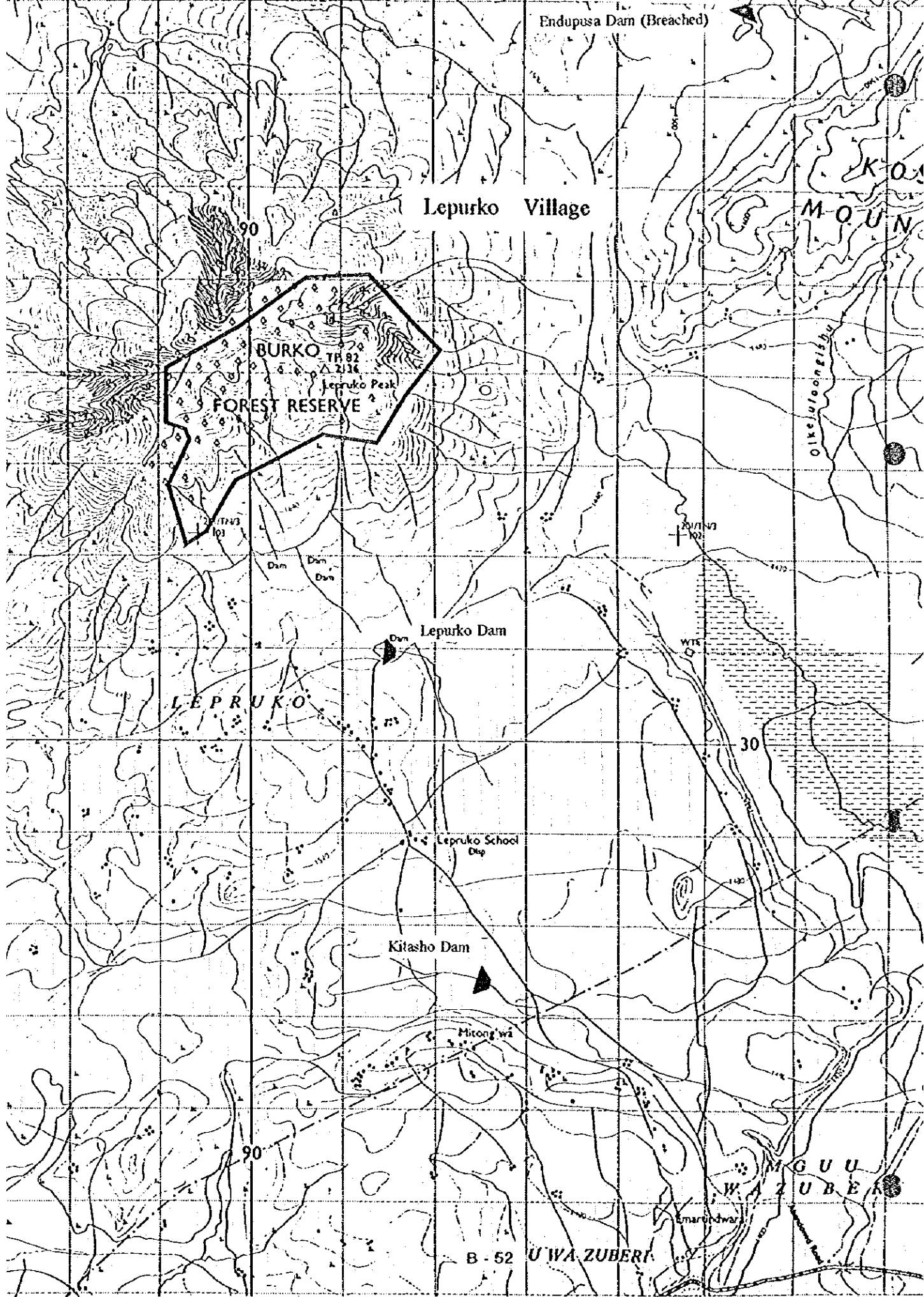


Figure B-1(7) LOCATION OF VILLAGE WATER FACILITIES

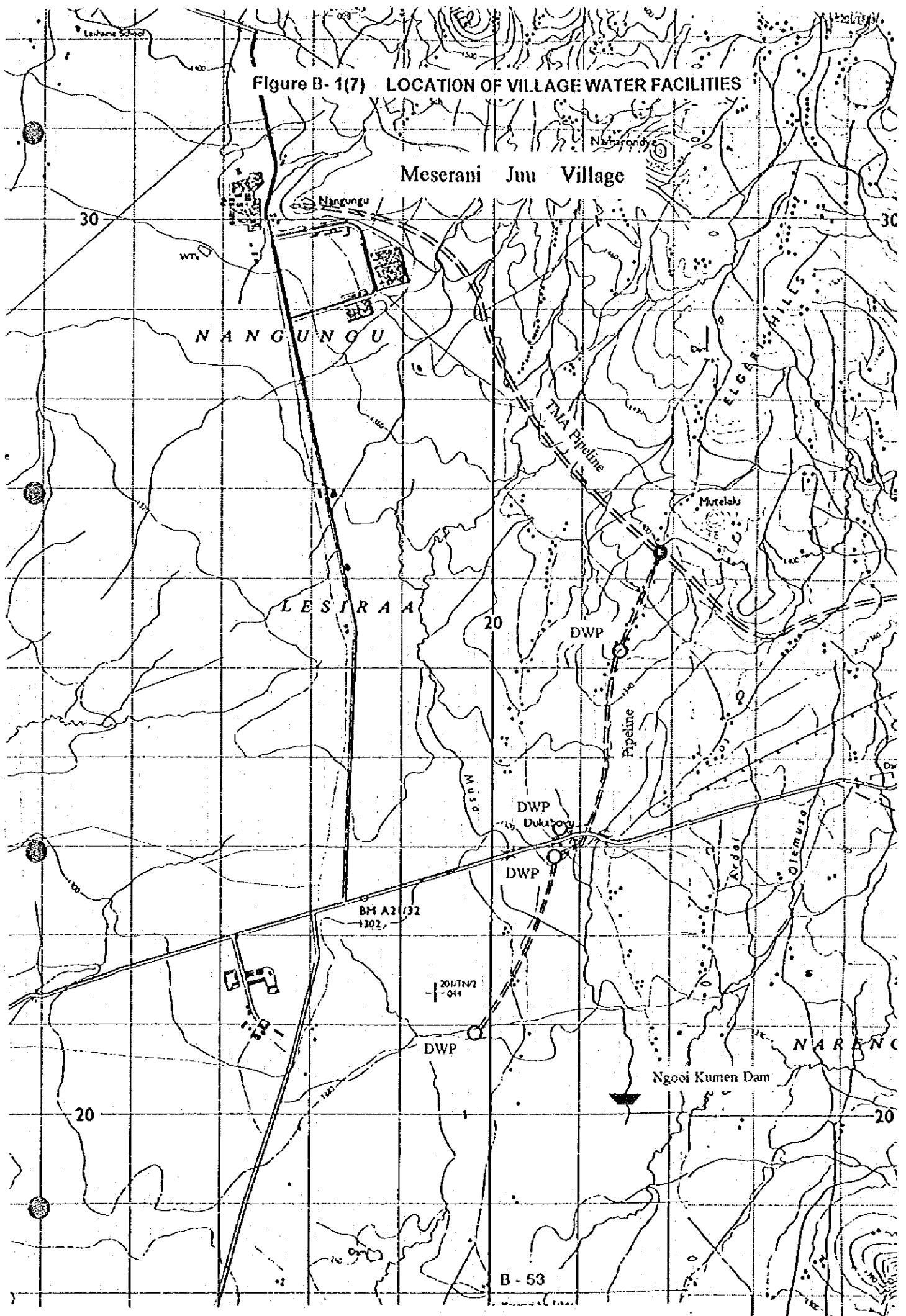


Figure B-1(8) LOCATION OF VILLAGE WATER FACILITIES

