

Diagram 31. Metropolitan Medan IDEP Project List

Code	Project	REPELITA V				REPELITA VI				REPELITA VII & VIII 1999 - 2008	High Priority	GFS	Pub Inv Rep. V (US\$M)
		89	90	91	92	93	94	95	96				
I. Productive Sectors													
A-5	Study of Brackish Water Aquaculture Sites	--	--										
A-19	Wetland Food Crop Intensif. and Diversif.	--	+++										
A-22	Higher-Altitude Horticulture Development		--	+++	+++						0	2.0	
A-23	Market Infra. Dev. for Horticultural Crops					--	+++	+++					
A-25	Smallholder Pig Development	--	+++	+++	+++								
A-26	Smallholder Coconut Development	--	+++	+++	+++								
A-30	Brackish Water Aquaculture Development		--	+++	+++	+++	+++	+++	+++				
A-31	Brackish Water Aquaculture Intensification									+++++			
A-33	Fishery Education						--	+++	+				
A-35	Interculture Development		--	+++	+++								
A-36	Lake Fishery Development					--	--	+++	+++	++			
D-4	Dev. of Marketable Handicraft Products	--	+++								0	0*	
D-39	Agro-Industries	--	+++	+++	+++						0	0*	
D-40	Rubber Products Industries	--	+++	+++	+++						0		
D-41	Wood/Rattan Processing Industries	--	+++	+++	+++						0		
D-42	Fishery/Aquaculture-Related Industries	--	+++	+++	+++						0		
D-43	Livestock-Related Industries	--	+++	+++	+++						0		
D-44	Mineral Processing Industries	--	+++	+++	+++						0		
D-45	Craft Industries	--	+++	+++	+++						0		
D-46	Plastic Products Industries	--	+++	+++	+++						0		
D-47	Finished Textile Products	--	+++	+++	+++						0		
D-48	Other Consumer Goods Industries	--	+++	+++	+++						0		
D-49	Other Intermediate Goods Industries	--	+++	+++	+++						0		
D-50	Light Engineering Industries	--	+++	+++	+++						0		
D-51	Engineering Industries	--	+++	+++	+++						0		
H-10	Rehabilitation of Critical Areas	--	--	+++	+++						0	0	
I-6	Lake Toba and the Vicinity Tourism Dev.	--	+++	+++	+++						0	29.0	
I-7	Forest Park Program	--	+++	+++	+++						0		
II. Infrastructural Sectors													
B-3	Irrigation OMR	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	10.0	
B-40	Medan Water Supply	--	+++	+++	+++	+++	+++	+++	+++	+++	0	40.0	
B-41	Belawan-Padang Basin Overall Development	--	+++	+++	+++	+++	+++	+++	+++	+++	0	15.0	
D-7	Industrial Estate/Area (Medan)	--	+++	+++	+++						0	0*	
D-7	Industrial Estate/Area (Tebingtinggi)	--	+++	+++	+++						0	0*	
E-2	Rural Electrification	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	5.0	
E-7	Tampur 1 Hydropower	--	+++	+++	+++	+++	+++	+++	+++	+++	0	100.0	
E-16	Asahan No. 1 and No. 3 Hydropower		+++	+++	+++	+++	+++	+++	+++	+++	0	200.0	
E-17	Renun-Toba Hydropower	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	50.0	
E-19	Wampu Hydropower	--	+++	+++	+++	+++	+++	+++	+++	+++	0	40.0	
E-21	Medan Gas Turbine Plant II	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	50.0	
