

Table 4.3 Main Existing Irrigation Project in NTT (1/4)

TIMOR(1/2)												
No.	Project Name	Location		Irrigation Area (ha)	Water Source		Irrigation Grade	Construction / Implementation			Crops	
		Kabupateng	Kecamatang		River Name	Intake Type		Period	Cost (mill. Rp.)	Financial Source		
1	Desao D2	Kupang		240	Dendeng	W	T	1990-92	488	GOI & CIDA	Paddy	
2	Desao D3	Kupang		420	Desao	W	S	1991-93	773	GOI & CIDA	Paddy	
3	Loli	TTS		37	Tepas	W	T	1992-93	97	GOI & ADB	Paddy	
4	Haekto	TTU		400	Benain	W	T	1992-93	440	GOI & ADB	Paddy	
5	Kaubele	TTU		678	Mena	F	S	1991-92	115	GOI	Paddy	
6	Aroki D2	TTU		242	Mausaka	W	S	1990-92	1,029	GOI & CIDA	Paddy	
7	Raimca	Belu		196	Benanain	F	S	1989-91	181	GOI	Paddy	
8	Lurasik	TTU		430	Detifen	W	N	1984-85		GOI	Paddy	
9	Ponu	TTU		381	Ponu	W	N				Palawija	
10	Oebobo	TTS		180	Boentuka	W	N				Paddy 1 x	
11	Tuasente	TTS		325	Noceleke	W	N	1981-82			Paddy 1 x	
12	Bena D2 (Oebelo)	TTS		719	Muka	F	N				Paddy 1 x	
13	Manikin	Kupang		345	Manikin	W	S	1973-74		GOI	Paddy 2 x	
14	Oesao Besar	Kupang		1,209	Oesao	W	S	1982-83		GOI	Paddy 2 x	
15	Ndudale	Kupang (P. Rote)		226	Ndudale	W	S	1982-83		GOI	Paddy 1 x	
16	Netemanu	Kupang	Amfoang Utara	1,173	Netemanu	W	N				Paddy 1 x	
17	Pakupanan	TTS	Amanuban Selatan	400	Pakupanan	W	N				Paddy 1 x	
18	Tepas	TTS	Amanuban Barat	80	Tepas	W	N				Paddy 1 x	
19	Oenack	TTS	Molo Utara	50	Besiam	W	N				Paddy 1 x	
20	Kioula	TTU	Miomafo Timur	80	Noemuti	W	N				Paddy 1 x	
21	Biliuana	TTU	Miomafo	400	Biliuana	W	N				Paddy 1 x	
22	Nain	TTU	Insana	297	Bokis	W	N				Paddy 1 x	
23	Bokis	TTU	Insana	200	Bokis	W	N				Paddy 1 x	
24	Tualeu	TTU	Insana	145	Ajoope	W	N				Paddy 1 x	
25	Oelolok	TTU	Insana	150	Spring	G	N				Paddy 1 x	
26	Tualene	TTU	Insana	968	Tualene	W	N				Paddy 1 x	
27	Maubesi	TTU		600	Maubesi	W	N				Paddy 1 x	
28	Nobelu	Belu	Tasifeto Timur	128	Baukarna	W	N	1985-86		GOI	Paddy 1 x	
29	Haekesak	Belu	Lamaknen	485	Talau	W	N				Paddy 1 x	
30	Lobus	TTU	Biboki Utara	290	Ponu	W	N					
31	Loke	Belu	Tasifeto Barat	233	Tantori	W	N					
32	Danau Tua	Kupang (P. Rote)	Rote Barat Daya	750	Danau Tua	E	T	1981-84	393	GOI	Paddy Palawija	
33	Uma Kapa	Kupang (P. Rote)	Pantai Baru	83	Uma Kapa	E	T	1981-85 1988-92	435	GOI	Paddy Palawija	
34	Oetete	Kupang (P. Rote)	Rote Timur	79	Oetete	E	T	1981-84 1989-90	297	GOI	Paddy Palawija	
35	Livuhahani	Kupang (P. Rote)	Rote Barat Daya	174	Livuhahan	E	T	1986-89 1991-92	1,601	GOI	Paddy Palawija	
36	Kapalangga	Kupang (P. Rote)	Rote Barat Laut	135	Kapalangga	E	T	1983-87	888	GOI	Paddy Palawija	
37	Lekobatu	Kupang (P. Rote)	Rote Barat Laut	95	Lekobatu	E	T	1984-87 1991-93	1,486	GOI	Paddy Palawija	

Source : PRIS in NTT



Table 4.3 Main Existing Irrigation Project in NTT (3/4)

FLORES											
No.	Project Name	Location		Irrigation Area (ha)	Water Source		Irrigation Grade	Construction / Implementation			Crops
		Kabupaten	Kecamatan		River Name	Intake Type		Period	Cost (mil. Rp.)	Financial Source	
1	Satarnese	Manggarai		1,045	Wacmau	W	T	1991-93	788	GOI	Paddy
2	Wae Bobo	Manggarai		150	Wae Bobo	W	T	1991-93	311	GOI & ADB	Paddy
3	Wae Cess	Manggarai		502	Wae Cess	W	T	1991-93	1,117	GOI & ADB	Paddy
4	Wae Mantar I	Manggarai		3,136	Wae Mese	W	T	1991-93	712	GOI	Paddy
5	Soa	Ngada		2,375	Spring	G	T	1990-92	300	GOI & ADB	Paddy
6	Kajum bawa	Ngada		50	Spring	G	T	1990-92	97	GOI & ADB	Paddy
7	Maa Baawa	Ngada		40	Spring	G	T	1990-92	151	GOI & ADB	Paddy
8	Hobotopo	Ngada		261	Wae Wutu	W	T	1989-93	880	GOI & OECF	Paddy
9	Konga	Flores Timur		284	Konga	W	T	1991-93	831	GOI	Paddy
10	Pruda	Sikka		220	Pruda	W	T	1992-93	528	GOI & ADB	Paddy
11	Wae Gete	Sikka		276	Wae Gete	W	T	1991-92	138	GOI	Paddy
12	Kolesia	Sikka		250	Kolesia	W	T	1992-93	414	GOI & ADB	Paddy
13	Mautenda II	Ende		722	Loworea	W	T	1989-92	1,622	GOI	Paddy
14	Magepanda	Flores Timur		803	Magepanda	W	T	1989-90	1,570	GOI	Paddy
15	Wae Cewo	Manggarai		450	Wae Cemo	W	T	1992-93	923	GOI & ADB	Paddy
16	Mautenda IV	Ende		413	Lowolaka	W	T	1991-92	3,638	GOI & ADB	Paddy
17	Wae Sele	Manggarai		537	Mae Sele	W	T	1993-94	2,898	GOI & ADB	Paddy
18	Wae Kanta I	Manggarai		1,390	Wae Kanta	W	T	1992-93	2,531	GOI & ADB	Paddy
19	Wae Kanta II	Manggarai		1,420	Wae Kanta	W	T	1993-94	2,350	GOI & ADB	Paddy
20	Wae Lembor	Manggarai		4,378	Wae Lembor	W	N				
21	Wae Palo	Manggarai		106	Wae Palo	W	N				
22	Wae Kaap I, II	Manggarai		513	Wae Reo	W	S	1981-82		GOI	
23	Dampep	Manggarai		393	Dampep	W	N				
24	Pota	Manggarai		178	Wae Pota	W	N				
25	Wae Rea	Manggarai		214	Wae Rea	W	N				
26	Wae Mokel I, II	Manggarai		321	Wae Mokel	W	N				
27	Buntal	Manggarai	Elar	811	Buntal	W	N				
28	Gising	Manggarai		908	Wae Gising	W	N				
29	Wae Mangko	Manggarai		308	Wae Mapa	W	N				
30	Peot/Borong	Manggarai		1,329	Wae Peot	W	N				
31	Wae Mantra II	Manggarai	Satar Mese	1,632	Wae Mese	W	N				
32	Wae Cecu	Manggarai	Ruteng	106	Wae Palo	W	N				
33	Wae Rii	Manggarai	Lembaleda	703	Wae Rii	W	N				
34	Decer	Manggarai	Lembaleda	259	Wae Dencer	W	N				
35	Terang	Manggarai	Kuwus	3,000	Wae Sayong	W	N				
36	Nggorang	Manggarai	Komodo	4,000		W	N				
37	Wae Kuwus	Manggarai	Kuwus	454	Wae Kuwus	W	N				
38	Mbay	Ngada	Aisesa	4,406	Aisesa	W	T				Paddy 2x
39	Panon Diwal	Ngada	Bajawa	343	Wae Beger	W	N				
40	Zaa	Ngada	Mauponggo	273	Zaa	W	N				
41	Ranamoe	Ngada	Boawae	802	Ranamoe	W	N				
42	Malanage	Ngada	Aisesa	214	Malanage	W	N				
43	Nata Bhada	Ngada	Aisesa	171	Nata Bhada	W	N				
44	Wae Boa	Ngada	Aimere	363	Wae Boa	W	N				
45	Wae Rea	Ngada	Aimere	152	Wae Rea	W	N				
46	Ijura	Sikka		249	Ijura	W	S	1993-94		GOI & ADB	
47	Aeroa	Sikka		120	Aeroa	W	S	1993-94		GOI & ADB	
48	Nebe	Sikka		300	Nangagete	W	S	1985-86		GOI	
49	Hewa	Flores Timur		400	Wae Buran	W	N				
50	Wae Kuma	Flores Timur		128	Wae Kuma	W	N				
51	Wae Gowa	Flores Timur		226	Wae Gowa	W	S	1985-86		GOI	
52	Wae Komo	Flores Timur		820	Wae Komo	W	S	1983-84		GOI	
53	Waerita	Sikka		174	Waerita	E	T	1991-94	2,485	GOI	Paddy Palawija
54	Patisomba	Sikka		128	Patisomba	E	T	1993-94	908	GOI	Paddy Palawija
55	Kokar	Alor		196	Kokar	W	N	1985-86		GOI	
56	Bentelang	Alor		259	Baletui	W	N	1979-80		GOI	
57	Bukapiting	Alor		360	Bukapiting	W	N	1985-86		GOI	
58	Mumu/Lautoka	Alor	Alor Timur	45	Mumu/Lautoka	E	T	1992-94	2,695	GOI	

SUB TOTAL OF FLORES				Remarks : (Intake Type)			
Irrigation Area (ha)	44,066			W : Weir (inc. temporary) / free intake			
(Irrigation Grade)				E : Embung			
- Technical (ha)	19,077			G : Ground water / Spring			
- Semi-technical (ha)	2,228			(Irrigation Grade)			
- Non-technical (ha)	22,761			T : Technical irrigation			
				S : Semi-technical irrigation			
				N : Non-technical irrigation			
Total Area (ha)	2,661	1,717	1,135	Flores Timur	Sikka	Ende	Ngada Manggarai Alor Total
- Technical (ha)	1,087	1,048	1,135	9,450	28,243	860	44,066
- Semi-technical (ha)	1,046	669	0	7,132	8,630	45	19,077
- Non-technical (ha)	528	0	0	0	513	0	2,228
				2,318	19,100	815	22,761
(Water resource)							
- Weir (ha)	2,661	1,415	1,135	6,985	28,243	815	41,254
- Embung (ha)	0	302	0	0	0	45	347
- Ground water/ Spring (ha)	0	0	0	2,465	0	0	2,465

Table 4.3 Main Existing Irrigation Project in NTT (4/4)

SUMBA											
No.	Project Name	Location		Irrigation Area (ha)	Water Source		Irrigation Grade	Construction / Implementation			Crops
		Kabupateng	Kecamatan		River Name	Intake Type		Period	Cost (mill. Rp.)	Financial Source	
1	Kambaniru	Sumba Timur		163	Kambaniru	W	T	1992-94	10,850	GOI & ADB	Paddy
2	Tanah Raing.	Sumba Timur		706	Tanah Raing	W	T	1988-90	394	GOI	Paddy
3	Koritepe	Sumba Barat		343	Koritepe	W	T	1991-93	1,210	GOI & ADB	Paddy
4	Wonokaka	Sumba Barat		816	Wonokaka	W	T	1992-93	485	GOI	Paddy
5	Laclori	Sumba Barat		174	Spring	G	S	1991-92	144	GOI	Paddy
6	Melolo	Sumba Timur		698	Melolo	W	T	1991-94	2,999	GOI & ADB	Paddy
7	Mataliku	Sumba Barat		751	Mataliku	W	T	1992-93	110	GOI	Paddy
8	Kakaha	Sumba Timur		1,059	Kakaha	W	T	1993-94	2,750	GOI & ADB	Paddy
9	Karuni I	Sumba Barat		61	Spring	G	N				
10	Karuni II	Sumba Barat		351	Spring	G	N				
11	Wae Merapu	Sumba Barat		213	Kate Weju	W	N				
12	Wae Wagha I, II	Sumba Barat		950	Belagor	W	N	1992-93		GOI	
13	Tombu	Sumba Barat		88	Manandang	W	N				
14	Wackelosawah	Sumba Barat		1,571	Kalada	W	S				
15	Wae Penapi	Sumba Barat		233	Spring	G	N				
16	Wae Mangura	Sumba Barat		74		W	N				
17	Umbu Wango	Sumba Barat		72	Umbu Wang	W	N				
18	Lamboya	Sumba Barat		205	Tadesum	W	N				
19	Bewi	Sumba Barat		185	Wawi	W	N				
20	Bali Ledo	Sumba Barat		239	Spring	G	N				
21	Kuwu Kuliku	Sumba Timur		50	Kuwu Kulik	W	N				
22	Wanga	Sumba Timur		586	Lawanga	W	N				
23	Petawang	Sumba Timur		551	Petawang	W	N				
24	Tawui	Sumba Timur		100	Tawui	W	N				
25	Wula	Sumba Timur		543	Wula	W	N				
26	Mangili	Sumba Timur		2,666	Burukuhu	W	N				
27	Matai Iyang	Sumba Timur		1,579	Mata Iyang	W	N				
28	Karinga	Sumba Timur		214	Karinga	E	T	1990-93	1,200	GOI	Paddy Palawija
29	Rakawatu	Sumba Timur	Lewapaku	283	Rakawatu	E	T	1991-94	2,774	GOI	Paddy Palawija
<b>SUB TOTAL OF SUMBA</b>											
Irrigation Area (ha)		15,524				Remarks (Intake Type)					
(Irrigation Grade)				(Water resource)		W : Weir (inc. temporary) / free intake					
- Technical	(ha)	5,033		- Weir	(ha)	13,969	E : Embung				
- Semi-technical	(ha)	1,745		- Embung	(ha)	497	G : Ground water / Spring				
- Non-technical	(ha)	8,746		- Ground water	(ha)	1,058	(Irrigation Grade)				
						T : Technical irrigation					
						S : Semi-technical irrigation					
						N : Non-technical irrigation					
Total Area (ha)		Sumba Barat		Sumba Timur		Total					
(Irrigation Grade)	(ha)	6,326		9,198		15,524					
- Technical	(ha)	1,910		3,123		5,033					
- Semi-technical	(ha)	1,745		0		1,745					
- Non-technical	(ha)	2,671		6,075		8,746					
(Water resource)											
- Weir	(ha)	5,268		8,701		13,969					
- Embung	(ha)	0		497		497					
- Ground water / Spring	(ha)	1,058		0		1,058					

Source : PRIS in NTT

Table 4.4 Land Area Suitable for Specified Agricultural Use by Land Group

Type of Development	Island Group	Suitable		Conditionally suitable		Not Suitable	
		(ha)	(%)	(ha)	(%)	(ha)	(%)
<b>Wetland Agriculture</b>							
	Lombok	81,000	18%	62,900	14%	307,300	68%
	Sumbawa	72,400	5%	18,900	1%	1,411,200	94%
	Sub-Total (NTB)	153,400	8%	81,800	4%	1,718,500	88%
	Timor	49,200	3%	28,600	2%	1,491,700	95%
	Flores	72,900	4%	21,000	1%	1,888,300	95%
	Sumba	20,200	2%	35,400	3%	1,025,200	95%
	Sub-Total (NTT)	142,300	3%	85,000	2%	4,405,200	95%
	Total (NTB+NTT)	295,700	4%	166,800	3%	6,123,700	93%
<b>Dryland Agriculture</b>							
	Lombok	81,000	18%	89,400	20%	280,800	62%
	Sumbawa	72,400	5%	82,800	6%	1,347,300	90%
	Sub-Total (NTB)	153,400	8%	172,200	9%	1,628,100	83%
	Timor	70,100	4%	60,900	4%	1,438,500	92%
	Flores	88,800	4%	40,400	2%	1,853,000	93%
	Sumba	261,500	24%	36,100	3%	783,200	72%
	Sub-Total (NTT)	420,400	9%	137,400	3%	4,074,700	88%
	Total (NTB+NTT)	573,800	9%	309,600	5%	5,702,800	87%
<b>Pasture/Livestock</b>							
	Lombok	199,400	44%	0	0%	251,800	56%
	Sumbawa	260,200	17%	75,900	5%	1,166,400	78%
	Sub-Total (NTB)	459,600	24%	75,900	4%	1,418,200	73%
	Timor	1,020,300	65%	49,100	3%	500,100	32%
	Flores	358,500	18%	24,800	1%	1,598,900	81%
	Sumba	358,200	33%	33,100	3%	689,500	64%
	Sub-Total (NTT)	1,737,000	37%	107,000	2%	2,788,500	60%
	Total (NTB+NTT)	2,196,600	33%	182,900	3%	4,206,700	64%
<b>Agro-forestry</b>							
	Lombok	218,600	48%	0	0%	232,600	52%
	Sumbawa	437,900	29%	0	0%	1,064,600	71%
	Sub-Total (NTB)	656,500	34%	0	0%	1,297,200	66%
	Timor	1,082,500	69%	0	0%	487,000	31%
	Flores	403,300	20%	0	0%	1,578,900	80%
	Sumba	308,600	29%	0	0%	772,200	71%
	Sub-Total (NTT)	1,794,400	39%	0	0%	2,838,100	61%
	Total (NTB+NTT)	2,450,900	37%	0	0%	4,135,300	63%

Source: JICA Team calculation based on RePPPProt - Maluku and Nusa Tenggara

Table 4.5 Land Use within Suitable Area for Wetland Agriculture by Kabupaten

Kabupaten	Suitable				Conditionally Suitable				Total			
	Wetland	Dryland	Estate	Others	Available	Total	Wetland	Dryland		Estate	Others	Available
Lombok Barat	14,000	800	4,200	100	100	19,100	200	1,500				1,700
Lombok Tengah	46,000		200			46,200	25,000	2,300				27,300
Lombok Timur	15,000	200		500	500	15,700	24,000	9,300	600			33,900
Sub-Total (Lombok)	75,000	1,000	4,400	0	600	81,000	49,200	13,100	600	0	0	62,900
Sumbawa	27,000	800		500	12,000	40,300	8,900					8,900
Dompu	3,000	8,000	1,200	0	3,500	15,700					10,000	10,000
Bima	11,000	600			4,800	16,400						0
Sub-Total (Sumbawa)	41,000	9,400	1,200	500	20,300	72,400	8,900	0	0	0	10,000	18,900
Sumba Barat	3,600	900			1,500	6,000	6,000	2,000			16,900	24,900
Sumba Timur	10,000	500			3,700	14,200	4,500	4,000			2,000	10,500
Sub-Total (Sumba)	13,600	1,400	0	0	5,200	20,200	10,500	6,000	0	0	18,900	35,400
Kupang	700	1,100		1,000	11,700	14,500	800				3,600	4,400
Timor Tengah Selatan	100	1,500			5,600	8,000		500			1,500	2,000
Timor Tengah Utara	1,000	600			7,000	8,600		5,200			13,000	18,200
Belu		1,100			16,800	18,100		2,000			2,000	4,000
Sub-Total (Timor)	1,800	4,300	1,000	1,000	41,100	49,200	800	7,700	0	0	20,100	28,600
Alor	600	100			2,900	3,600						0
Flores Timur	300	3,800			900	6,000						0
Sikka	4,000	2,100			1,800	8,000		800				800
Ende	5,300	1,400		300	2,700	11,000	300					300
Ngadha	12,400	500			4,000	16,900	3,700	1,700			1,000	6,400
Manggarai	11,800	1,300			14,300	27,400	4,600	2,900			6,000	13,500
Sub-Total (Flores)	34,400	9,200	2,400	300	26,600	72,900	8,600	5,400	0	0	7,000	21,000
Grand-Total (NTB+NTT)	165,800	25,300	9,000	1,800	93,800	295,700	78,000	32,200	600	0	56,000	166,800

Note: "Others" shows "Settlement areas", "Area associated by intensive land use" and "Area with no land use data"

Source: JICA Team calculation on RePPP data and maps

**Table 4.6 Population Projection for NTB and NTT**

Province/ Island/ Kabupaten	Total Population in 1992 (‘000 person)	Total Population in 1995 (‘000 person)	Total Population in 1998 (‘000 person)	Total Population in 2000 (‘000 person)
<b>NTB</b>				
Lombok	2,492.6	2,600.4	2,703.6	2,770.8
Lombok Barat	902.8	960.2	1,017.6	1,056.1
Lombok Tengah	697.8	718.2	736.6	748.0
Lombok Timur	892.0	922.0	949.4	966.7
Sumbawa	1,008.0	1,060.6	1,112.6	1,147.4
Sumbawa	387.3	403.7	419.4	429.6
Dompu	156.5	173.6	191.9	204.9
Bima	464.2	483.3	501.3	512.9
NTB sub-total	3,500.6	3,661.0	3,816.2	3,918.2
<b>NTT</b>				
Flores	1,593.5	1,688.5	1,748.0	1,785.3
Manggarai	514.2	561.1	595.9	618.9
Ngada	199.4	212.2	219.4	223.7
Ende	220.7	228.0	231.8	233.8
Sikka	245.3	261.8	268.9	273.0
Flores Timur	267.6	269.6	270.7	271.1
Alor	146.3	155.8	161.3	164.8
Sumba	455.2	499.0	529.3	549.4
Sumba Barat	299.7	328.2	348.6	362.1
Sumba Timur	155.5	170.8	180.7	187.3
Timor	1,274.1	1,395.3	1,476.8	1,530.3
Kupang	532.9	596.8	640.0	669.0
Timur Tengah Selatar	351.5	382.1	400.4	412.1
Timur Tengah Utara	168.8	180.1	189.3	195.3
Belu	220.9	236.3	247.1	253.9
NTT sub-total	3,322.8	3,582.8	3,754.1	3,865.0
<b>Total</b>	<b>6,823.4</b>	<b>7,243.8</b>	<b>7,570.3</b>	<b>7,783.2</b>

Source : NTB Dalam Angka 1992  
NTT Statistic Office

Table 4.7 Typical Cropping Pattern for Each Island

	Lombok	Sumbawa	Timor	Flores	Sumba
<b>Pattern - I</b>					
Wet Season	Wet Paddy (100%)	Wet Paddy (100%)	Wet Paddy (100%)	Wet Paddy (100%)	Wet Paddy (100%)
Dry Season 1	Wet Paddy (100%)	Wet Paddy (50%)	Wet Paddy (50%)	Wet Paddy (50%)	Wet Paddy (50%)
Dry Season 2	Palawija (50%)	Palawija (50%)	Palawija (50%)	Palawija (50%)	Palawija (50%)
<b>Pattern - II</b>					
Wet Season	Wet Paddy (100%)	Wet Paddy (100%)	Wet Paddy (100%)	Wet Paddy (100%)	Wet Paddy (100%)
Dry Season 1	Palawija (50%) Wet Paddy (50%)	Palawija (25%) Wet Paddy (25%)	Palawija (50%)	Palawija (50%)	Palawija (50%)
Dry Season 2	Palawija (50%)	Palawija (50%)	Palawija (50%)	Palawija (50%)	Palawija (50%)
<b>Pattern - III</b>					
Wet Season	Wet Paddy (100%)	Wet Paddy (100%)			
Dry Season 1	Palawija (50%) Wet Paddy (50%)	Palawija (25%) Wet Paddy (25%)			
Dry Season 2	Palawija (50%)	Palawija (50%)			



Table 4.8 Existing Embungs in Nusa Tenggara

## Nusa Tenggara Barat (NTB)

Item	Island		NTB Total
	Lombok	Sumbawa	
<b>(Embungs Managed by the Government)</b>			
<b>1) Newly Constructed</b>			
- Nos. of Embungs	18	15	33
- Storage capacity (average) m3	408.363	453.682	428.001
- Construction cost Mill.Rp. (average)	433	891	638
- Height (average) m	10.54	10.26	10.42
- Irrigation area (average) ha	238	446	305
<b>2) Rehabilitated Embungs</b>			
- Nos. of Embungs	45	-	45
- Storage capacity (average) m3	96.282	-	96.282
- Construction cost Mill.Rp. (average)	49	-	49
- Height (average) m	6.12	-	6.12
- Irrigation area (average) ha	260	-	260
<b>(Desa Embungs Rehabilitated by the Government)</b>			
- Nos. of Embungs	218	-	218
- Storage capacity (average) m3	15.535	-	15.535
- Construction cost Mill.Rp. (average)	4	-	4
- Irrigation area (average) ha	4.13	-	4.13

## Nusa Tenggara Timur (NTT)

Item	Island			NTT Total
	Timor	Flores	Sumba	
<b>(Irrigation Embungs)</b>				
- Nos. of Embungs	8	3	2	13
- Storage capacity (average) m3	857.925	201.500	873.900	708.900
- Construction cost Mill.Rp. (average)	1.471	2.020	1.987	1.667
- Height (average) m	7.53	11.70	9.25	8.75
- Irrigation area (average) ha	318	116	249	261
<b>(Small Embungs for Domestic Water Supply/Livestock)</b>				
- Nos. of Embungs	92	-	-	92
- Storage capacity (average) m3	16.937	-	-	16.937
- Height (average) m	7.15	-	-	7.15
- Beneficially family (average) No	62	-	-	62

Note : Timor island in above categorization includes the Timor, Rote and Sabu islands.

Source : Pembangunan Irigasi Embung in NTT and NTB

**Table 4.9 List of Existing Embungs Managed by the Government in NTB**  
(Rehabilitated)

No.	Name of Embungs	Kecamatan	Kabupaten	Storage Capacity (m <sup>3</sup> )	Reservoir Area (ha)	Irrigation Area (ha)	Dam			Cost (Rp)	Rehabilitation
							Height (m)	Width (m)	Length (m)		
1	Helati	Janapria	LombokTengah	50,400	1.25	200.00	8.25	4.00	100.00	47,877,500	80/81-82/83
2	LuangMake	Janapria	LombokTengah	58,800	2.10	120.00	4.50	3.00	86.50	1,783,000	80/81
3	Jebak	Janapria	LombokTengah	71,785	2.51	250.00	4.50	3.50	134.00	23,130,000	80/81
4	KuangSampi	Janapria	LombokTengah	72,625	2.75	300.00	6.00	4.00	85.00	25,432,000	80/81-82/83
5	Pendem	Janapria	LombokTengah	100,000	3.00	225.00	5.20	4.00	70.75	66,672,000	80/81/82-82/83
6	Gusi	Janapria	LombokTengah	82,500	2.50	200.00	-	-	-	29,062,000	80/81-81/82
7	Bengak	Janapria	LombokTengah	180,000	6.00	250.00	5.00	3.50	104.50	1,122,000	80/81
8	JurangDao	Bt.Keliang	LombokTengah	34,000	12.00	400.00	8.50	6.50	88.50	15,234,000	80/81
9	Gabak	Pujut	LombokTengah	196,800	7.50	350.00	5.25	3.50	106.25	84,268,500	80/81-82/83
10	Tanuh	Pujut	LombokTengah	38,400	1.20	200.00	5.70	6.50	37.50	33,511,000	80/81
11	JurangJaler	Praya	LombokTengah	317,625	3.25	250.00	-	3.50	-	34,120,000	80/81
12	Dakung	Praya	LombokTengah	80,000	2.00	600.00	6.62	3.00	71.00	21,316,000	80/81
13	Pengadang	Praya	LombokTengah	195,000	2.00	400.00	-	4.30	-	8,488,000	80/81-81/82
14	Bombas	PrayaBarat	LombokTengah	209,100	4.95	250.00	7.50	4.00	121.50	266,150,000	81/82-90/91
15	Muncan	Kopang	LombokTengah	200,000	4.85	850.00	-	-	-	77,630,226	81/82-91/92
16	Orogendeng	PrayaBarat	LombokTengah	157,500	4.50	350.00	6.50	3.00	70.00	262,936,268	81/82/83-86/87/88-91/92
17	Bual	Kopang	LombokTengah	14,920	0.75	150.00	4.73	3.00	70.00	13,316,000	81/82
18	Bubuk	Praya	LombokTengah	17,063	1.00	100.00	3.50	3.00	150.00	28,605,000	81/82
19	Bingkok	Kopang	LombokTengah	21,000	1.50	100.00	7.20	4.00	140.00	50,036,810	81/82-91/92
20	Pengkemit	Pujut	LombokTengah	31,000	5.20	310.00	6.75	5.00	242.50	91,565,000	81/82-83/84-86/87
21	Pejeruk	Janapria	LombokTengah	81,620	0.75	100.00	5.00	3.00	117.55	4,846,000	81/82
22	LendangTelage	Janapria	LombokTengah	13,125	5.75	250.00	3.50	3.00	130.75	341,000	81/82
23	Bringe	Lekor	LombokTengah	103,500	1.75	500.00	18.70	7.60	81.00	222,787,462	81/82/83-91/92
24	Tokan	Ds.Baru	LombokTengah	67,375	1.00	125.00	2.00	3.00	57.00	18,039,000	81/82-83/84
25	Rindik	Ds.Baru	LombokTengah	10,672	1.75	500.00	1.87	3.50	81.00	39,215,161	82/83-91/92
26	Tasik-Asik	Janapria	LombokTengah	297,500	5.30	310.00	7.20	4.00	140.00	11,360,000	83/84
27	Perok	Janapria	LombokTengah	295,250	0.85	175.00	5.70	4.00	100.00	43,207,000	83/84
28	Kembar I	Priggahaya	LombokTimur	36,000	1.00	1,200.00	16.00	3.00	135.00	14,128,000	80/81
29	DamBruk	Sakra	LombokTimur	36,700	1.50	130.00	8.50	5.00	85.00	7,229,000	80/81
30	Pengoros	Sakra	LombokTimur	12,880	0.80	125.00	2.50	2.60	185.00	25,367,000	80/81
31	Kondok	Sakra	LombokTimur	24,500	1.00	100.00	4.50	2.50	75.00	47,344,000	80/81
32	LingkokKolo	Sakra	LombokTimur	20,125	1.50	150.00	3.00	3.00	130.00	59,999,000	80/81
33	Toyang	Sakra	LombokTimur	14,500	0.85	235.00	3.70	3.00	100.00	53,366,154	80/81-91/92
34	GunungPauk	Terare	LombokTimur	226,800	3.60	100.00	15.00	3.50	126.00	39,789,000	80/81
35	GunungSepang	Selong	LombokTimur	125,700	1.25	150.00	4.27	2.50	175.00	42,572,000	80/81
36	Semat	Masbagik	LombokTimur	1,400	1.00	110.00	3.50	2.50	50.00	40,984,000	80/81
37	Tridaya	Terare	LombokTimur	14,920	2.25	100.00	5.16	3.00	115.00	11,819,000	81/82
38	Mare	Terare	LombokTimur	67,385	5.10	475.00	12.25	3.00	72.00	23,302,000	81/82
39	Bt.Bangke/Penggeh	Terare	LombokTimur	37,632	0.75	60.00	1.47	2.70	65.50	15,192,000	82/83
40	Raja	Terare	LombokTimur	158,316	5.50	95.00	6.70	3.00	62.00	101,469,000	82/83/84-90/91
41	Penye	Sakra	LombokTimur	110,250	0.45	145.36	3.50	3.50	155.00	71,861,559	83/94-91/92
42	Munte	Sakra	LombokTimur	180,000	0.75	180.00	4.00	3.50	110.00	17,776,000	83/84
43	Kenyait	Terare	LombokTimur	60,250	0.25	135.35	6.70	4.00	90.00	48,301,000	83/84
44	Penyampet	Terare	LombokTimur	125,375	0.25	125.35	4.50	3.00	159.50	27,028,000	83/84
45	Tembeng	Keruak	LombokTimur	82,381	4.44	-	-	3.50	323.00	-	-

- Average Storage Capacity (m<sup>3</sup>): 96,282  
- Average Construction Cost (Rp.): 49,308,583  
- Average Height (m): 6.12  
- Average Irrigation Area (ha): 260