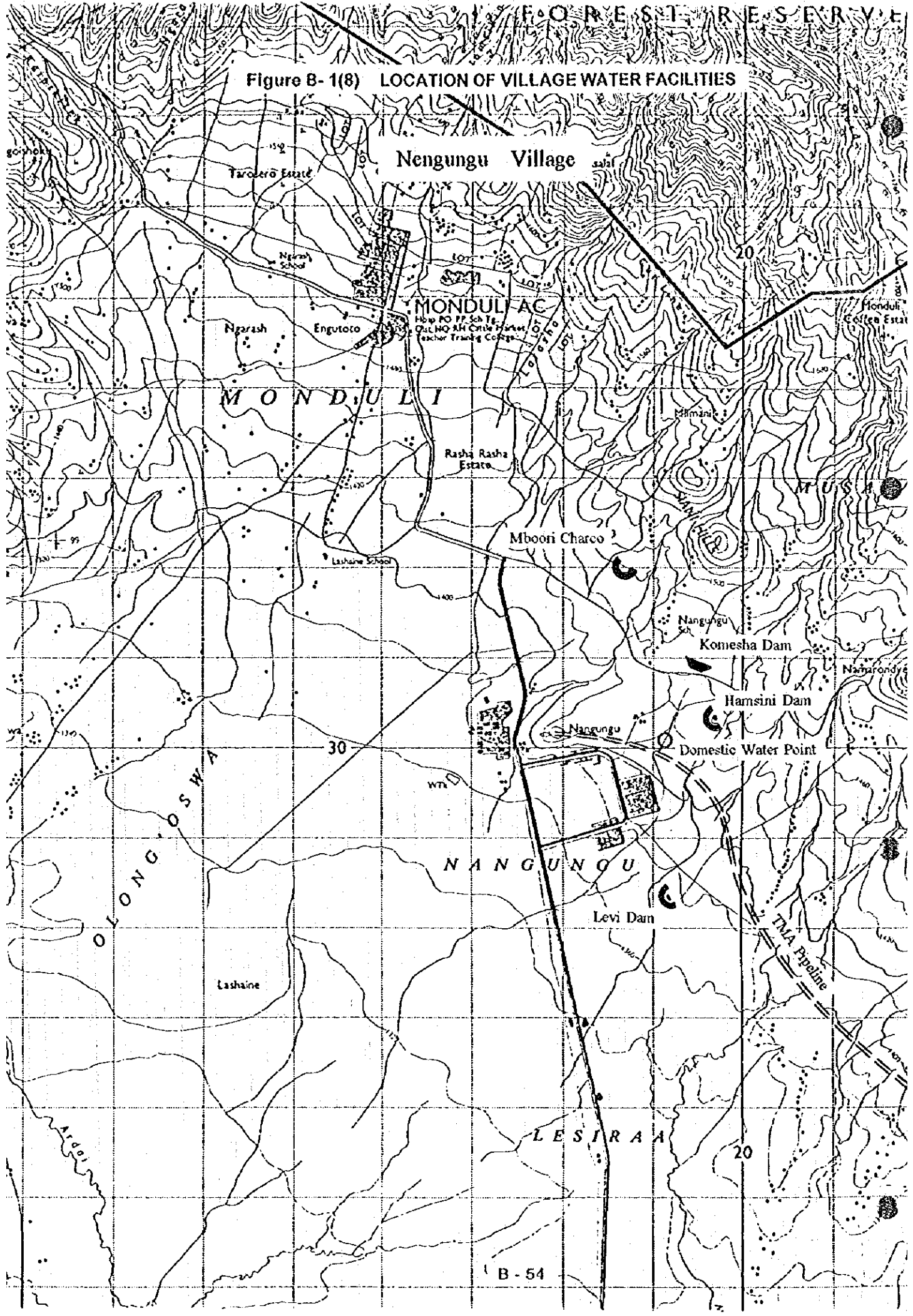


Figure B-1(9) LOCATION OF VILLAGE WATER FACILITIES

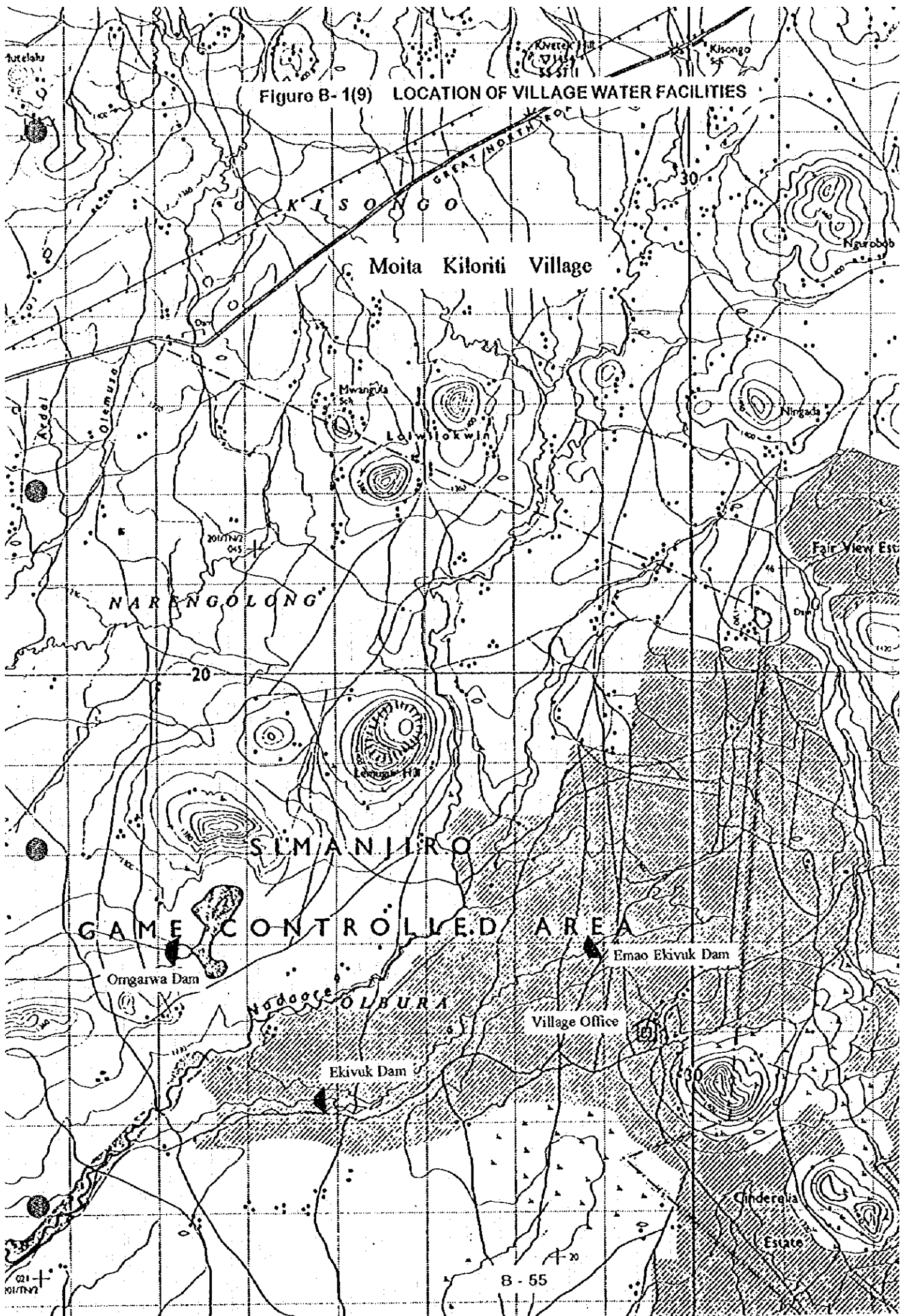