E-22	Gas-Fired Thermal Plant	--	+++	+++	+++	+++	+++	+++	+++	+++	0	20.0	
E-23	Cool-Fired Thermal Plant	--	+++	+++	+++	+++	+++	+++	+++	+++	0	25.0	
E-24	Power Grid Expansion	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	20.0	
E-25	Natural Gas Utilization	--	+++	+++	+++	+++	+++	+++	+++	+++	0	10.0	
F-1	Arterial Road Upgrading	--	+++	+++	+++						0	0*	
F-3	Sumatra East Coast Road Development	--	+++	+++	+++	+++	+++	+++	+++	+++	0	25.0	
F-7	Tepokluah-Sidikalang Road Betterment	+++	+++	+++	+++						0	20.0	
F-8	Takengon-Sidikalang Road Betterment					+++	+++	+++	+++	+++	0	35.0	
F-22	Medan-Binjai Toll Road Development	--	+++	+++	+++						0	0	
F-23	Medan-Sidikalang Road Network Development	--	+++	+++	+++						0	0	
F-24	Lake Toba Tourism Road Development	--	+++	+++	+++						0	51.0	
F-29	Vitalization of North Sumatra Railway			+++	+++						0	0	
F-30	Medan-B. Prapat and Tebingtinggi-P. Siantar Track Rehabilitation	--	+++	+++	+++						0	9.0	
F-31	Belawan Port Expansion II			+++	+++						0		
F-36	Medan Airport Expansion			+++	+++						0		
G-1	Medan-Banda Aceh Digital Microwave System									--	0		
G-2	Medan-Padang Digital Microwave System									--	0		
G-3	Medan-Pakanbaru Digital Microwave System									--	0		
G-15	Kotamadya Local Telephone Network Expansion	+++	+++	+++	+++						0	80.0	
G-16	Kabupaten Local Telephone Network Expansion					+++	+++	+++	+++	+++			
G-17	Kabupaten Local Telephone Network Expansion									+++++			
G-18	Subscriber Radio System									+++++			
G-19	TDMA Satellite Link Expansion					--	+++	+++	+++	+++			
G-20	100 Small Earth Stations Provision									+++++			
G-21	Packet Data Communication System (SKDP)			+++	+++								
G-22	Radio Paging System Expansion									--	0		
G-23	Coin Telephone Sets Provision	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	2.0	
G-25	Telephone Outside Plant Maintenance Center					+++	+++	+++	+++	+++	0	0*	
G-26	Telephone Outside Plant Maintenance Center							+++	+++	+++			
G-27	Education and Training Center Expansion			+++	+++						0	0*	
G-28	Long Term Plan for Local Telecom. Network	--	+++	+++	+++						0	1.1	
J-1	Urban and Rural Water Supply Program I	--	+++	+++	+++	+++	+++	+++	+++	+++	0	5.0	
K-3	Secondary Cities Urban Development	--	+++	+++	+++	+++	+++	+++	+++	+++	0	10.0	
K-7	Urban Drainage and Solid Waste Program	--	+++	+++	+++						0	10.0	
K-8	Urban Road Improvement Program					--	+++	+++	+++	+++			
III. Others													
H-11	River Cleaning Program (PROKASIH)			--	+++	+++	+++	+++	+++	+++	0	1.5	
L-2	Rural Technology Extension Program	--	+++	+++	+++	+++	+++	+++	+++	+++			
L-3	Home Technology Extension Program					--	+++	+++	+++	+++			
P-12	Production and Marketing Study	--	+++	+++	+++						0	0*	
											Total	823.0	