Table 4.10 Existing Desa Embungs Rehabilitated by the Government in NTB

No.	Name of Embungs	Kecamatan	Kabupaten	Storage Area(ha)	Storage Capacity(m3)	Irrigation Area (ha)	Rehabilitation	
							Cost (Rp)	FY
1	Muntas	Praya Timur	Loteng	1.00	10,500	3.68	2,823,000	1980/81
2	Montong Pojon	Praya Timur	Loteng	0.25	3,063	1.07	3,077,000	1980/81
3	Montong Pojon	Praya Timur	Loteng	0.75	7,875	2.76	2,530,000	1980/81
4	Tuan Said	Praya Timur	Loteng	0.50	5,250	1.84	2,561,000	1980/81
5	Amaq Satti	Praya Timur	Loteng	0.50	6,125	2.15	2,727,000	1980/81
6	Kesambik Mate	Praya Timur	Loteng	0.40	4,800	1.68	2,568,000	1980/81
7	Bakan	Praya Timur	Loteng	0.65	10,237	3.68	2,575,000	1980/81
8	Pedanan	Praya Timur	Loteng	0.20	19,199	6.73	2,543,000	1980/81
9	Bebile 1	Praya Timur	Loteng	0.50	2,100	0.74	2,043,000	1980/81
10	Bebile 2	Praya Timur	Loteng	0.30	5,250	1.84	2,728,000	1980/81
11	Bebile 3	Praya Timur	Loteng	0.35	4,725	1.66	2,577,000	1980/81
12	Bebile 4	Praya Timur	Loteng	2.00	5,513	1.93	2,566,000	1980/81
13	Rengah 1	Praya Timur	Loteng	0.80	31,199	10.94	3,027,000	1980/81
14	Rengah 2	Praya Timur	Loteng	0.60	15,679	5.50	2,636,000	1980/81
15	Rengah 3	Praya Timur	Loteng	0.65	6,719	2.36	2,761,000	1980/81
16	Senande 1	Praya Timur	Loteng	0.50	9,100	3.19	2,664,000	1980/81
17	Senande 2	Praya Timur	Loteng	0.50	4,375	1.53	2,048,000	1980/81
18	Pegading	Praya	Loteng	0.40	6,187	2.16	2,748,955	1980/81
19	Kekes	Praya	Loteng	0.30	5,400	1.89	1,572,007	1980/81
20	Rabe	Praya	Loteng	0.40	4,199	1.47	2,748,955	1980/81
21	Bolak Sarah	Praya	Loteng	0.80	4,200	1.47	2,748,955	1980/81
22	Bagek Japeng	Praya	Loteng	0.28	5,599	1.98	1,942,161	1980/81
23	Wirat	Praya	Loteng	1.00	3,135	1.09	2,345,041	1980/81
24	Derek	Praya	Loteng	0.50	10,500	3.68	3,300,551	1980/81
25	H. Muhammad	Praya Timur	Loteng	0.90	6,750	2.36	2,748,955	1980/81
26	Mongkot	Praya Timur	Loteng	1.00	11,025	3.86	2,748,955	1980/81
27	Sengkereng	Praya Timur	Loteng	0.80	15,750	5.52	2,748,955	1980/81
28	H. Arip	Praya Timur	Loteng	0.50	13,599	4.76	2,748,955	1980/81
29	Repuk	Praya Timur	Loteng	0.40	7,499	2.63	2,345,041	1980/81
30	Grantung	Praya	Loteng	0.25	8,399	2.94	2,345,041	1980/81
31	Tegal	Praya	Loteng	2.00	3,749	1.31	2,345,041	1980/81
32	Belek	Praya	Loteng	0.80	17,500	6.13	1,942,161	1980/81
33	Regak	Praya	Loteng	0.60	13,439	4.71	3,300,551	1980/81
34	Batu Tambun	Praya	Loteng	0.36	16,300	2.20	2,748,955	1980/81
35	Bolah	Pujut	Loteng	2.35	2,319	0.81	2,345,041	1980/81
36	Desa	Kopang	Loteng	0.50	48,999	17.18	2,748,955	1980/81
37	Loang Make	Janapria	Loteng	0.65	7,875	0.76	2,821,993	1980/81
38	Batu Anten	Janapria	Loteng	0.70	6,825	2.39	2,870,743	1980/81
39	Wanen	Janapria	Loteng	0.50	6,125	2.14	2,829,987	1980/81
40	Empas	Janapria	Loteng	1.00	16,800	5.89	2,681,254	1980/81
41	Belo 1	Janapria	Loteng	0.50	7,875	2.76	2,832,216	1980/81
42	Belo 2	Janapria	Loteng	0.50	7,420	2.60	2,523,661	1980/81
43	Lengkok Buak	Janapria	Loteng	0.50	6,650	2.33	2,268,334	1980/81
44	Bile Penanggak	Janapria	Loteng	0.75	10,500	3.68	2,583,317	1980/81
45	Bila Penanggak	Janapria	Loteng	0.50	7,000	2.45	2,875,633	1980/81
46	Ojang	Janapria	Loteng	0.60	10,080	3.53	2,767,754	1980/81
47	Pengkelek Leping	Janapria	Loteng	0.30	6,719	2.35	2,819,606	1980/81
48	Gunung Beduk	Janapria	Loteng	0.80	4,000	2.35	4,124,000	1980/81
49	Tabik-Asik	Janapria	Loteng	0.50	2,500	1.33	2,534,000	1980/81
50	Setute	Janapria	Loteng	1.00	6,500	3.65	2,666,000	1980/81
51	Putar	Janapria	Loteng	1.50	7,500	3.90	4,102,000	1980/81
52	Limbun	Janapria	Loteng	1.00	5,000	2.65	2,325,000	1980/81
53	Batu	Janapria	Loteng	0.80	3,750	3.15	2,576,000	1980/81
54	Inen Segara	Janapria	Loteng	0.75	2,800	1.65	7,511,000	1980/81
55	Lendang	Praya Timur	Loteng	1.75	7,500	4.15	3,667,000	1980/81
56	Setiek	Praya Timur	Loteng	1.50	7,500	4.15	2,851,000	1980/81

Table 4.10 Existing Desa Embungs Rehabilitated by the Government in NTB

No.	Name of Embungs	Kecamatan	Kabupaten	Storage		Irrigation Area (ha)	Rehabilitation	
				Area(ha)	Capacity(m3)		Cost (Rp)	FY
57	Selong	Praya Timur	Loteng	1.00	5,000	2.65	4,172,000	1980/81
58	Orong Munta	Praya Timur	Loteng	0.95	4,500	2.40	4,155,000	1980/81
59	Orong Berembuk	Praya Timur	Loteng	0.50	3,000	2.15	3,757,000	1980/81
60	Bagik Jongkor	Praya Timur	Loteng	1.10	23,519	3.00	2,319,000	1981/82
61	Stambek	Praya Timur	Loteng	0.16	2,047	1.00	2,817,689	1981/82
62	Ketujur	Praya Timur	Loteng	0.70	9,799	3.00	2,817,689	1981/82
63	Setemang	Praya Timur	Loteng	0.70	9,800	3.00	2,817,689	1981/82
64	Muer	Praya Timur	Loteng	0.80	14,279	2.00	2,817,689	1981/82
65	Selonjoh Or.	Praya Timur	Loteng	0.60	11,519	1.00	2,817,689	1981/82
66	Terong Masak	Praya Timur	Loteng	0.50	8,999	2.00	2,319,000	1981/82
67	Sebedin	Praya Timur	Loteng	0.60	4,500	3.00	2,817,689	1981/82
68	Nusa	Praya Timur	Loteng	0.80	5,600	2.00	2,440,888	1981/82
69	Sejoneng	Praya Timur	Loteng	1.58	11,250	5.00	2,440,888	1981/82
70	Derek	Praya Timur	Loteng	1.00	12,799	4.90	3,780,747	1981/82
71	Montong Gaong	Praya Timur	Loteng	0.30	3,695	3.00	3,780,747	1981/82
72	Staming	Praya Timur	Loteng	0.45	5,624	10.50	3,780,747	1981/82
73	Selandung	Praya Timur	Loteng	0.13	1,663	3.00	3,780,747	1981/82
74	Mangkut	Praya Timur	Loteng	0.90	14,399	3.00	3,780,747	1981/82
75	Penyawang	Praya Timur	Loteng	2.00	23,999	8.00	3,780,747	1981/82
76	Stambang	Praya Timur	Loteng	1.00	11,199	2.00	3,780,747	1981/82
77	Lendang Barat	Praya	Loteng	1.75	6,047	6.00	3,780,747	1981/82
78	Lendang	Praya	Loteng	0.50	3,959	14.00	4,391,745	1981/82
79	Sunde, 1, 2, 3	Praya Timur	Loteng	1.00	7,500	5.00	3,246,992	1981/82
80	Rengak	Janapria	Lotim	0.50	-	3.00	3,074,200	1982/83
81	Mongkut	Janapria	Lotim	0.50	-	2.50	3,074,200	1982/83
82	Bile 1	Janapria	Lotim	0.50	-	2.00	3,074,200	1982/83
83	Bile 2	Janapria	Lotim	0.50	-	2.20	3,074,200	1982/83
84	Sana	Janapria	Lotim	0.50	-	1.60	3,074,200	1982/83
85	Penyekuk	Janapria	Lotim	0.50	-	2.20	3,074,200	1982/83
86	Batu Alang	Kopang	Lotim	0.50	-	2.10	3,074,200	1982/83
87	Singgaling 1	Sengkol	Lotim	0.04	10,800	2.50	2,920,000	1982/83
88	Singgaling 3	Sengkol	Lotim	0.03	22,410	3.00	2,920,000	1982/83
89	Berlian 2	Praya Timur	Lotim	0.50	17,187	2.50	2,920,000	1982/83
90	Sarah	Praya Timur	Lotim	0.50	-	2.00	2,920,000	1982/83
91	Sungge 1	Praya Timur	Lotim	0.50	-	2.20	2,920,000	1982/83
92	Sungge 3	Praya Timur	Lotim	0.50	-	1.60	2,920,000	1982/83
93	Sungge 4	Praya Timur	Lotim	0.50	-	2.20	2,920,000	1982/83
94	Or. Berasem	Praya Timur	Lotim	0.50	-	2.10	2,920,000	1982/83
95	Loang Bawlar	Praya Timur	Lotim	0.50	-	2.50	2,920,000	1982/83
96	Penggali Arus	Praya Timur	Lotim	0.50	-	2.20	2,920,000	1982/83
97	Bengkel	Janapria	Lotim	0.06	-	1.60	3,086,800	1982/83
98	Kamput 2	Janapria	Lotim	0.06	-	2.20	3,086,800	1982/83
99	Piling 1	Janapria	Lotim	0.06	-	2.10	3,086,800	1982/83
100	Besun	Janapria	Lotim	0.06	-	2.50	3,086,800	1982/83
101	Sekuk	Janapria	Lotim	0.06	-	2.10	3,086,800	1982/83
102	Tibu Dalam	Janapria	Lotim	2.35	18,750	2.75	2,000,000	1983/84
103	Kompany 2	Janapria	Lotim	3.50	25,000	2.75	2,452,182	1983/84
104	Loyok	Janapria	Lotim	2.40	17,750	2.35	2,452,182	1983/84
105	Kemerik	Janapria	Lotim	2.55	20,000	2.45	2,452,182	1983/84
106	Tempo 1	Janapria	Lotim	2.00	12,000	2.15	2,452,182	1983/84
107	Tempo 2	Janapria	Lotim	2.10	15,000	2.17	2,452,182	1983/84
108	Baran Silu	Janapria	Lotim	2.20	12,250	2.20	2,452,182	1983/84
109	Cuit 1	Janapria	Lotim	2.10	15,000	2.17	2,452,182	1983/84
110	Wijin 2	Janapria	Lotim	3.65	24,000	2.82	2,452,182	1983/84
111	Baren Tengak	Janapria	Lotim	3.97	7,500	1.75	2,452,182	1983/84
112	Borok	Janapria	Lotim	2.83	19,000	2.15	2,452,182	1983/84

Table 4.10 Existing Desa Embungs Rehabilitated by the Government in NTB

No.	Name of Embungs	Kecamatan	Kabupaten	Storage	Storage	Irrigation	Rehabilitation	
				Area(ha)	Capacity(m3)	Area (ha)	Cost (Rp)	FY
113	Sasak	Janapria	Lotim	5.22	35,000	3.35	2,525,333	1983/84
114	Batu Gelang 2	Praya Timur	Lotim	3.22	54,250	2.96	2,525,333	1983/84
115	Mt. Lisung 2	Praya Timur	Lotim	6.62	25,000	3.75	2,525,333	1983/84
116	Or. Jabe	Praya Timur	Lotim	3.25	16,000	2.85	2,525,333	1983/84
117	Sesak	Praya Timur	Lotim	2.85	25,000	2.55	2,525,333	1983/84
118	Baran Gagak	Praya Timur	Lotim	2.36	20,000	2.38	2,525,333	1983/84
119	Mentan	Praya Timur	Lotim	2.96	9,000	2.40	2,525,333	1983/84
120	Belo 2	Janapria	Lotim	1.59	25,000	3.65	2,525,333	1983/84
121	Piling 3	Janapria	Lotim	1.59	20,000	1.80	2,432,333	1983/84
122	Bara	Praya Timur	Loteng	0.85	9,850	4.75	20,663,000	1991/92
123	Bebile	Praya Timur	Loteng	0.75	10,125	3.55	18,156,000	1991/92
124	Baleka	Praya Timur	Loteng	0.65	10,237	3.68	17,394,000	1991/92
125	Montong Belae	Praya Timur	Loteng	0.75	10,125	3.55	18,452,000	1991/92
126	Rerang	-	Loteng	-	-	1.75	15,254,000	1992/93
127	Orong Luvis	-	Loteng	-	-	2.50	17,461,000	1992/93
128	Memoyo	Keruak	Lotim	0.75	6,125	2.15	2,535,000	1980/81
129	Montong Setaik	Keruak	Lotim	0.75	10,125	3.55	2,507,000	1980/81
130	Tangkok 1	Keruak	Lotim	0.65	19,187	3.22	2,647,000	1980/81
131	Tangun Timur	Keruak	Lotim	1.20	5,687	1.90	2,526,000	1980/81
132	Siwe 1	Keruak	Lotim	1.20	25,619	8.99	2,577,000	1980/81
133	Siwe 2	Keruak	Lotim	0.60	25,619	8.99	2,617,000	1980/81
134	Jurang Embung	Keruak	Lotim	0.34	6,300	2.20	2,345,041	1980/81
135	Bare Tengah 1	Keruak	Lotim	0.50	-	1.50	1,827,268	1980/81
136	Bare Tengah 2	Keruak	Lotim	0.50	-	2.00	2,306,284	1980/81
137	Nurus	Keruak	Lotim	0.50	-	1.75	1,866,853	1980/81
138	Bare Seri	Keruak	Lotim	0.50	-	2.25	1,997,944	1980/81
139	Montong Surak 1	Keruak	Lotim	0.50	-	3.00	1,450,098	1980/81
140	Montong Surak 2	Keruak	Lotim	0.50	-	2.50	1,600,267	1980/81
141	Montong Surak 3	Keruak	Lotim	0.50	-	2.00	1,917,229	1980/81
142	Senale 1	Keruak	Lotim	0.50	-	1.65	1,659,728	1980/81
143	Senale 2	Keruak	Lotim	0.50	-	1.50	1,992,610	1980/81
144	Senale 3	Keruak	Lotim	0.50	-	1.50	1,574,041	1980/81
145	Senale 4	Keruak	Lotim	0.50	-	2.00	1,694,933	1980/81
146	Sujid	Keruak	Lotim	0.50	-	2.50	2,046,043	1980/81
147	Penyamber 2	Keruak	Lotim	1.30	13,650	2.50	2,894,310	1981/82
148	Penyamber 1	Keruak	Lotim	1.50	2,025	3.50	2,606,556	1981/82
149	H. Chairuddin	Keruak	Lotim	1.00	8,750	5.00	3,612,701	1981/82
150	Penotok 3	Keruak	Lotim	0.80	7,200	5.00	2,894,310	1981/82
151	Tujung	Keruak	Lotim	0.75	9,187	2.80	3,193,707	1981/82
152	Tangun 1 (A.Dar)	Keruak	Lotim	1.50	15,750	3.50	2,894,310	1981/82
153	Tangun (A.Tilem)	Keruak	Lotim	1.00	12,000	3.15	2,894,310	1981/82
154	Tangun (A.Kasim)	Keruak	Lotim	1.00	10,500	3.15	2,606,556	1981/82
155	Mt. Sari 2	Keruak	Lotim	1.00	12,250	3.85	2,606,556	1981/82
156	Mt. Sari 4	Keruak	Lotim	1.00	10,500	4.20	2,606,556	1981/82
157	Orong Tundak	Keruak	Lotim	1.50	15,750	4.90	3,211,994	1981/82
158	Orong Tundak 3	Keruak	Lotim	2.50	18,750	154.00	3,211,994	1981/82
159	Perempung 2	Keruak	Lotim	1.00	9,000	3.50	3,211,994	1981/82
160	Perempung 1	Keruak	Lotim	1.00	12,500	45.00	3,211,994	1981/82
161	Penolong 2	Keruak	Lotim	2.50	22,500	14.00	3,211,994	1981/82
162	Tenges Enges	Keruak	Lotim	2.50	17,500	12.00	3,211,994	1981/82
163	Pengkelak Mas 1	Keruak	Lotim	1.00	10,500	3.50	3,211,994	1981/82
164	Pengkelak Mas 2	Keruak	Lotim	1.00	9,500	3.50	3,211,994	1981/82
165	Gerintik	Keruak	Lotim	1.00	9,000	3.50	3,211,994	1981/82
166	Semban	Keruak	Lotim	0.10	25,000	4.00	3,229,800	1982/83
167	Keseren	Keruak	Lotim	0.10	25,000	4.00	3,229,800	1982/83
168	Segapok	Keruak	Lotim	0.25	37,500	6.00	3,229,800	1982/83

Table 4.10 Existing Desa Embungs Rehabilitated by the Government in NTB

No.	Name of Embungs	Kecamatan	Kabupaten	Storage Area (ha)	Storage Capacity (m3)	Irrigation Area (ha)	Rehabilitation	
							Cost (Rp)	FY
169	Sekele	Keruak	Lotim	0.15	37,500	6.70	3,229,800	1982/83
170	Dasan Randu 1	Keruak	Lotim	0.10	25,000	2.50	3,229,800	1982/83
171	Selau 2	Keruak	Lotim	0.15	46,800	3.20	3,229,800	1982/83
172	Kelotok	Keruak	Lotim	0.25	62,500	2.60	3,229,800	1982/83
173	Dalam 1	Keruak	Lotim	0.11	26,250	2.40	3,229,800	1982/83
174	Mt. Keker	Keruak	Lotim	0.14	36,000	3.60	3,229,800	1982/83
175	Buwuh	Keruak	Lotim	0.10	24,500	3.00	3,229,800	1982/83
176	Nampi 1	Keruak	Lotim	0.10	25,000	2.00	2,914,800	1982/83
177	Bagik Jongkor	Keruak	Lotim	0.05	13,500	6.00	2,914,800	1982/83
178	Selalok	Keruak	Lotim	0.25	62,500	3.00	2,914,800	1982/83
179	Ds. Baru 1	Keruak	Lotim	0.04	10,800	5.00	2,914,800	1982/83
180	Mangkung 1	Keruak	Lotim	0.15	30,000	4.60	2,914,800	1982/83
181	Penyaya	Keruak	Lotim	0.15	30,000	4.80	2,914,800	1982/83
182	Mt. Take 2	Keruak	Lotim	0.20	40,000	2.90	2,914,800	1982/83
183	Batu 3	Keruak	Lotim	0.10	20,000	3.10	2,914,800	1982/83
184	Bile Berembun	Keruak	Lotim	0.10	25,000	2.90	2,914,800	1982/83
185	Or. Pandan	Keruak	Lotim	0.70	11,212	1.00	2,914,800	1982/83
186	Ganuk	Keruak	Lotim	0.50	4,900	1.50	3,074,200	1982/83
187	Empas	Keruak	Lotim	0.50	5,250	1.60	3,074,200	1982/83
188	Sadak	Keruak	Lotim	0.50	10,000	2.50	3,074,200	1982/83
189	Bagik Rupe	Keruak	Lotim	0.50	10,000	2.90	3,000,000	1982/83
190	Or. Selukat 2	Keruak	Lotim	0.40	10,000	1.00	3,000,000	1982/83
191	Or. Selukat 3	Keruak	Lotim	0.40	7,200	1.50	3,000,000	1982/83
192	Or. Selukat 4	Keruak	Lotim	0.40	-	1.60	3,000,000	1982/83
193	Batu Putek	Keruak	Lotim	0.60	90,000	2.50	3,000,000	1982/83
194	Rungkang 1	Keruak	Lotim	2.20	24,000	2.95	2,432,333	1983/84
195	Rungkang 2	Keruak	Lotim	2.40	18,000	2.95	2,432,333	1983/84
196	Rungkang 3	Keruak	Lotim	4.57	48,375	4.25	2,432,333	1983/84
197	Tungan Timur	Keruak	Lotim	5.10	44,000	4.75	2,432,333	1983/84
198	Segalar	Keruak	Lotim	3.80	18,000	3.85	2,432,333	1983/84
199	Segaet	Keruak	Lotim	4.85	47,500	4.15	2,432,333	1983/84
200	Embang-embang	Keruak	Lotim	7.55	50,000	5.15	2,432,333	1983/84
201	Tanggong	Keruak	Lotim	4.40	15,000	4.35	2,432,333	1983/84
202	Memoyang	Keruak	Lotim	3.50	11,550	3.25	2,432,333	1983/84
203	Kubur Ulang	Keruak	Lotim	1.55	17,500	1.25	2,432,333	1983/84
204	Santap	Keruak	Lotim	1.50	16,250	1.28	2,432,333	1983/84
205	Montong Surak	Keruak	Lotim	2.15	18,000	2.65	2,432,333	1983/84
206	Penotok	Keruak	Lotim	2.95	33,250	2.95	2,432,333	1983/84
207	Bile Berembun	Keruak	Lotim	3.45	35,500	3.25	2,432,333	1983/84
208	Lendang Dapur	Keruak	Lotim	2.50	20,250	2.85	2,432,333	1983/84
209	Penyayak	Keruak	Lotim	2.50	32,900	2.25	2,432,333	1983/84
210	Penyambak	Keruak	Lotim	2.58	19,200	2.83	2,432,333	1983/84
211	Mangkung 3	Keruak	Lotim	2.82	21,250	2.75	2,432,333	1983/84
212	Repok Katok	Keruak	Lotim	0.82	15,679	5.50	44,779,000	1991/92
213	Inten	Keruak	Lotim	1.25	13,650	6.25	20,663,000	1991/92
214	Sejata	Keruak	Lotim	0.75	11,345	3.00	20,137,000	1991/92
215	Kuang Tojang	Keruak	Lotim	0.65	9,750	3.75	39,756,000	1991/92
216	Puter Jagat	Keruak	Lotim	0.65	9,750	3.75	20,600,000	1992/93
217	Kayu Perang	Keruak	Lotim	0.75	11,345	3.00	22,205,000	1992/93
218	Tangon	Keruak	Lotim	0.75	11,345	3.00	27,480,000	1992/93

**Lombok Island**

Nos of Embungs	218
Average Storage Capacity (n3)	15,535
Average Rehabilitation Cost (Rp)	4,021,873
Average Irrigation Area (ha)	4.13

Table 4.11 List of Existing Embung for Irrigation in NTT

No	Name of Embung	Location		Irrig. Area (ha)	Type	Main Factor of Embung				Construction / Implementation		Irrig. Grade			
		Kabupaten	Kecamatan			Catchment Area (ha)	Storage Vol.(m3)	Height (m)	Length (m)	Spillway Width(m)	Embank. Vol.(m3)		Period	Cost (mill. Rp.)	Financial Source
1	Danau Tua	Kupang (P. Rote)	Rote Barat	750	Earth	280	2,045,800	4.00	320.00	5.00	33,600	1981-84	393	GOI	T
2	Umakapa	Kupang (P. Rote)	Pantai Baru	83	Earth and Rubbersheet	232	146,600	7.00	100.00	8.00	23,500	1981-92	435	GOI	T
3	Oetete	Kupang (P. Rote)	Rote Timur	79	Earth and Rubbersheet	14	59,300	6.50	95.00	2.00	29,300	1981-90	297	GOI	T
4	Livubahani	Kupang (P. Rote)	Rote Barat	174	Earth and Rubbersheet	85	539,100	8.10	106.00	7.00	43,600	1986-92	1,601	GOI	T
5	Kapalangga	Kupang (P. Rote)	Rote Barat	135	Earth	313	1,435,600	5.60	1042.00	12.00	40,700	1983-87	888	GOI	T
6	Lekobatu	Kupang (P. Rote)	Rote Barat	95	Earth and Rubbersheet	78	698,800	6.60	463.00	5.00	31,500	1984-93	1,486	GOI	T
7	Manubulu	Kupang (P. Rote)	Rote Tengah	1,102	Earth	230	1,015,900	15.00	103.00	20.00	30,406	1988-94	5,006	GOI	T
8	Mumu/Lantoka	Alor (Flores)	Alor Timur	45	Earth	250	135,200	8.10	181.60	20.00	83,800	1992-94	2,695	GOI	T
9	Kere	Kupang (Sabu)	Sabu Timur	129	Earth	400	922,300	7.40	197.50	6.00	40,800	1993-94	1,658	GOI	T
10	Karinga	Sumba Timur	Sumba Timur	214	Earth	500	203,800	10.00	101.00	11.00	18,600	1990-93	1,200	GOI	T
11	Rakawatu	Sumba Timur	Lewatoku	283	Earth	625	1,544,000	8.50	102.00	23.00	25,400	1991-94	2,774	GOI	T
12	Waenita	Sikka (Flores)	Sikka	174	Earth	1,800	324,900	15.00	131.00	26.00	44,100	1991-94	2,458	GOI	T
13	Patisomba	Sikka (Flores)	Sikka	128	Earth	400	144,400	12.00	77.50	22.00	30,500	1993-94	908	GOI	T
						Timor		Flores		Sumba		Total			
- Nos of Embungs						8		3		2		13			
- Average Storage Capacity (m3)						857,925		201,500		873,900		708,900			
- Average Construction Cost (Mill. R)						1,471		2,020		1,987		1,677			
- Average Height						7.53		11.70		9.25		8.75			
- Average Irrigation Area						318		116		249		261			

Note : Timor in above categorization includes the Timor, Rote and Sabu Islands.

**Table 4.12 List of Existing Small Embungs in NTT  
(For Domestic Water and Livestock)**

No.	Name of Embung	Location		Beneficially Family No.	Catchment Area (Ha)	Storage Volume (m3)	Height H (m)	Length L (m)	Imple. Period
		Kabupaten	Kecamatan						
1	Hanc	T.T.S.	Amanuban Barat	25	6.00	6,700	6.00	81.00	86/87
2	Oetilo	T.T.S.	Amanuban Barat	43	15.40	11,500	9.00	80.00	86/87
3	Besiteta	T.T.S.	Amanuban Selatan	43	24.00	-	9.00	80.00	86/87
4	O'inin	T.T.S.	Amanuban Barat	115	7.00	31,000	7.00	62.00	87/88
5	Fatului	T.T.S.	Amanuban Tengah	19	6.00	5,000	6.00	60.00	87/88
6	Noi Ana	T.T.S.	Amanuban Selatan	25	6.00	6,700	7.00	62.00	87/88
7	Oekul I	T.T.S.	Amanuban Selatan	54	10.00	14,600	8.00	63.00	88/89
8	Fatimetan	T.T.S.	Amanuban Barat	53	20.00	14,200	5.00	66.00	88/89
9	Linbai	T.T.S.	Amanuban Selatan	52	6.00	14,000	8.00	60.00	88/89
10	Eon Ana	T.T.S.	Amanuban Selatan	46	8.00	12,500	-	74.00	88/89
11	Besit I	T.T.S.	Molo Selatan	19	2.00	3,000	5.00	42.00	89/90
12	Oesali	T.T.S.	Amanuban Barat	11	2.00	3,000	10.00	110.00	89/90
13	Besannutu	T.T.S.	Amanuban Selatan	36	10.00	9,700	7.00	66.00	89/90
14	Pili	T.T.S.	Amanuban Timur	31	8.00	8,500	6.00	100.50	89/90
15	Billa	T.T.S.	Amanuban Timur	20	6.00	5,500	5.00	50.00	89/90
16	Oinlasi I	T.T.S.	Amanuban Timur	40	18.00	5,500	7.00	54.00	89/90
17	Oenai	T.T.S.	Amanuban Timur	20	6.00	5,500	5.00	50.00	89/90
18	Fatukopa	T.T.S.	Amanuban Timur	27	6.00	-	4.00	65.00	89/90
19	Mnela	T.T.S.	Amanuban Timur	23	5.00	6,120	4.00	68.00	89/90
20	Mauleum	T.T.S.	Amanuban Timur	51	12.00	13,700	5.00	75.00	89/90
21	Falas	T.T.S.	Amanuban Timur	19	6.00	5,100	6.00	47.00	89/90
22	Naimet	T.T.S.	Amanuban Tengah	24	8.00	6,500	6.00	80.00	89/90
23	Oinlasi II	T.T.S.	Amanuban Selatan	136	6.00	36,700	6.00	112.50	90/91
24	Tonom	T.T.S.	Amanuban Selatan	25	6.00	6,700	5.00	71.00	90/91
25	Onibesar	T.T.S.	Amanuban Utara	34	9.50	9,300	6.00	65.00	90/91
26	Fotilo	T.T.S.	Amanuban Utara	24	6.00	6,500	6.00	56.00	90/91
27	Manufui	T.T.S.	Amanuban Selatan	40	6.00	10,700	8.00	76.00	90/91
28	Oen	T.T.S.	Amanuban Selatan	39	10.00	10,700	7.00	82.00	90/91
29	Lilo	T.T.S.	Amanuban Utara	40	6.00	10,700	7.00	72.00	90/91
30	Sunu	T.T.S.	Amanuban Utara	69	6.00	18,700	7.00	86.00	90/91
31	Lotas	T.T.S.	Amanuban Utara	81	6.00	14,930	7.00	90.00	91/92
32	Katife	T.T.S.	Amanuban Utara	62	6.00	13,830	9.00	97.00	91/92
33	Neke	T.T.S.	Amanuban Tengah	68	6.00	12,670	5.00	85.00	91/92
34	Besannutu	T.T.S.	Amanuban Timur	64	7.00	12,450	6.00	87.00	91/92
35	Oenel	T.T.S.	Amanuban Selatan	73	8.00	13,250	6.00	64.00	91/92
36	Buat II	T.T.S.	Molo Selatan	68	8.00	17,867	9.00	102.00	91/92
37	Buat III	T.T.S.	Molo Selatan	120	8.00	22,826	8.00	101.00	91/92
38	Oekalau	T.T.S.	Amanuban Selatan	75	7.00	28,078	8.00	106.00	92/93
39	Niubela	T.T.S.	Amanuban Timur	55	12.00	14,494	9.00	77.00	92/93
40	Tuakena	T.T.S.	Amanuban Timur	80	6.00	33,540	7.00	95.00	92/93
41	Oetimu	T.T.S.	Amanuban Timur	60	6.50	20,306	8.00	140.00	92/93
42	Besneo	T.T.S.	Amanuban Barat	100	7.00	21,680	8.00	84.00	92/93
43	Oefui	T.T.U	Miomafa Timur	45	16.00	12,200	7.00	80.00	86/87
44	Niola	T.T.U	Miomafa Timur	118	36.00	32,000	8.00	115.00	87/88
45	Beba	T.T.U	Miomafa Timur	93	16.00	25,000	6.00	121.00	87/88
46	Hahae	T.T.U	Miomafa Timur	133	18.21	36,000	10.00	100.00	87/88
47	Oenenu I	T.T.U	Miomafa Timur	129	7.10	34,800	8.00	90.00	88/89
48	Nian	T.T.U	Miomafa Barat	46	6.22	12,380	6.00	115.00	88/89
49	Bijaepasu	T.T.U	Miomafa Barat	38	16.54	10,220	6.00	180.00	88/89
50	Tubupolo	T.T.U	Miomafa Barat	136	13.50	36,700	7.00	127.00	88/89
51	Papin	T.T.U	Miomafa Barat	23	7.10	6,230	6.00	115.00	88/89
52	Tapeupah	T.T.U	Insana	46	12.00	12,500	6.00	225.00	88/89
53	Baufanu	T.T.U	Miomafa Timur	27	4.50	7,350	6.00	70.00	88/89
54	Oenenu II	T.T.U	Miomafa Timur	34	15.00	9,100	6.00	95.00	88/89
55	Manunain	T.T.U	Insana	33	7.00	-	6.00	125.00	88/89
56	Banae I	T.T.U	Insana	51	11.93	13,700	6.00	85.00	88/89
57	Lamaus	T.T.U	Insana	109	16.66	29,370	6.00	100.00	88/89
58	Pantae	T.T.U	Biboki Selatan	31	5.00	8,500	6.00	83.00	88/89
59	Subun	T.T.U	Biboki Selatan	104	14.55	28,050	6.00	210.00	88/89
60	Tubatan	T.T.U	Miomafa Barat	69	3.00	18,640	6.00	70.00	88/89
61	Oe olo	T.T.U	Miomafa Barat	25	16.15	6,830	6.00	115.00	90/91
62	Nilulat	T.T.U	Miomafa Timur	25	8.15	6,750	6.00	145.00	90/91
63	Batnes	T.T.U	Miomafa Barat	23	7.65	6,200	6.00	130.00	90/91
64	Laumeni	T.T.U	Miomafa Timur	25	14.00	6,760	6.00	175.00	90/91
65	Banae II	T.T.U	Insana	30	8.14	8,140	6.00	155.00	90/91
66	Amol	T.T.U	Miomafa Timur	24	5.00	6,370	6.00	15.00	90/91
67	Humusu	T.T.U	Insana	27	18.00	7,330	6.00	145.00	90/91
68	Fafnesu	T.T.U	Insana	2	6.50	7,470	6.00	175.00	90/91
69	Ajjobatan	T.T.U	Miomafa Timur	77	32.50	20,750	9.00	135.00	91/92
70	Sainoni	T.T.U	Miomafa Timur	65	30.00	17,580	9.00	124.00	91/92
71	Bitefa	T.T.U	Miomafa Timur	70	31.00	18,700	8.00	126.00	91/92
72	Maubex	T.T.U	Biboki Selatan	72	28.00	19,360	9.00	85.00	91/92
73	Matabesi	T.T.U	Biboki Selatan	77	27.00	18,930	8.00	90.00	91/92
74	Nunmifo	T.T.U	Biboki Selatan	64	36.00	17,430	9.00	95.00	91/92
75		T.T.U	Biboki Selatan	64	29.00	17,330	9.00	105.00	91/92
76	Nunmanu	T.T.U	Kopeta Kepa	155	19.50	22,030	7.00	95.00	92/93
77	Saineno	T.T.U	Miomafa Timur	137	19.24	19,520	7.00	110.00	92/93
78	Kuaneq	T.T.U	Miomafa Barat	67	5.00	9,530	6.00	116.00	92/93
79	Kiki	T.T.U	Biboki Utara	170	28.74	24,220	7.00	70.00	92/93
80	Mameun	T.T.U	Biboki Selatan	75	13.58	10,640	7.00	79.00	92/93



**Table 4.12 List of Existing Small Embungs in NTT  
(For Domestic Water and Livestock)**

No.	Name of Embung	Location		Beneficially Family No.	Catchment Area (Ha)	Storage Volume (m3)	Height H (m)	Length L (m)	Imple. Period
		Kabupaten	Kecamatan						
81	Babau	Kupang	Kupang Timur	246	47.00	53,000	10.00	82.00	90/91
82	Oemasi	Kupang	Kupang Barat	105	17.00	30,000	10.00	80.00	91/92
83	Bismark	Kupang	Kupang Selatan	85	31.20	32,000	9.00	75.00	91/92
84	Naioni	Kupang	Kupang Barat	60	20.00	30,000	10.00	104.00	92/93
85	Hansisi I (P. Semau)	Kupang	Kupang Barat	74	14.00	30,000	11.00	139.00	92/93
86	Hansisi II (P. Semau)	Kupang	Kupang Barat	118	13.00	15,000	9.00	108.00	92/93
87	Mautapen	Kupang	-	115	9.00	32,000	10.00	135.00	93/94
88	Oelomin	Kupang	-	85	17.00	47,000	-	-	93/94
89	Oben I	Kupang	-	65	6.00	18,000	-	-	93/94
90	Sumlili I	Kupang	Kupang Barat	40	6.00	44,100	11.00	98.00	92/93
91	Sumlili II	Kupang	Kupang Barat	30	6.00	34,398	10.00	89.00	92/93
92	Oematanunu	Kupang	Kupang Barat	42	6.00	30,000	8.00	75.00	92/93

**Timor Island**

- Nos. of embungs	92
- Average Storage Capacity (m3)	16,937
- Average Height (m3)	7.15
- Average Beneficially Family (Nos.)	62