Figure B-1(10) LOCATION OF VILLAGE WATER FACILITIES

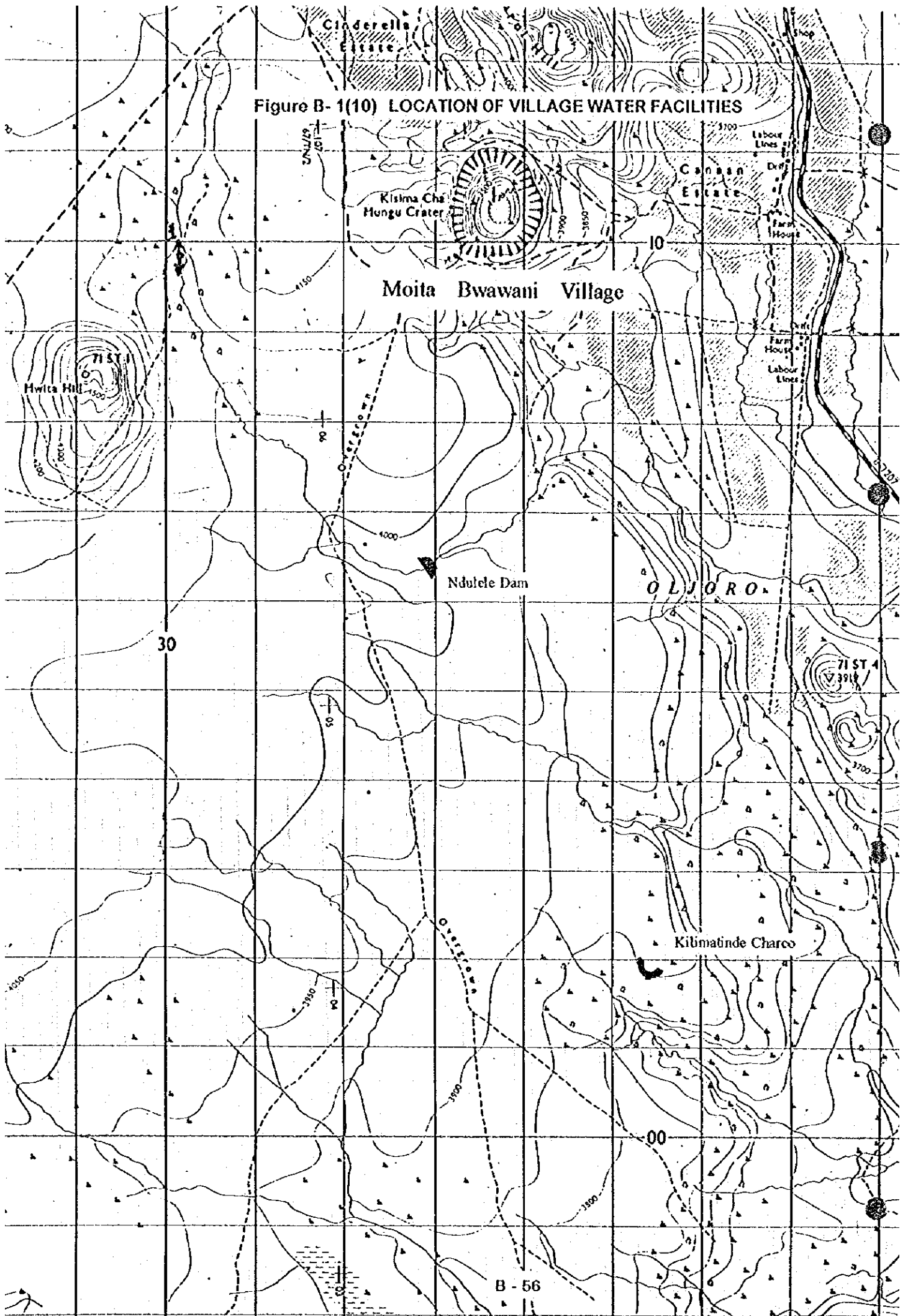


Figure 8- 1(11) LOCATION OF VILLAGE WATER FACILITIES

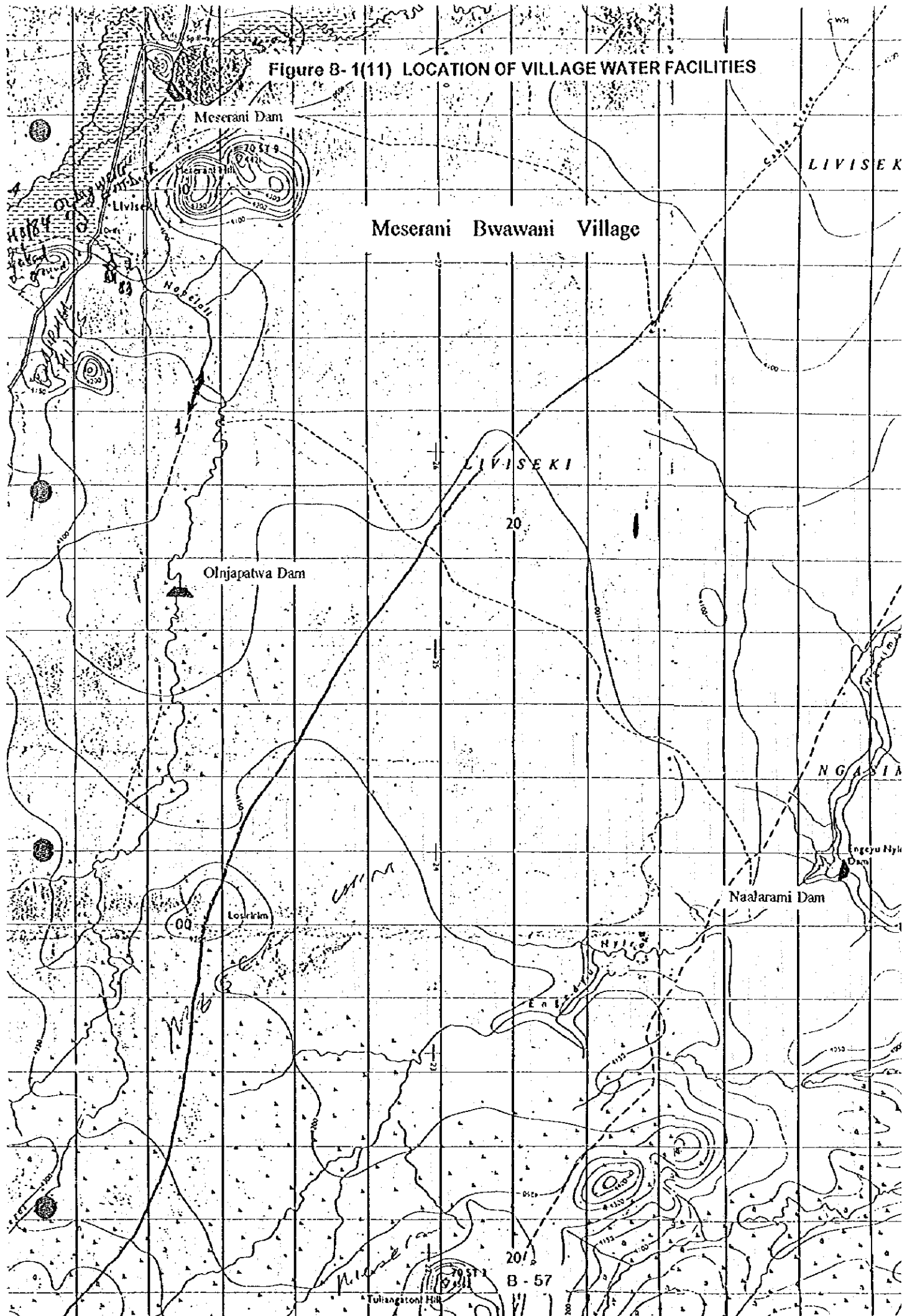