Notes: 1. ---- denotes "study," ++++ "implementation."

2. On-going projects are excluded from the list.

3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.

4. Public Investment is for Repelita V. The figures are subject to further study.

Diagram 32. West Coast Tapanuli IDEP

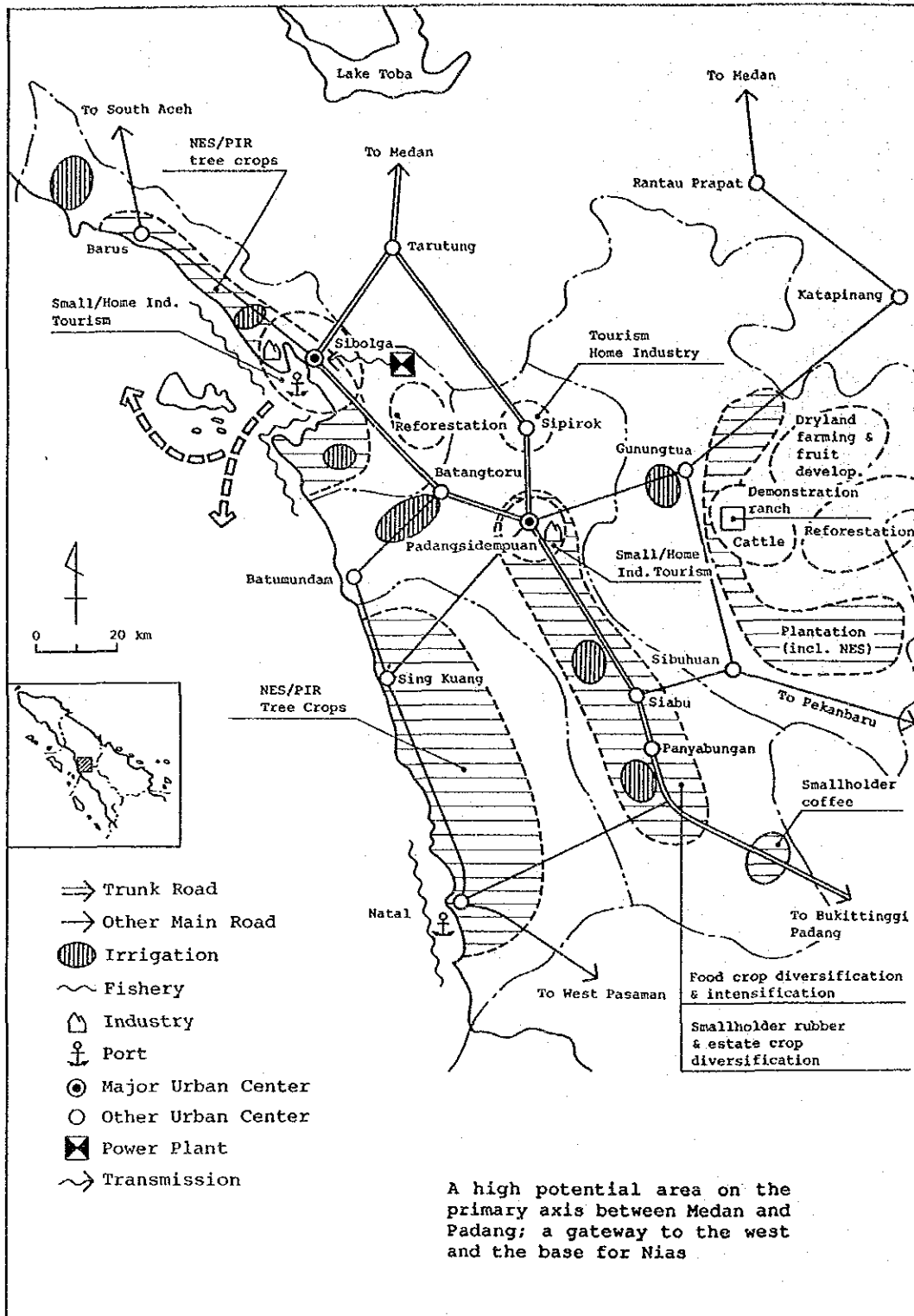


Diagram 33. West Coast Tapanuli IDEP Project List

Code	Project	REPELITA V					REPELITA VI				REPELITA VII & VIII 1999 - 2008	High Priority	GFS	Pub Inv Rep. V (US\$M)			
		89	90	91	92	93	94	95	96	97					98		
I. Productive Sectors																	
A- 2	Tropical Fruit Development						-	+	+	+	+	+	+	+	+		
A- 5	Study of Brackish Water Aquaculture Sites	--	--														
A-19	Wetland Food Crop Intensif. and Diversif.			+	+	+	+	+	+	+	+	+	+	+	+	0	0.8
A-20	Dryland Farming Development			+	+	+	+	+	+	+	+	+	+	+	+	0	1.0
A-21	Paddy Post-Harvest Technology Development			+	+	+	+	+	+	+	+	+	+	+	+		
A-24	Livestock Development (beef cattle)	--	+	+	+	+	+	+	+	+	+	+	+	+	+	0	4.0
A-26	Smallholder Coconut Development			+	+	+	+	+	+	+	+	+	+	+	+	0	5.0
A-27	Smallholder Rubber Development						-	+	+	+	+	+	+	+	+		
A-28	Smallholder Coffee Development			+	+	+	+	+	+	+	+	+	+	+	+	0	2.0
A-29	Nucleus Estate and Smallholder Development																
A-30	Brackish Water Aquaculture Development																
A-32	Marine Fishery Development Sub-Center			+	+	+	+	+	+	+	+	+	+	+	+	0	4.0
A-33	Fishery Education																
A-34	Small-Scale Fishery Development			+	+	+	+	+	+	+	+	+	+	+	+	0	10.0
C- 4	South Natal Coal Resources Development															0	2.4
D- 4	Dev. of Marketable Handicraft Products			+	+	+	+	+	+	+	+	+	+	+	+	0	0.4
D-39	Agro-Industries			+	+	+	+	+	+	+	+	+	+	+	+	0	0*
D-42	Fishery/Aquaculture-Related Industries			+	+	+	+	+	+	+	+	+	+	+	+		
D-43	Livestock-Related Industries			+	+	+	+	+	+	+	+	+	+	+	+		
D-45	Handicraft Industries			+	+	+	+	+	+	+	+	+	+	+	+	0	
D-50	Light Engineering Industries			+	+	+	+	+	+	+	+	+	+	+	+		
H- 9	Agro-Forestry Development	--	--	+	+	+	+	+	+	+	+	+	+	+	+		
II. Infrastructural Sectors																	
B-45	Terutung-Serulla Flood Control and Irrigation			+	+	+	+	+	+	+	+	+	+	+	+	0	15.0
B-46	Rawa Kolang Irrigation	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	15.0