Table 5.1 Maturity of Development Plan for Each Candidate Embung

No	ID No.	Name of Scheme	Province	Kabupaten	Kecamatan	Desa	Planning	Design
							Completed	Completed
1	LB01	Pinang Lulu	NTB	Lombok Barat		Gangga	Sesait	
2	LB02	Lokok Melepah	NTB	Lombok Barat		Bayan	Selengen	
3	LB03	Lokok Salut	NTB	Lombok Barat		Bayan	Selengan	
4	LB04	Lengkok Menangan	NTB	Lombok Barat		Bayan	Seganing	
5	LB05	Lengkok Tawah	NTB	Lombok Barat		Bayan	Akar-Akar	
6	LB06	Kleder	NTB	Lombok Barat		Bayan	Akar-Akar	
7	LB07	Lokok Timpas	NTB	Lombok Barat		Bayan	Akar-Akar	
8	LB08	Lokok Lebak	NTB	Lombok Barat		Bayan	Akar-Akar	
9	LB09	Lokok Gerasak	NTB	Lombok Barat		Bayan	Akar-Akar	
10	LB10	Lokok Kwangan	NTB	Lombok Barat		Bayan	Sukadana	
11	LB11	Lokok Menniris	NTB	Lombok Barat		Bayan	Anyar	
12	LB12	Lokok Santek	NTB	Lombok Barat		Bayan	Bayan	
13	LB13	Tibu Sanggar	NTB	Lombok Barat		Sekotong	Sekotong Tengah	
14	LB14	Pelangan	NTB	Lombok Barat	Sekotong Tengah		Pelangan	X
15	LB15	Lendang Guar	NTB	Lombok Barat	Sekotong Tengah		Lendang Guar	
16	LB16	Lokok Salangu	NTB	Lombok Barat		Bayan	Akar-Akar	
17	LH01	Gula Liat II	NTB	Lombok Tengah		Batu Keliang	Aik Bukak	
19	LH03	Batu Tanam	NTB	Lombok Tengah		Kopang	Bebuak	
20	LH04	Batu Tulis	NTB	Lombok Tengah		Jonggat	Batu Tulis	
21	LH05	Bare Julat	NTB	Lombok Tengah		Praya	Bare Julat	
22	LH06	Tibuk Sisuk	NTB	Lombok Tengah		Loang Nake	Tibu Sisuk	
23	LH07	Pengembuk	NTB	Lombok Tengah		Praya	Kelebut	
25	LH09	Kelanjur	NTB	Lombok Tengah		Praya Barat	Montong Sapah	
26	LH10	Pore	NTB	Lombok Tengah		Montong Sapah		
27	LH11	Batu Jangkih	NTB	Lombok Tengah		Praya Barat	Montong Sapah	
28	LH12	Suare	NTB	Lombok Tengah		Praya Barat	Montong Sapah	
29	LH13	Kelebeh	NTB	Lombok Tengah		Praya Barat	Setanggor	
30	LH14	Pedeh	NTB	Lombok Tengah		Praya Barat	Setanggor	
31	LH15	Ungga	NTB	Lombok Tengah		Praya Barat	Ungga	
34	LH18	Lomban Lauq	NTB	Lombok Tengah		Praya Timur	Marong	
35	LH19	Bengawan	NTB	Lombok Tengah		Pujut	Pengembur	
36	LH20	Bun Mas	NTB	Lombok Tengah		Pujut	Pengembur	
37	LH21	Sereneng	NTB	Lombok Tengah		Pujut	Teruwai	
38	LH22	Tempit	NTB	Lombok Tengah		Pujut	Teruwai	
39	LH23	Gerentuk	NTB	Lombok Tengah		Pujut	Teruwai	
41	LH25	Selawang	NTB	Lombok Tengah		Pujut	Tanak Awu	X
42	LR01	Lokok Sukun	NTB	Lombok Timur		Sambelia	Obel-Obel	
43	LR02	Tibu Meong	NTB	Lombok Timur		Sambelia	Sambelia	
45	LR04	Aik Bata	NTB	Lombok Timur		Pringgabaya	Perigi	
46	LR05	Kali Seruni/Papah	NTB	Lombok Timur		Pringgabaya	Perigi	
48	LR07	Batu Tinja	NTB	Lombok Timur		Pringgabaya	Selaparang	
51	LR10	Senang	NTB	Lombok Timur		Pringgabaya	Batuyang	
52	LR11	Kembang Kuning	NTB	Lombok Timur		Sikur	Kembang Kuning	X
53	LR12	Gunung Joget	NTB	Lombok Timur		Sakra	Swangi	X
55	LR14	MT. Krarak	NTB	Lombok Timur		Sakra	Rumbuk	
56	LR15	Montong Semat	NTB	Lombok Timur		Sakra	Rumbuk	X
57	LR16	Pancor Manis	NTB	Lombok Timur		Sakra	Dasan Lekong	
58	LR17	Prako	NTB	Lombok Timur		Sakra	Kabar	
60	LR19	Tinu Ulik	NTB	Lombok Timur		Keruak	Selebung Ketangga	
64	LR23	Pungkang	NTB	Lombok Timur		Sikur	Semaya	
65	SW01	Gapit	NTB	Sumbawa		Boal	Gapit	X
66	SW02	Sejari	NTB	Sumbawa		Plampang	Plampang	X
67	SW03	Tui Tui	NTB	Sumbawa		Empang	Boal	
68	SW04	Penyempeng	NTB	Sumbawa		Empang	Jotang	
69	SW05	Jompong	NTB	Sumbawa		Plampang	Moer	
70	SW06	Penyaring	NTB	Sumbawa		Moyo Hilir	Penyaring	
71	SW07	Lopok	NTB	Sumbawa		Lape Lopok	Lopok	
72	SW08	Serading	NTB	Sumbawa		Moyo Hilir	Serading	
73	SW09	Olat Rawa	NTB	Sumbawa		Moyo Hilir	Kakiang	
74	SW10	Jamu	NTB	Sumbawa		Lunyuk	Jamu	
75	SW11	Maluk	NTB	Sumbawa		Jereweh	Goa	
76	SW12	Jelenga	NTB	Sumbawa		Jereweh	Beru	
77	SW13	Benete	NTB	Sumbawa		Jereweh	Belo	
78	SW14	Terusa	NTB	Sumbawa		Alas	Terusa	
79	DO01	Banggo Plan	NTB	Dompu		Kempo	Banggo	

Table 5.1 Maturity of Development Plan for Each Candidate Embung

No	ID No.	Name of Scheme	Province	Kabupaten	Kecamatan	Desa	Planning Completed	Design Completed
80	DO02	Tonda Utara	NTB	Dompu	Dompu	Bara	X	
81	DO03	Tonda Selatan	NTB	Dompu	Dompu	Matua		
82	DO04	Saneo	NTB	Dompu	Dompu	Saneo	X	X
83	DO05	La-Nangga	NTB	Dompu	Huu	Ranggo		
84	DO06	Ta'a	NTB	Dompu	Kempo	Ta'a	X	
85	DO07	Parugasante	NTB	Dompu	Kempo	Soriutu		
86	DO08	Kesi	NTB	Dompu	Konte	Kesi		
87	DO09	Kuango	NTB	Dompu	Kempo	Kuangko		
89	BI01	Piong	NTB	Bima	Sanggar	Piong	X	
90	BI02	Mpuri	NTB	Bima	Bolo	Mpuri		
91	BI03	Ntonggu II	NTB	Bima	Belo	Ntonggu		
92	BI04	Lido	NTB	Bima	Belo	Lido		
93	BI05	Ncera	NTB	Bima	Belo	Ncera	X	X
94	BI06	Doroo'o	NTB	Bima	Belo	Doroo'o		
95	BI07	Sondo	NTB	Bima	Monta	Sondo		
96	BI08	Laju	NTB	Bima	Belo	Laju		
97	BI09	Ncoha II	NTB	Bima	Bolo	Nngembe		
98	BI10	Ncoha I	NTB	Bima	Bolo	Tambe	X	
99	BI11	Woro	NTB	Bima	Bolo	Woro	X	
100	BI12	Tolowata	NTB	Bima	Wera	Tolowata		
101	BI13	Tawali	NTB	Bima	Wera	Tawali		
102	BI14	Ntoke	NTB	Bima	Wera	Ntoke		
103	BI15	Kowo	NTB	Bima	Sape	Kowo	X	
104	BI16	Buncu	NTB	Bima	Sape	Boncu		
105	BI17	Keli	NTB	Bima	Woha	Keli		
106	TI01	Bimoku	NTT	Kupang	Kupang Tengah	Lasiana	X	
107	TI02	Oeltua	NTT	Kupang	Kupang Tengah	Oeltua	X	
108	TI03	Tasiepah	NTT	Kupang	Kupang Timur	Oefafi	X	
109	TI04	Biraut	NTT	Kupang	Amarasi	Nik Baun	X	
110	TI05	Batu Panjang	NTT	Kupang	Kupang Barat	Batu Pelat	X	
111	TI06	Pariti	NTT	Kupang	Sulamu	Pariti	X	
112	TI07	Obor	NTT	Belu	Malaka Timur	Mande'u	X	
113	TI08	Benkoko	NTT	TTU	Insana	Oenbit		
114	TI09	Oebuain	NTT	TTU	Insana	Letmafo	X	
115	TI10	Fatukmetang	NTT	Belu	Tasifeto Barat	Jenelu	X	
116	TI11	Bellemata	NTT	Belu	Tasifeto Barat	Jenilu	X	
117	TI12	Nana Eklot	NTT	Belu	Tasifeto	Silawan	X	
118	TI13	Maubusa II	NTT	Belu	Tasifao Timur	Defala	X	
119	TI14	Raininu	NTT	Belu	Malaka Timur	Kusa	X	
120	TI15	Buitasik	NTT	Belu	Tasifao Barat	Naitimu	X	
128	RO08	Hanendam	NTT	Kupang	Lobalain	Kuli	X	
130	RO10	Lenggale	NTT	Kupang	Rote Timur	Oe Ledo	X	X
131	RO11	Livubatu	NTT	Kupang	Lobalain	Tuanatuk		
132	RO12	Toen Oen	NTT	Kupang	Rote Timur	Muke Kuku		
133	RO13	Matasio	NTT	Kupang	Rote Timur	Matasio	X	
135	SA02	Lokoei	NTT	Kupang	Sabu Barat	Nadawawi	X	
137	FL02	Ratisomba	NTT	Sikka	Alok	Wolomarang	X	X
138	FL03	Waeliti	NTT	Sikka	Alok	Wolomarang	X	X
139	FL04	Napungseda	NTT	Sikka	Kewapante	Kopong	X	
140	FL051	Lokaria I	NTT	Sikka	Kewapante	Langir	X	
141	FL052	Lokaria II	NTT	Sikka	Kewapante	Langir	X	
142	FL053	Lokaria III	NTT	Sikka	Kewapante	Langir	X	
143	FL06	Ojang	NTT	Sikka	Alok	Wolomarang	X	
144	FL07	Likot	NTT	Sikka	Talibura	Wairbleler	X	
145	PA01	Maliang	NTT	Alor	Pantar	Muriabang	X	
146	PA02	Latua	NTT	Alor	Pantar	Kalondama	X	
147	PA03	Mobobaa I	NTT	Alor	Pantar	Kalondama	X	
148	PA04	Mobobaa II	NTT	Alor	Pantar	Kalondama	X	
149	PA05	Kakamauta	NTT	Alor	Pantar	Mauta	X	
150	PA06	Airmama	NTT	Alor	Pantar	Mauta	X	
151	AL01	Lantoka	NTT	Alor	Alor Timur	Tanglapui	X	
152	AL02	Padang Panjang	NTT	Alor	Alor Timur	Tanglapui	X	
155	SU03	Mayaiyang	NTT	Sumba Timur	Lewa	Tanarara	X	
156	SU04	Manjali	NTT	Sumba Timur	Lewa	Tanarara	X	
157	SU05	Prailiang	NTT	Sumba Barat	Katiku Tana	Wae Rusa	X	X

Table 5.2 Type, Height, and Embankment Volume for Candidate Embung

ID No.	Name of Scheme	Province	Embung Type	Embung Height (m)	Embankment Volume (m3)
LB01	Pinang Lulu	NTB	Masonry	10	2,200
LB02	Lokok Melepah	NTB	Masonry	10	3,300
LB03	Lokok Salut	NTB	Masonry	6	480
LB04	Lengkok Menangan	NTB	Masonry	12	3,600
LB05	Lengkok Tawah	NTB	Zone	8	5,520
LB06	Kleder	NTB	Masonry	12	1,980
LB07	Lokok Timpas	NTB	Masonry	10	3,000
LB08	Lokok Lebak	NTB	Masonry	15	6,075
LB09	Lokok Gerasak	NTB	Masonry	12	1,650
LB10	Lokok Kwangan	NTB	Masonry	15	6,075
LB11	Lokok Menniris	NTB	Zone	20	79,500
LB12	Lokok Santek	NTB	Masonry	15	4,050
LB13	Tibu Sanggar	NTB	Zone	5	6,500
LB14	Pelangan	NTB	Zone	29	621,870
LB15	Lendang Guar	NTB	Homogeneous	6	4,320
LB16	Lokok Salangu	NTB	Homogeneous	10	6,500
LH01	Gula Liat II	NTB	Homogeneous	10	23,000
LH03	Batu Tanam	NTB	Zone	15	31,500
LH04	Batu Tulis	NTB	Masonry	10	3,675
LH05	Bare Julat	NTB	Homogeneous	10	7,800
LH06	Tibuk Sisuk	NTB	Homogeneous	5	3,600
LH07	Pengembuk	NTB	Masonry	8	1,600
LH09	Kelanjur	NTB	Zone	8	4,560
LH10	Pore	NTB	Homogeneous	15	40,500
LH11	Batu Jangkih	NTB	Homogeneous	12	9,000
LH12	Suare	NTB	Homogeneous	12	10,800
LH13	Kelebeh	NTB	Homogeneous	6	3,060
LH14	Pedeh	NTB	Homogeneous	5	2,250
LH15	Ungga	NTB	Homogeneous	5	4,000
LH18	Lomban Lauq	NTB	Masonry	10	5,200
LH19	Bengawan	NTB	Homogeneous	5	3,600
LH20	Bun Mas	NTB	Homogeneous	8	19,360
LH21	Sereneng	NTB	Homogeneous	8	8,800
LH22	Tempit	NTB	Masonry	8	2,000
LH23	Gerentuk	NTB	Homogeneous	10	7,800
LH25	Selawang	NTB	Homogeneous	5	2,000
LR01	Lokok Sukun	NTB	Zone	4	1,320
LR02	Tibu Meong	NTB	Masonry	10	2,750
LR04	Aik Bata	NTB	Masonry	25	64,330
LR05	Kali Seruni/Papah	NTB	Zone	15	60,750
LR07	Batu Tinja	NTB	Masonry	10	2,750
LR10	Senang	NTB	Masonry	12	5,040
LR11	Kembang Kuning	NTB	Masonry	13	2,297
LR12	Gunung Joget	NTB	Masonry	15	7,088
LR14	MT. Krarak	NTB	Masonry	12	7,370
LR15	Montong Semat	NTB	Homogeneous	4	4,200

Table 5.2 Type, Height, and Embankment Volume for Candidate Embung

ID No.	Name of Scheme	Province	Embung Type	Embung Height (m)	Embankment Volume (m3)
LR16	Pancor Manis	NTB	Homogeneous	10	9,100
LR17	Prako	NTB	Zone	8	6,400
LR19	Tinu Ulik	NTB	Masonry	10	4,400
LR23	Pungkang	NTB	Zone	15	52,500
SW01	Gapit	NTB	Homogeneous	18	689,688
SW02	Sejari	NTB	Homogeneous	15	84,938
SW03	Tui Tui	NTB	Zone	19	251,700
SW04	Penyempeng	NTB	Zone	39	614,510
SW05	Jompong	NTB	Homogeneous	14	59,640
SW06	Penyaring	NTB	Homogeneous	10	21,200
SW07	Lopok	NTB	Homogeneous	15	79,275
SW08	Serading	NTB	Homogeneous	6	18,900
SW09	Olat Rawa	NTB	Homogeneous	12	74,400
SW10	Jamu	NTB	Masonry	15	6,431
SW11	Maluk	NTB	Homogeneous	10	53,000
SW12	Jelenga	NTB	Homogeneous	15	56,625
SW13	Benete	NTB	Homogeneous	10	26,500
SW14	Terusa	NTB	Homogeneous	18	420,525
DO01	Banggo Plan	NTB	Homogeneous	12	40,920
DO02	Tonda Utara	NTB	Homogeneous	16	119,616
DO03	Tonda Selatan	NTB	Homogeneous	12	74,400
DO04	Saneo	NTB	Homogeneous	15	45,968
DO05	La-Nangga	NTB	Homogeneous	15	39,638
DO06	Ta'a	NTB	Homogeneous	12	66,960
DO07	Parugasante	NTB	Homogeneous	10	21,200
DO08	Kesi	NTB	Homogeneous	14	59,640
DO09	Kuango	NTB	Homogeneous	10	29,150
BI01	Piong	NTB	Homogeneous	13	47,548
BI02	Mpuri	NTB	Homogeneous	8	21,120
BI03	Ntonggu II	NTB	Homogeneous	17	252,100
BI04	Lido	NTB	Homogeneous	12	52,080
BI05	Ncera	NTB	Homogeneous	15	84,938
BI06	Doroo'o	NTB	Homogeneous	10	26,500
BI07	Sondo	NTB	Homogeneous	8	10,560
BI08	Laju	NTB	Homogeneous	15	62,288
BI09	Ncoha II	NTB	Zone	25	454,580
BI10	Ncoha I	NTB	Homogeneous	15	59,456
BI11	Woro	NTB	Homogeneous	15	178,875
BI12	Tolowata	NTB	Homogeneous	15	50,963
BI13	Tawali	NTB	Homogeneous	8	22,880
BI14	Ntoke	NTB	Homogeneous	15	101,925
BI15	Kowo	NTB	Homogeneous	15	89,361
BI16	Buncu	NTB	Homogeneous	12	27,900
BI17	Keli	NTB	Homogeneous	12	48,360
TI01	Bimoku	NTT	Homogeneous	14	31,000
TI02	Oeltua	NTT	Homogeneous	12	200,000

Table 5.2 Type, Height, and Embankment Volume for Candidate Embung

ID No.	Name of Scheme	Province	Embung Type	Embung Height (m)	Embankment Volume (m3)
TI03	Tasiepah	NTT	Homogeneous	26	267,000
TI04	Biraut	NTT	Homogeneous	13	39,000
TI05	Batu Panjang	NTT	Homogeneous	7	3,850
TI06	Pariti	NTT	Homogeneous	15	102,000
TI07	Obor	NTT	Homogeneous	7	5,775
TI08	Benkoko	NTT	Homogeneous	19	221,000
TI09	Oebuain	NTT	Homogeneous	12	80,000
TI10	Fatukmetang	NTT	Homogeneous	19	523,420
TI11	Bellemata	NTT	Homogeneous	8	2,850
TI12	Nana Eklot	NTT	Homogeneous	13	28,730
TI13	Maubusa II	NTT	Homogeneous	8	9,600
TI14	Raininu	NTT	Homogeneous	8	9,600
TI15	Buitasik	NTT	Homogeneous	7	5,775
RO08	Hanendam	NTT	Homogeneous	5	6,500
RO10	Lenggale	NTT	Homogeneous	7	34,650
RO11	Livubatu	NTT	Homogeneous	5	14,000
RO12	Toen Oen	NTT	Homogeneous	12	33,600
RO13	Matasio	NTT	Homogeneous	11	110,000
SA02	Lokoei	NTT	Homogeneous	13	100,100
FL02	Ratisomba	NTT	Homogeneous	9	19,814
FL03	Waeliti	NTT	Homogeneous	14	75,346
FL04	Napungseda	NTT	Homogeneous	5	11,213
FL051	Lokaria I	NTT	Masonry	6	3,771
FL052	Lokaria II	NTT	Homogeneous	6	7,200
FL053	Lokaria III	NTT	Masonry	8	3,686
FL06	Ojang	NTT	Homogeneous	11	72,600
FL07	Likot	NTT	Homogeneous	5	19,125
PA01	Maliang	NTT	Homogeneous	5	11,250
PA02	Latua	NTT	Homogeneous	7	6,300
PA03	Mobobaa I	NTT	Homogeneous	7	12,600
PA04	Mobobaa II	NTT	Homogeneous	10	31,250
PA05	Kakamauta	NTT	Homogeneous	8	8,400
PA06	Airmama	NTT	Homogeneous	7	18,900
AL01	Lantoka	NTT	Homogeneous	8	33,600
AL02	Padang Panjang	NTT	Homogeneous	9	41,400
SU03	Mayaiyang	NTT	Homogeneous	20	188,300
SU04	Manjali	NTT	Homogeneous	5	15,441
SU05	Prailiang	NTT	Homogeneous	8	44,600

Table 5.3 Catchment Area, Storage Capacity, and Irrigation Area for Candidate Embung

No.	Name of Scheme	Province	Catchment Area (km <sup>2</sup> )	Storage Capacity (m <sup>3</sup> )	Irrigation Area (ha)
LB01	Pinang Lulu	NTB	2.50	500,000	103
LB02	Lokok Melepah	NTB	1.00	250,000	35
LB03	Lokok Salut	NTB	2.31	180,000	80
LB04	Lengkok Menangan	NTB	1.46	250,000	198
LB05	Lengkok Tawah	NTB	0.60	115,280	15
LB06	Kleder	NTB	1.50	300,000	62
LB07	Lokok Timpas	NTB	1.70	500,000	100
LB08	Lokok Lebak	NTB	0.68	60,000	20
LB09	Lokok Gerasak	NTB	12.75	360,000	53
LB10	Lokok Kwangan	NTB	20.14	1,125,000	500
LB11	Lokok Menniris	NTB	7.40	281,000	44
LB12	Lokok Santek	NTB	3.37	375,000	140
LB13	Tibu Sanggar	NTB	0.44	80,000	20
LB14	Pelangan	NTB	46.00	5,700,000	248
LB15	Lendang Guar	NTB	0.56	80,000	15
LB16	Lokok Salangu	NTB	1.09	400,000	60
LH01	Gula Liat II	NTB	0.50	250,000	39
LH03	Batu Tanam	NTB	1.00	500,000	401
LH04	Batu Tulis	NTB	9.50	630,000	0
LH05	Bare Julat	NTB	1.88	400,000	346
LH06	Tibuk Sisuk	NTB	2.30	100,000	108
LH07	Pengembuk	NTB	2.91	380,000	91
LH09	Kelanjur	NTB	1.33	212,000	30
LH10	Pore	NTB	6.67	1,125,000	275
LH11	Batu Jangkih	NTB	2.56	240,000	85
LH12	Suare	NTB	1.25	300,000	50
LH13	Kelebeh	NTB	1.00	150,000	30
LH14	Pedeh	NTB	1.44	125,000	15
LH15	Ungga	NTB	1.25	125,000	0
LH18	Lomban Lauq	NTB	14.80	500,000	429
LH19	Bengawan	NTB	1.00	133,000	25
LH20	Bun Mas	NTB	1.87	367,000	60
LH21	Sereneng	NTB	7.40	400,000	300
LH22	Tempit	NTB	0.80	180,000	50
LH23	Gerentuk	NTB	0.85	230,000	100
LH25	Selawang	NTB	0.30	18,750	15
LR01	Lokok Sukun	NTB	0.13	25,000	15
LR02	Tibu Meong	NTB	10.00	500,000	174
LR04	Aik Bata	NTB	22.40	570,000	84
LR05	Kali Seruni/Papah	NTB	5.81	1,500,000	350
LR07	Batu Tinja	NTB	1.10	170,000	32
LR10	Senang	NTB	4.00	600,000	35
LR11	Kembang Kuning	NTB	13.00	625,000	335
LR12	Gunung Joget	NTB	4.43	750,000	122
LR14	MT. Krarak	NTB	5.40	125,000	44
LR15	Montong Semat	NTB	0.41	53,700	0
LR16	Pancor Manis	NTB	2.40	300,000	125
LR17	Prako	NTB	3.13	256,000	132
LR19	Tinu Ulik	NTB	3.58	500,000	80
LR23	Pungkang	NTB	6.70	1,050,000	538
SW01	Gapit	NTB	41.00	10,351,500	1300
SW02	Sejari	NTB	6.65	562,500	190
SW03	Tui Tui	NTB	21.20	4,300,000	324
SW04	Penyempeng	NTB	41.10	7,750,000	350
SW05	Jompong	NTB	0.80	250,000	40
SW06	Penyaring	NTB	1.60	350,000	50
SW07	Lopok	NTB	2.05	562,500	120

Table 5.3 Catchment Area, Storage Capacity, and Irrigation Area for Candidate Embung

No.	Name of Scheme	Province	Catchment Area (km <sup>2</sup> )	Storage Capacity (m <sup>3</sup> )	Irrigation Area (ha)
SW08	Serading	NTB	0.77	212,500	80
SW09	Olat Rawa	NTB	7.10	1,950,000	190
SW10	Jamu	NTB	35.70	9,375,000	1350
SW11	Maluk	NTB	2.15	500,000	125
SW12	Jelenga	NTB	2.33	325,000	100
SW13	Benete	NTB	2.50	300,000	0
SW14	Terusa	NTB	16.14	2,397,000	640
DO01	Banggo Plan	NTB	2.05	300,000	100
DO02	Tonda Utara	NTB	10.60	705,000	250
DO03	Tonda Selatan	NTB	10.35	600,000	400
DO04	Saneo	NTB	2.10	175,000	160
DO05	La-Nangga	NTB	2.50	562,500	200
DO06	Ta'a	NTB	8.27	1,494,000	600
DO07	Parugasante	NTB	2.65	375,000	250
DO08	Kesi	NTB	5.80	1,500,000	500
DO09	Kuango	NTB	5.20	375,000	180
BI01	Piong	NTB	4.40	487,500	100
BI02	Mpuri	NTB	3.60	403,000	80
BI03	Ntonggu II	NTB	6.20	1,270,000	187
BI04	Lido	NTB	3.20	300,000	171
BI05	Ncera	NTB	6.30	630,000	264
BI06	Doroo'o	NTB	6.70	375,000	120
BI07	Sondo	NTB	1.80	200,000	80
BI08	Laju	NTB	10.20	900,000	217
BI09	Ncoha II	NTB	12.60	1,220,000	145
BI10	Ncoha I	NTB	8.49	285,000	130
BI11	Woro	NTB	20.19	1,552,500	568
BI12	Tolowata	NTB	2.50	375,000	196
BI13	Tawali	NTB	5.85	543,000	250
BI14	Ntoke	NTB	7.20	562,500	394
BI15	Kowo	NTB	8.22	406,170	209
BI16	Buncu	NTB	9.80	300,000	104
BI17	Keli	NTB	5.85	879,000	173
FL02	Ratisomba	NTT	4.00	300,000	100
FL03	Waeliti	NTT	2.82	62,995	20
FL04	Napungseda	NTT	2.00	240,000	94
FL051	Lokaria I	NTT	1.00	120,000	81
FL052	Lokaria II	NTT	1.00	120,000	72
FL053	Lokaria III	NTT	1.00	120,000	79
FL06	Ojang	NTT	4.80	635,250	91
FL07	Likot	NTT	1.50	120,000	65
PA01	Maliang	NTT	0.15	30,000	37
PA02	Latua	NTT	1.50	150,000	19
PA03	Mobobaa I	NTT	7.50	150,000	133
PA04	Mobobaa II	NTT	20.00	450,000	33
PA05	Kakamauta	NTT	15.00	700,000	190
PA06	Airmama	NTT	0.18	40,000	45
AL01	Lantoka	NTT	2.50	350,000	47
AL02	Padang Panjang	NTT	2.50	500,000	47
SU03	Mayaiyang	NTT	19.10	2,160,000	450
SU04	Manjali	NTT	0.20	245,000	90
SU05	Prailiang	NTT	0.19	100,903	40
TI01	Bimoku	NTT	0.20	55,000	0
TI02	Oeltua	NTT	0.82	94,000	0
TI03	Tasiepah	NTT	32.10	2,500,000	160
TI04	Biraut	NTT	2.80	261,000	54
TI05	Batu Panjang	NTT	0.90	30,000	17



Table 5.3 Catchment Area, Storage Capacity, and Irrigation Area for Candidate Embung

No.	Name of Scheme	Province	Catchment Area (km <sup>2</sup> )	Storage Capacity (m <sup>3</sup> )	Irrigation Area (ha)
TI06	Pariti	NTT	56.25	2,000,000	175
TI07	Obor	NTT	32.60	60,000	355
TI08	Benkoko	NTT	2.30	204,000	35
TI09	Oebuain	NTT	0.80	72,000	0
TI10	Fatukmetang	NTT	4.00	920,000	57
TI11	Bellemata	NTT	1.10	15,000	22
TI12	Nana Eklot	NTT	7.90	580,000	174
TI13	Maubusa II	NTT	10.90	300,000	210
TI14	Raininu	NTT	3.60	100,000	32
TI15	Buitasik	NTT	2.20	190,000	43
RO08	Hanendam	NTT	0.80	200,000	200
RO10	Lenggale	NTT	16.00	108,000	32
RO11	Livubatu	NTT	0.16	40,000	23
RO12	Toen Oen	NTT	3.13	700,000	103
RO13	Matasio	NTT	5.00	530,000	75
SA02	Lokoei	NTT	3.00	400,000	34

Table 5.4 Result of Categorization

Agriculture	Category		NTB			NTT			Total
	Water Resources	Future Water Use	Lombok	Sumbawa	NTB Total	Flores,Sumba	Timor	NTT Total	
a	A	1	1		1	9	12	21	22
a	A	2	1	3	4				4
a	A	3	9		9	7		7	16
a	A	4	8	11	19	1		1	20
a	B	1					1	1	1
a	B	2							
a	B	3				1	1	2	2
a	B	4							
a	C	1							
a	C	2							
a	C	3							
a	C	4	1		1				1
b	A	1							
b	A	2							
b	A	3							
b	A	4							
b	B	1					2	2	2
b	B	2		1	1				1
b	B	3	1		1		1	1	2
b	B	4		2	2				2
b	C	1	1		1				1
b	C	2							
b	C	3	3		3				3
b	C	4							
c	A	1							
c	A	2							
c	A	3							
c	A	4							
c	B	1					1	1	1
c	B	2		2	2				2
c	B	3	4		4	1		1	5
c	B	4	4	14	18				18
c	C	1							
c	C	2	3		3				3
c	C	3	8		8				8
c	C	4	6	7	13				13
Total			50	40	90		18	37	127

Note:

With respect to the Bimoku, Oeltua, and Oebuain Schemes, where the feasibility study have been carried out in the Phase I Study, they are categorized into 5

Table 5.5 Estimated Construction Cost for Master Plan Study

Description	Unit	Unit Cost
Embung	Homogeneous Type Earthfill	Rp./m3 12,000
	Zone Type Earthfill	Rp./m3 15,000
	Masonry Type	Rp./m3 150,000
Spilway and related Structure 100 % of Dam Cost		
Irrigation Infrastructure	New Construction Works	Rp./ha 3,000,000
	Rehabilitation Works	Rp./ha 1,000,000
Land Development	Rp./ha	500,000
Domestic Water Supply	Rp./ha	2,000,000

Table 5.6 Economic Crop Budget per Ha

Unit : Rp./ha

Crop	Crop Season	Watering Condition	Without Project			With Project		
			Gross Production Value	Production Cost	Net Production Value	Gross Production Value	Production Cost	Net Production Value
1 Lombok								
1) Paddy	Wet	Rainfed	794,000	339,150	454,850	-	-	-
	Wet	Irrigated	1,191,000	640,410	550,590	1,786,500	775,975	1,010,525
	Dry	Irrigated	-	-	-	1,786,500	754,725	1,031,775
2) Maize	Wet	Rainfed	286,000	157,550	128,450	-	-	-
3) Soybean	Dry	Rainfed	-	-	-	711,700	309,290	402,410
	Dry	Irrigated	-	-	-	905,800	357,560	548,240
4) Mungbean	Dry	Rainfed	453,000	165,985	287,015	860,700	377,550	483,150
	Dry	Irrigated	-	-	-	1,087,200	397,640	689,560
5) Red onion	Dry	Irrigated	-	-	-	5,280,000	2,762,000	2,518,000
6) Tobacco	Dry	Rainfed	835,200	250,400	584,800	1,670,400	436,340	1,234,060
	Dry	Irrigated	-	-	-	2,088,000	529,800	1,558,200
2 Sumbawa								
1) Paddy	Wet	Rainfed	788,000	302,025	485,975	-	-	-
	Wet	Irrigated	1,182,000	569,585	612,415	1,773,000	688,850	1,084,150
	Dry	Rainfed	709,200	292,650	416,550	-	-	-
	Dry	Irrigated	-	-	-	1,773,000	669,475	1,103,525
2) Soybean	Wet	Rainfed	577,800	166,775	411,025	-	-	-
	Dry	Rainfed	385,200	98,290	286,910	-	-	-
	Dry	Irrigated	-	-	-	898,800	322,310	576,490
3) Mungbean	Dry	Rainfed	450,500	108,625	341,875	855,950	338,450	517,500
	Dry	Irrigated	-	-	-	1,081,200	358,765	722,435
4) Red onion	Dry	Irrigated	-	-	-	5,242,500	2,651,250	2,591,250
3 West Timor								
1) Paddy	Dry	Irrigated	-	-	-	1,556,000	581,075	974,925
2) Mungbean	Dry	Irrigated	-	-	-	979,000	320,290	658,710
3) Red onion	Dry	Irrigated	-	-	-	5,167,500	2,563,500	2,604,000
4 Flores & Sumba								
1) Paddy	Wet	Rainfed	588,000	253,700	334,300	-	-	-
	Wet	Irrigated	862,400	421,170	441,230	1,568,000	579,325	988,675
2) Maize	Wet	Rainfed	509,600	107,900	401,700	-	-	-
3) Soybean	Dry	Irrigated	-	-	-	764,400	318,120	446,280
4) Mungbean	Dry	Irrigated	-	-	-	896,000	319,290	576,710