Figure B- 1(12) LOCATION OF VILLAGE WATER FACILITIES

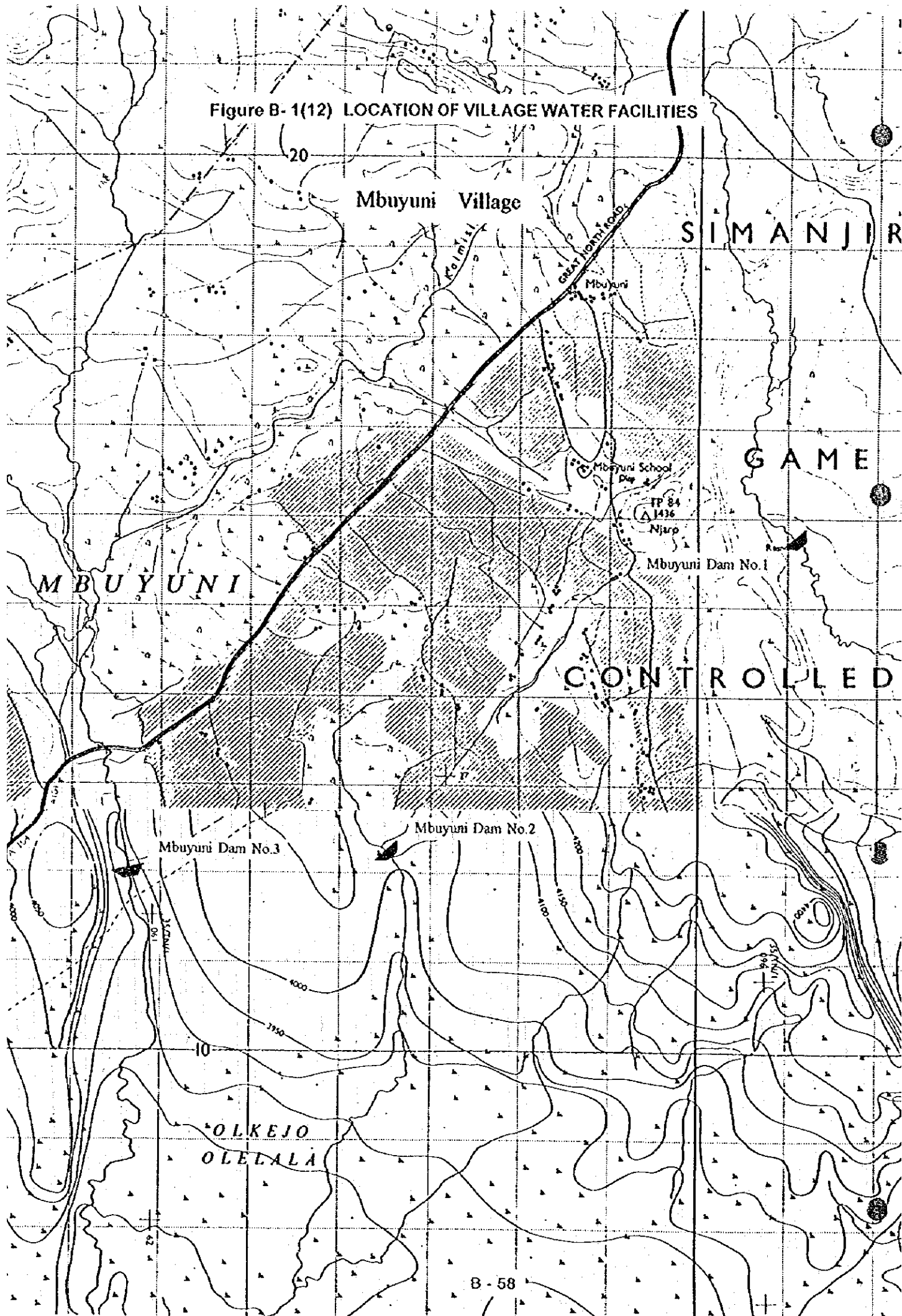


Figure B-1(13) LOCATION OF VILLAGE WATER FACILITIES