B-47	Batang Angkola Irrigation	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	5.0
B-48	Hutareja/Sangkunur Irrigation						+	+	+	+	+	+	+	+	+		
D- 7	Industrial Estate/Area (Sibolga)																
E- 1	Fuel Efficient Stove Dissemination						+	+	+	+	+	+	+	+	+	0	0.7
E- 2	Rural Electrification			+	+	+	+	+	+	+	+	+	+	+	+	0	5.0
E-15	Mini-Hydropower	--	--	+	+	+	+	+	+	+	+	+	+	+	+		
E-18	Sipang Siporas Hydropower			+	+	+	+	+	+	+	+	+	+	+	+	0	50.0
E-24	Power Grid Expansion			+	+	+	+	+	+	+	+	+	+	+	+	0	20.0
F- 1	Arterial Road Upgrading	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	60.0
F- 2	Road Disaster Prevention	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	30.0
F-25	Renteuprepat-P. Sidempuan Road Network			+	+	+	+	+	+	+	+	+	+	+	+		
F-26	Aceh-Sibolga-West Sumatra West Coast Road																
F-27	West Coast Tapanuli Road Development			+	+	+	+	+	+	+	+	+	+	+	+	0	26.0
F-33	Sibolga Port Expansion			+	+	+	+	+	+	+	+	+	+	+	+	0	5.0
G- 4	Introduction of Rural Telecommunications	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	10.0
G-15	Kotamedya Local Telephone Network Expansion	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
G-16	Kabupaten Local Telephone Network Expansion						+	+	+	+	+	+	+	+	+		
G-20	100 Small Earth Stations Provision																
G-23	CoIn Telephone Sets Provision	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0	2.0
G-26	Telephone Outside Plant Maintenance Center																
J- 1	Urban and Rural Water Supply Program I	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	5.0
K- 3	Secondary Cities Urban Development	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	5.0
K- 7	Urban Drainage and Solid Waste Program	--	--	+	+	+	+	+	+	+	+	+	+	+	+	0	10.0
K- 8	Urban Road Improvement Program						+	+	+	+	+	+	+	+	+		
III. Others																	
L- 6	ADP for Tapanuli Selatan			+	+	+	+	+	+	+	+	+	+	+	+		
P-12	Production and Marketing Study	--	--													0	1.0
												Total	294.3				

Notes: 1. ---- denotes "study," ++++ "implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. Public Investment is for Repelite V. The figures are subject to further study.