Table 5.7 Irrigation Command Area and Cropped Area

No.	Name of Scheme	Province	Wet Season Wet Paddy (ha)	1 st Dry Season		2 nd Dry Season
				Wet Paddy (ha)	Palawija (ha)	Palawija (ha)
LB01	Pinang Lulu	NTB	103	0	103	0
LB02	Lokok Melepah	NTB	35	0	0	0
LB03	Lokok Salut	NTB	80	0	140	0
LB04	Lengkok Menangan	NTB	198	0	198	0
LB05	Lengkok Tawah	NTB	15	0	0	0
LB06	Kleder	NTB	62	0	0	0
LB07	Lokok Timpas	NTB	100	0	100	0
LB08	Lokok Lebak	NTB	20	0	20	0
LB09	Lokok Gerasak	NTB	53	0	53	0
LB10	Lokok Kwangan	NTB	500	180	320	0
LB11	Lokok Menniris	NTB	44	0	0	0
LB12	Lokok Santek	NTB	140	110	0	110
LB13	Tibu Sanggar	NTB	20	20	30	0
LB14	Pelangan	NTB	248	248	0	248
LB15	Lendang Guar	NTB	15	0	15	0
LB16	Lokok Salangu	NTB	60	0	60	0
LH01	Gula Liat II	NTB	39	39	0	0
LH03	Batu Tanam	NTB	401	301	100	0
LH04	Batu Tulis	NTB	0	57	0	0
LH05	Bare Julat	NTB	346	261	0	0
LH06	Tibuk Sisuk	NTB	108	0	80	0
LH07	Pengembuk	NTB	91	0	136	0
LH09	Kelanjur	NTB	30	0	30	0
LH10	Pore	NTB	275	0	250	0
LH11	Batu Jangkih	NTB	85	0	85	0
LH12	Suare	NTB	50	0	50	0
LH13	Kelebeh	NTB	30	0	30	0
LH14	Pedeh	NTB	15	0	15	0
LH15	Ungga	NTB	0	30	50	0
LH18	Lomban Lauq	NTB	429	0	400	0
LH19	Bengawan	NTB	25	0	25	0
LH20	Bun Mas	NTB	60	0	60	0
LH21	Sereneng	NTB	300	0	300	0
LH22	Tempit	NTB	50	0	50	0
LH23	Gerentuk	NTB	100	0	100	0
LH25	Selawang	NTB	15	0	15	0
LR01	Lokok Sukun	NTB	15	0	15	0
LR02	Tibu Meong	NTB	174	0	174	0
LR04	Aik Bata	NTB	84	0	11	11
LR05	Kali Seruni/Papah	NTB	350	20	300	0
LR07	Batu Tinja	NTB	32	0	32	0
LR10	Senang	NTB	35	0	35	0
LR11	Kembang Kuning	NTB	335	0	432	0
LR12	Gunung Joget	NTB	122	0	122	0

Table 5.7 Irrigation Command Area and Cropped Area

No.	Name of Scheme	Province	Wet Season	1 st Dry Season		2 nd Dry Season
			Wet Paddy (ha)	Wet Paddy (ha)	Palawija (ha)	Palawija (ha)
LR14	MT. Krarak	NTB	44	0	0	0
LR15	Montong Semat	NTB	0	0	25	0
LR16	Pancor Manis	NTB	125	63	25	0
LR17	Prako	NTB	132	0	34	0
LR19	Tinu Ulik	NTB	80	0	80	0
LR23	Pungkang	NTB	538	20	258	0
SW01	Gapit	NTB	1300	1300	0	480
SW02	Sejari	NTB	190	0	190	0
SW03	Tui Tui	NTB	324	0	324	324
SW04	Penyempeng	NTB	350	350	0	350
SW05	Jompong	NTB	40	0	40	0
SW06	Penyaring	NTB	50	0	50	0
SW07	Lopok	NTB	120	60	60	0
SW08	Serading	NTB	80	40	40	0
SW09	Olat Rawa	NTB	190	190	0	190
SW10	Jamu	NTB	1350	1350	0	0
SW11	Maluk	NTB	125	0	125	0
SW12	Jelenga	NTB	100	100	0	0
SW13	Benete	NTB	0	35	52	0
SW14	Terusa	NTB	640	320	320	0
DO01	Banggo Plan	NTB	100	0	100	0
DO02	Tonda Utara	NTB	250	0	250	0
DO03	Tonda Selatan	NTB	400	100	177	0
DO04	Saneo	NTB	160	25	95	0
DO05	La-Nangga	NTB	200	100	100	0
DO06	Ta'a	NTB	600	0	600	0
DO07	Parugasante	NTB	250	0	250	0
DO08	Kesi	NTB	500	250	250	0
DO09	Kuango	NTB	180	90	90	0
BI01	Piong	NTB	100	50	50	0
BI02	Mpuri	NTB	80	70	0	0
BI03	Ntonggu II	NTB	187	0	65	0
BI04	Lido	NTB	171	0	171	0
BI05	Ncera	NTB	264	0	264	0
BI06	Doroo'o	NTB	120	0	120	0
BI07	Sondo	NTB	80	0	40	0
BI08	Laju	NTB	217	117	100	0
BI09	Ncoha II	NTB	145	0	145	145
BI10	Ncoha I	NTB	130	100	30	0
BI11	Woro	NTB	568	224	344	0
BI12	Tolowata	NTB	196	108	88	0
BI13	Tawali	NTB	250	100	150	0
BI14	Ntoke	NTB	394	264	10	0
BI15	Kowo	NTB	209	170	0	0

Table 5.7 Irrigation Command Area and Cropped Area

No.	Name of Scheme	Province	Wet Season	1 st Dry Season		2 nd Dry Season
			Wet Paddy (ha)	Wet Paddy (ha)	Palawija (ha)	Palawija (ha)
BI16	Buncu	NTB	104	0	104	0
BI17	Keli	NTB	173	93	80	0
FL02	Ratisomba	NTT	100	0	0	0
FL03	Waeliti	NTT	20	0	0	0
FL04	Napungseda	NTT	94	0	0	0
FL051	Lokaria I	NTT	81	0	0	0
FL052	Lokaria II	NTT	72	0	72	0
FL053	Lokaria III	NTT	79	0	79	0
FL06	Ojang	NTT	91	0	91	0
FL07	Likot	NTT	65	0	65	0
PA01	Maliang	NTT	37	0	24	0
PA02	Latua	NTT	19	0	0	0
PA03	Mobobaa I	NTT	133	0	120	0
PA04	Mobobaa II	NTT	33	0	33	0
PA05	Kakamauta	NTT	190	0	0	0
PA06	Airmama	NTT	45	0	0	0
AL01	Lantoka	NTT	47	0	0	0
AL02	Padang Panjang	NTT	47	0	0	0
SU03	Mayaiyang	NTT	450	0	450	450
SU04	Manjali	NTT	90	30	60	0
SU05	Prailiang	NTT	40	0	0	0
TI01	Bimoku	NTT	0	0	0	0
TI02	Oeltua	NTT	0	0	0	0
TI03	Tasiepah	NTT	160	0	160	0
TI04	Biraut	NTT	54	0	0	0
TI05	Batu Panjang	NTT	17	0	0	0
TI06	Pariti	NTT	175	0	0	0
TI07	Obor	NTT	355	35	320	0
TI08	Benkoko	NTT	35	0	105	0
TI09	Oebuain	NTT	0	0	0	0
TI10	Fatukmetang	NTT	57	0	57	0
TI11	Bellemata	NTT	22	0	0	0
TI12	Nana Eklot	NTT	174	0	0	0
TI13	Maubusa II	NTT	210	0	0	0
TI14	Raininu	NTT	32	0	0	0
TI15	Buitasik	NTT	43	0	0	0
RO08	Hanendam	NTT	200	0	0	0
RO10	Lenggale	NTT	32	0	0	0
RO11	Livubatu	NTT	23	0	0	0
RO12	Toen Oen	NTT	103	0	0	0
RO13	Matasio	NTT	75	0	0	0
SA02	Lokoei	NTT	34	0	0	0

Table 5.8 Construction Cost

No.	Name of Scheme	Present Irrigated Area (ha)	Proposed Irrigated Area (ha)	Area for Land Development (ha)	Cost for Embung (M. Rp)	Cost for Rehabilitation (M. Rp)	Cost for new development (M. Rp)	Cost for land development (M. Rp)	Cost for water supply (M. Rp)	Miscellaneous Works (M. Rp)	Direct Construction Cost (M. Rp)	Indirect Cost (M. Rp)	Total Cost (M. Rp)	Economic Cost (M. Rp)
LB01	Pinang Lulu		103	0	363	0	309	0	206	87	965	483	1,448	647
LB02	Lokok Melepah		35	0	545	0	105	0	70	71	791	395	1,186	614
LB03	Lokok Salut		80	0	79	0	240	0	160	47	526	263	789	312
LB04	Lengkok Menangan		198	139	594	0	594	70	396	165	1,819	909	2,728	1,212
LB05	Lengkok Tawah		15	0	166	0	45	0	30	24	265	132	397	200
LB06	Kleder		62	0	327	0	186	0	124	63	700	350	1,050	490
LB07	Lokok Timpas		100	62	495	0	300	31	200	110	1,128	564	1,692	791
LB08	Lokok Lebak		20	0	1,002	0	60	0	40	110	1,212	606	1,818	999
LB09	Lokok Gerasak		53	8	272	0	159	4	106	54	595	298	893	417
LB10	Lokok Kwangan		500	500	1,002	0	1,500	250	1,000	375	4,127	2,064	6,191	2,665
LB11	Lokok Menniris		44	0	895	0	132	0	88	111	1,226	613	1,839	970
LB12	Lokok Saniek		140	0	195	0	60	70	280	143	1,581	791	2,372	1,109
LB13	Tibu Sanggar		248	32	6,713	86	486	16	496	779	8,576	4,288	12,864	6,884
LB14	Pelangan		15	0	104	0	45	0	30	17	196	98	294	141
LB15	Lendang Guar		60	37	156	0	180	19	120	47	522	261	783	342
LB16	Lokok Salangu		39	39	552	0	117	20	78	76	843	421	1,264	651
LH01	Gula Liat II		401	0	94	301	300	47	802	239	2,634	1,317	3,951	1,561
LH03	Batu Tanann		346	0	606	0	0	0	0	60	666	333	999	568
LH04	Batu Tulis		108	0	187	346	0	0	692	122	1,347	674	2,021	558
LH05	Bare Julet		91	0	86	0	324	0	216	62	688	344	1,032	402
LH06	Tibuk Sisuk		30	0	264	0	273	46	182	76	841	420	1,261	561
LH07	Pengembuk		275	0	137	50	90	0	315	28	2,471	1,236	3,707	1,637
LH09	Kelanjur		50	0	972	0	675	0	550	64	705	353	1,058	456
LH10	Porc		85	0	216	0	255	0	170	50	559	280	839	391
LH11	Bau Jangkih		50	0	259	0	150	0	100	50	245	123	368	158
LH12	Suare		30	0	73	0	90	0	60	22	245	123	368	158
LH13	Kelebeh		15	0	54	0	45	0	30	12	141	71	212	95
LH14	Pedeh		15	0	96	0	0	0	0	9	105	53	158	89
LH15	Ungga		429	0	858	0	1,287	0	858	300	3,303	1,652	4,955	2,083
LH18	Lomban Lauq		25	0	86	0	75	0	50	21	232	116	348	155
LH19	Bengawan		60	0	465	0	180	0	120	76	841	420	1,261	614
LH20	Bun Mas		300	0	211	0	900	0	600	171	1,882	941	2,823	1,092
LH21	Sereneng		50	0	330	0	150	0	100	68	638	319	957	458
LH22	Tempit		100	0	187	0	300	0	200	68	755	378	1,133	473
LH23	Gerentuk		15	0	48	0	45	0	30	12	135	68	203	89
LH25	Selawang		15	0	454	0	45	0	30	11	126	63	189	81
LR01	Lokok Sukun		174	0	454	0	522	22	348	132	1,456	728	2,184	944
LR02	Tibu Meong		84	0	7,586	0	252	22	168	802	8,830	4,415	13,245	7,380
LR04	Aik Bala		350	220	1,823	50	900	110	700	338	3,941	1,970	5,911	2,761
LR05	Kali Seruni/Papah		32	0	454	0	96	0	64	61	675	337	1,012	520
LR07	Bau Tinja		35	0	832	0	105	0	70	100	1,107	553	1,660	883
LR10	Senang		335	0	379	0	1,005	0	670	205	2,259	1,129	3,388	1,354
LR11	Kembang Kuning		122	0	1,169	0	366	61	244	184	2,024	1,012	3,036	1,517
LR12	Gunang Joget		122	0	1,118	0	132	0	88	133	1,471	736	2,207	1,178
LR14	MT. Krarak		44	0	0	0	0	0	0	0	0	0	0	0



Table 5.8 Construction Cost

No.	Name of Scheme	Present Irrigated Area (ha)	Proposed Irrigated Area (ha)	Area for Land Development (ha)	Cost for Embung (M. Rp.)	Cost for Rehabilitation (M. Rp.)	Cost for new development (M. Rp.)	Cost for land development (M. Rp.)	Cost for water supply (M. Rp.)	Miscellaneous Works (M. Rp.)	Direct Construction Cost (M. Rp.)	Indirect Cost (M. Rp.)	Total Cost (M. Rp.)	Economic Cost (M. Rp.)
LR15	Montong Semat	NTB	125	0	101	0	0	0	0	0	111	55	166	94
LR16	Pancor Manis	NTB	125	0	218	125	0	0	250	59	652	326	978	343
LR17	Prako	NTB	117	132	192	117	45	8	264	62	688	344	1,032	361
LR19	Tinu Ujik	NTB	80	80	726	112	240	0	160	112	1,238	619	1,857	918
LR23	Pungkang	NTB	384	538	1,575	384	462	77	1,076	357	3,931	1,966	5,897	2,432
SW01	Gapit	NTB	1,300	626	16,553	0	3,900	313	2,600	2,336	25,702	12,851	38,553	19,682
SW02	Sejari	NTB	100	190	2,039	100	270	0	380	278	3,067	1,533	4,600	2,289
SW03	Tui Fui	NTB	24	324	2,836	24	900	17	648	442	4,867	2,435	7,300	3,594
SW04	Penyempeng	NTB	86	350	6,030	86	792	100	700	770	8,478	4,239	12,717	6,627
SW05	Jompong	NTB	40	40	1,431	0	120	0	80	163	1,794	897	2,691	1,461
SW06	Penyaring	NTB	50	50	509	0	0	0	100	75	834	417	1,251	625
SW07	Lopok	NTB	120	0	1,903	0	360	0	240	250	2,753	1,376	4,129	2,141
SW08	Serading	NTB	80	80	454	0	240	0	160	85	939	469	1,408	663
SW09	Olai Rawa	NTB	190	0	1,786	0	570	0	380	273	3,009	1,504	4,513	2,240
SW10	Jamu	NTB	1,350	1,114	1,061	0	4,050	557	2,700	836	9,204	4,602	13,806	5,542
SW11	Maluk	NTB	125	0	1,272	0	375	0	250	189	2,086	1,043	3,129	1,564
SW12	Jelenga	NTB	100	16	1,359	0	300	8	200	186	2,053	1,027	3,080	1,579
SW13	Benete	NTB	0	0	636	0	0	0	0	63	699	350	1,049	596
SW14	Terusa	NTB	640	339	10,093	213	1,281	170	1,280	1,303	14,339	7,170	21,509	11,126
DO01	Bango Plan	NTB	100	0	982	0	500	0	200	148	1,630	815	2,445	1,218
DO02	Tonda Utara	NTB	108	250	2,871	108	426	54	500	395	4,354	2,177	6,531	3,283
DO03	Tonda Selatan	NTB	150	400	1,786	150	750	0	800	348	3,834	1,917	5,751	2,585
DO04	Sareo	NTB	80	160	1,103	80	240	0	320	174	1,917	959	2,876	1,361
DO05	La-Naanga	NTB	200	200	951	0	600	0	400	195	2,146	1,073	3,219	1,488
DO06	Tia	NTB	330	600	1,607	330	810	0	1,200	394	4,341	2,171	6,512	2,676
DO07	Parugasante	NTB	150	250	509	150	300	0	500	145	1,604	802	2,406	940
DO08	Kesi	NTB	500	0	1,431	0	1,500	0	1,000	393	4,324	2,162	6,486	2,832
DO09	Kuango	NTB	180	0	700	0	540	0	360	159	1,759	879	2,638	1,192
B101	Prong	NTB	70	100	1,141	70	90	15	200	151	1,667	834	2,501	1,250
B102	Mpuri	NTB	80	80	507	0	240	0	160	90	997	498	1,495	713
B103	Nionggu II	NTB	100	187	2,471	100	261	11	374	321	3,538	1,769	5,307	2,696
B104	Lido	NTB	51	171	1,250	51	360	17	342	201	2,221	1,110	3,331	1,601
B105	Ncera	NTB	64	264	2,039	64	600	28	528	325	3,584	1,792	5,376	2,603
B106	Doroo'o	NTB	120	80	636	0	360	40	240	127	1,403	702	2,105	991
B107	Sondo	NTB	80	0	253	0	240	0	160	65	718	359	1,077	476
B108	Laju	NTB	217	0	1,495	0	651	0	434	257	2,837	1,418	4,255	2,047
B109	Ncoha II	NTB	145	0	4,251	40	315	0	290	489	5,385	2,693	8,078	4,341
B110	Ncoha I	NTB	130	44	1,427	0	390	22	260	209	2,308	1,154	3,462	1,745
B111	Woro	NTB	568	262	4,293	120	1,344	131	1,136	702	7,726	3,863	11,589	5,615
B112	Tolowata	NTB	136	196	1,223	136	180	6	392	193	2,130	1,065	3,195	1,481
B113	Tawali	NTB	250	0	549	0	750	0	500	179	1,978	989	2,967	1,259
B114	Nioke	NTB	264	394	2,446	264	390	53	788	394	4,355	2,167	6,502	3,022
B115	Kowo	NTB	89	209	2,145	89	360	10	418	302	3,324	1,662	4,986	2,476
B116	Buncu	NTB	104	104	670	0	312	45	208	123	1,358	679	2,037	979
B117	Keil	NTB	173	0	1,161	173	0	0	346	167	1,847	923	2,770	1,279

Table 5.8 Construction Cost

No.	Name of Scheme	Present Irrigated Area (ha)	Proposed Irrigated Area (ha)	Area for Land Development (ha)	Cost for Embuang (M. Rp)	Cost for Rehabilitation (M. Rp)	Cost for new development (M. Rp)	Cost for land development (M. Rp)	Cost for water supply (M. Rp)	Miscellaneous Works (M. Rp)	Direct Construction Cost (M. Rp)	Indirect Cost (M. Rp)	Total Cost (M. Rp)	Economic Cost (M. Rp)
TI01	Bimoku													
TI02	Celhua	73	160	87	6,408	73	261	44	320	710	7,816	3,908	11,724	6,386
TI03	Tasiepah			54	936	0	162	27	108	123	1,356	678	2,034	1,063
TI04	Biraut			17	92	0	51	9	34	18	204	102	306	145
TI05	Batu Panjang			175	2,448	0	525	70	350	339	3,732	1,866	5,598	2,881
TI06	Pariti	53	355	180	139	53	906	90	710	189	2,087	1,043	3,130	1,173
TI07	Ober	35	35	0	5,304	35	0	0	70	540	5,949	2,975	8,924	5,009
TI08	Benkoko													
TI09	Oebuain			57	5,529	0	171	29	114	584	6,427	3,213	9,640	5,378
TI10	Fatukmetang			22	68	0	66	0	44	17	195	98	293	129
TI11	Bellemaia			174	690	0	522	34	348	159	1,752	876	2,628	1,196
TI12	Nana Eklot			210	230	0	630	12	420	129	1,421	711	2,132	853
TI13	Maubusa II			32	230	0	96	16	64	40	446	223	669	326
TI14	Raininu			43	139	0	129	22	86	37	412	206	618	278
TI15	Buitasik			200	156	40	480	33	400	110	1,219	609	1,828	697
RO08	Hanendarn	40		65	832	0	96	0	64	99	1,091	545	1,636	875
RO10	Lenggal			32	336	20	9	2	46	41	454	227	681	347
RO11	Livubatu	20		3	806	0	309	3	206	132	1,436	728	2,164	1,065
RO12	Toen Oen	60		6	2,640	60	45	2	150	289	3,186	1,593	4,779	2,586
RO13	Maasio			75	2,402	0	102	0	68	257	2,829	1,415	4,244	2,355
SA02	Lokoel			34	476	0	300	41	200	101	1,117	559	1,676	781
FL02	Raisomba			100	1,808	0	60	0	40	190	2,098	1,049	3,147	1,754
FL03	Waehiti			20	269	0	282	47	188	78	864	432	1,296	576
FL04	Napungseda			94	622	0	243	27	162	105	1,159	580	1,739	850
FL051	Lokaria I			81	173	0	216	36	144	56	625	312	937	410
FL052	Lokaria II			72	608	0	237	40	158	104	1,147	573	1,720	842
FL053	Lokaria III			79	1,742	0	273	46	182	224	2,467	1,233	3,700	1,947
FL06	Ojang			91	459	0	195	33	898	81	898	449	1,347	654
FL07	Likot			65	270	0	111	0	74	45	500	250	750	363
PA01	Maliang			37	151	0	57	0	38	24	270	135	405	198
PA02	Laua			19	302	0	399	17	266	98	1,062	541	1,623	695
PA03	Mobobaa I			133	750	0	99	0	66	91	1,006	503	1,509	801
PA04	Mobobaa II			33	202	0	570	45	380	119	1,316	658	1,974	797
PA05	Kakamaut			190	454	0	135	0	90	67	746	373	1,119	559
PA06	Airmama			45	806	0	141	0	94	104	1,145	573	1,718	896
AL01	Lantoka			47	994	0	141	0	94	122	1,351	675	2,026	1,071
AL02	Padang Panjang			47	2,178	57	1,179	0	900	431	4,745	2,373	7,118	3,276
SU03	Mayayang	57	450	0	371	30	180	27	180	78	865	433	1,298	584
SU04	Manjali	30		53	1,070	0	120	0	80	127	1,397	699	2,096	1,122
SU05	Prailiang			40										

Table 5.9 Gross Production Value for Each Scheme

ID No.	Name of Scheme	Present Condition												Future Condition												Inc.							
		WS Crop			DS Crop			NPV			WS Crop			DS Crop			NPV			Benefit	Cost												
		Rain	Paddy	100	Irr.	100	100	Irr.	100	100	Rain	Paddy	100	Irr.	100	100	Irr.	100	100														
LB01	Pangkal Lahu	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	1000	1000
LB02	Lokok Meleph	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	35	35	15,923	80	80	169,500	1000	1000
LB03	Lokok Sahit	59	59	44,637	139	139	44,637	59	59	44,637	139	139	44,637	59	59	44,637	139	139	44,637	59	59	44,637	139	139	44,637	59	59	44,637	139	139	44,637	1000	1000
LB04	Lengkok Munnagan	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	1000	1000
LB05	Lengkok Jawah	62	62	28,210	100	100	82,825	62	62	28,210	100	100	82,825	62	62	28,210	100	100	82,825	62	62	28,210	100	100	82,825	62	62	28,210	100	100	82,825	1000	1000
LB06	Kledor	38	38	28,210	62	62	28,210	38	38	28,210	62	62	28,210	38	38	28,210	62	62	28,210	38	38	28,210	62	62	28,210	38	38	28,210	62	62	28,210	1000	1000
LB07	Lokok Timpas	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	1000	1000
LB08	Lokok Lebok	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	1000	1000
LB09	Lokok Gerask	45	45	500	8	8	64,000	45	45	500	8	8	64,000	45	45	500	8	8	64,000	45	45	500	8	8	64,000	45	45	500	8	8	64,000	1000	1000
LB10	Lokok Kwangun	44	44	20,020	44	44	20,020	44	44	20,020	44	44	20,020	44	44	20,020	44	44	20,020	44	44	20,020	44	44	20,020	44	44	20,020	44	44	20,020	1000	1000
LB11	Lokok Manis	130	130	32	15	15	110,632	130	130	32	15	15	110,632	130	130	32	15	15	110,632	130	130	32	15	15	110,632	130	130	32	15	15	110,632	1000	1000
LB12	Lokok Santik	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	20	20	9,100	1000	1000
LB13	Tibu Sangar	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	1000	1000
LB14	Polan	23	23	30	30	30	110,632	23	23	30	30	30	110,632	23	23	30	30	30	110,632	23	23	30	30	30	110,632	23	23	30	30	30	110,632	1000	1000
LB15	Londang Gant	6	6	94	301	301	346,464	6	6	94	301	301	346,464	6	6	94	301	301	346,464	6	6	94	301	301	346,464	6	6	94	301	301	346,464	1000	1000
LB16	Lokok Sabang	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	1000	1000
LB17	Gala Liat II	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	301	301	346,464	401	401	346,464	1000	1000
LB18	Batu Tnam	346	346	7,206	346	346	284,867	346	346	7,206	346	346	284,867	346	346	7,206	346	346	284,867	346	346	7,206	346	346	284,867	346	346	7,206	346	346	284,867	1000	1000
LB19	Batu Tulis	171	171	49,140	108	108	49,140	171	171	49,140	108	108	49,140	171	171	49,140	108	108	49,140	171	171	49,140	108	108	49,140	171	171	49,140	108	108	49,140	1000	1000
LB20	Bare Mut	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	1000	1000
LB21	Tibuk Santik	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	1000	1000
LB22	Pengembuk	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	1000	1000
LB23	Kehajur	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	50	50	272,525	275	275	272,525	1000	1000
LB24	Pore	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	1000	1000
LB25	Batu Jangkli	85	85	41,480	85	85	41,480	85	85	41,480	85	85	41,480	85	85	41,480	85	85	41,480	85	85	41,480	85	85	41,480	85	85	41,480	85	85	41,480	1000	1000
LB26	Suare	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	1000	1000
LB27	Keleboh	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	30	30	10,410	30	30	272,525	1000	1000
LB28	Pedeh	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	1000	1000
LB29	Unggan	429	429	209,352	429	429	209,352	429	429	209,352	429	429	209,352	429	429	209,352	429	429	209,352	429	429	209,352	429	429	209,352	429	429	209,352	429	429	209,352	1000	1000
LB30	Lomban Lang	25	25	12,200	25	25	12,200	25	25	12,200	25	25	12,200	25	25	12,200	25	25	12,200	25	25	12,200	25	25	12,200	25	25	12,200	25	25	12,200	1000	1000
LB31	Bongan	60	60	29,280	60	60	29,280	60	60	29,280	60	60	29,280	60	60	29,280	60	60	29,280	60	60	29,280	60	60	29,280	60	60	29,280	60	60	29,280	1000	1000
LB32	Bun Mas	300	300	146,400	300	300	146,400	300	300	146,400	300	300	146,400	300	300	146,400	300	300	146,400	300	300	146,400	300	300	146,400	300	300	146,400	300	300	146,400	1000	1000
LB33	Sereng	50	50	24,400	50	50	24,400	50	50	24,400	50	50	24,400	50	50	24,400	50	50	24,400	50	50	24,400	50	50	24,400	50	50	24,400	50	50	24,400	1000	1000
LB34	Tempil	100	100	47,150	100	100	47,150	100	100	47,150	100	100	47,150	100	100	47,150	100	100	47,150	100	100	47,150	100	100	47,150	100	100	47,150	100	100	47,150	1000	1000
LB35	Gerantik	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	1000	1000
LB36	Sjawang	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	15	15	6,825	62	62	28,210	1000	1000
LB37	Lokok Sukan	174	174	79,170	174	174	79,170	174																									



Table 5.10 Evaluation Results of Each Scheme

ID No.	Name of Scheme	Province	E. Cost (M.Rp)	Benefit (M.Rp/yr)	Cost (M.Rp)	Benefit (M.Rp)	B/C
LB01	Pinang Lulu	NTB	647	150	1577	11,152	2.00
LB02	Lokok Melepah	NTB	614	19	1547	1146	0.27
LB03	Lokok Salut	NTB	312	194	1278	11,489	5.35
LB04	Lengkok Menangan	NTB	1,178	264	11,050	12,027	1.93
LB05	Lengkok Tawah	NTB	200	8	1178	161	0.34
LB06	Kleder	NTB	490	34	1437	1261	0.60
LB07	Lokok Timpas	NTB	791	130	1705	1998	1.42
LB08	Lokok Lebak	NTB	999	22	1891	1169	0.19
LB09	Lokok Gerasak	NTB	417	63	1372	1484	1.30
LB10	Lokok Kwangan	NTB	2,665	789	12,376	16,058	2.55
LB11	Lokok Menniris	NTB		24			
LB12	Lokok Santek	NTB	1,109	360	1989	12,764	2.80
LB13	Tibu Sanggar	NTB	242	70	1216	1537	2.49
LB14	Pelangan	NTB		396			
LB15	Lendang Guar	NTB	139	16	1124	1123	0.99
LB16	Lokok Salangu	NTB	342	78	1305	1599	1.96
LH01	Gula Liat II	NTB	645	87	1575	1668	1.16
LH03	Batu Tanam	NTB	1,493	424	11,331	13,255	2.45
LH04	Batu Tulis	NTB	568	51	1506	1392	0.77
LH05	Bare Julat	NTB	499	334	1445	12,564	5.76
LH06	Tibuk Sisuk	NTB	385	103	1343	1791	2.30
LH07	Pengembuk	NTB	546	154	1487	11,182	2.43
LH09	Kelanjur	NTB	212	28	1189	1215	1.14
LH10	Pore	NTB	1,637	267	11,460	12,050	1.40
LH11	Batu Jangkih	NTB	441	129	1393	1990	2.52
LH12	Suare	NTB	383	53	1341	1407	1.19
LH13	Kelebeh	NTB	153	32	1136	1246	1.80
LH14	Pedeh	NTB	95	16	185	1123	1.45
LH15	Ungga	NTB	89	127	179	1975	12.29
LH18	Lomban Lauq	NTB	2,083	459	11,857	13,524	1.90
LH19	Bengawan	NTB	155	26	1138	1200	1.44
LH20	Bun Mas	NTB	604	125	1539	1960	1.78
LH21	Sereneng	NTB	1,092	321	1974	12,464	2.53
LH22	Tempit	NTB	458	53	1408	1407	1.00
LH23	Gerentuk	NTB	456	108	1407	1829	2.04
LH25	Selawang	NTB	89	16	179	1123	1.55
LR01	Lokok Sukun	NTB	81	17	172	1131	1.81
LR02	Tibu Meong	NTB	944	198	1842	11,520	1.81
LR04	Aik Bata	NTB		77			
LR05	Kali Seruni/Papah	NTB	2,701	435	12,408	13,340	1.39
LR07	Batu Tinja	NTB	520	68	1464	1522	1.13
LR10	Senang	NTB	877	75	1782	1576	0.74
LR11	Kembang Kuning	NTB	1,354	520	11,207	13,992	3.31
LR12	Gunung Joget	NTB	1,517	299	11,353	12,296	1.70
LR14	MT. Krarak	NTB		24			
LR15	Montong Semat	NTB	94	14	184	1107	1.28
LR16	Pancor Manis	NTB	343	119	1306	1914	2.99
LR17	Prako	NTB	339	80	1302	1614	2.03
LR19	Tinu Ulik	NTB	905	170	1807	11,305	1.62
LR23	Pungkang	NTB	2,432	439	12,168	13,370	1.55
SW01	Gapit	NTB	19,461	2,783	117,352	121,367	1.23
SW02	Sejari	NTB	2,257	411	12,012	13,155	1.57
SW03	Tui Tui	NTB		409			
SW04	Penyempeng	NTB		638			
SW05	Jompong	NTB	1,454	52	11,296	1399	0.31
SW06	Penyaring	NTB	617	73	1550	1560	1.02
SW07	Lopok	NTB	2,120	237	11,890	11,820	0.96
SW08	Serading	NTB	663	115	1591	1883	1.49
SW09	Olat Rawa	NTB	2,207	460	11,968	13,532	1.79
SW10	Jamu	NTB	5,542	2,696	14,941	120,699	4.19
SW11	Maluk	NTB	1,543	271	11,376	12,081	1.51
SW12	Jelenga	NTB	1,562	203	11,393	11,559	1.12
SW13	Benete	NTB	596	89	1531	1683	1.29
SW14	Terusa	NTB	11,017	1,322	19,823	110,150	1.03
DO01	Banggo Plan	NTB	1,201	225	11,071	11,727	1.61
DO02	Tonda Utara	NTB	3,241	497	12,890	13,816	1.32
DO03	Tonda Selatan	NTB	2,516	400	12,243	13,071	1.37
DO04	Saneo	NTB	1,334	226	11,189	11,735	1.46
DO05	La-Nangga	NTB	1,454	301	11,296	12,311	1.78

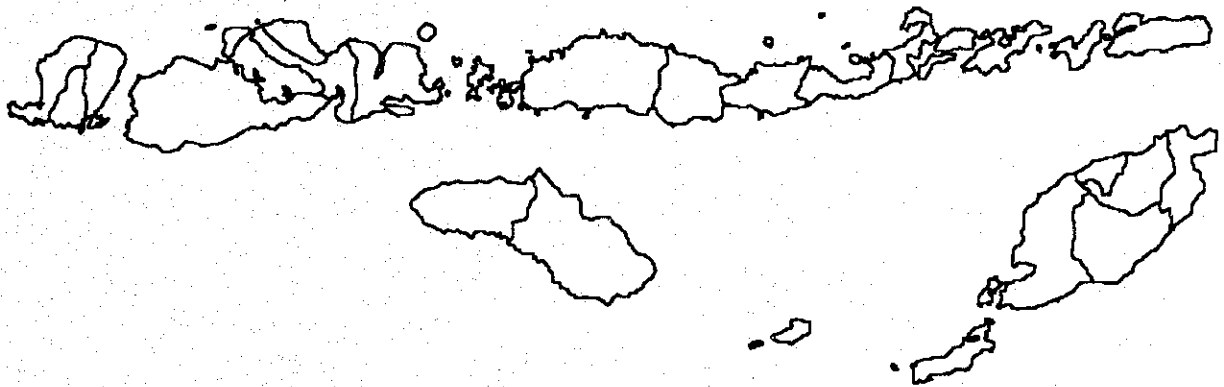
Table 5.10 Evaluation Results of Each Scheme