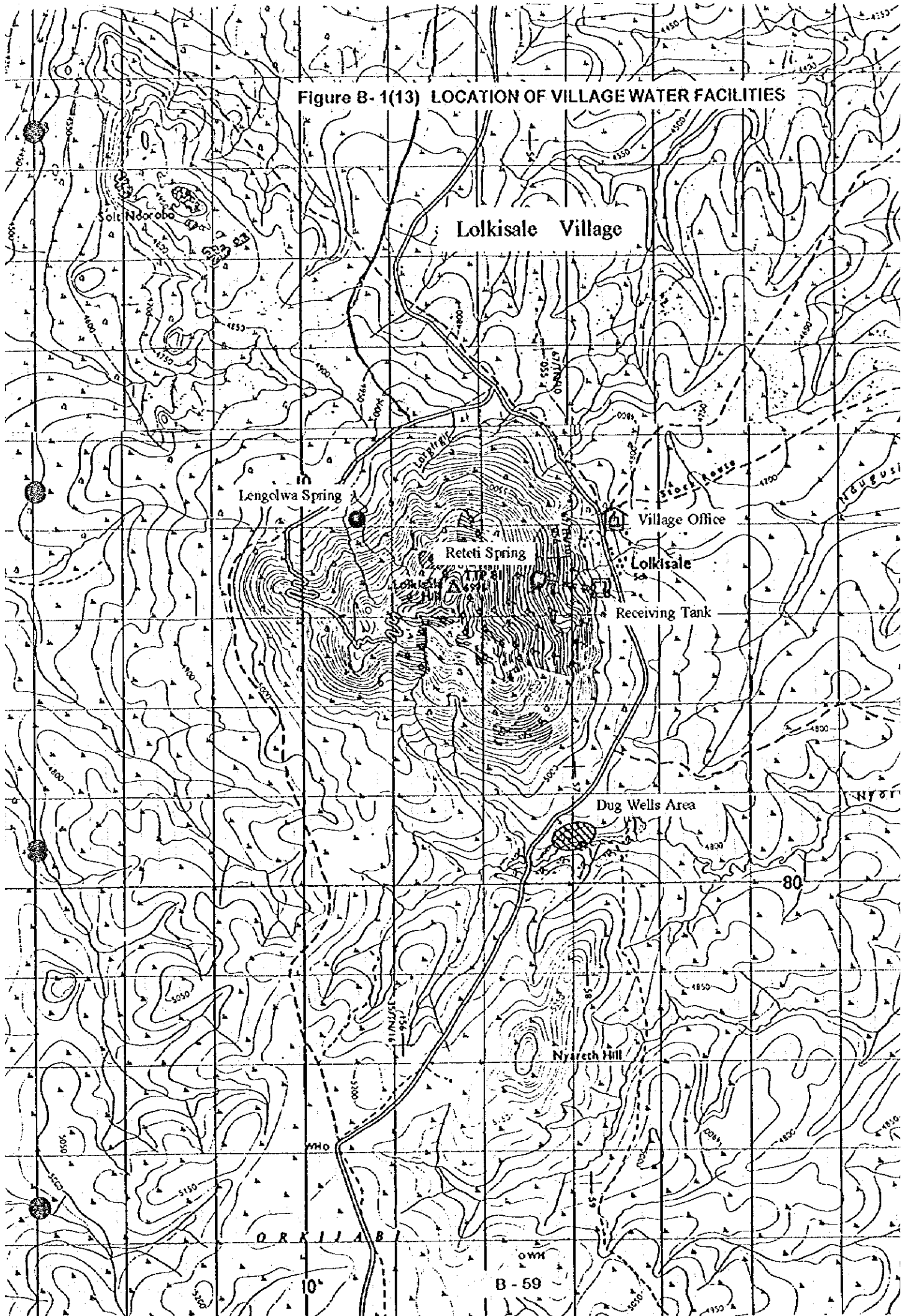


Figure B- 1(14) LOCATION OF VILLAGE WATER FACILITIES

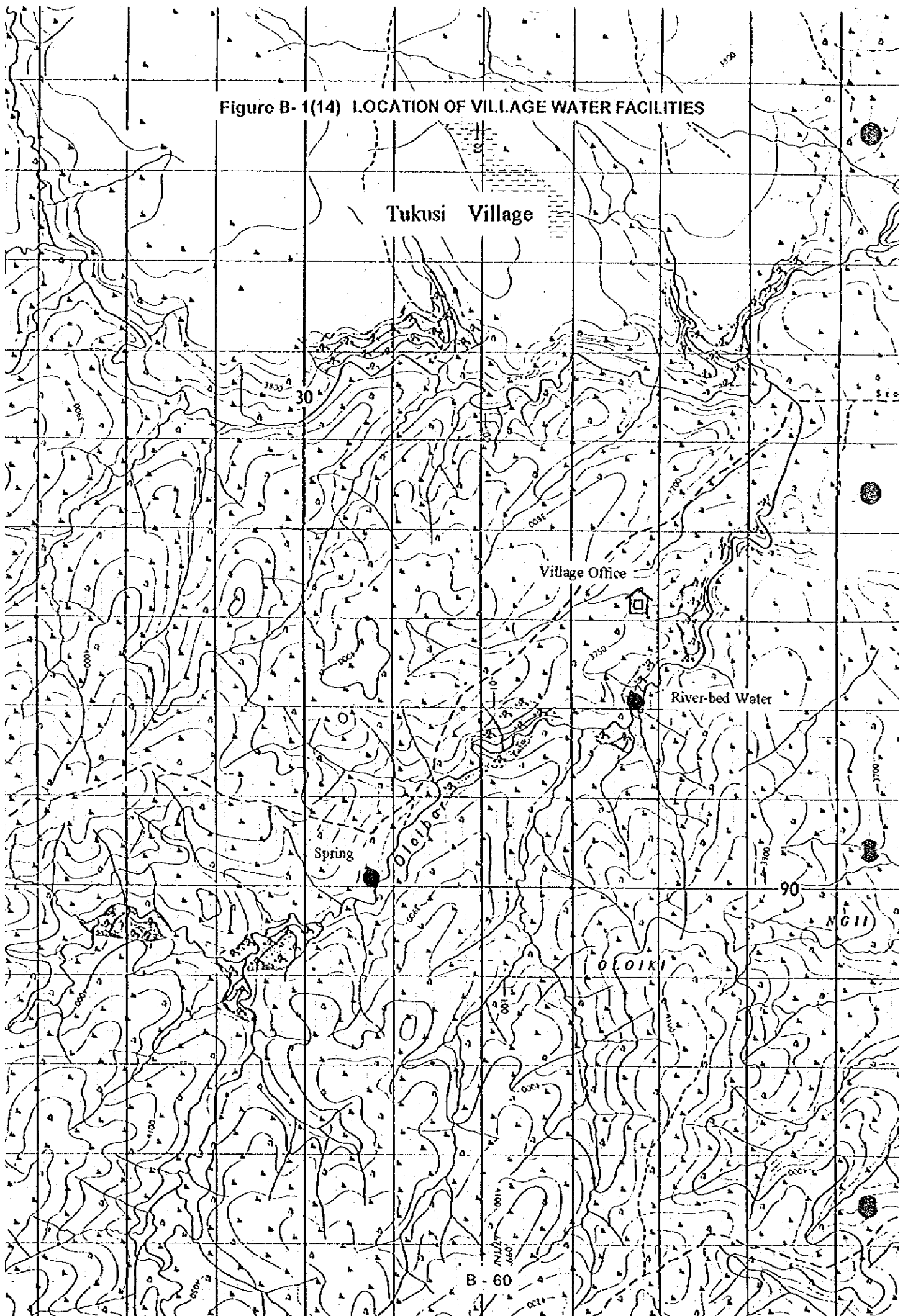
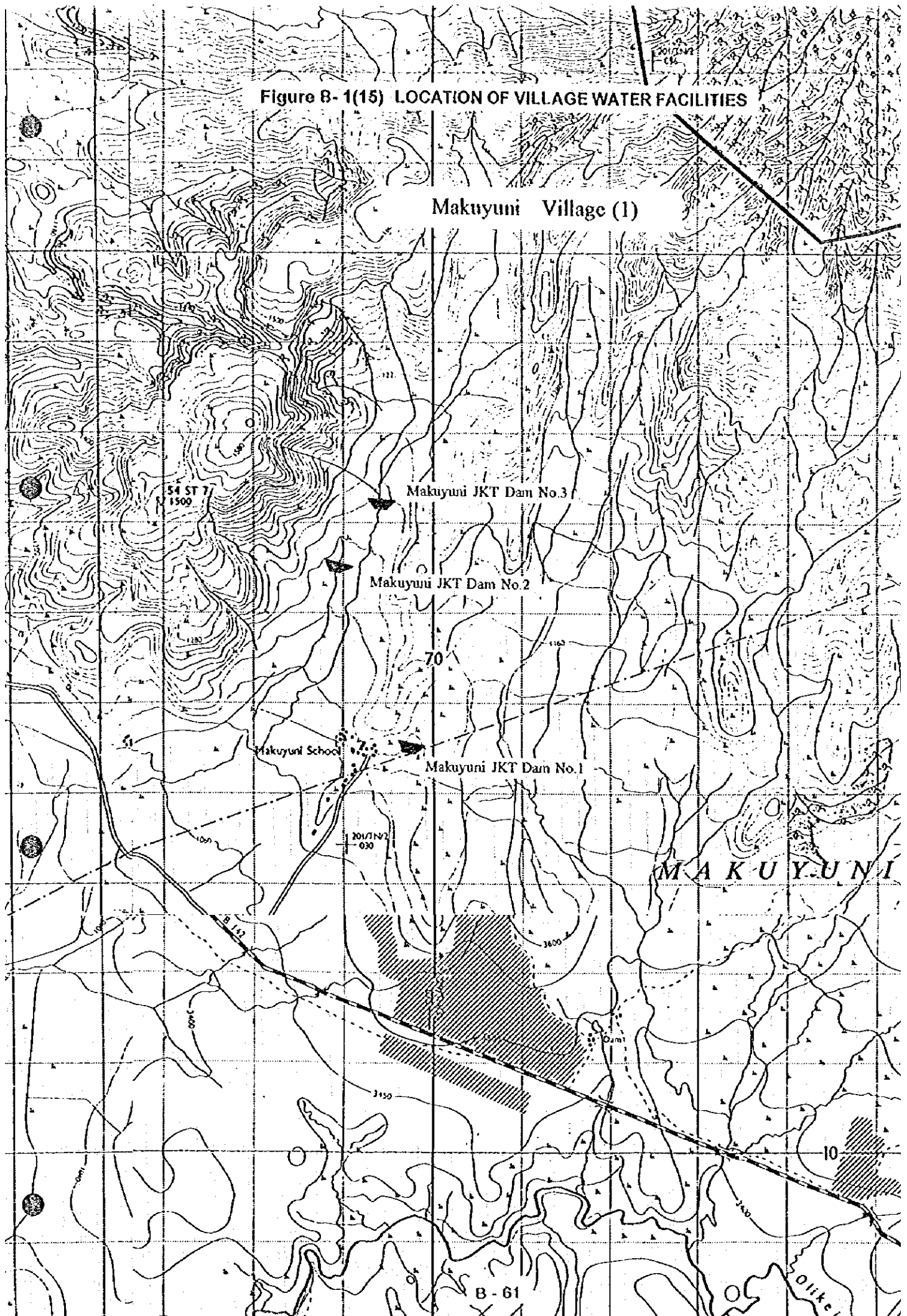