Diagram 34. Nias Island IDEP

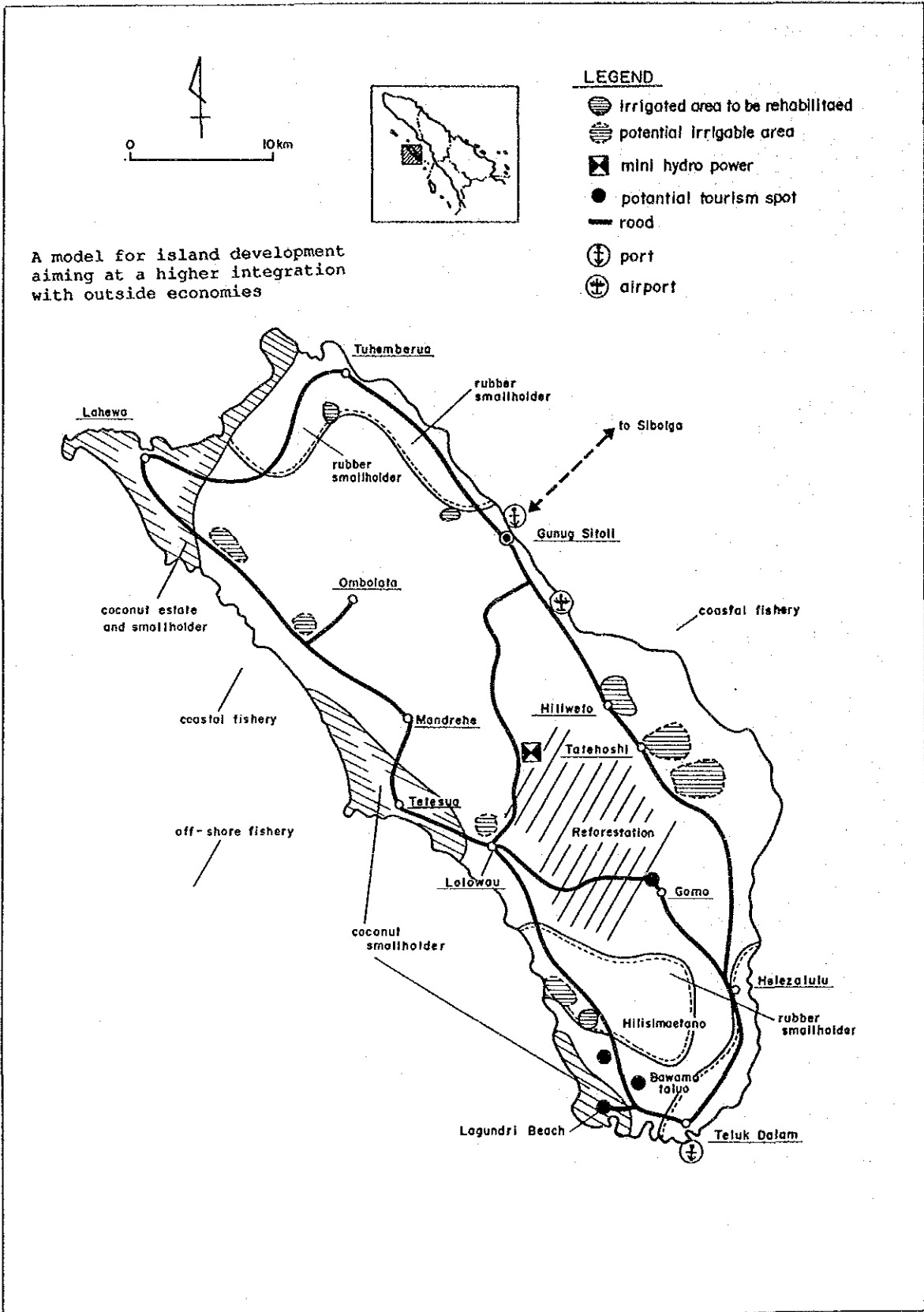


Diagram 35. Nias Island IDEP Project List

P-5 Nias Island															
Code	Project	REPELITA V					REPELITA VI				REPELITA VII & VIII	High	GFS	Pub Inv Rep. V (US\$M)	
		89	90	91	92	93	94	95	96	97	98				1999 - 2008
I. Productive Sectors															
A- 2	Tropical Fruit Development											+++++			
A-19	Wetland Food Crop Intensif. and Diversif.			-	++	++	++	++	++	++	++	+++++	0	0	1.0
A-21	Paddy Post-Harvest Technology Development		-	++	++	++						+++++	0	0	0.8
A-25	Smallholder Pig Development						-	++	++	++					
A-26	Smallholder Coconut Development		-	++	++	++	++	++	++	++	++	+++++	0	0	2.0
A-27	Smallholder Rubber Development											+++++			
A-34	Small-Scale Fishery Development		-	++	++	++							0	0	2.0
A-37	Pilot-Scale Fish Processing				-	++	++	++							
D- 4	Dev. of Marketable Handicraft Products		-	++	++								0	0*	0.4
D-39	Agro-Industries				-	++	++	++	++						
D-42	Fishery/Aquaculture-Related Industries				-	++	++	++							
D-43	Livestock-Related Industries				-	++	++	++							
D-50	Light Engineering Industries				-	++	++	++							
H- 8	Re/Afforestation Development		-	++	++	++	++	++					0	0	2.0