ID No.	Name of Scheme	Province	E. Cost (M.Rp)	Benefit (M.Rp/yr)	Cost (M.Rp)	Benefit (M.Rp)	B/C
DO06	Ta'a	NTB	2,574	597	12,295	14,583	2.00
DO07	Parugasante	NTB	898	215	1,801	11,651	2.06
DO08	Kesi	NTB	2,747	776	12,449	15,958	2.43
DO09	Kuango	NTB	1,161	244	11,035	11,873	1.81
BI01	Piong	NTB	1,250	189	11,115	11,451	1.30
BI02	Mpuri	NTB	699	145	1,623	11,113	1.79
BI03	Ntonggu II	NTB		154			
BI04	Lido	NTB	1,572	316	11,402	12,426	1.73
BI05	Nccera	NTB	2,559	554	12,282	14,253	1.86
BI06	Doroo'o	NTB	970	169	1,865	11,298	1.50
BI07	Sondo	NTB	476	70	1,424	1,537	1.27
BI08	Laju	NTB	2,011	316	11,793	12,426	1.35
BI09	Ncoha II	NTB		186			
BI10	Ncoha I	NTB	1,723	249	11,536	11,912	1.24
BI11	Woro	NTB	5,518	910	14,920	16,987	1.42
BI12	Tolowata	NTB	1,448	207	11,291	11,589	1.23
BI13	Tawali	NTB	1,217	357	11,085	12,741	2.53
BI14	Ntokc	NTB	2,954	377	12,634	12,894	1.10
BI15	Kowo	NTB	2,440	295	12,176	12,265	1.04
BI16	Buncu	NTB	962	154	1,858	11,182	1.38
BI17	Keli	NTB	1,250	198	11,115	11,520	1.36
FL02	Ratisomba	NTT	781	60	1,696	1,461	0.66
FL03	Waeliti	NTT	1,754	13	11,564	1,100	0.06
FL04	Napungseda	NTT	576	55	1,514	1,422	0.82
FL051	Lokaria I	NTT	850	49	1,758	1,376	0.50
FL052	Lokaria II	NTT	410	74	1,366	1,568	1.55
FL053	Lokaria III	NTT	842	81	1,751	1,622	0.83
FL06	Ojang	NTT	1,947	107	11,736	1,821	0.47
FL07	Likot	NTT	654	72	1,583	1,553	0.95
PA01	Maliang	NTT	363	18	1,324	1,138	0.43
PA02	Latua	NTT	198	12	1,177	1,192	0.52
PA03	Mobobaa I	NTT	695	161	1,620	11,236	1.99
PA04	Mobobaa II	NTT	801	40	1,714	1,307	0.43
PA05	Kakamauta	NTT	797	118	1,711	1,906	1.27
PA06	Airmama	NTT	559	29	1,498	1,223	0.45
AL01	Lantoka	NTT	896	30	1,799	1,230	0.29
AL02	Pudang Panjang	NTT	1,071	30	1,955	1,230	0.24
SU03	Mayaiyang	NTT		518			
SU04	Manjali	NTT	584	105	1,521	1,806	1.55
SU05	Prailiang	NTT	1,116	26	1,995	1,200	0.20
TI01	Bimoku	NTT		0			
TI02	Oeltua	NTT		0			
TI03	Tasiepah	NTT		261			
TI04	Biraut	NTT	1,063	40	1,948	1,307	0.32
TI05	Batu Panjang	NTT	145	12	1,129	1,192	0.71
TI06	Pariti	NTT	2,881	104	12,569	1,798	0.31
TI07	Obor	NTT	1,173	418	11,046	13,209	3.07
TI08	Benkoko	NTT		227			
TI09	Oebuain	NTT		0			
TI10	Fatukmetang	NTT		126			
TI11	Bellemata	NTT	129	14	1,115	1,107	0.93
TI12	Nana Eklot	NTT	1,196	108	11,066	1,829	0.78
TI13	Maubusa II	NTT	853	134	1,761	11,029	1.35
TI14	Raininu	NTT	326	18	1,291	1,138	0.48
TI15	Buitasik	NTT	278	32	1,248	1,246	0.99
RO08	Hanendam	NTT	697	125	1,621	1,960	1.54
RO10	Lenggale	NTT	875	20	1,780	1,154	0.20
RO11	Livubatu	NTT	347	14	1,309	1,107	0.35
RO12	Tuen Oen	NTT	1,065	66	1,950	1,507	0.53
RO13	Malasio	NTT		52			
SA02	Lokoci	NTT	2,353	21	12,098	1,161	0.08

***The Study on The Embung Development Project  
in East Nusa Tenggara and West Nusa Tenggara***

***Master Plan Report***

***Figures***







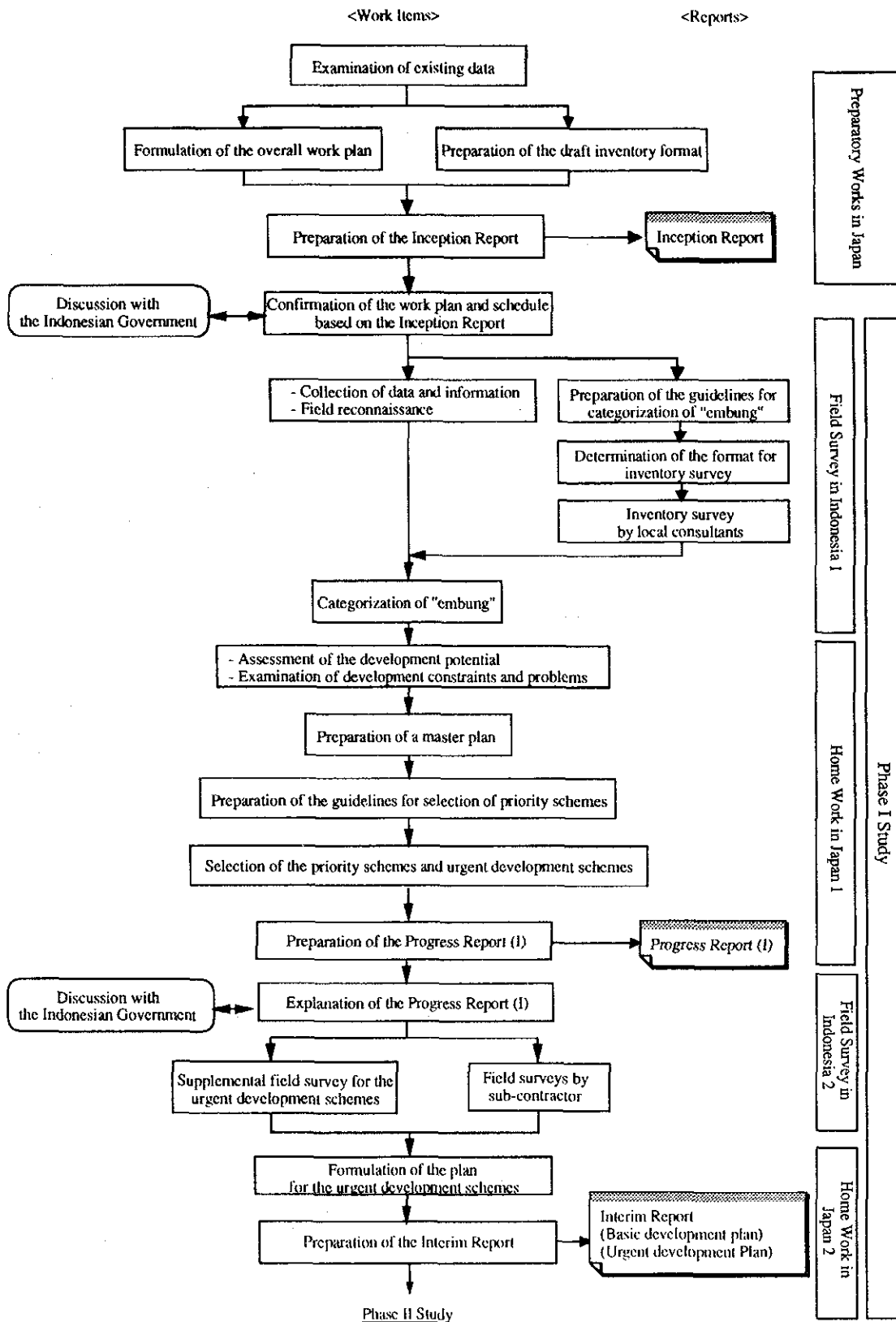


Figure 1.1 Work Flow Chart (1/2)

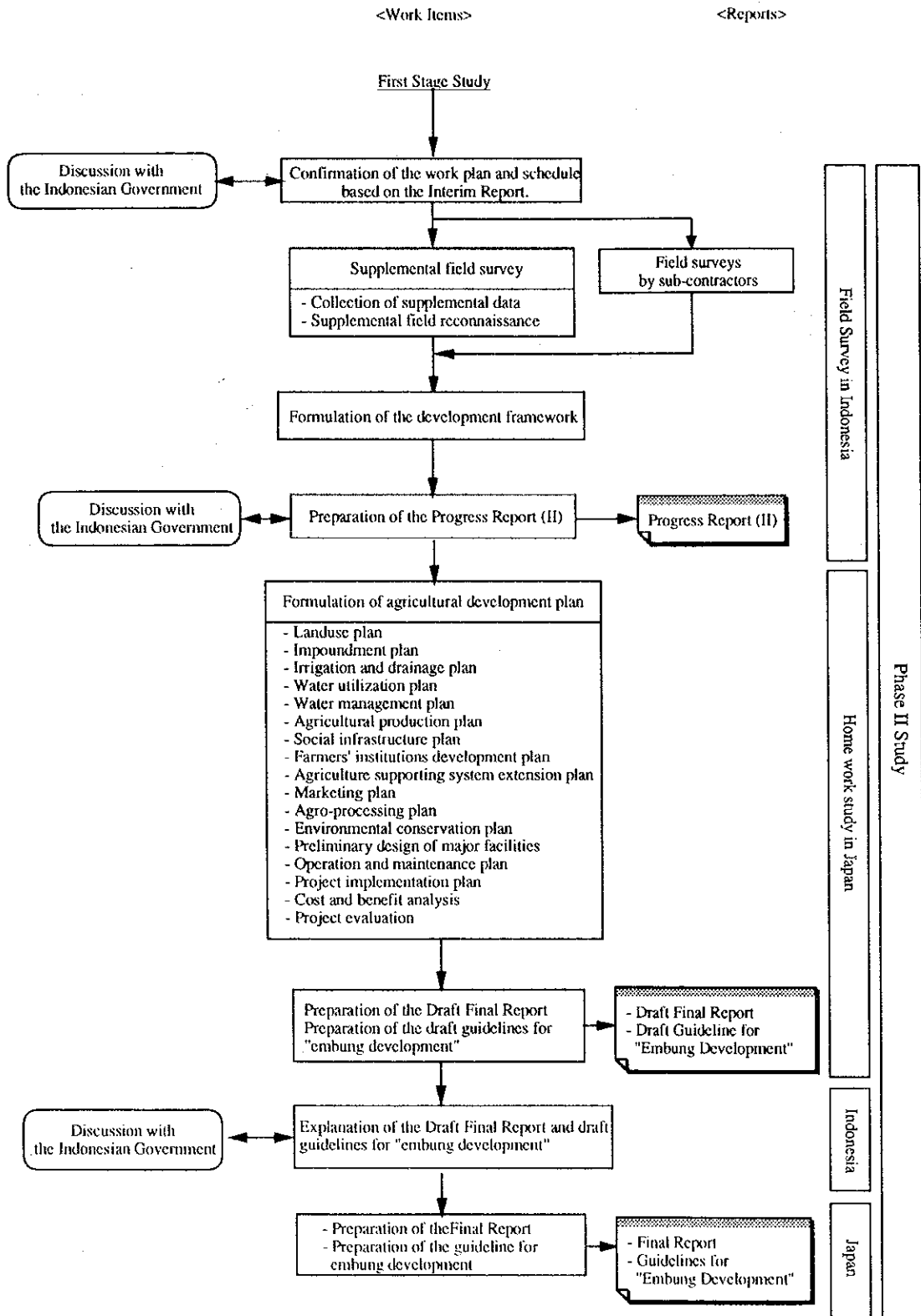
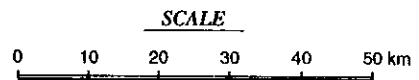
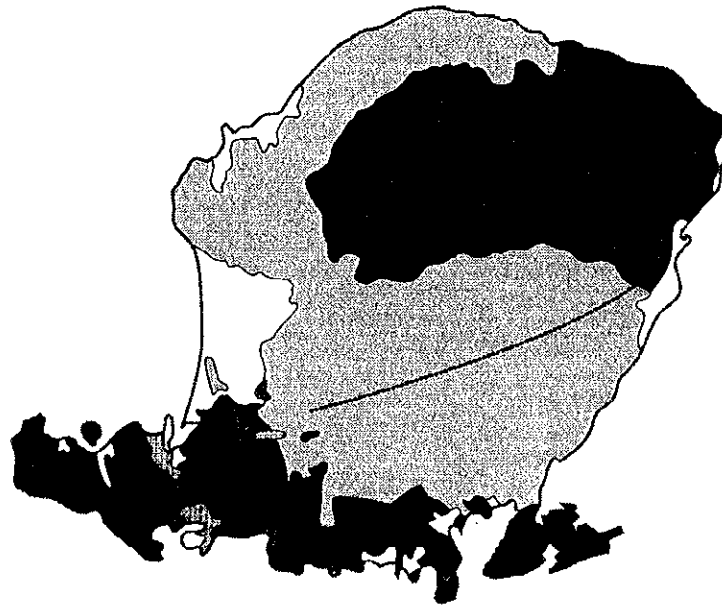

















Figure 1.1 Work Flow Chart (2/2)



**LEGEND**

	Alluvium		Volcanic Products of Quaternary
	Terrace Deposits (Gravel & Sand)		Volcanic Rocks of Pre-Quaternary
	Coral Limestone		Metamorphic Rocks & Ultrabasic Rocks
	Limestone		Granite
	Claystone of "Bobonaro"		Intrusive Rock
	Sedimentary Rocks of Tertiary & Quaternary		Fault
	Sedimentary Rocks of Pre-Tertiary		Thrust
	Volcanic Lava of Quaternary		

*(This legend is applied to Fig. 3.2 - Fig. 3.5.)*

**Figure 3.1 Geological Map of Lombok Island**



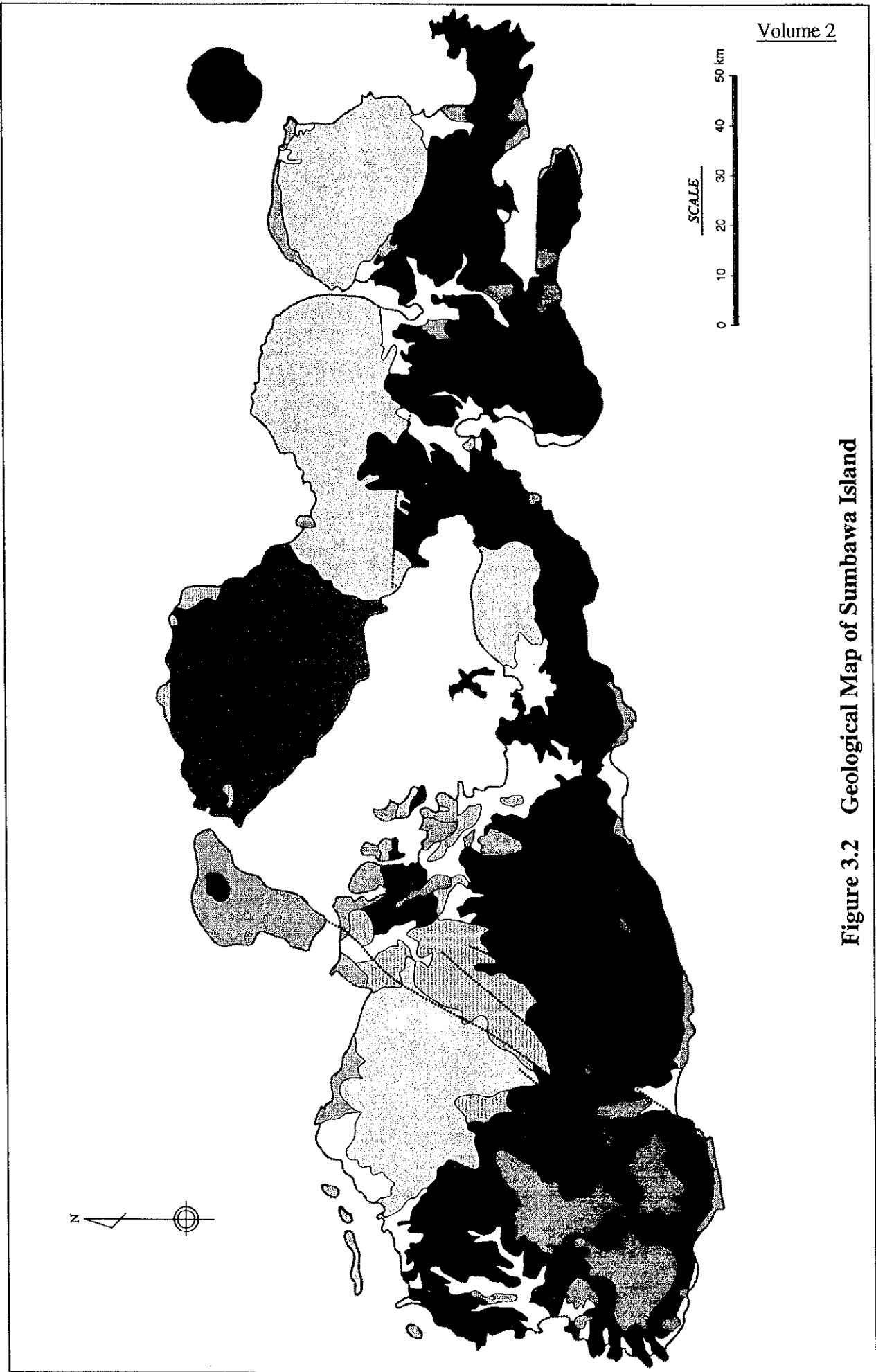


Figure 3.2 Geological Map of Sumbawa Island



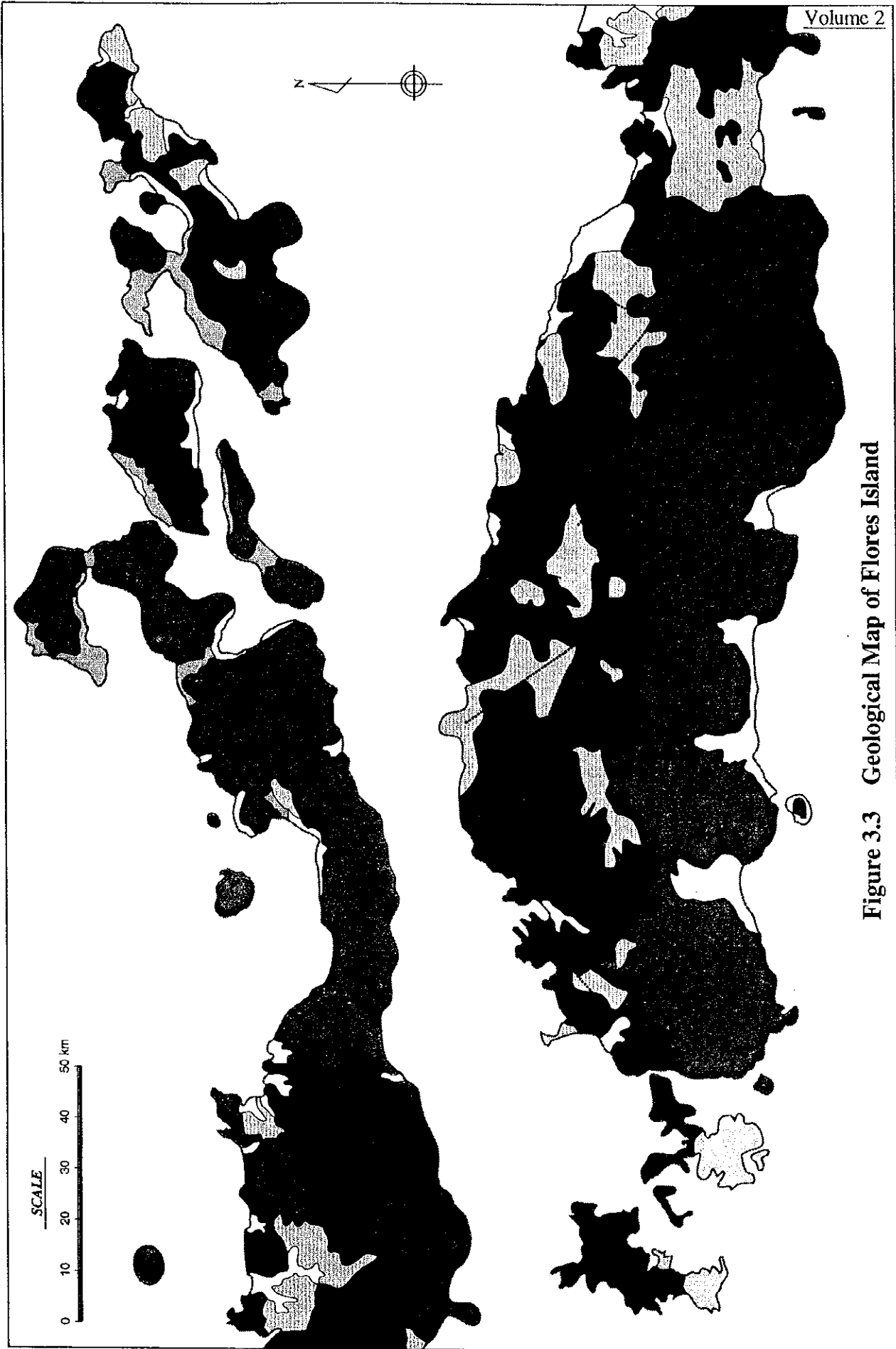


Figure 3.3 Geological Map of Flores Island





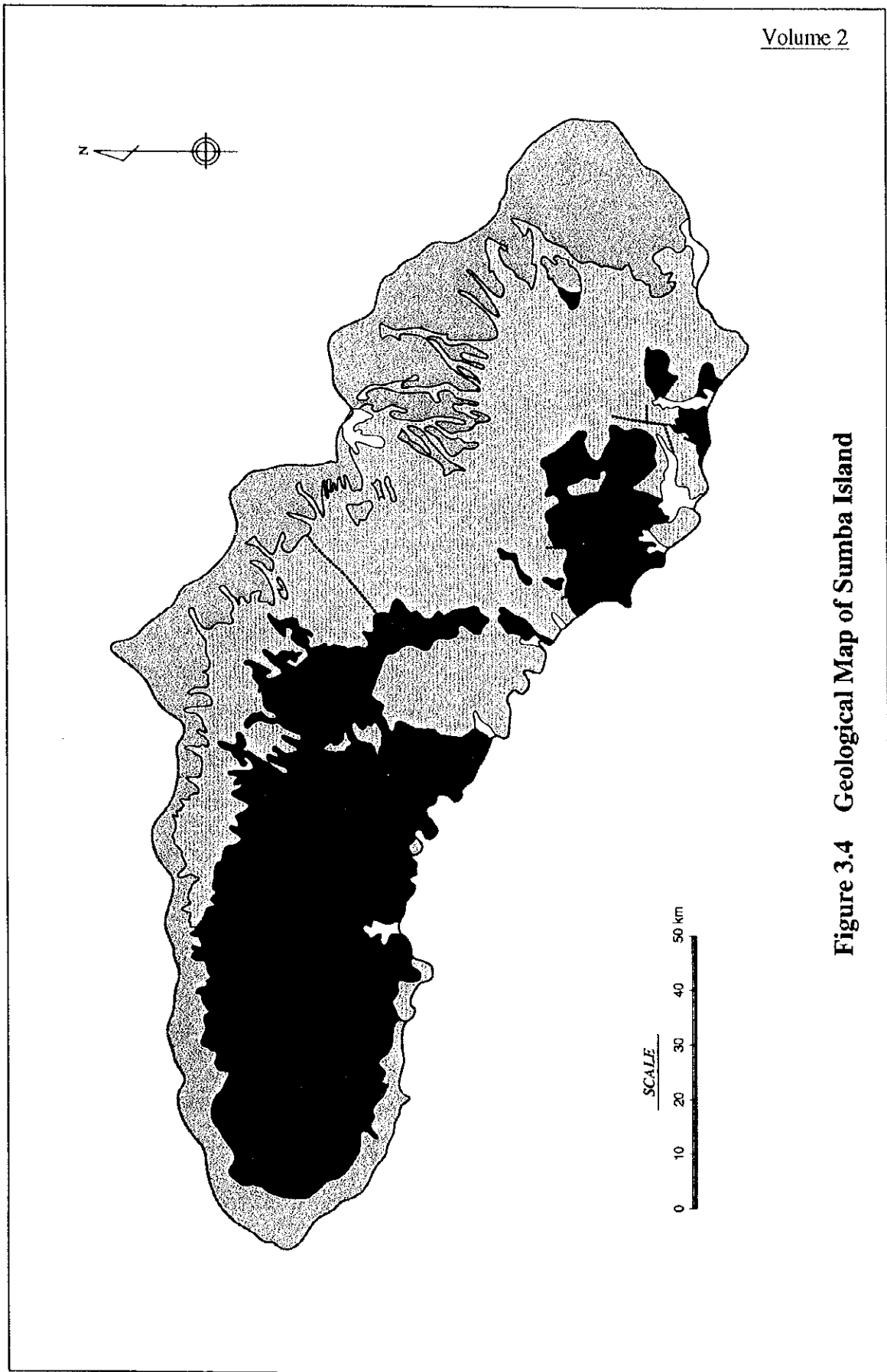


Figure 3.4 Geological Map of Sumba Island



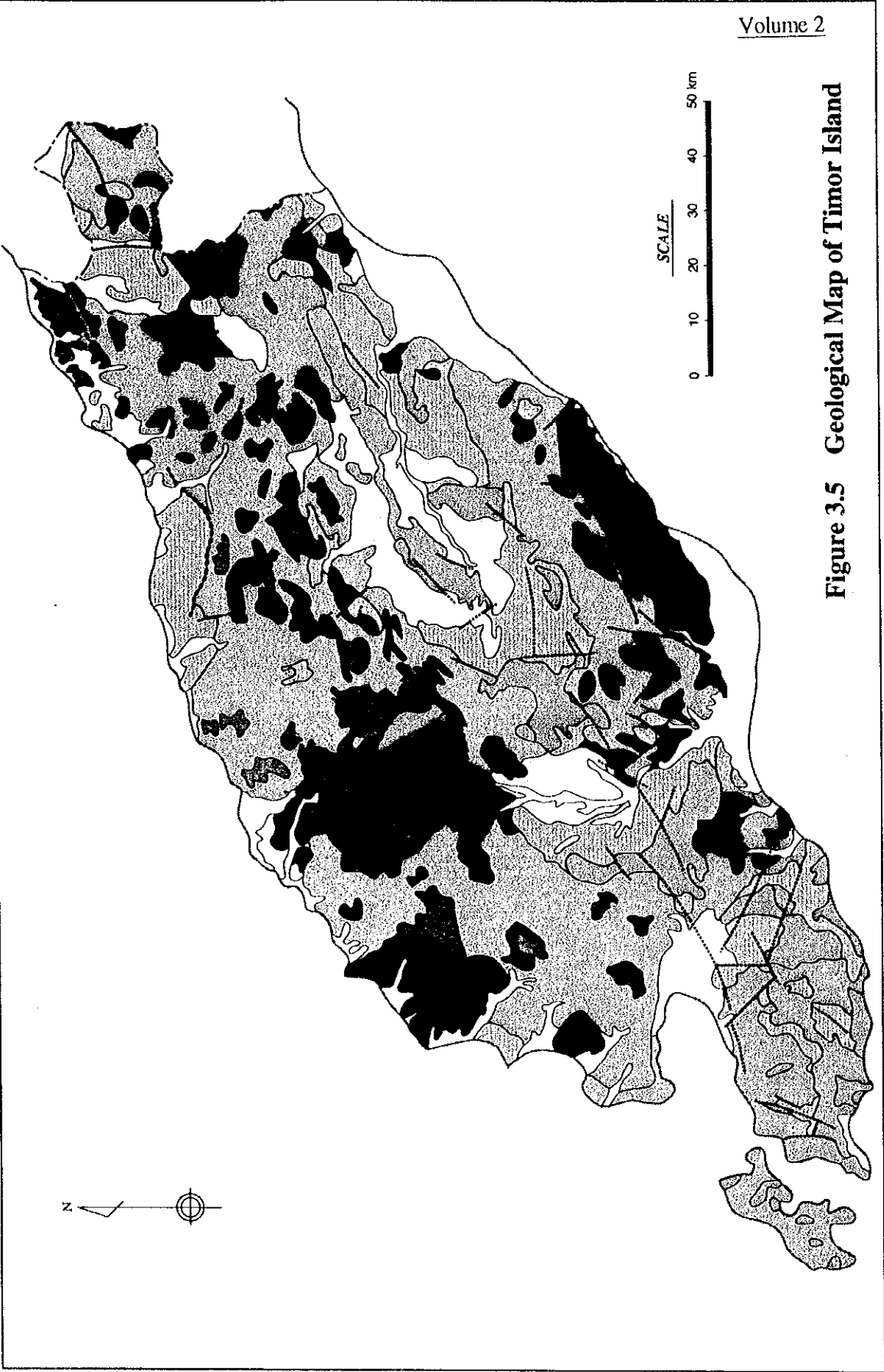
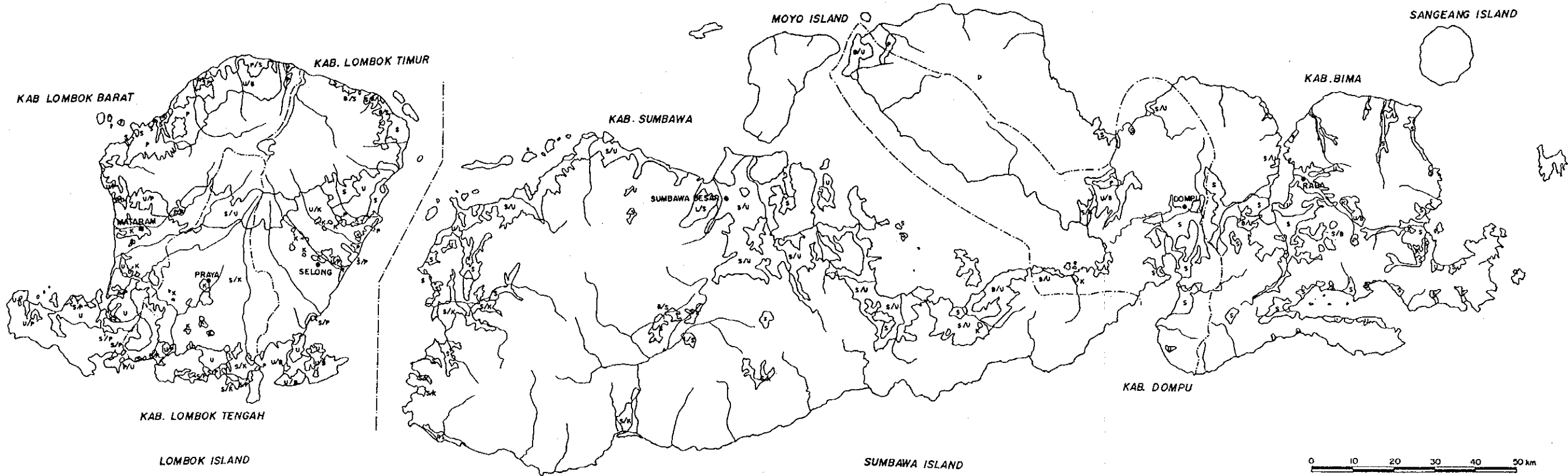


Figure 3.5 Geological Map of Timor Island







LEGEND

Land Use	
Symbol	Land Use
F	Forest
B	Bush/Scrub
R	Grassland
L	Shifting Cultivation
U	Upland
S	Wetland
P	Estate
A	Agrobrestry
R	Reforestation
W	Water
T	Unvegetated
K	Settlement

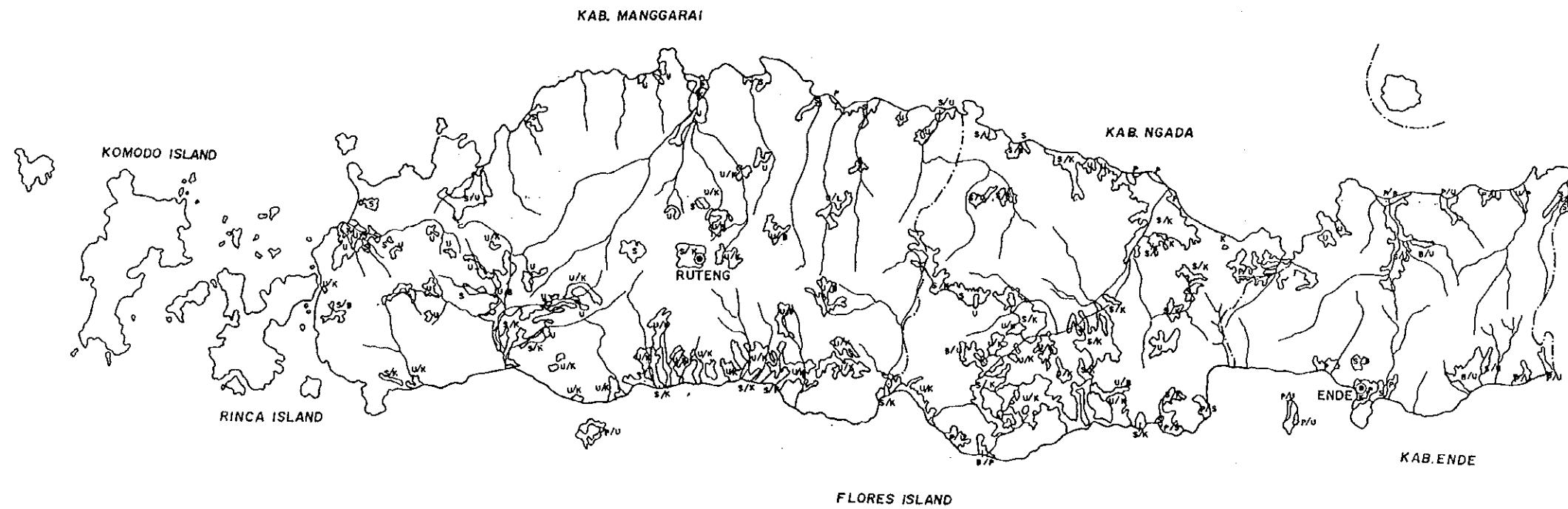
Figure 3.6 Land Use Map (Lombok and Sumbawa)

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT, MINISTRY OF PUBLIC WORKS			
The Embung Development Project in East Nusa Tenggara and West Nusa Tenggara			
LAND USE (INTENSIVE USED AREA)			
No.	Area		
JAPAN INTERNATIONAL COOPERATION AGENCY			









LEGEND

Land Use	
Symbol	Land Use
F	Forest
B	Bush/Scrub
R	Grassland
L	Shifting Cultivation
U	Upland
S	Wetland
P	Estate
A	Agroforestry
R	Reforestation
W	Water
T	Unvegetated
K	Settlement

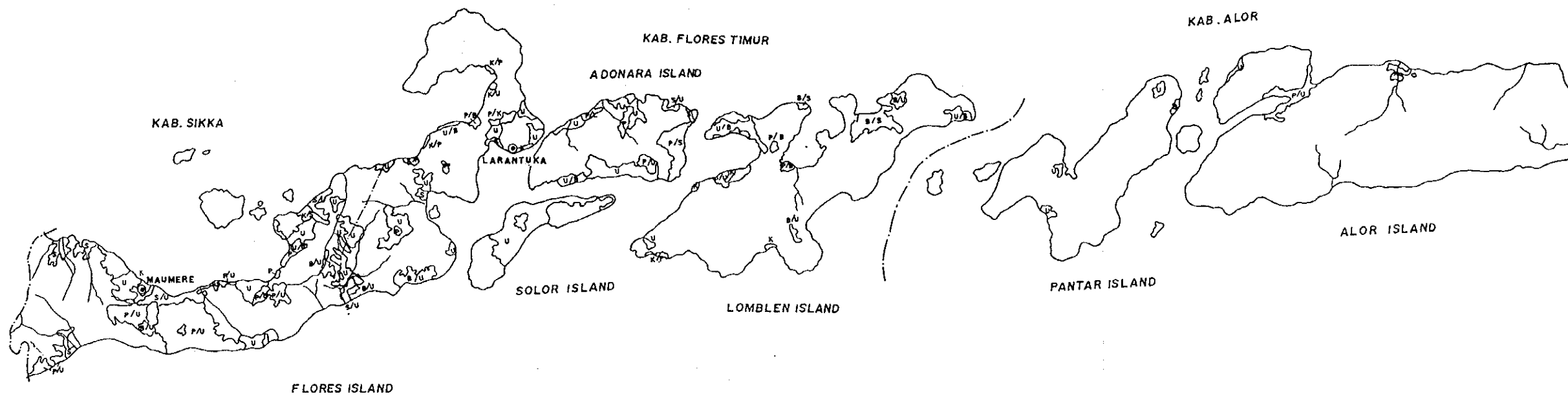


Figure 3.7 Land Use Map (West Flores)