Figure B- 1(15) LOCATION OF VILLAGE WATER FACILITIES



Makuyuni Village (1)

Makuyuni JKT Dam No. 3

Makuyuni JKT Dam No. 2

Makuyuni School

Makuyuni JKT Dam No. 1

MAKUYUNI

54 ST 77
1500

201/TN/2
030

B-61

10

10/ikei

B-152

Figure B-1(16) LOCATION OF VILLAGE WATER FACILITIES

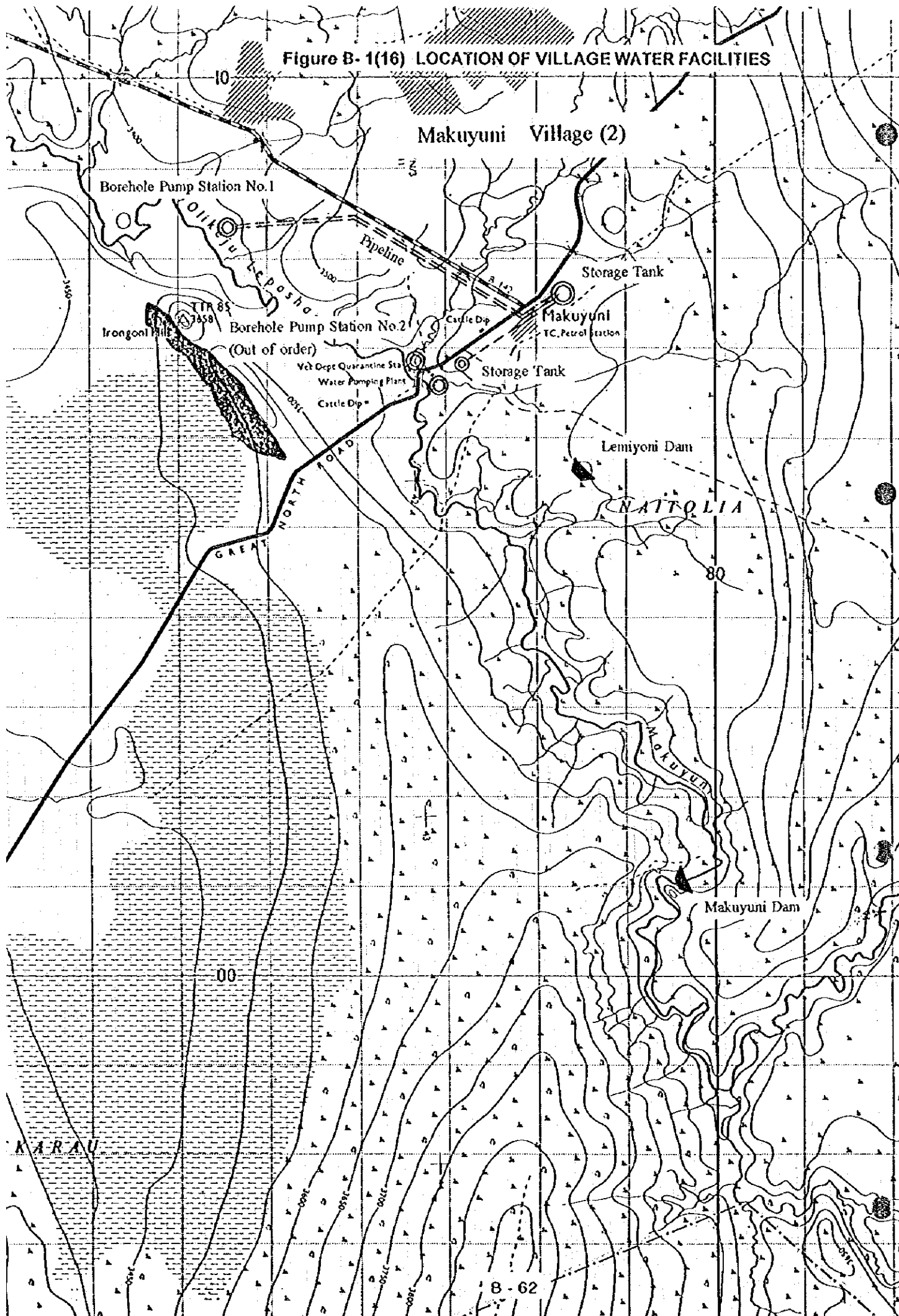


Figure B-1(17) LOCATION OF VILLAGE WATER FACILITIES

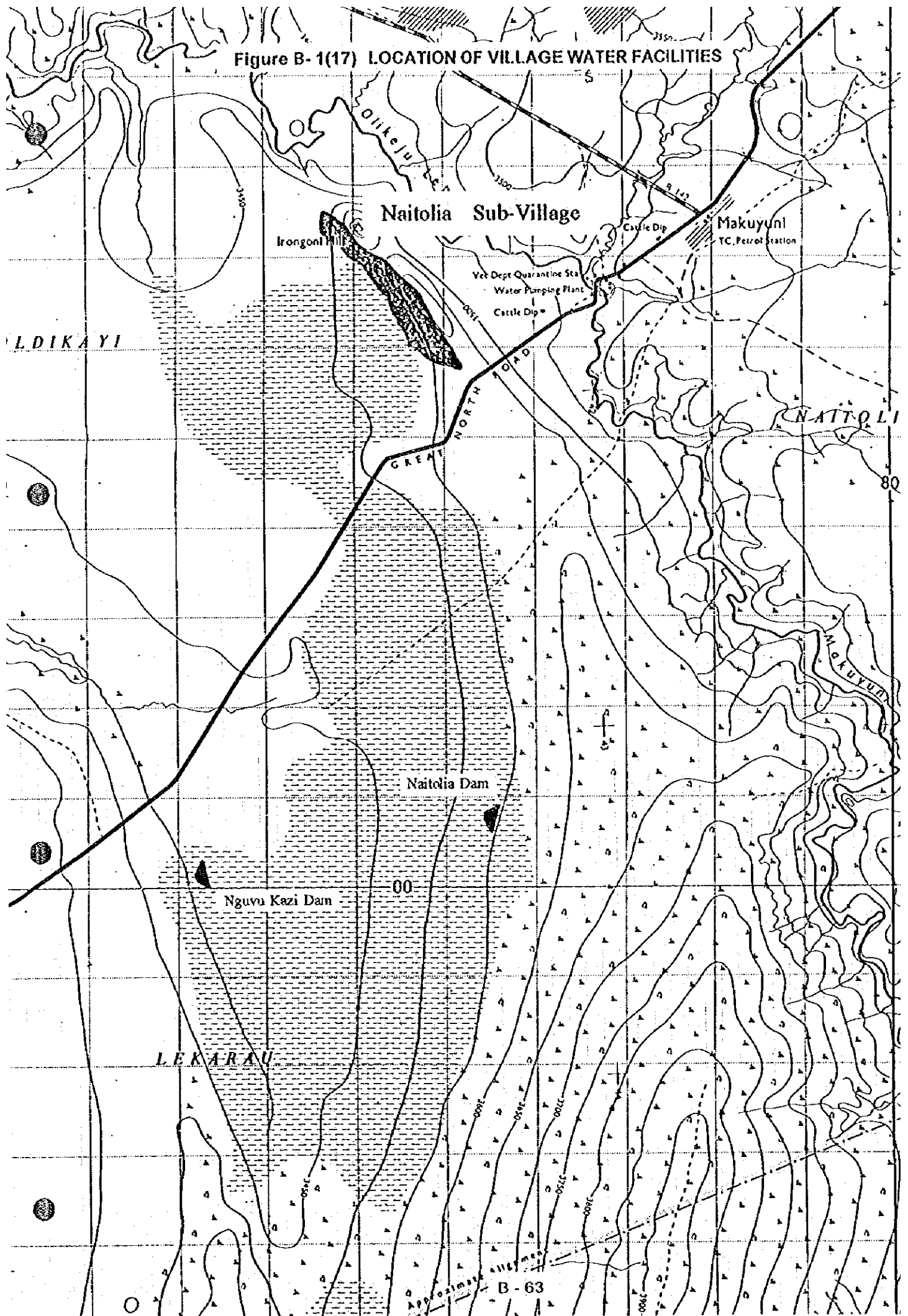


Figure B-1(18) LOCATION OF VILLAGE WATER FACILITIES

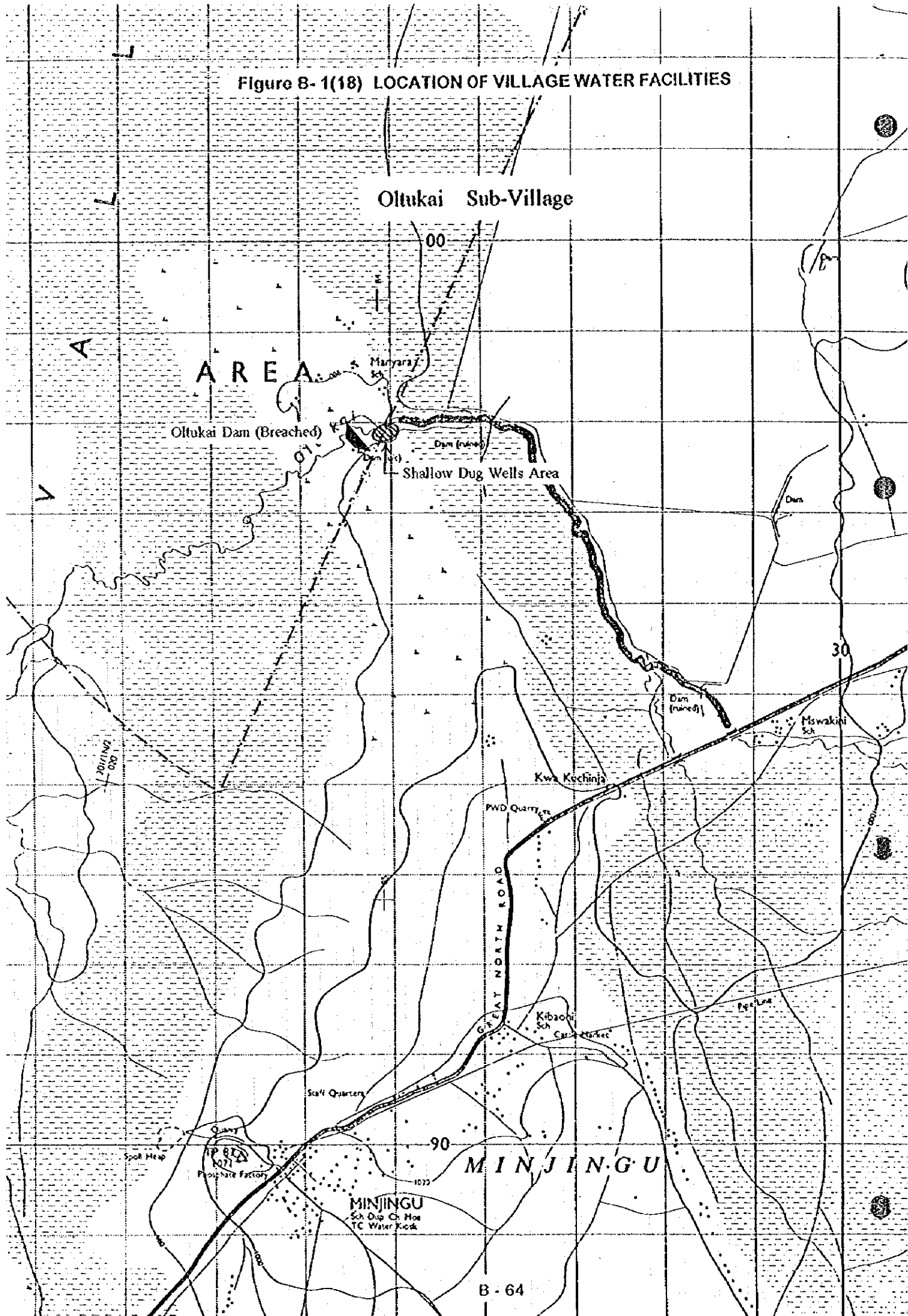
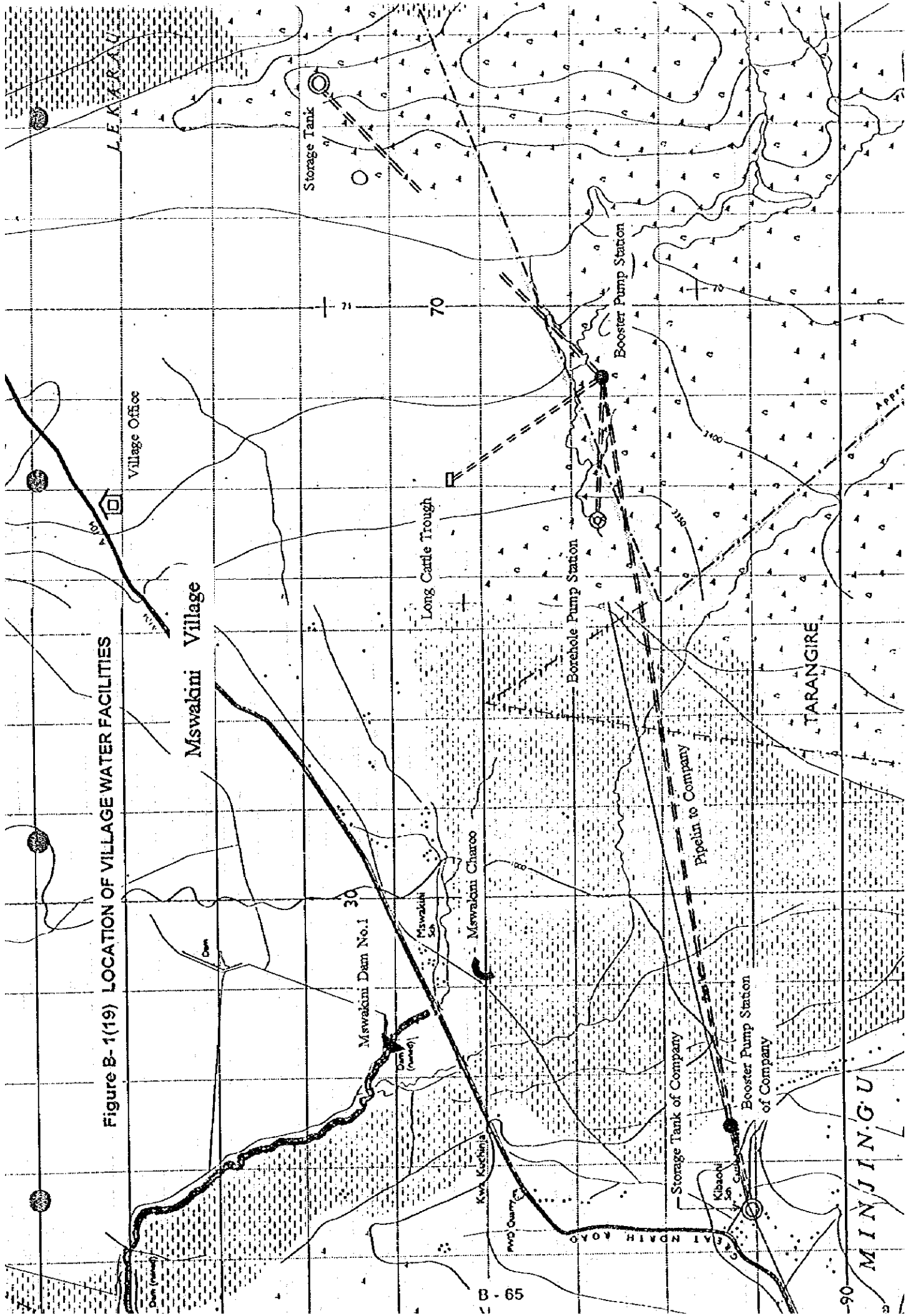