I- 8	Nias Island Tourism Development		-	+	++	++	++						0		20.0
II. Infrastructural Sectors															
B-42	Irrigation and Agricultural Diversification	-	-	++	++	++	++	++	++	++	++	+++++	0		20.0
E- 1	Fuel Efficient Stove Dissemination				-	++	++	++	++	++	++	+++++			
E- 2	Rural Electrification	++	++	++	++	++	++	++	++	++	++	+++++	0	0*	1.0
E-15	Mini-Hydropower		-	++	++	++							0		1.0
F-28	Nias Island Ring Road			++	++	++							0	0	27.0
F-32	Remote Island Sea Transportation Service		-	++	++	++							0	0*	2.0
F-37	Nias Island Airport Improvement		-	++	++	++							0		2.0
G- 4	Introduction of Rural Telecommunications		-	++	++	++	++						0	0*	2.0
G-17	Kabupaten Local Telephone Network Expansion											+++++			
G-18	Subscriber Radio System											+++++			
G-23	Coin Telephone Sets Provision				++	++	++	++	++						
III. Others															
L- 7	ADP for Nias Island						-	-	++	++	++	+++++			
P-12	Production and Marketing Study		-	-									0	0*	1.0
												Total	84.2		

Notes: 1. ---- denotes "study," ++++ "implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. Public investment is for Repelita V. The figures are subject to further study.