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT, MINISTRY OF PUBLIC WORKS		
The Embung Development Project in East Nusa Tenggara and West Nusa Tenggara		
LAND USE (INTENSIVE USED AREA)		
No.	Area	West Flores
JAPAN INTERNATIONAL COOPERATION AGENCY		







LEGEND

Land Use	
Symbol	Land Use
F	Forest
B	Bush/Scrub
R	Grossland
L	Shifting Cultivation
U	Upland
S	Wetland
P	Estate
A	Agroforestry
R	Reforestation
W	Water
T	Unvegetated
K	Settlement

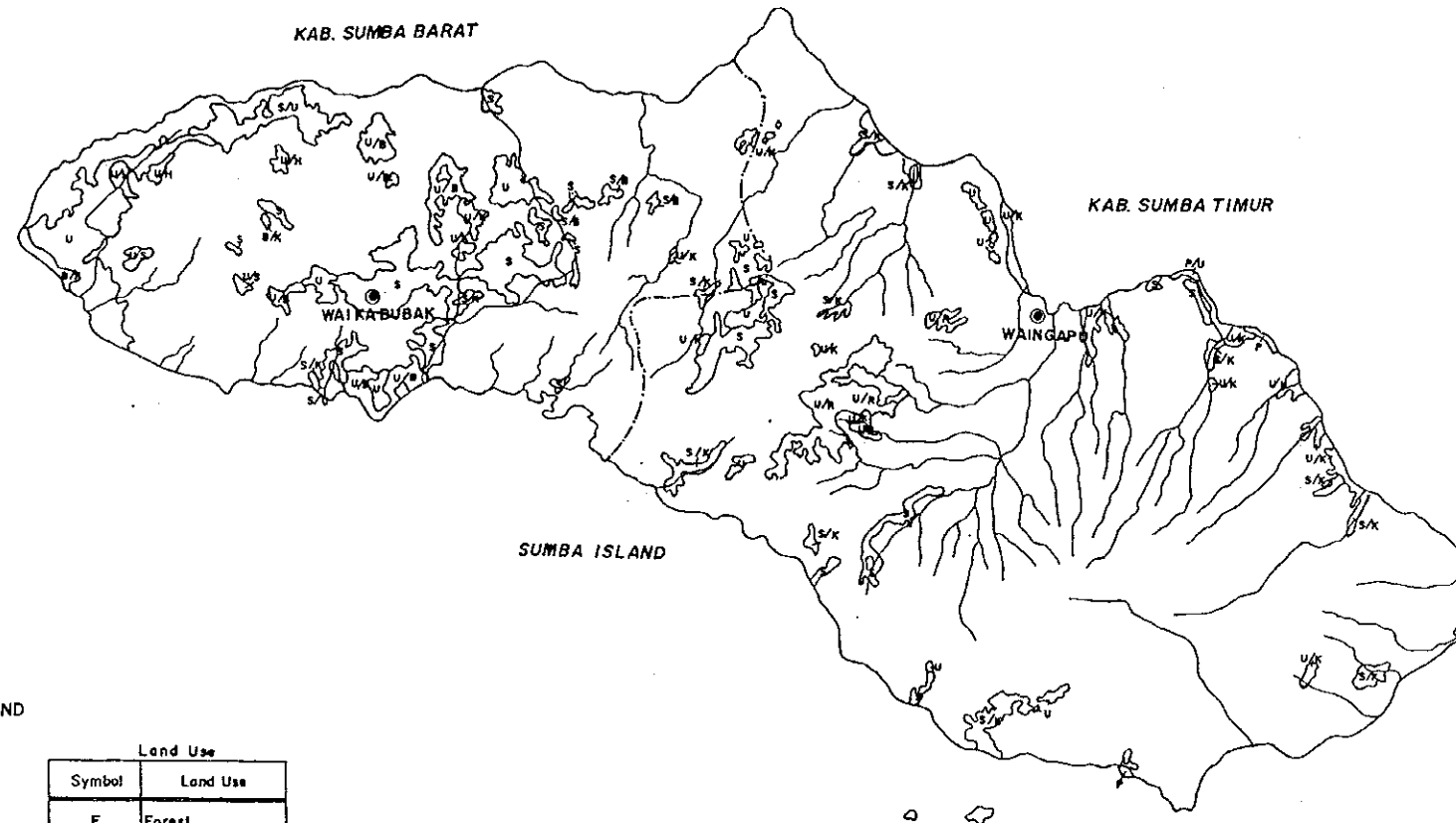


Figure 3.8 Land Use Map (East Flores)

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT, MINISTRY OF PUBLIC WORKS		
The Embung Development Project in East Nusa Tenggara and West Nusa Tenggara		
LAND USE (INTENSIVE USED AREA)		
No.	Area	West Flores
JAPAN INTERNATIONAL COOPERATION AGENCY		







LEGEND

Land Use	
Symbol	Land Use
F	Forest
B	Bush/Scrub
R	Grassland
L	Shifting Cultivation
U	Upland
S	Wetland
P	Estate
A	Agroforestry
R	Reforestation
W	Water
T	Unvegetated
K	Settlement



Figure 3.9 Land Use Map (Sumba)

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT, MINISTRY OF PUBLIC WORKS			
The Embung Development Project in East Nusa Tenggara and West Nusa Tenggara			
LAND USE (INTENSIVE USED AREA)			
No.	Area	Sumba	
JAPAN INTERNATIONAL COOPERATION AGENCY			



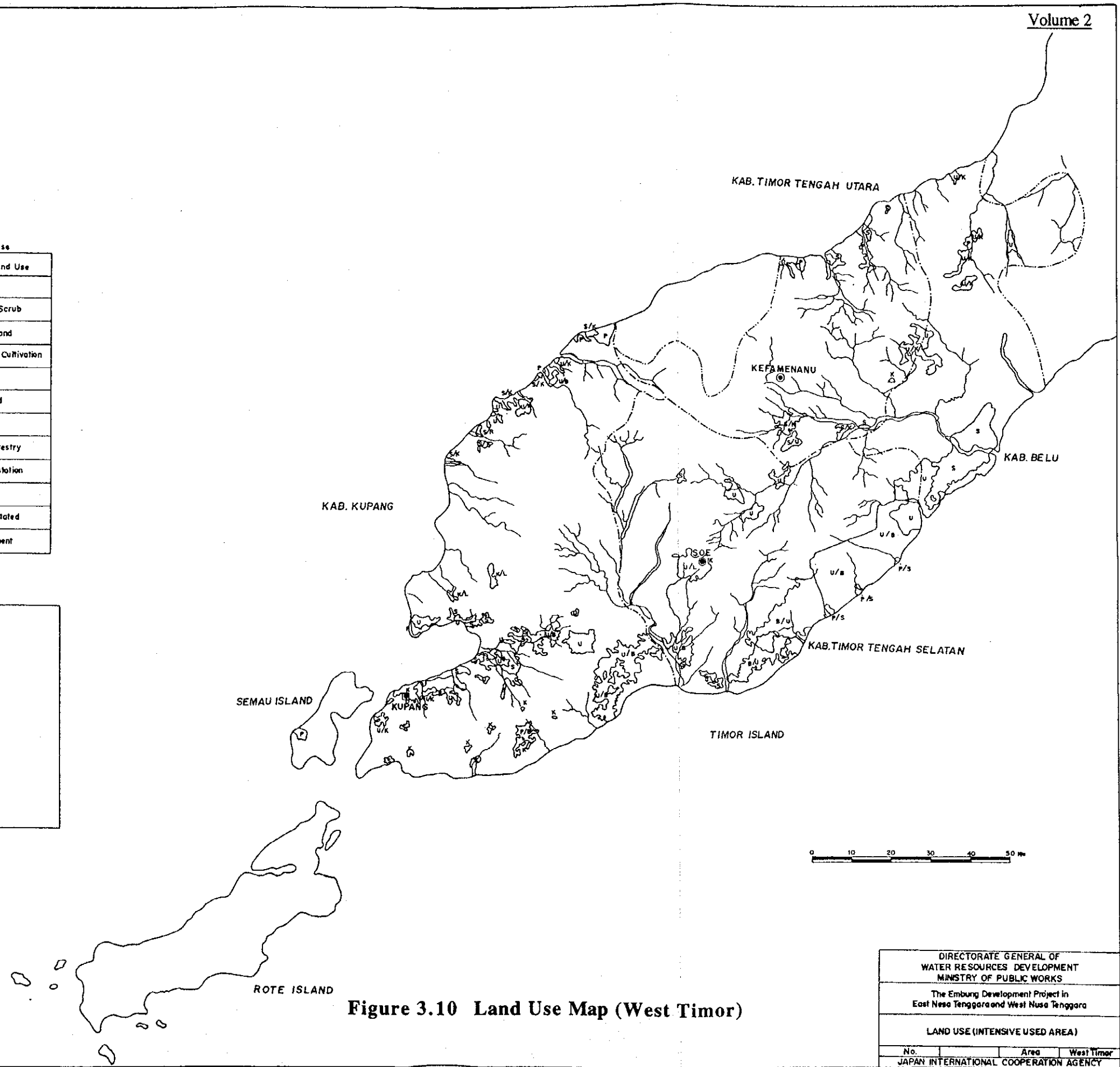
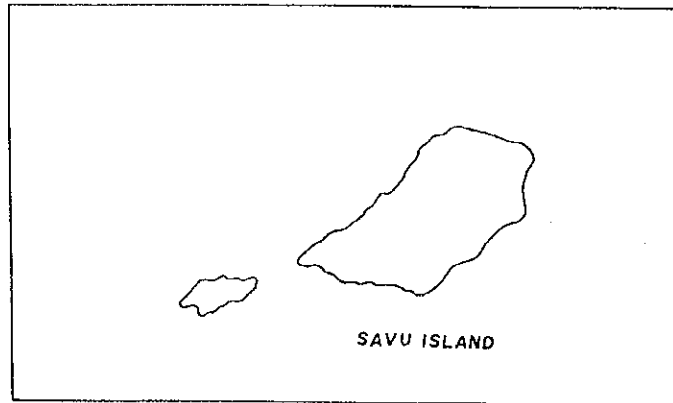






**LEGEND**

Land Use	
Symbol	Land Use
F	Forest
B	Bush / Scrub
R	Grassland
L	Shifting Cultivation
U	Upland
S	Wetland
P	Estate
A	Agroforestry
R	Réforestation
W	Water
T	Unvegetated
K	Settlement

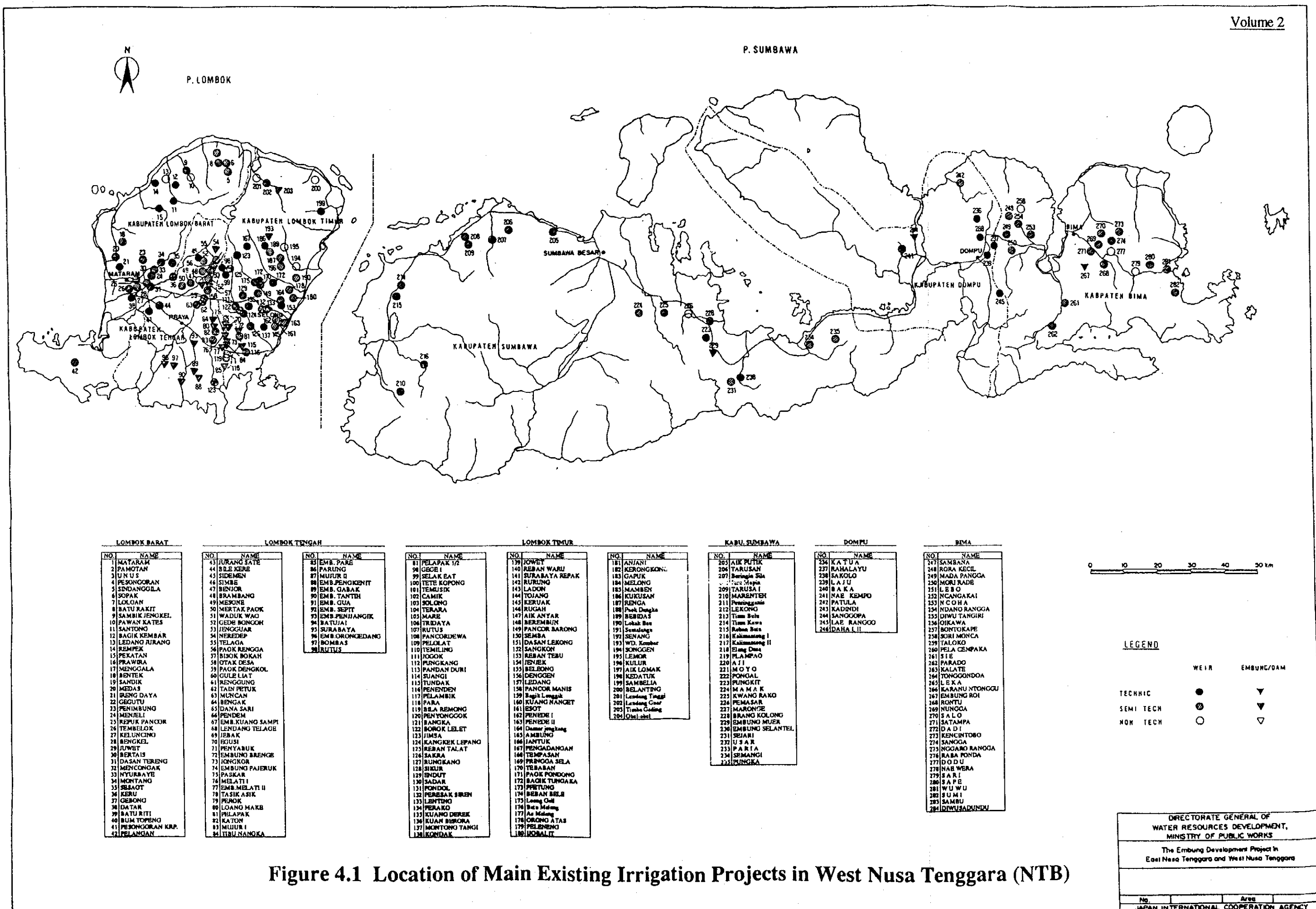


**Figure 3.10 Land Use Map (West Timor)**

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT MINISTRY OF PUBLIC WORKS		
The Embung Development Project in East Nusa Tenggara and West Nusa Tenggara		
LAND USE (INTENSIVE USED AREA)		
No.	Area	West Timor
JAPAN INTERNATIONAL COOPERATION AGENCY		







**LOMBOK BARAT**

NO.	NAME
1	MATARAM
2	PANOTAM
3	UNUS
4	PESONORAN
5	SINDANGOLA
6	SOPAK
7	LOLOAN
8	BATU RAKIT
9	SAMBIK JENGKEL
10	PAWAY KATES
11	SANTONO
12	BAGIK KEMBAR
13	LEDANG JURANG
14	REMEK
15	PEKATAN
16	PRAWIRA
17	MENGOALA
18	BENTEK
19	SANDIK
20	MEDA S
21	RENG DAYA
22	GEGUTU
23	PENIMBUNG
24	MENJELI
25	REPUK PANCOR
26	TEMBLOK
27	KELUNGINO
28	BENGKEL
29	JURWIT
30	BERTAIS
31	DASAN TERENG
32	MENCONGAK
33	NYURBAYE
34	MONTANG
35	SISAOT
36	KERU
37	CEBONG
38	DATAR
39	BATU RITI
40	BUM TOPENG
41	PESONORAN KRP.
42	PELANGAN

**LOMBOK TENGAH**

NO.	NAME
43	JURANG SATE
44	BLE KERE
45	SIDEMEN
46	SIMBE
47	BENJOR
48	BRAMBANG
49	MESONE
50	MERTAK PAOK
51	WADUK WAO
52	GEDE BONCOH
53	JENGGUAR
54	NEREDEP
55	TELAGA
56	PAOK RENGGA
57	BUSOK BOKAH
58	OTAK DESA
59	PAOK DENGKOL
60	GULE LIAT
61	RENGGUNG
62	TAIN PETUK
63	MUNCAN
64	BENGAK
65	DANA SARI
66	PENDEM
67	EMB. KUANG SAMPI
68	LEDANG TELAGE
69	JERAK
70	EGUSI
71	PENYABUK
72	EMBUNG BRENGE
73	JONGKOR
74	EMBUNG PAJERUK
75	PASKAR
76	MELATI I
77	EMB. MELATI II
78	TASIK ASIK
79	PEROK
80	LOANG MAKES
81	PELAPAK
82	KATON
83	MUJUR I
84	TIBU NANGKA

**LOMBOK TIMUR**

NO.	NAME
85	EMB. PARE
86	PARUNG
87	MUJUR II
88	EMB. PENGKENT
89	EMB. GABAK
90	EMB. TANTIN
91	EMB. GUA
92	EMB. SEPTI
93	EMB. PENJANGKIK
94	BATUJAI
95	SURABAYA
96	EMB. ORONGEDANG
97	BOMBAS
98	RUTUS

**KABU. SUMBAWA**

NO.	NAME
81	PELAPAK 1/2
98	GEDE I
99	SELAK BAT
100	TETE KOPONG
101	TEJUSIK
102	CAMIK
103	SOLONG
104	TERAJA
105	RUGAH
106	TRIDAYA
107	RUTUS
108	PANCORDEWA
109	PELOLAT
110	TEMILING
111	KOKOK
112	PUNGKANG
113	PANDAN DURI
114	SUANGI
115	TUNDAK
116	PENENDEN
117	PELAMBIK
118	PARA
119	BELA REMONG
120	PENYONGGOK
121	BANGKA
122	BONGK LELET
123	JIMS
124	KANGKEL LEPANG
125	REBAN TALAT
126	SAKRA
127	RUNGKANG
128	SEKIR
129	ENDUT
130	SADAR
131	PONDOL
132	PERESAK SIBEN
133	LEBING
134	PERAKO
135	KUANG DEBEK
136	KUAN BEBORA
137	MONTONG TANCI
138	KONDAK

**KABU. SUMBAYA**

NO.	NAME
139	JOWET
140	REBAN WARU
141	SURABAYA REPAK
142	RURUNG
143	LADON
144	TOJANG
145	KERUAK
146	RUGAH
147	AIK ANYAR
148	BEREMBUN
149	PANCOR BARONG
150	SEMBA
151	DASAM LEKONG
152	SANGKON
153	REBAN TERU
154	JENJEK
155	BELBONG
156	DENGGEN
157	LEDANG
158	PANCOR MANIS
159	Bagik Lemagik
160	KUANG NANGET
161	ESOT
162	PENDE I
163	PENDE II
164	Damar jenglang
165	JANTUK
166	PENGADANOAN
167	TEMPASAN
168	PENGODA SELA
169	TEBARAN
170	PAOK PONDONG
171	BAGIK TUNGAKA
172	PRETUNG
173	REBAN BELU
174	Bata Malang
175	As Malang
176	ORONG ATAS
177	PELEBENG
178	UDRALIT

**DOMPU**

NO.	NAME
181	ANJANI
182	KERONGKONG
183	GAPUK
184	MELONG
185	MAMBEN
186	KUKUSAN
187	RENGA
188	Pak Dugla
189	BERIDAS
190	Lokak Bui
191	Semalung
192	SENANG
193	WD. Kumbur
194	KONGGEN
195	LEMOR
196	KULUR
197	AIK LOMAK
198	KEDATUK
199	SAMBELIA
200	BELANTING
201	Lending Tinggi
202	Lending Gaur
203	Timba Galing
204	Dul:abel

**BIMA**

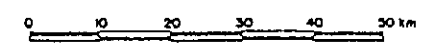
NO.	NAME
205	AIK PUTIK
206	TARUSAN
207	Bontogin Sita
208	Tara Maja
209	TARUSA I
210	MARENTER
211	Petunggana
212	LEKONG
213	Timu Bala
214	Timu Kawa
215	Raban Bata
216	Kalimantong I
217	Kalimantong II
218	Elang Dana
219	PLAMPAO
220	AJI
221	M O Y O
222	PONGAL
223	PUNGKIT
224	M A M A K
225	KWANG RAKO
226	PEMASAR
227	MARONGE
228	BRANO KOLONG
229	EMBUNG MUAER
230	EMBUNG SELANTEL
231	SEJARI
232	U S A R
233	P A R I A
234	SEMANGI
235	PUNGKA

**DOMPU**

NO.	NAME
236	K A T U A
237	BAHALAYU
238	SAKOLO
239	L A J U
240	B A K A
241	NAB KEMPO
242	PATULA
243	KADDI
244	SANGGOPA
245	LAR RANGGO
246	DAHALI I

**BIMA**

NO.	NAME
247	SAMBANA
248	RORA KECL
249	MADA PANGGA
250	MORU RADE
251	L E B O
252	NCANGKAI
253	N C O H A
254	NDANG RANGGA
255	DWU TANGRI
256	OHKAWA
257	BONTOKAPE
258	SORI MONCA
259	TALOKO
260	PELA CEMPAKA
261	SIE
262	PARADO
263	KALATE
264	TONGGONDOA
265	L E K A
266	KARAU NYONGGU
267	EMBUNG ROI
268	RUNTU
269	NUNGA
270	S A L O
271	SATAMPA
272	D A D I
273	KENCINTOMO
274	SANGGA
275	NGGANG RANGGA
276	RABA FONDA
277	D O D U
278	NAB WERA
279	S A R I
280	S A P B
281	W U W U
282	S U M I
283	SAMBU
284	DWUSADUNDU



**LEGEND**

	WEIR	●	EMBUNG/DAM	▼
TECHNIC		●		▼
SEMI TECH		○		▼
NON TECH		○		▼

DIRECTORATE GENERAL OF  
WATER RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS

The Embung Development Project in  
East Nusa Tenggara and West Nusa Tenggara

No.	Area

JAPAN INTERNATIONAL COOPERATION AGENCY

Figure 4.1 Location of Main Existing Irrigation Projects in West Nusa Tenggara (NTB)





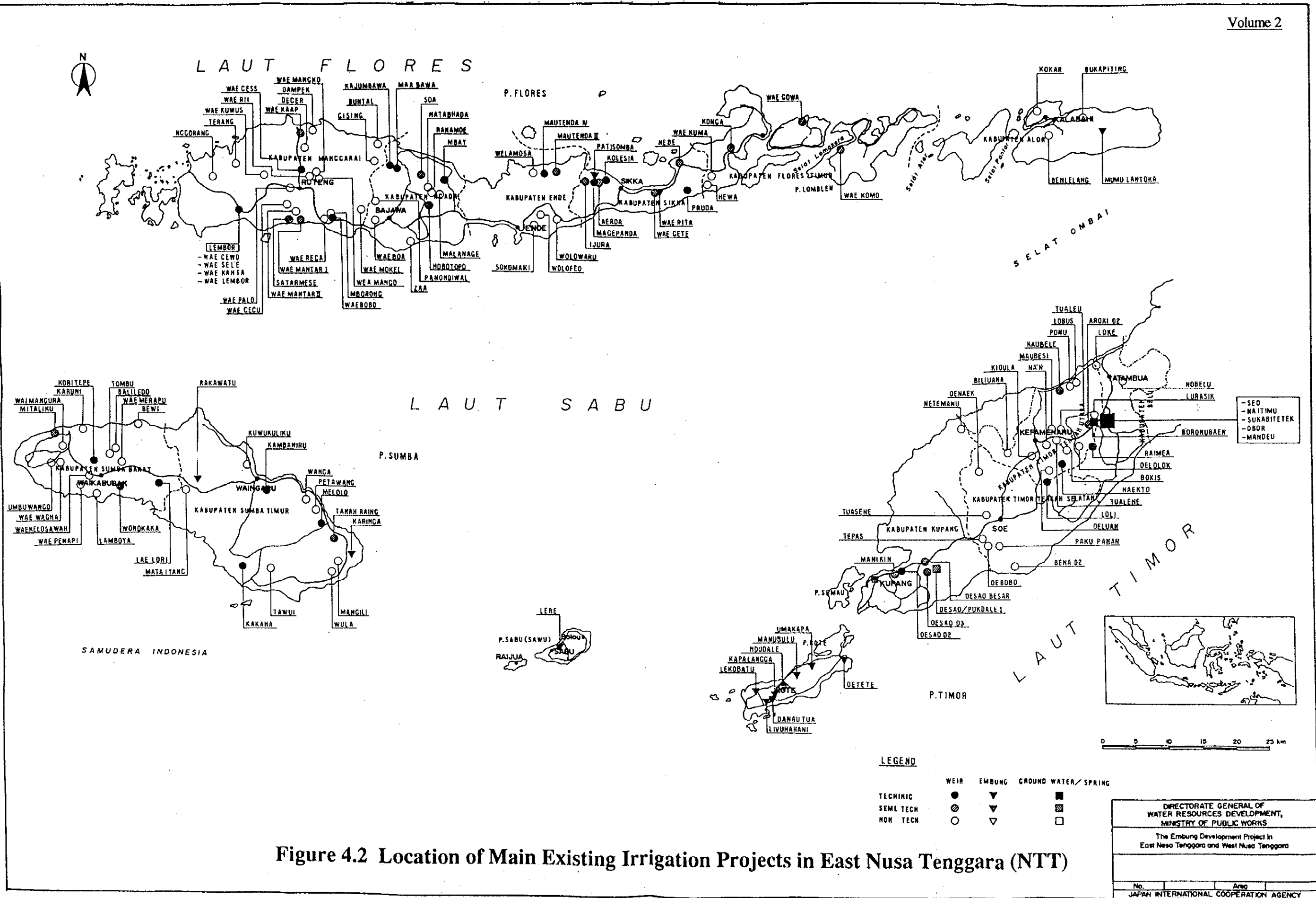
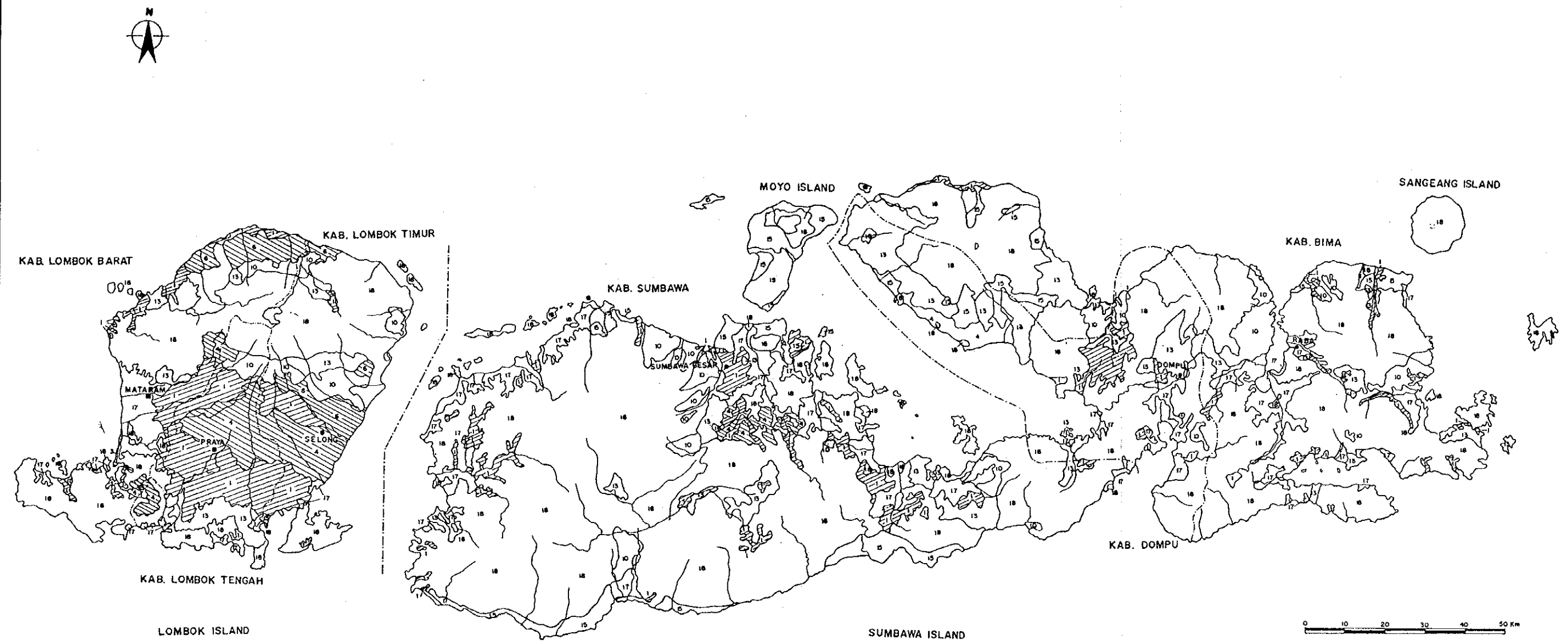


Figure 4.2 Location of Main Existing Irrigation Projects in East Nusa Tenggara (NTT)









**LEGEND**

Map Legend	Land Suitability for the Land Use Type			
	Wetland Agriculture	Dryland Agriculture	Pasture/Livestock	Agro forestry
1	S	S	S	S
2	S	S	N	S
3	\$	S	S	S
4	\$	\$	S	S
5	\$	\$	\$	N
6	\$	N	S	S
7	N	S	S	S
8	N	S	S	N
9	N	S	N	N
10	N	\$	S	S
11	N	\$	S	N
12	N	\$	\$	S
13	N	N	S	S
14	N	N	S	N
15	N	N	\$	S
16	N	N	\$	N
17	N	N	N	S
18	N	N	N	N

S: Suitable  
 \$: Conditionally Suitable  
 N: Not Suitable

Figure 4.3 Land Suitability Map (Lombok and Sumbawa)

DIRECTORATE GENERAL OF  
 WATER RESOURCES DEVELOPMENT,  
 MINISTRY OF PUBLIC WORKS

The Embung Development Project in  
 East Nusa Tenggara and West Nusa Tenggara

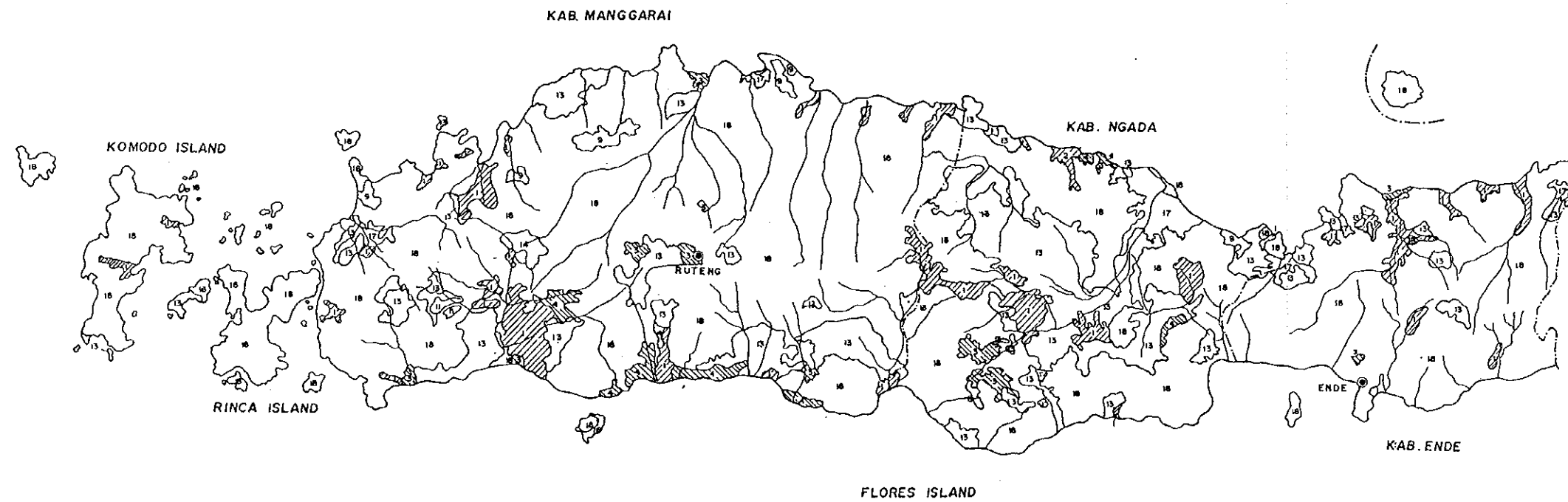
**LAND SUITABILITY**

No.	Area
-----	------

JAPAN INTERNATIONAL COOPERATION AGENCY







LEGEND

Map Legend	Land Suitability for the Land Use Type			
	Wetland Agriculture	Dryland Agriculture	Pasture/Livestock	Agro-forestry
1	S	S	S	S
2	S	S	N	S
3	\$	S	S	S
4	\$	\$	S	S
5	\$	\$	\$	N
6	\$	N	S	S
7	N	S	S	S
8	N	S	S	N
9	N	S	N	N
10	N	\$	S	S
11	N	\$	S	N
12	N	\$	\$	S
13	N	N	S	S
14	N	N	S	N
15	N	N	\$	S
16	N	N	\$	N
17	N	N	N	S
18	N	N	N	N

S: Suitable  
 \$: Conditionally Suitable  
 N: Not Suitable



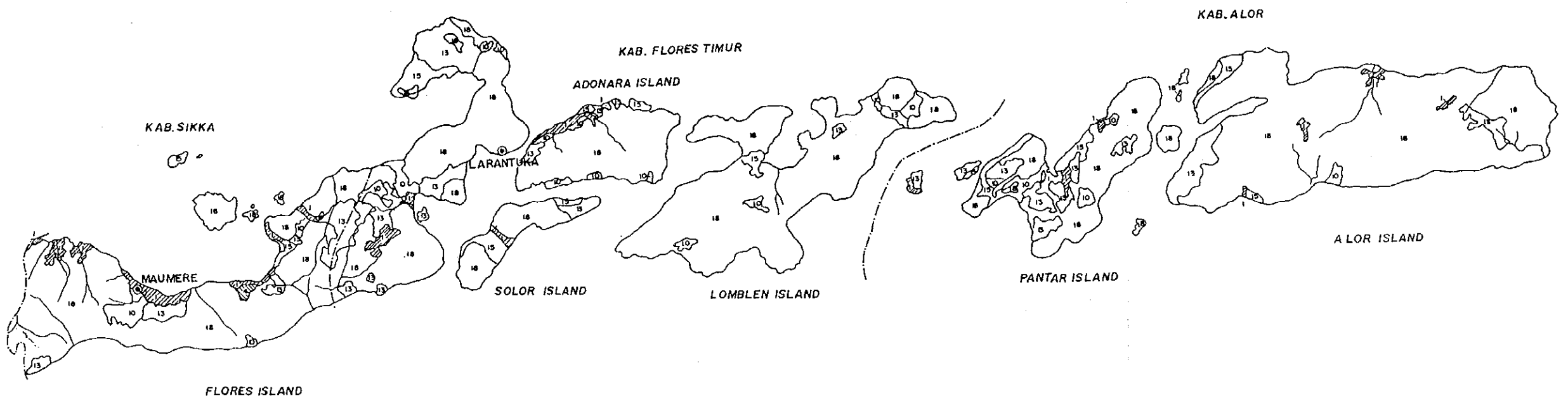
Figure 4.4 Land Suitability Map (West Flores)