Figure B-1(19) LOCATION OF VILLAGE WATER FACILITIES



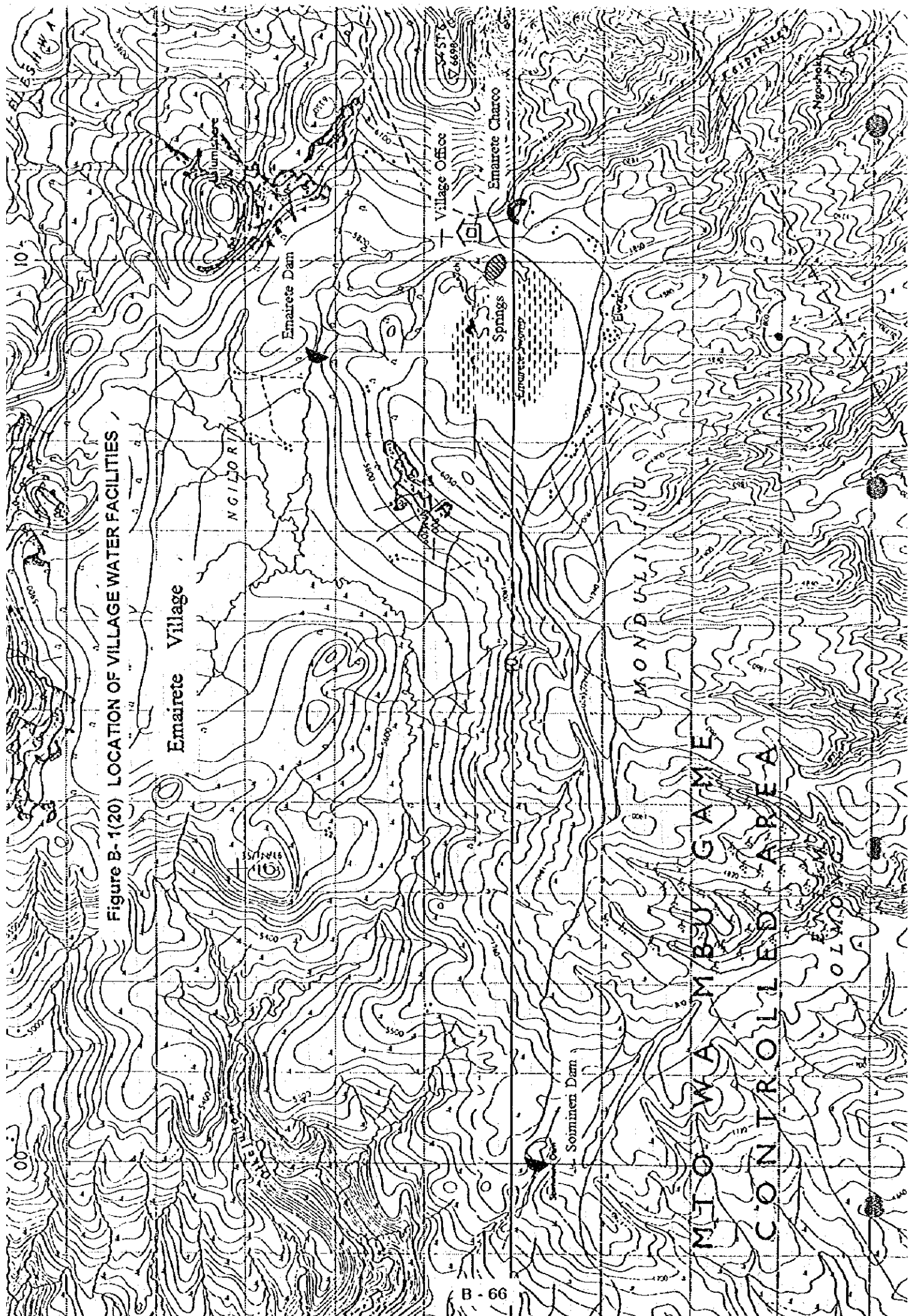


Figure B-1(20) LOCATION OF VILLAGE WATER FACILITIES

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