Diagram 36. Minang Highlands IDEP

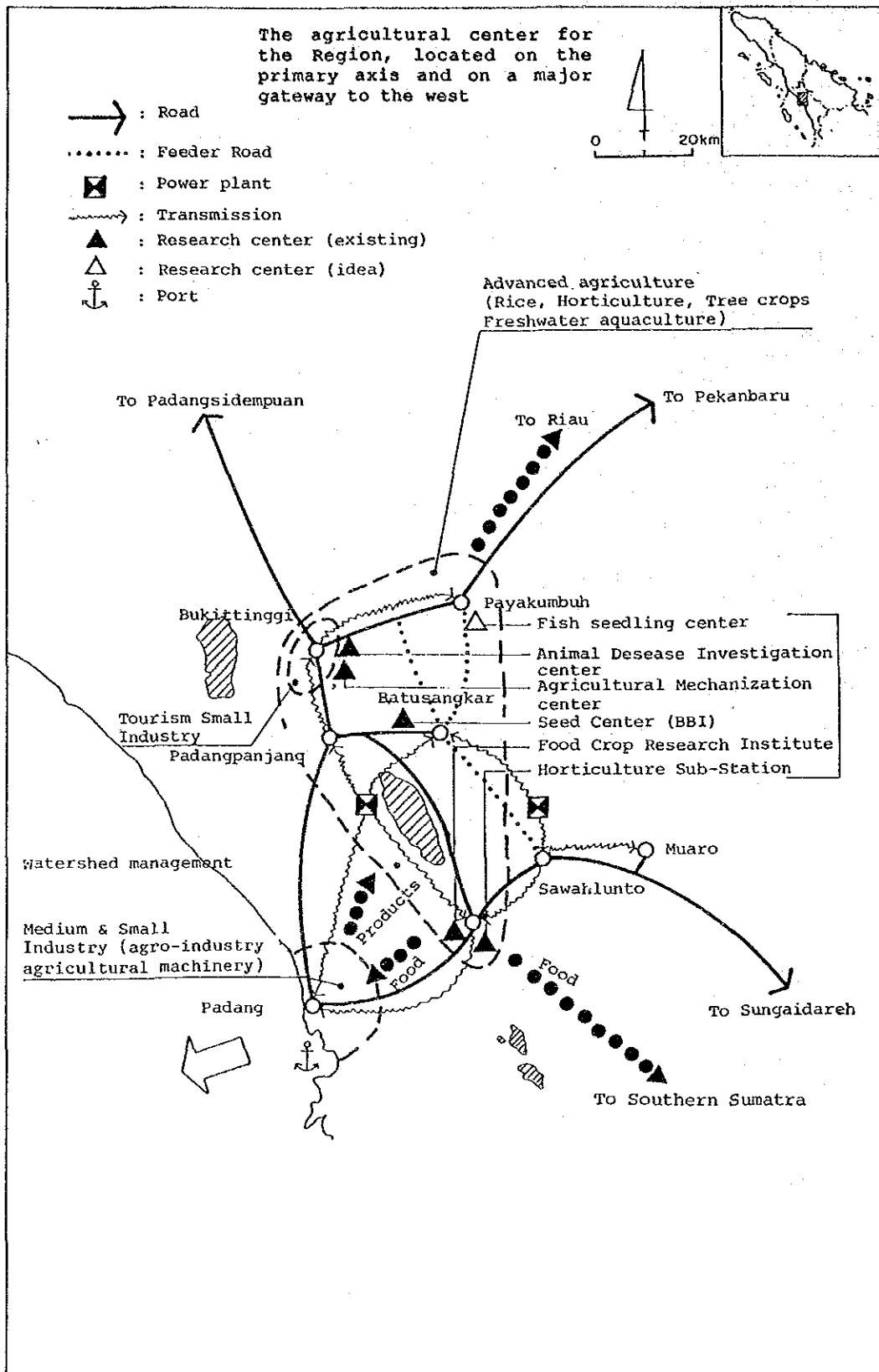


Diagram 37. Minang Highlands IDEP Project List

P-6 Minang Highlands												High	GFS	Pub Inv			
Code	Project	REPELITA V					REPELITA VI					REPELITA VII & VIII 1999 - 2008	Priority	Rep. V	(US\$M)		
		89	90	91	92	93	94	95	96	97	98						
I. Productive Sectors																	
A-1	Dev. of Appropriate Agri. Mechanization	-	+	+	+	+	+								0		2.8
A-38	Wetland Food Crop Intensif. and Diversif.	-	+	+	+	+	+								0		1.6
A-40	Paddy Post-Harvest Technology Development						-	+	+	+							
A-41	Higher-Altitude Horticulture Development						+	+	+	+	+	+					
A-42	Market Infra. Dev. for Horticultural Crops										-	+	+	+	+		
A-44	Smallholder Coconut Development		+	+	+	+	+	+	+	+							
A-50	Lake Fishery Development						-	-	+	+	+	+					
A-51	Freshwater Fish Culture Rehabilitation						-	+	+	+	+	+					
D-4	Dev. of Marketable Handicraft Products	-	+	+	+	+									0	0*	0.4
D-52	Agro-Industries	-	+	+	+	+	+	+	+	+					0	0*	
D-54	Wood/Rattan Processing Industries	-	+	+	+	+	+	+	+	+							
D-58	Craft Industries	-	+	+	+	+	+	+	+	+							
D-63	Light Engineering Industries	-	+	+	+	+	+	+	+	+					0		
H-12	Reforestation and Agro-Forestry System Dev.	-	-	-	+	+	+	+	+	+							
I-9	Minang Highlands Tourism Development	-	-	-	+	+	+	+	+	+							
II. Infrastructural Sectors																	
B-3	Irrigation OMR	-	-	+	+	+	+	+	+	+	+	+	+	+	0		10.0
B-55	Natural Disaster Prevention	-	-	-	+	+	+	+	+	+	+	+	+	+			
B-56	Padang Flood Control	+	+	+	+	+	+	+	+	+							
B-57	Anai Basin Overall Development	-	-	+	+	+	+	+	+	+					0		50.0
D-7	Industrial Estate/Area (Bukittinggi)						-	+	+	+							
D-7	Industrial Estate/Area (Padang)										-	+	+	+			
E-1	Fuel Efficient Stove Dissemination	-	-	+	+	+	+	+	+	+	+	+	+	+	0	0*	1.0