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT MINISTRY OF PUBLIC WORKS		
The Embung Development Project in East Nusa Tenggara and West Nusa Tenggara		
LAND SUITABILITY		
No.	Area	West Flores
JAPAN INTERNATIONAL COOPERATION AGENCY		









**LEGEND**  
Land Suitability for the Land Use Type

Map Legend	Wetland Agriculture	Dryland Agriculture	Pasture/Livestock	Agro-forestry
1	S	S	S	S
2	\$	S	N	S
3	\$	S	S	S
4	\$	\$	S	S
5	\$	\$	\$	N
6	\$	N	S	S
7	N	S	S	S
8	N	S	S	N
9	N	S	N	N
10	N	\$	S	S
11	N	\$	S	N
12	N	\$	\$	S
13	N	N	S	S
14	N	N	S	N
15	N	N	\$	S
16	N	N	\$	N
17	N	N	N	S
18	N	N	N	N

S: Suitable  
\$: Conditionally Suitable  
N: Not Suitable

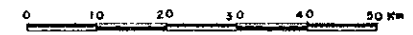


Figure 4.5 Land Suitability Map (East Flores)

DIRECTORATE GENERAL OF  
WATER RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS

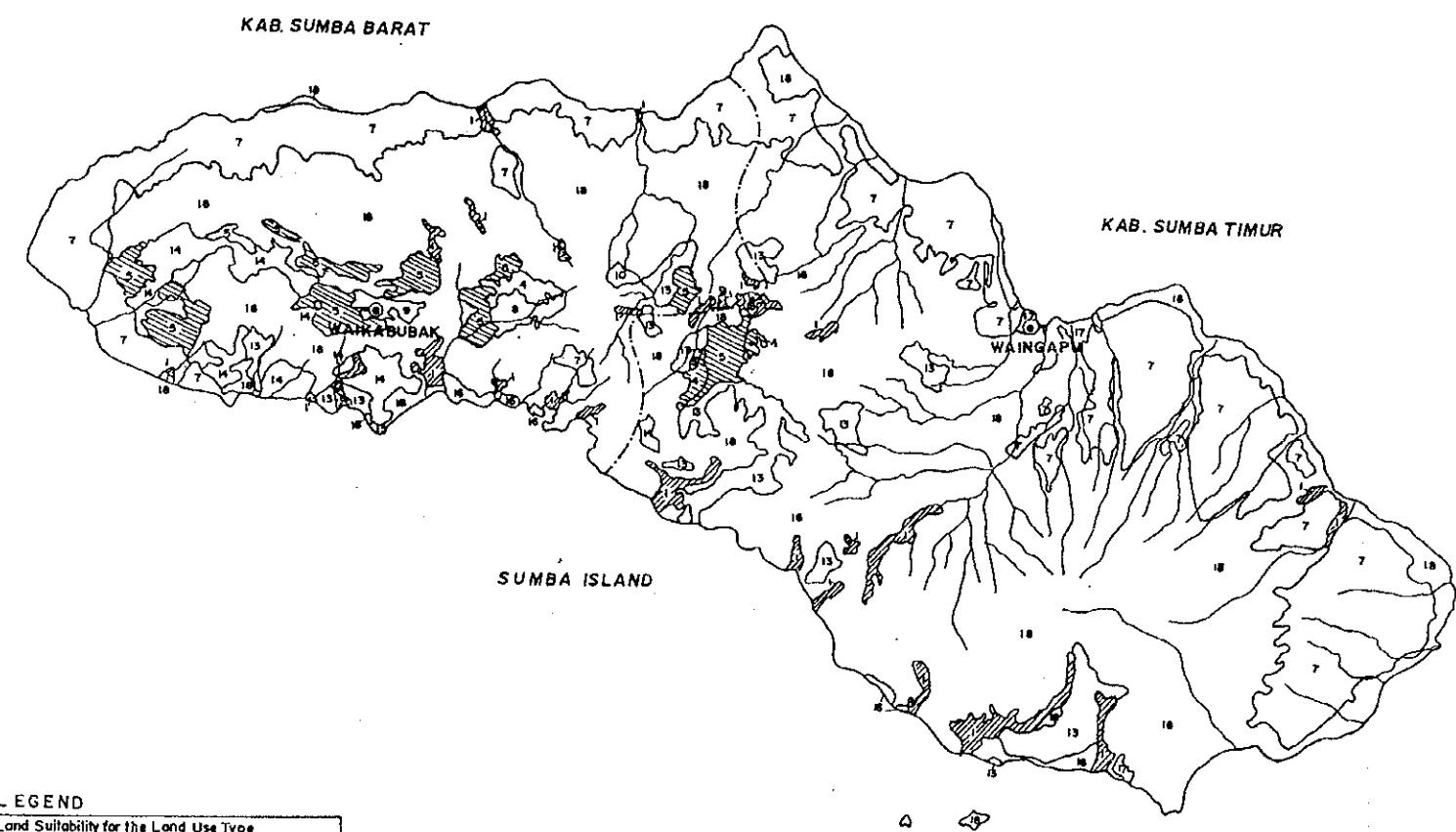
The Embung Development Project in  
East Nusa Tenggara and West Nusa Tenggara

**LAND SUITABILITY**

No.	Area	West Flores
JAPAN INTERNATIONAL COOPERATION AGENCY		







**LEGEND**  
Land Suitability for the Land Use Type

Map Legend	Wetland Agriculture	Dryland Agriculture	Pasture/Livestock	Agro-forestry
1	S	S	S	S
2	S	S	N	S
3	\$	S	S	S
4	\$	\$	S	S
5	\$	\$	\$	N
6	\$	N	S	S
7	N	S	S	S
8	N	S	S	N
9	N	S	N	N
10	N	\$	S	S
11	N	\$	S	N
12	N	\$	\$	S
13	N	N	S	S
14	N	N	S	N
15	N	N	\$	S
16	N	N	\$	N
17	N	N	N	S
18	N	N	N	N

S: Suitable  
 \$: Conditionally Suitable  
 N: Not Suitable



Figure 4.6 Land Suitability Map (Sumba)

DIRECTORATE GENERAL OF  
 WATER RESOURCES DEVELOPMENT,  
 MINISTRY OF PUBLIC WORKS

The Embung Development Project in  
 East Nusa Tenggara and West Nusa Tenggara

**LAND SUITABILITY**

No.	Area	Sumba
JAPAN INTERNATIONAL COOPERATION AGENCY		







LEGEND

Map Legend	Land Suitability for the Land Use Type			
	Wetland Agriculture	Dryland Agriculture	Pasture/Livestock	Agro forestry
1	S	S	S	S
2	S	S	N	S
3	S	S	S	S
4	S	S	S	S
5	S	S	S	N
6	S	N	S	S
7	N	S	S	S
8	N	S	S	N
9	N	S	N	N
10	N	S	S	S
11	N	S	S	N
12	N	S	S	S
13	N	N	S	S
14	N	N	S	N
15	N	N	S	S
16	N	N	S	N
17	N	N	N	S
18	N	N	N	N

S: Suitable  
 S: Conditionally Suitable  
 N: Not Suitable

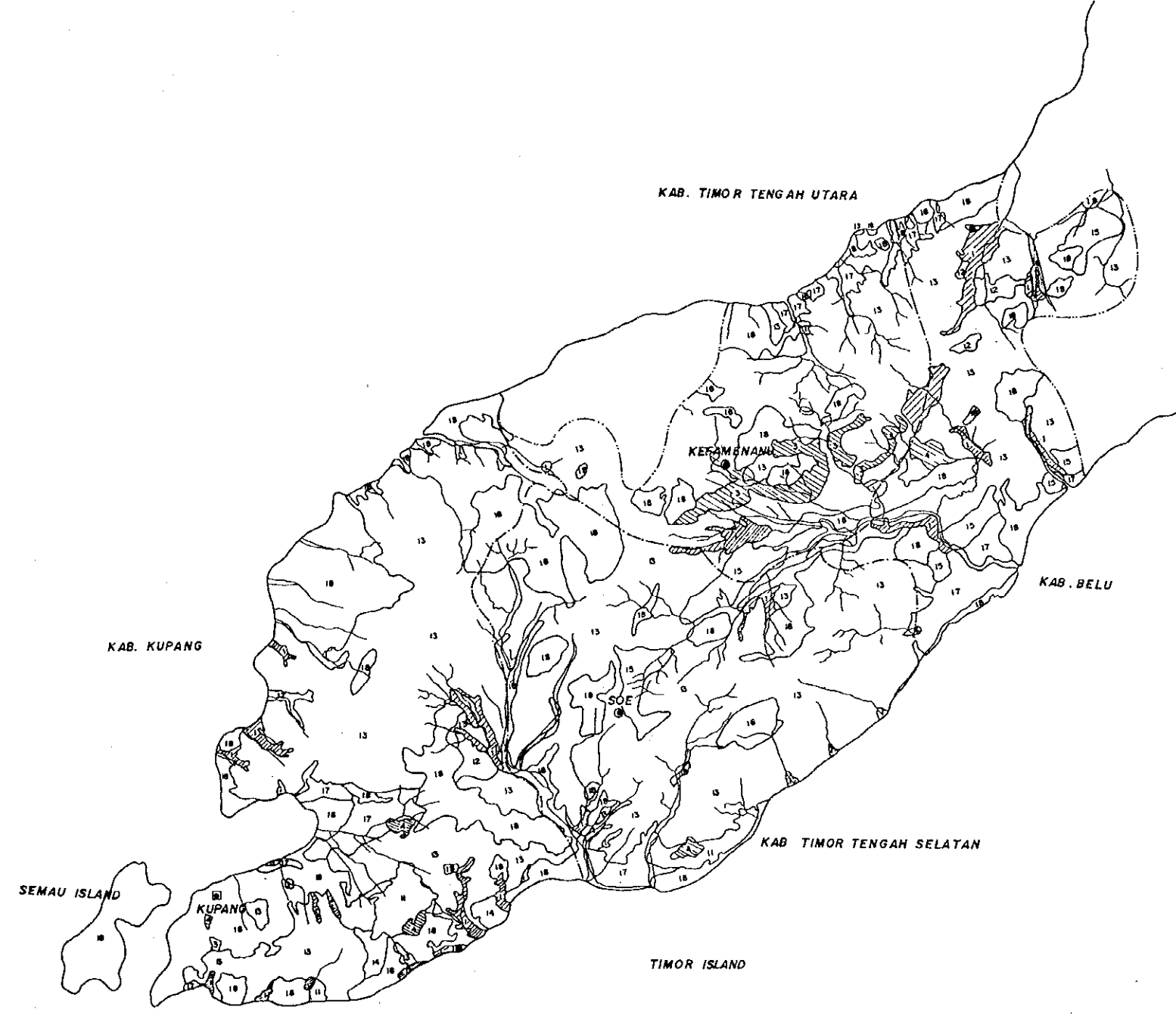
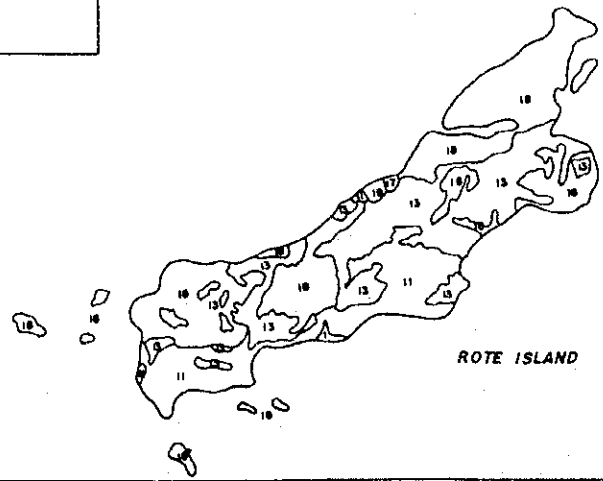
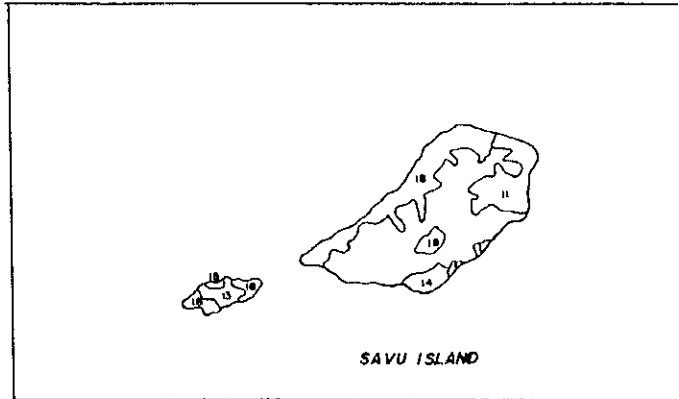


Figure 4.7 Land Suitable Map (West Timor)

DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT MINISTRY OF PUBLICWORKS		
The Embung Development Project in East Nusa Tenggara and West Nusa Tenggara		
LAND SUITABILITY		
No.	Area	West Timor
JAPAN INTERNATIONAL COOPERATION AGENCY		









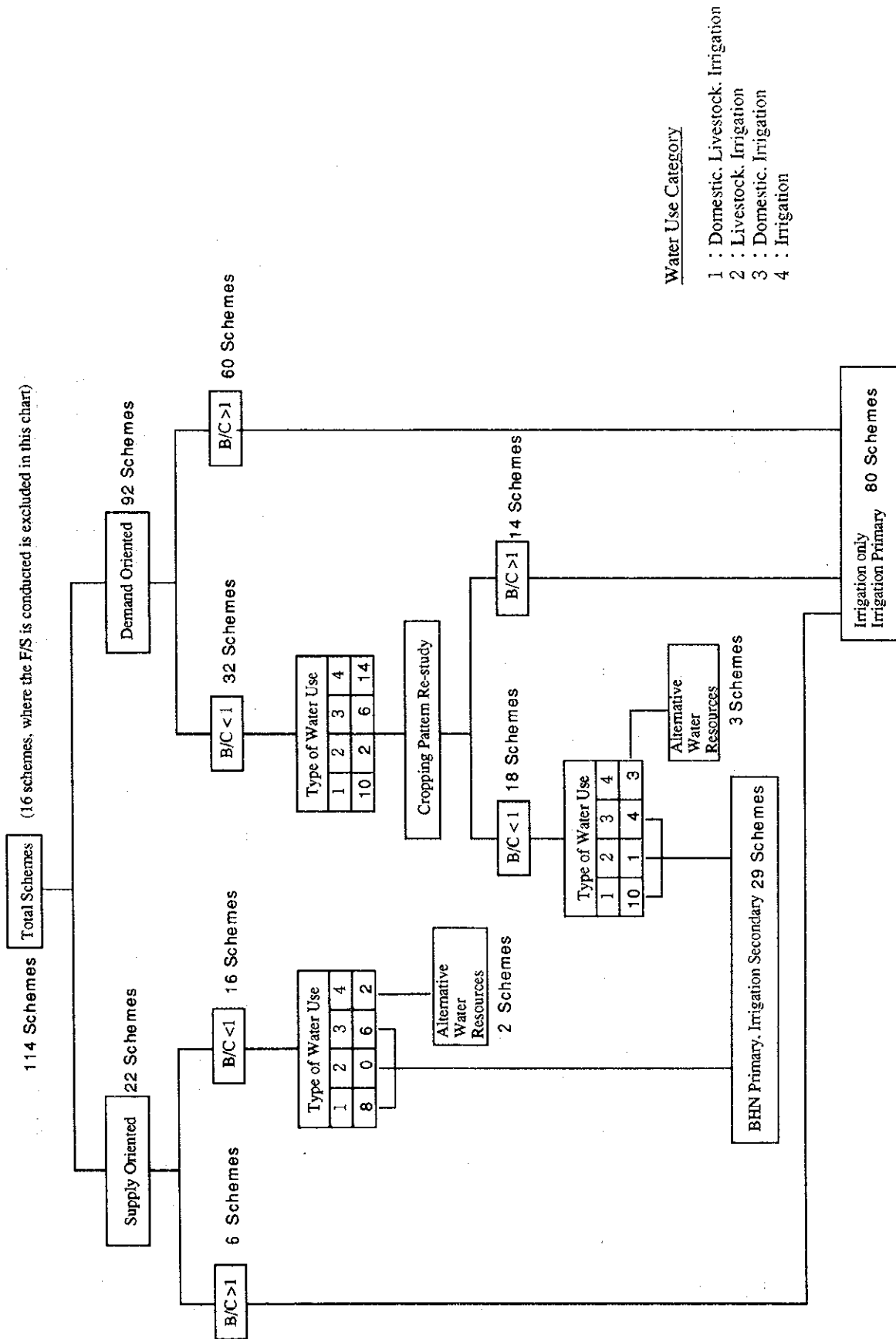


Figure 5.1 Assessment Results of Embung Development Potential

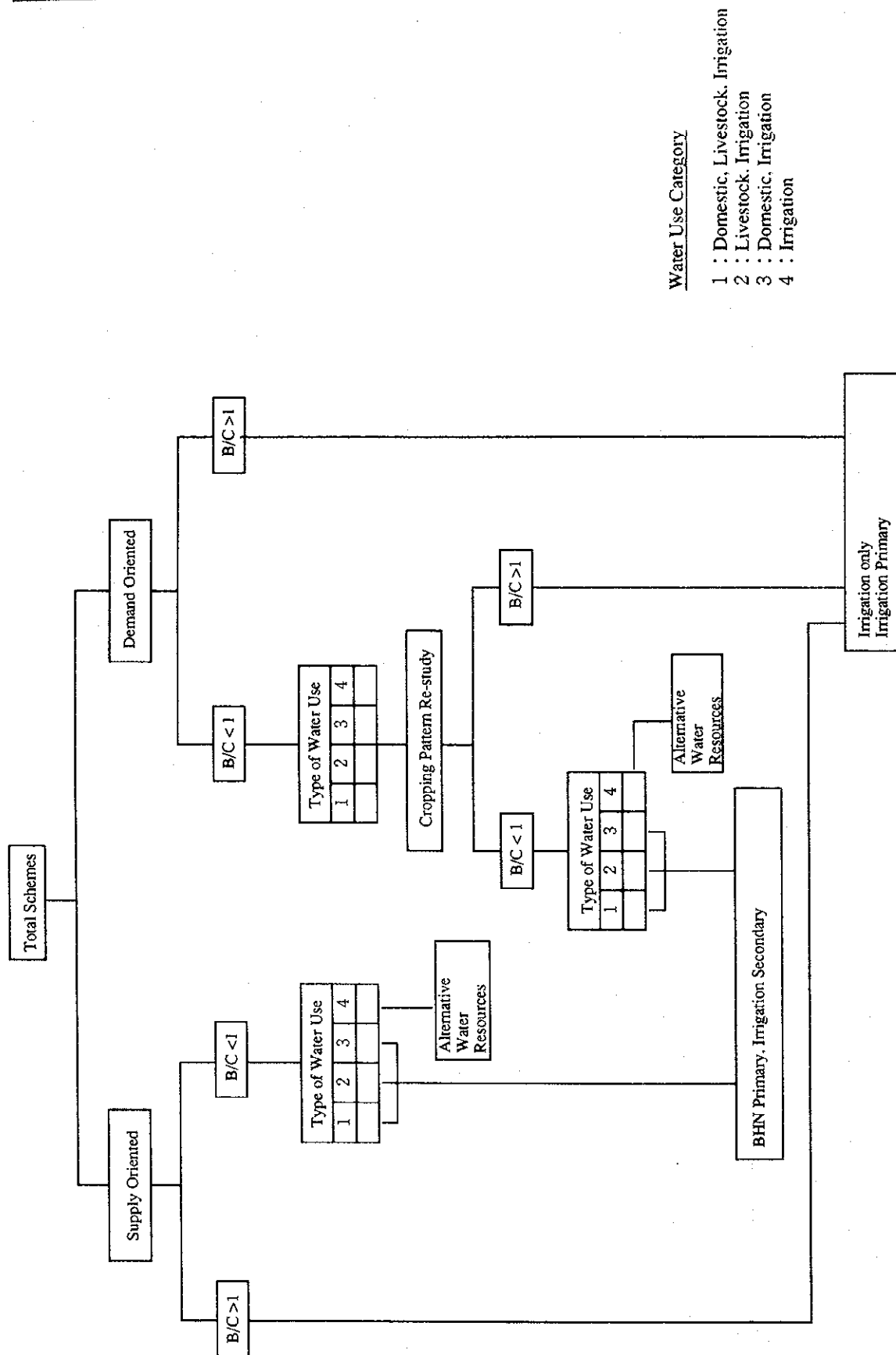
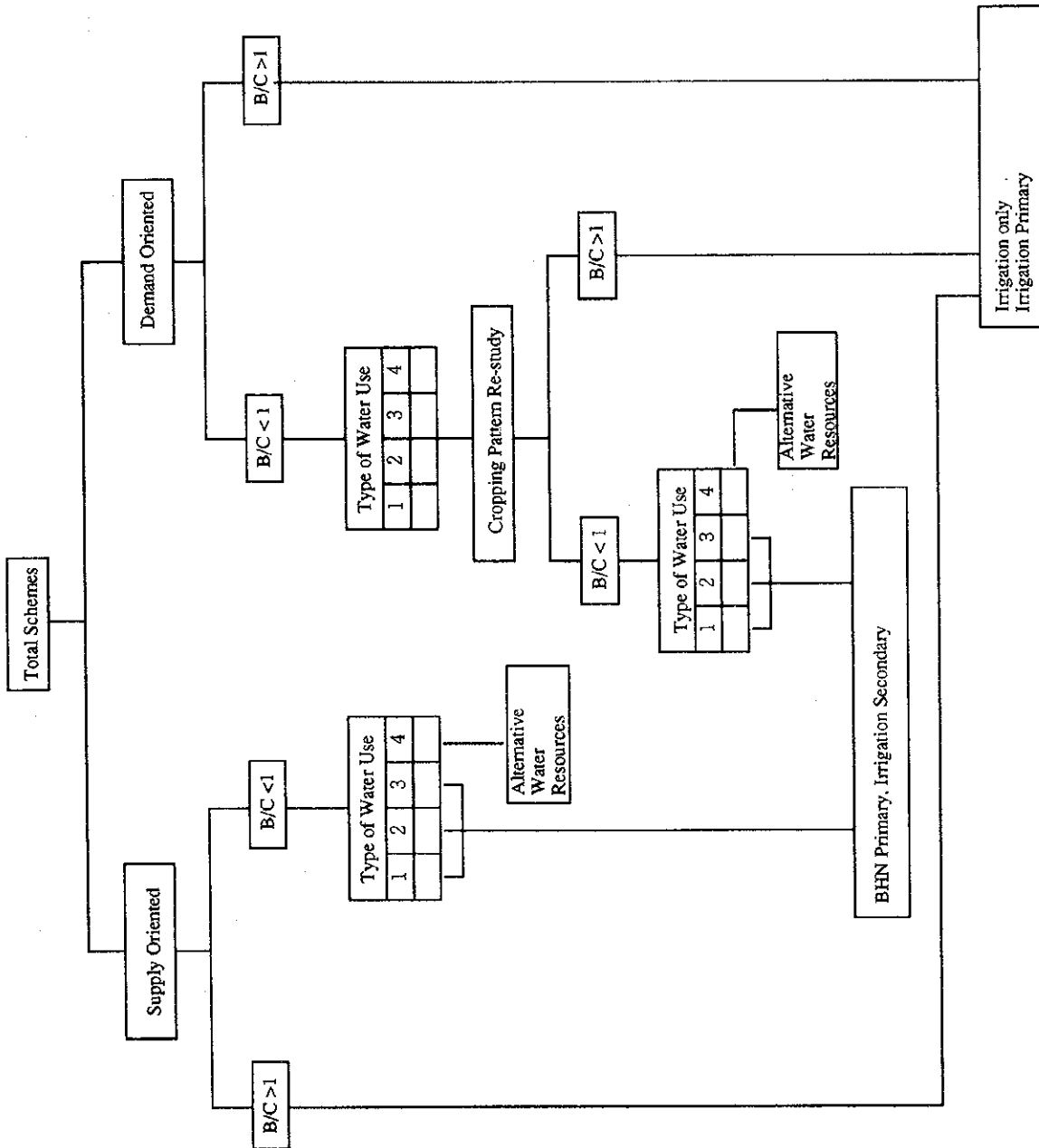


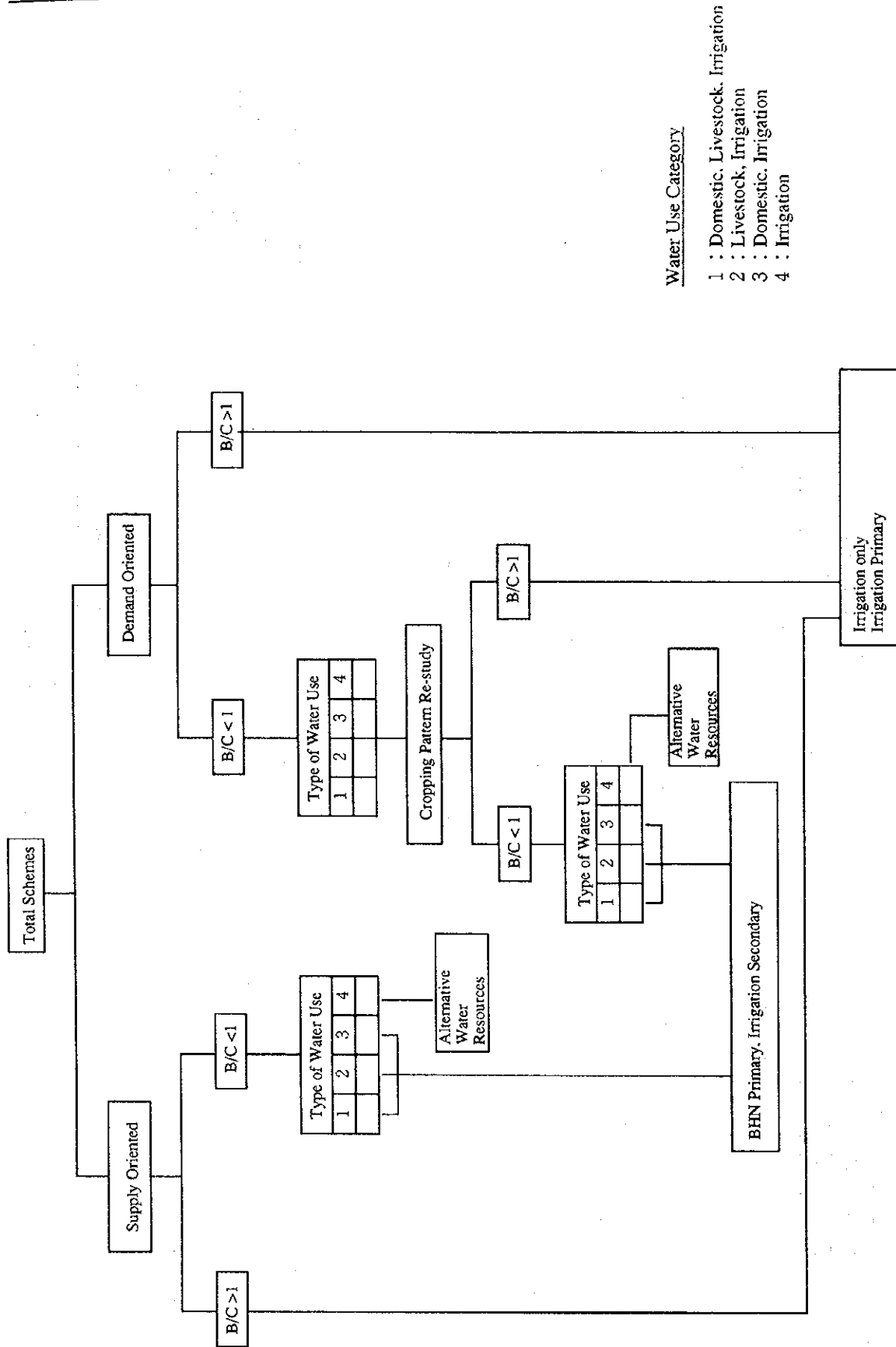
Figure 5.2 Assessment Results of Embung Development Potential (Lombok)



Water Use Category

- 1 : Domestic, Livestock, Irrigation
- 2 : Livestock, Irrigation
- 3 : Domestic, Irrigation
- 4 : Irrigation

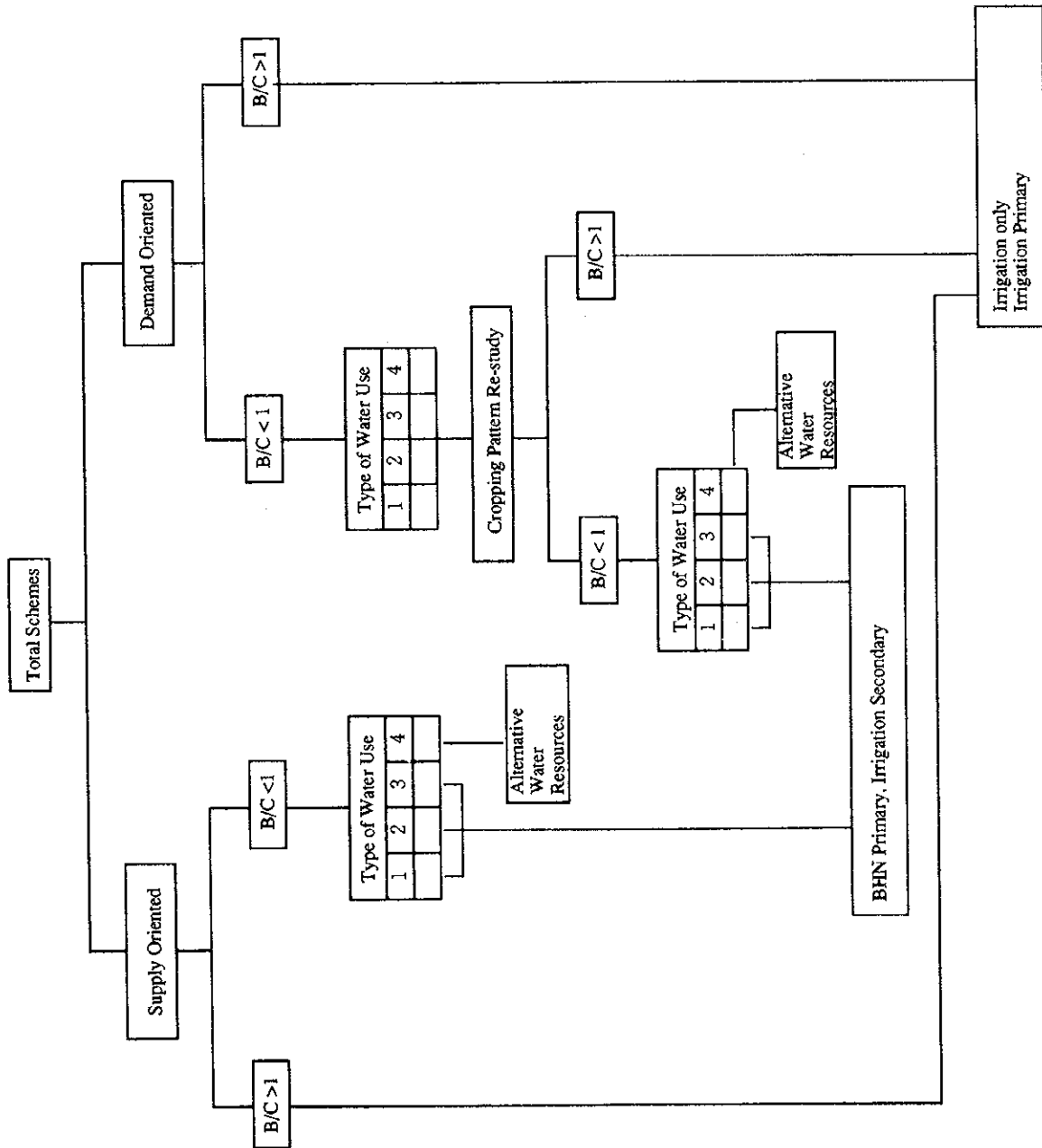
Figure 5.3 Assessment Results of Embung Development Potential (Sumbawa)



Water Use Category

- 1 : Domestic, Livestock, Irrigation
- 2 : Livestock, Irrigation
- 3 : Domestic, Irrigation
- 4 : Irrigation

Figure 5.4 Assessment Results of Embung Development Potential (Sumba and Flores)



Water Use Category

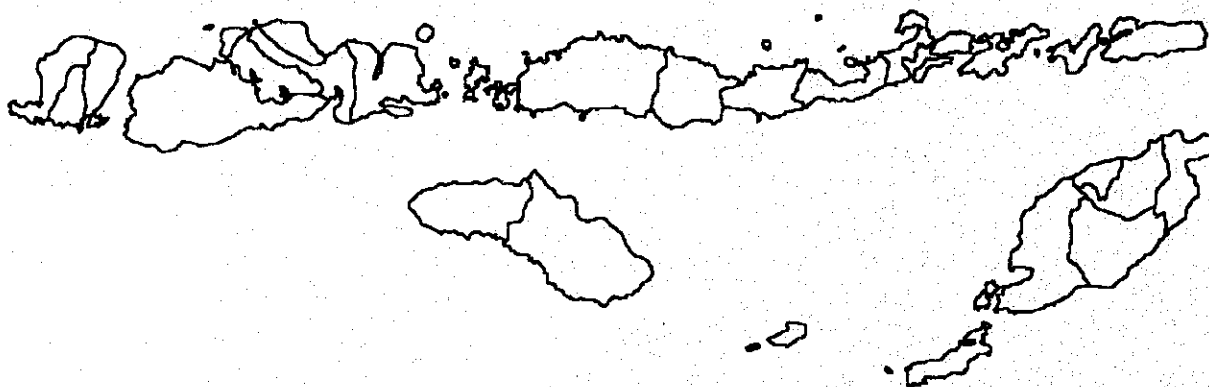
- 1 : Domestic, Livestock, Irrigation
- 2 : Livestock, Irrigation
- 3 : Domestic, Irrigation
- 4 : Irrigation

Figure 5.5 Assessment Results of Embung Development Potential (Timor)

***The Study on The Embung Development Project  
in East Nusa Tenggara and West Nusa Tenggara***

***Master Plan Report***

***Appendixes***

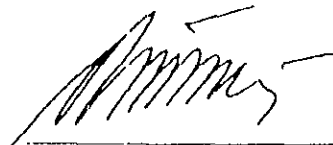


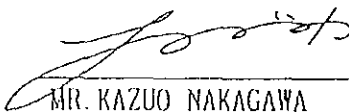


SCOPE OF WORK  
FOR  
THE STUDY  
ON  
THE EMBUNG DEVELOPMENT PROJECT  
( SMALL SCALE IMPOUNDING POND DEVELOPMENT PROJECT )  
IN  
EAST NUSA TENGGARA AND WEST NUSA TENGGARA  
IN  
THE REPUBLIC OF INDONESIA

AGREED UPON BETWEEN  
MINISTRY OF PUBLIC WORKS  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

JAKARTA, 15 OCTOBER, 1993

  
\_\_\_\_\_  
MR. DJOKO S. SARDJONO  
DIRECTOR OF PLANNING AND  
PROGRAMMING  
DIRECTORATE GENERAL OF WATER  
RESOURCES DEVELOPMENT  
MINISTRY OF PUBLIC WORKS  
THE REPUBLIC OF INDONESIA

  
\_\_\_\_\_  
MR. KAZUO NAKAGAWA  
LEADER  
PREPARATORY STUDY TEAM  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

## I. Introduction

In response to the request of the Government of the Republic of Indonesia (hereinafter referred to as "the Government of Indonesia"), the Government of Japan has decided to conduct the Study on the Embung Development Project in East Nusa Tenggara and West Nusa Tenggara (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of the Government of Indonesia.

The present document sets forth the scope of work with regard to the Study.

## II. Objectives of the Study

The objectives of the Study are:

1. To prepare a Master Plan in order to formulate a development plan on existing and potential Embung Development Projects in the Study Area.
2. To conduct a feasibility study for the priority Embung Development Projects which selected by the Master Plan.
3. To carry out technology transfer to the Indonesian counterpart personnel in the course of the Study.

## III. Study Area

The Study Area covers East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB).

#### IV. Scope of the Study

In order to achieve the above objectives, the Study will consist of two(2) phases and the following items.

##### 1. Phase I

- 1.1. To collect and review the relevant existing data and information on the following items:
  - (1) natural condition, (Meteorology, Hydrology, Geology, Topography, Soils, etc.)
  - (2) social and economical condition,
  - (3) land and water resources and usages,
  - (4) irrigation and drainage
  - (5) agriculture, livestock and inland fisheries,
  - (6) agroecology and regional economy
  - (7) agricultural infrastructures,
  - (8) farmers' organizations and farmers supporting systems,
  - (9) environmental aspects.
- 1.2. To review the existing development plans and projects in the Study Area.
- 1.3. To make preparatory works for the inventory survey such as establishment of criteria for the selection of priority areas to be covered in the Study, determination of items to be surveyed and investigated, preparation of forms for data collection etc.
- 1.4. To conduct an inventory survey for preparing the inventory list of Embung Development Projects.
- 1.5. To carry out the field survey on the following items;  
(Topography, Hydrology, Geology, Soil, Agriculture Agroecology, Irrigation and Drainage, Environment, Water demand and usage etc.)
- 1.6. To analyse the result of data collection and investigation.
- 1.7. To prepare appropriate guideline to select the priority among the Embung Development Projects.
- 1.8. To prepare a Master Plan on the Embung Development Projects in the Study area.
- 1.9. To select the priority projects for the feasibility study in Phase II.

Volume 2

1.10. To examine the detailed feasibility on the urgent projects among the selected projects.

2. Phase II

The Phase II study shall be carried out on the priority projects selected in Phase I study for the purpose of making model plans to other Embung Development Projects.

- 2.1. To collect the data and information in the selected project areas through additional field surveys.
- 2.2. To identify the existing problems and constraints against productive agriculture.
- 2.3. To formulate an optimum development plan based on alternative study including:
  - i) Water resources development plan
  - ii) Agricultural and rural development plan
  - iii) Irrigation and drainage plan, etc.
- 2.4. To prepare an environmental conservation plan.
- 2.5. To prepare a preliminary design of the main facilities.
- 2.6. To prepare an operation and maintenance plan of the facilities.
- 2.7. To prepare a project implementation plan.
- 2.8. To estimate a project costs and benefits.
- 2.9. To evaluate projects.
- 2.10. To make recommendation.

V. Study Schedule

The Study will be carried out in accordance with the tentative schedule attached in Annex.

- (4) to exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study, if necessary;
  - (5) to provide necessary facilities to the Japanese study team for the remittance as well as the utilization of the funds introduced into the Republic of Indonesia from Japan in connection with the implementation of the Study, if necessary;
  - (6) to secure permission for entry into private properties or restricted areas for the implementation of the Study;
  - (7) to secure permission for the Japanese study team to take all data and documents related to the Study out of the Republic of Indonesia to Japan by the Japanese study team; and
  - (8) to provide medical services as needed. Its expenses will be chargeable on the members of the Japanese study team.
2. The Government shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Japanese study team.
  3. Directorate General of Water Resources Development, Ministry of Public Works (herein after referred to as DGWRD) shall act as a counterpart agency to the Japanese study team and also as coordinating body in relation to other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

VI. Report

JICA will prepare and submit the following reports in English to the Government of Indonesia.

1. Inception Report  
Twenty (20) copies at the commencement of the Study.
2. Progress Report (1)  
Twenty (20) copies at the commencement of Phase I home office work.
3. Interim Report  
Twenty (20) copies at the commencement of the Phase II field work.
4. Progress Report (2)  
Twenty (20) copies at the end of the Phase II field work.
5. Draft Final Report  
Twenty (20) copies at the end of the Phase II home office work. the Government of Indonesia will provide its comments on the Draft Final Report to JICA within one (1) month after receiving the Draft Final Report.
6. Final Report  
Fifty (50) copies within two (2) months after the receipt at the comments on the Draft Final Report.

VII. Undertakings of the Government of Indonesia:

1. To facilitate smooth conduct of the Study, the Government shall take necessary measures:
  - (1) to secure the safety of the Japanese study team;
  - (2) to permit the members of the Japanese study team to enter, leave and sojourn in the Republic of Indonesia for the duration of their assignment therein, and exempt them from visa fees;
  - (3) to exempt the members of the Japanese study team from taxes, duties, fees and any other charges on equipment, machinery and other materials to be brought into and out of the Republic of Indonesia for the conduct of the Study;

4. DGWRD shall, at its own expense, to provide the Japanese study team with the following, in cooperation with other organizations concerned;

- (1) available data and information related to the Study;
- (2) additional survey related to the study, if necessary,
- (3) counterpart personnel;
- (4) suitable office space with necessary equipment and furniture; and
- (5) credentials or identification cards.

#### VIII. Undertakings of JICA

For the implementation of the Study, JICA shall take the following measures:

- (1) to dispatch, at its own expense, the study team to the Republic of Indonesia,
- (2) to pursue technology transfer to the counterpart personnel of the Government of Indonesia in the course of the Study.

#### IX. Consultation

JICA and the Government of Republic of Indonesia shall consult with each other in respect of any matter that may arise from or in connection with the Study.

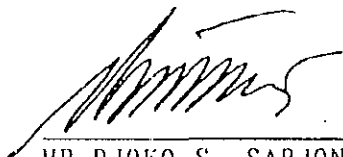





MINUTES OF MEETING  
FOR  
SCOPE OF WORK  
FOR  
THE STUDY  
ON  
THE EMBUNG DEVELOPMENT PROJECT  
(SMALL SCALE IMPOUNDING POND DEVELOPMENT PROJECT )  
IN  
EAST NUSA TENGGARA AND WEST NUSA TENGGARA  
IN  
THE REPUBLIC OF INDONESIA

AGREED UPON BETWEEN  
MINISTRY OF PUBLIC WORKS  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

JAKARTA, 15, OCTOBER, 1993

  
\_\_\_\_\_  
MR. DJOKO S. SARJONO  
DIRECTOR OF PLANNING AND  
PROGRAMMING  
DIRECTORATE GENERAL OF WATER  
RESOURCES DEVELOPMENT  
THE REPUBLIC OF INDONESIA

  
\_\_\_\_\_  
MR. KAZUO NAKAGAWA  
LEADER  
PREPARATORY STUDY TEAM  
JAPAN INTERNATIONAL  
COOPERATION AGENCY

Volume 2

In response to the request of the Government of the Republic of Indonesia, the Government of Japan decided to dispatch through Japan International Cooperation Agency (hereinafter referred to as "JICA"), which is responsible for the implementation of technical cooperation programmes of the Government of Japan, the preparatory study team (hereinafter referred to as "the Team"), headed by Mr. Kazuo NAKAGAWA, to the Republic of Indonesia from October 3rd to 16th, 1993 so as to discuss and exchange views on the study with the Directorate General of Water Resources Development, Ministry of Public Works (hereinafter referred to as DGWRD) and officials concerned of the Government of Indonesia for the implementation of the study.

DGWRD and the Team mutually agreed with the Scope of Work on the Study on the Embung Development Project in East Nusa Tenggara and West Nusa Tenggara (herein after referred to as "the Study").

The following minutes were prepared to confirm the main issues discussed and matters agreed upon by both sides in connection.

1. DGWRD shall carry out the Environmental Impact Assessment according to the Indonesian laws and regulations. The Japanese study team shall provide DGWRD with basic data and information on environmental issues in the course of the Study.
2. The Team requested DGWRD to assign the qualified and necessary number of counterpart experts for the Study at its own expenses and DGWRD accepted its request.
3. Based on the request made by the Team, DGWRD promised to provide the suitable two offices, each in Mataram and in Kupang, with necessary office equipments such as desks, chairs, telephone, and so on. In Jakarta, meeting room shall be provided if necessary.
4. Concerning with the technology transfer, DGWRD strongly requested JICA to accept counterpart training in Japan.
5. DGWRD requested the following equipments for the implementation of the Study and the Team promised to convey the request to the Government of Japan.
  - (1) Four wheel drive vehicles
  - (2) Survey equipments
  - (3) Computer systems
  - (4) Office equipments such as Fax machine etc.

6. DGWRD strongly requested JICA to make arrangement of transportation for the Study, because of the shortage of vehicles in the Study area. The Team promised to convey the request to the Government of Japan.
7. DGWRD strongly requested to the Team to consider that the detail feasibility study shall be carry out on the urgent projects in NTT as soon as the completion of Phase I field study, because of the urgent requirement of the Basic Human Needs. The Team promised to consider this request.
8. The Team suggested that the Steering Committee for the Project should be organized by the concerned Ministries and Agencies. DGWRD agreed with the idea and promised to organize the Committee.
9. DGWRD and the Team agreeded that the water distribution facilities should be included in the main facilities which mentioned in "IV. Scope of Work in S/W, 2.5. "

MINUTES OF CONSULTATIVE MEETING  
FOR  
THE INCEPTION REPORT  
ON  
THE STUDY  
FOR  
THE EMBUNG DEVELOPMENT PROJECT  
(SMALL SCALE IMPOUNDING POND DEVELOPMENT PROJECT)  
IN  
EAST NUSA TENGGARA AND WEST NUSA TENGGARA

In accordance with the Scope of Work for the captioned study (the Study) agreed upon between Japan International Cooperation Agency (JICA) and Directorate General of Water Resources Development (DGWRD) of the Ministry of Public Works, the JICA study team prepared and submitted the Inception Report on February 4, 1994 to the Directorate of Irrigation II (DOI-II) of the DGWRD.

The Consultative Meeting organized by DOI-II was held on February 7, 1994 at the meeting room in the office of DOI-II (7th floor) at 9:30 a.m. WIB with attendance of JICA advisory committee team (Mr.M.Mizuno, Leader, and Mr.K.Matsumoto, Coordinator). The other attendants of the meeting are as per attached.

The meeting was opened by Mr.M.Subianto, Chief of Sub.Dit.EP DOI-II, and chaired by IR.Soenarno MSC, C.T.Director of DOI-II. Upon the request by Mr.M.Subianto, Dr.Y.Kunihiro, Leader of the study team, after introducing team member, explained the contents of the Inception Report. The Inception Report was basically accepted by the Indonesian side.

The following are main items suggested and informed by the Indonesian side during the meeting.

1. Executing agency for the Study is DOI-II.
2. The transfer of technology to the Indonesian counterpart personnel should be carried out at the site by the study team during the period of study.
3. DGWRD basically agree that Steering Committee for the Project should be organized by the concerned Ministries and Agencies. However, the study team should not expect to be organized the committee immediately. The committee will be organized by DGWRD when it will be required in future stage. DGWRD will coordinate the other concerned Ministries and Agencies time to time as required during the period of study.

4. The Study should be carried out into deep considerations what the villagers in NTT and NTB needs. Needs of villagers should be fully reflected to the development of the Embung.
5. The Study should be executed considering what the villagers have to do after construction in the operation and maintenance of the Embung.
6. As Embung development for domestic use is mainly for the basic human needs of the villagers in the project area, therefore the economic consideration will not be the basic one.
7. The Embung for agricultural use should be developed not only for paddy but also for other crops.
8. DGWRD will prepare the A2-3 form as soon as possible for the training of counterpart personnel in Japan.
9. The study team with JICA advisory committee team will leave Jakarta to Kupang (NTT) accompanied by Mr.S.Soekirno, Chief of Design and Planning DOI-II, for a short field observation visit on February 8,1994.

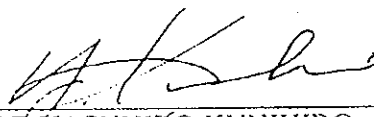
The meeting closed at 12:00 WIB.

SIGNED ON  
FEBRUARY 11 1994



IR.SOENARNO MSC


C.T.DIRECTOR OF IRRIGATION II,  
DIRECTORATE GENERAL OF  
WATER RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS



DR.YASUHIRO KUNIHIRO

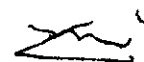
LEADER OF  
THE JICA STUDY TEAM

WITNESS



MR. MASAMI MIZUNO

LEADER OF JICA  
ADVISORY COMMITTEE TEAM



LIST OF ATTENDANTS

INDONESIAN SIDE

- |    |                 |   |
|----|-----------------|---|
| 1. | IR.SOENARNO MSC | DIRECTOR, DOI-I<br>C.T.DIRECTOR, DOI-II |
| 2. | M.SUBIANTO      | CHIEF OF SUB.DIT., EP, DOI-II           |
| 3. | S.SOEKIRNO      | CHIEF OF IRR.&PLANN., DOI-II            |
| 4. | SYAMSUDDIN M    | SUB.DIT. OM, DOI-II                     |
| 5. | SARWEDI         | ABLN, DOI-II                            |
| 6. | CHR NGAJIONO    | STAFF DIT., BPP                         |
| 7. | H.KUDO          | JICA EXPERT, DOI-II, PAT                |
| 8. | T.SAITO         | JICA EXPERT, PPD, BPP                   |

JAPANESE SIDE

- |    |             |  |
|----|-------------|--|
| 1. | M.MIZUNO    | LEADER, JICA ADVISORY<br>COMITTEE TEAM       |
| 2. | K.MATSUMOTO | COORDINATOR, JICA ADVISORY<br>COMMITTEE TEAM |
| 3. | Y.KUNIHIRO  | LEADER, JICA STUDY TEAM                      |
| 4. | K.NAITO     | CO-LEADER, JICA STUDY TEAM                   |
| 5. | T.IGAWA     | MEMBER, JICA STUDY TEAM                      |

First Coordinating Committee organized by the Directorate of Irrigation II, DGWRD on June 20, 1994 to explain and discuss the contents of the Progress Report (I)

MINUTES  
OF  
THE SECOND CONSULTATIVE MEETING  
IN  
JAKARTA  
FOR  
THE STUDY  
ON  
THE EMBUNG DEVELOPMENT PROJECT  
IN  
EAST NUSA TENGGARA AND WEST NUSA TENGGARA

The second consultative meeting in Jakarta for the captioned study (the Study) agreed upon between the Japan International Cooperation Agency (JICA) and the Directorate General of Water Resources Development (DGWRD) of the Ministry of Public Works was held on June 20, 1994 at the meeting room in the office of Directorate of Irrigation II, DGWRD.

The meeting was opened at 9:30 a.m. and chaired by Ir. Rapiali Zainuddin Dip. AIT on behalf of the Director of Directorate Irrigation II. Attendant list of the meeting is as per attached.

Mr. K. Nakagawa, the Leader of the JICA Advisory Team (the Mission), explained the purpose of the visit and expressed his appreciation to cooperation of the Indonesian side, NTB and NTT, to the Study.

Dr. Y. Kunihiro, the Team Leader of the JICA Study Team (the Team), highlighted the contents of the Progress Report (I), especially focusing upon the selection of urgent schemes for feasibility study to be conducted in the Phase I Stage 2 Study and priority schemes for the Phase II Study as well.

Mr. T. Tomita, Geologist of the Mission, reported some geological comments based on his surface reconnaissance at the urgent scheme sites.

Mr. A. Nakamura, Grant Aid Officer of the Mission, introduced the system of the Japan's Grant Aid Program in general and explained important points to which Indonesian side needs to pay special attention in details. Discussion results are recorded in separate Minutes of Discussion.

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The followings are the main items agreed, suggested and informed by the Indonesian side during the meeting and mutually understood by the Indonesian side and the JICA Study Team:

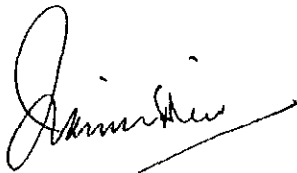
1. In due consideration of the natural circumstances in NTB and NTT, special attention will be paid to irrigation benefits from palawija crops other than paddy.
2. Taking into account insufficiency of data and information on the 157 candidate embung schemes in NTB and NTT selected for the Study, Indonesian side requested Japanese side to take necessary actions for immediate execution of restudy to make up for data prerequisite to assess embung development potential to full extent. The Mission agreed to convey this request to JICA Headquarters in Tokyo.
3. In the Phase II Study, feasibility study will be conducted for 10 priority schemes representing different types of embung and water use including preparation of planning guidelines and O&M manual.
4. Geological justification of the six urgent scheme sites as candidate for Japan's Grant Aid will be made by referring to the final results of the on-going geological investigation and analysis and the final conclusion will be presented in the Interim Report.
5. As soon as reorganization of DGWRD established, the responsible Directorate for the Study will be nominated.
6. According to the Minutes of Meeting on the Scope of Work (the S/W) for the Study signed in October 1993, the Mission confirmed the present position of organizing a steering committee at the central level. The Indonesian side will make its effort to establish a functional committee by organising relevant agencies after completion of the on-going reorganization of DGWRD.
7. In accordance with the above Minutes of Meeting on the S/W, JICA informed the schedule of counterpart training in Japan and asked the Indonesian side to take necessary actions with advice of the Study Team.



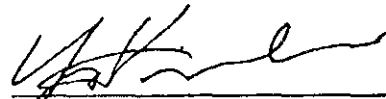
After confirmation of schedule of preparing and signing the Minutes of Discussion, the meeting was closed at 1:30 p.m. successfully with mutual understandings of the importance of the Embung Development Project.

Jakarta

June 21, 1994



Ir. Rapiali Zainuddin Dip. AIT  
On behalf of Director of  
Irrigation II  
Directorate General of  
Water Resources Development



Masuhiko KUNIHIRO  
Leader of  
JICA Study Team



Ir. Djoko S. Sardjono  
Director of  
Planning and Programming  
DGWRD



Kazuo NAKAGAWA  
Leader of  
JICA Advisory Mission

### List of Attendants

Date Monday, 20 June 1994  
Time 9:30 a.m.  
Place Meeting Room of Directorate Irigasi II  
Chairman Kasudit Perencanaan Teknis

No.	Nama	Jabatan
<b>Indonesian Side</b>		
1	S. Hadiwijono	Kasubdit. Administrasi Bantuan Luar Negeri, Dit. BPP
2	R. Zainuddin Dip. AIT	Kasubdit. Perencanaan Teknis, DOI II
3	Heru Marsudi	PU PENGAIRAN, Kepala Sub Dinas, NTT
4	Uki Basuki	PKSA Lombok, NTB
5	S. Soekirno	DOI II, Chief of Design & Planning Sec. II, DOI II
6	H. A. Oematan	PKSA Flores-Sumba, NTT
7	J.H. Manu Dima	PKSA Timor, NTT
8	D. Bantolo	BPP, Sub. Dit. ABLN, Dit. BPP
9	H. Kudo	JICA Expert, DOI II
10	T. Matsushima	JICA Expert, DOI II
<b>Japanese Side</b>		
1	K. Nakagawa	Leader, JICA Advisory Mission
2	T. Tomita	Geologist, JICA Advisory Mission
3	A. Nakamura	Grant Aid Officer, JICA Advisory Mission
4	K. Shishido	Asst. Resident Representative, JICA Indonesia Office
5	Y. Kunihiro	Leader, JICA Study Team
6	Y. Matsumoto	Project Economist, JICA Study Team

MINUTES OF CONSULTATIVE MEETING  
FOR  
THE INTERIM REPORT  
ON  
THE STUDY  
FOR  
THE EMBUNG DEVELOPMENT PROJECT  
(SMALL SCALE IMPOUNDING POND DEVELOPMENT PROJECT)  
IN  
EAST NUSA TENGGARA AND WEST NUSA TENGGARA

In accordance with the Scope of Work for the captioned study (the Study) agreed upon between Japan International Cooperation Agency (JICA) and Directorate General of Water Resources Development (DGWRD) of the Ministry of Public Works, the JICA study team prepared and submitted the Interim Report on September 22, 1994 to the Directorate of Technical Guidance of the DGWRD.

The Consultative Meeting organized by Directorate of Technical Guidance was held on September 28, 1994 at the meeting room (6th floor) in the office of DGWRD at 9:00 a.m. WIB with attendance of JICA Mission (Mr.M.Suemori, Leader, and Mr.K.Matsumoto, Coordinator). The other attendants of the meeting are as per attached.

The meeting was opened and chaired by Ir.R.Zainuddin, Chief of Subdit. of Irrigation, Directorate of Technical Guidance. Upon the request by Ir.R.Zainuddin, Dr.Y.Kunihiro, Leader of the Study team, explained the contents of the Interim Report. The Interim Report was basically accepted by the Indonesian side.

*The following are main items informed and agreed between the Indonesian side and the Japanese side during the meeting as for the Interim Report.*

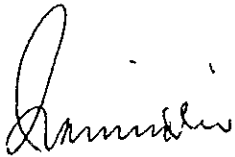
1. Due to the change of organization of DGWRD on July, 1994, the executing agency of the Study is changed to Directorate of Technical Guidance from DOI-II.
2. DGWRD will nominate one counterpart personal by the end of October, 1994, who will be trained during three weeks in Japan under the Study.
3. Steering Committee will be organized in the Central Government base at Jakarta to implement the Project smoothly.
4. It is supposed that the environmental and land acquisition problems will not be occurred during and after construction of the Embungs for the urgent schemes selected in the Study.

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5. As for the Tasiepah Embung selected in NTT for the urgent schemes, undertaking of additional feasibility study will be required in future stage as a Water Resources Development Project to make the maximum utilization of limited water resources in NTT. Possibility to construct a dam at Tasiepah to supply impounded water to the surrounding areas for irrigation and urban water use will be considered, since there are rather big water resource development potential at Tasiepah.
6. It is recommended that the necessary steps for the implementation for the other five Embungs in NTT selected as the urgent schemes in the Study will be immediately taken.

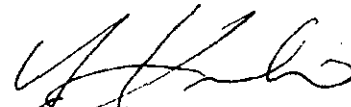
The meeting for the Interim Report as the first agenda closed at 11:00 WIB with mutually understandings for the Interim Report. Second agenda about the Japan Grant Aid for the urgent schemes was discussed after finishing the meeting for the Interim Report at the same meeting room, and the minutes for second agenda are prepared separately.

SIGNED ON  
SEPTEMBER 29 1994



IR. R. ZAINUDDIN DIP. AIT

CHIEF OF SUBDIT. OF IRRIGATION,  
DIRECTORATE OF TECHNICAL GUIDANCE,  
WATER RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS



DR. YASUHIKO KUNIHIRO

LEADER OF  
THE JICA STUDY TEAM

WITNESS



MR. MITSURU SUEMORI

LEADER OF  
JICA MISSION

**List of Attendants**

Date : September 28 (Wed)  
 Time : 09:00 to 11:00  
 Chairman : Ir. R. Zainuddin (Kasudit Bintek Irigasi)

Name	Occupation	Office
Ir. R. Zainuddin	Kasubdit Irigasi	Dit Bina Teknik
M. Tampubolon	Kas Irigasi Wilayah Timur	Dit Bina Teknik
Ir. Yoppy Manu Dima	Pimpro PKSA Timor	Subdinas Air NTT
M. Ismihan	Kasie III PU	Dit BPP
Darwin Lubis	Kasie Wilayah Barat	Dit Bina Teknik
Suwarsa	Mon. Eva	Dit Bina Teknik
Muryono	Staff Bangunan Besar	Dit Bina Teknik
Kusumo Respatyo	Kasi Timur Subdit BB	Dit Bina Teknik
B. Prihono	Kasi Irigasi Wilayah Tengah	Dit Bina Teknik
Hasan	Kasi Irigasi Wilayah Tengah	Dit Bina Teknik
Z. Sasongko	Desiminasi Sungai	Dit Bina Teknik
Widyawati	Kasi Analisapot S.D.A.	Dit. PPSDA
B. Gulton	Kasi Analisapot S.D.A.	Dit. PPSDA
K. Suryata	Kasi Dem	Dit Bina Teknik
Y. Hidayat	Faa Staff	DPP
M. Suemori	JICA Headquater	JICA
K. Matsumoto	JICA Headquater	JICA
K. Shishido	JICA Indonesia Office	JICA
H. Kudo	JICA Expert	Dit Bina Teknik
T. Matsushima	JICA Expert	Dit Bina Teknik
Y. Kunihiro	Team leader	JICA Study Team
K. Naito	Co-team leader	JICA Study Team
T. Igawa	Hydrologist	JICA Study Team

**MINUTES OF CONSULTATIVE MEETING  
FOR  
THE PROGRESS REPORT (II)  
ON  
THE STUDY  
FOR  
THE EMBUNG DEVELOPMENT PROJECT  
(SMALL SCALE IMPOUNDING POND DEVELOPMENT PROJECT)  
IN  
EAST NUSA TENGGARA AND WEST NUSA TENGGARA**

In accordance with the Scope of Work for the captioned study (the Study) agreed upon between Japan International Cooperation Agency (JICA) and Directorate General of Water Resources Development (DGWRD) of the Ministry of Public Works, the JICA study team prepared and submitted the Progress Report (II) on December 07, 1994 to the Directorate of Technical Guidance of the DGWRD.

The Consultative Meeting organized by Directorate of Technical Guidance was held on December 07, 1994 at the meeting room (4th floor) in the office of DGWRD at 10:00 a.m. WIB. The attendants of the meeting are as per attached.

The meeting was opened and chaired by Ir.R.Zainuddin, Chief of Subdit. of Irrigation, Directorate of Technical Guidance. Upon the request by Ir.R.Zainuddin, Dr.Y.Kunihiro, Leader of the Study team, explained the contents of the Progress Report (II). The Progress Report (II) was basically accepted by the Indonesian side.

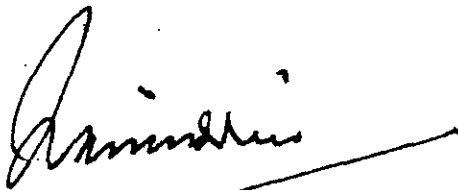
The following are main items informed and agreed between the Indonesian side and the Study Team during the meeting as for the Progress Report (II).

1. Crops proposed for ten (10) representative schemes in NTB and NTT on the Feasibility Study, which will be prepared by the Study Team in Phase II Study, Home Work, will be selected taking the existing cropped condition and farmers' demands in the beneficially area of each scheme into considerations.
2. Draft Guideline for the Embung Development Projects prepared by the Study Team in Phase II Study, Home Work will not be a planning and design criteria, but a fundamental and general guideline for plan formulation / investigations, design of facilities, and project

evaluation / O&M of facilities in order for the GOI to promote the Embung Development Projects.

3. Domestic and livestock water supply system for ten (10) representative schemes will be planned carefully taking the present condition and demands in respective scheme into considerations.

The meeting for the Progress Report (II) closed at 11:15 a.m. WIB with mutually understandings for the contents of Progress Report (II).



IR. R. ZAINUDDIN DIP. AIT

CHIEF OF SUBDIT. OF IRRIGATION,  
DIRECTORATE OF TECHNICAL GUIDANCE,  
WATER RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS

SIGNED ON  
DECEMBER 08 1994



DR. YASUHIKO KUNIHIRO  
LEADER OF  
THE JICA STUDY TEAM

## List of Attendants

Date : December 07 (Wed)  
Time : 10:00 to 12:00  
Chairman : Ir. R. Zainuddin (Kasudit Bintek Irigasi)

<u>Name</u>	<u>Occupation / Office</u>
Ir. R. Zainuddin	Kasubdit Irigasi, Dit Bina Tekni
M. Tampubolon	Kasi Irigasi Wilayah Timur, Dit Bina Teknik
Hendromoyo	Kasi PSAPB Wil. Tengah V
Imam Anshori	Kasi PSAPB Wil. Barat V
M. Amron	Ks Analysa Pemaanfaatan, PPSDA
Maryono Bony	Kasie Tata Lembaga Pengairan, PPSDA
Sri M Madiarti	Staff Subdit. Program Wil-Tim BPCCK
Sri Isniharti	Staff Subdit Air Bersih Wil-Tim
H. Kudo	JICA Expert, Dit Bina Teknik
Y. Kunihiro	Team leader, JICA Study Team
K. Naito	Co-team leader, JICA Study Team



**MINUTES OF CONSULTATIVE MEETING  
FOR  
THE DRAFT FINAL REPORT  
ON  
THE STUDY  
FOR  
THE EMBUNG DEVELOPMENT PROJECT  
(SMALL WATER IMPOUNDING DEVELOPMENT PROJECT)  
IN  
EAST NUSA TENGGARA AND WEST NUSA TENGGARA**

In accordance with the Scope of Work for the captioned study (the Study) agreed upon between the Japan International Cooperation Agency (JICA) and the Directorate General of Water Resources Development (DGWRD) of the Ministry of Public Works, the JICA study team prepared and submitted the Draft Final Report on March 13, 1995 to the Directorate of Technical Guidance of the DGWRD.

The Consultative Meeting organized by Directorate of Technical Guidance was held on March 22, 1995 at the meeting room (4 th floor) in the office of DGWRD at 12:00 a.m. WIB with attendance of JICA advisory study team (Dr. M. Inaba, JICA Head Office). The attendants of the meeting are as per attached.

The meeting was opened and chaired by Ir. R. Zainuddin, Chief of Subdit. of Irrigation, Directorate of Technical Guidance. Upon the request by Ir. R. Zainuddin, Dr. Y. Kunihiro, Leader of the Study team, explained the contents of the Draft Final Report. The Draft Final Report was basically accepted by the Indonesian side.

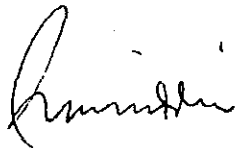
The followings are the main item agreed, suggested and informed by the Indonesian side during the meeting and mutually understood with the meeting between the Indonesian side and the JICA Study Team.

1. The JICA Study Team stated that the contents of the Draft Final Report was basically accepted by the Sub-Dinas Pengairan in both East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) Province at the meeting held on March 15 in NTT and March 20 in NTB. Further, it is noted that the both Provinces expect support of the Central Government in terms of technical and budgetary matters so that the implementation of the embung development project could be carried out urgently according to the long term program presented in the Report.

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2. Although the definition of the "Embung" was basically understood by the Indonesian Side, it is confirmed that the definition of the terminology would be studied and finalized by the officials concerned including the Sub-dinas Pengairan in both NTT and NTB.
3. The watershed management plan is to be strengthened in the future embung plan and design.
4. In connection with the construction of the embung, special attention should be given to the leakage protection works method according to the geological condition featured by the Bobonaro Clay and Coral Limestone in NTT.
5. The Indonesian Side is requested to submit written comments on the Draft Final Report within three weeks, before April 12, 1995 through the JICA Indonesia Office. The Final Report will be prepared and submitted to the Indonesian Side within two (2) months after the receipt at the comments on the Draft Final Report.

The meeting was closed at 01:30 p.m. WIB successfully with mutual understandings of the Draft Final Report and expressing gratitude to the Indonesian side about cooperation during the Study period.



IR. R. ZAINUDDIN DIP. AIT

CHIEF OF SUBDIT. OF IRRIGATION  
DIRECTORATE OF TECHNICAL GUIDANCE  
DIRECTORATE GENERAL OF  
WATER RESOURCES DEVELOPMENT,  
MINISTRY OF PUBLIC WORKS

SIGNED ON MARCH 23, 1995  
JAKARTA, INDONESIA



DR. YASUHIKO KUNIHIRO  
LEADER OF  
THE JICA STUDY TEAM

WITNESS



DR. MAKOTO INABA  
LEADER OF JICA  
ADVISORY STUDY TEAM

### List of Attendants

Date: Wednesday, 22 March, 1995  
 Time: 12:00 a.m. WIB.  
 Place: Meeting Room of 4th floor DGWRD  
 Chairman: Ir. R. Zainuddin (Kasudit Bintek Irigasi)

No.	Nama	Jabatan
<b>Indonesian Side</b>		
1	Ir. R. Zainuddin DIP. AIT	Kasubdit Irigasi, Dit Bina Teknik
2	Kartabrata	KSD IV, Dit. Binlak Timur
3	Widyawati	Kasi An. Pof. S.D.A., Dit. PPSDA
4	Y. Midouyat	Staf Subdit ABLN, Dit. BPP
5	Kusumo Respatyo	Ks. Timur SD. Bendungan Besar, Dit. Bintek
6	Simon Layuk	Staf Subdit Wil. Timur III, Dit. Binlak Timur, Cipta Karya
7	Widianto A.	Ks. Air Beni III, Binlak Timur III
8	Suduyarto	Staf, Bintek, DJCK
9	Muhaemiu Abchu	Rawa, Pantai, Bintek
10	Giovani Wiyarto	Kasi PKSPA IV.1, Dit Binlak Timur
11	Wahyuno	Kasie Sektor IV, Dit. BPP
<b>Japanese Side</b>		
1	Dr. Makoto Inaba	Leader of JICA Advisory Study Team
2	Takashi Matsushima	JICA Expert, Dit Bina Teknik
3	Dr. Yasuhiko Kunihiro	Leader of JICA Study Team
4	Takuya Igawa	JICA Study Team

JICA