E-2	Rural Electrification	+	+	+	+	+	+	+	+	+	+	+	+	+	0	0*	2.0
E-27	Ombilin Coal-Fired Power Plant	+	+	+	+	+	+	+	+	+	-	-	+	+	0		183.2
E-28	Singkarak Hydropower					+	+	+	+	+	+	+					
E-29	Batang Bayang Hydropower No. 1 and 2						-	-	+	+	+	+					
F-1	Arterial Road Upgrading	-	-	+	+	+	+	+	+	+					0	0*	50.0
F-39	Bukittinggi-Pekanbaru Road Betterment			+	+	+	+								0		20.0
F-40	Bukittinggi Bypass Road									+	+	+					
F-42	Padang-Sawahunto Road Betterment									+	+	+					
F-45	Sawahunto-Padang-Telukbayur Railway Imp.	-	-	+	+	+	+	+	+	+					0		30.0
F-49	Telukbayur Port Expansion				+	+	+	+	+	+							
F-50	Padang Airport Improvement			-	+	+	+	+	+	+					0		40.0
G-2	Medan-Padang Digital Microwave System												+	+	+	+	+
G-29	Kotamadya Local Telephone Network Expansion	+	+	+	+	+	+	+	+	+					0		15.0
G-31	TDMA Satellite Link Expansion						+	+	+	+	+	+	+	+			
G-32	100 Small Earth Stations Provision												+	+	+	+	+
G-33	Coin Telephone Sets Provision	+	+	+	+	+	+	+	+	+	+	+	+	+	0		5.0
G-35	Telephone Outside Plant Maintenance Center					+	+	+	+						0	0*	1.6
G-37	Long Term Plan for Local Telecom. Network			-	-										0	0*	0.8
J-4	Urban and Rural Water Supply Program II						-	-	+	+	+	+					
K-3	Secondary Cities Urban Development	-	-	+	+	+	+	+	+	+					0		5.0
K-9	Urban Drainage, Solid Waste and Sanitation						-	-	+	+	+	+					
K-11	Urban Road Improvement						-	-	+	+	+	+					
III. Others																	
L-2	Rural Technology Extension Program	-	-	+	+	+	+	+	+	+	+	+	+	+	0	0*	1.0
P-12	Production and Marketing Study	-	-														
															Total		419.4

Notes: 1. --- denotes "study," ++++ "Implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. Public investment is for Repelita V. The figures are subject to further study.

Diagram 38. South Sijunjung IDEP

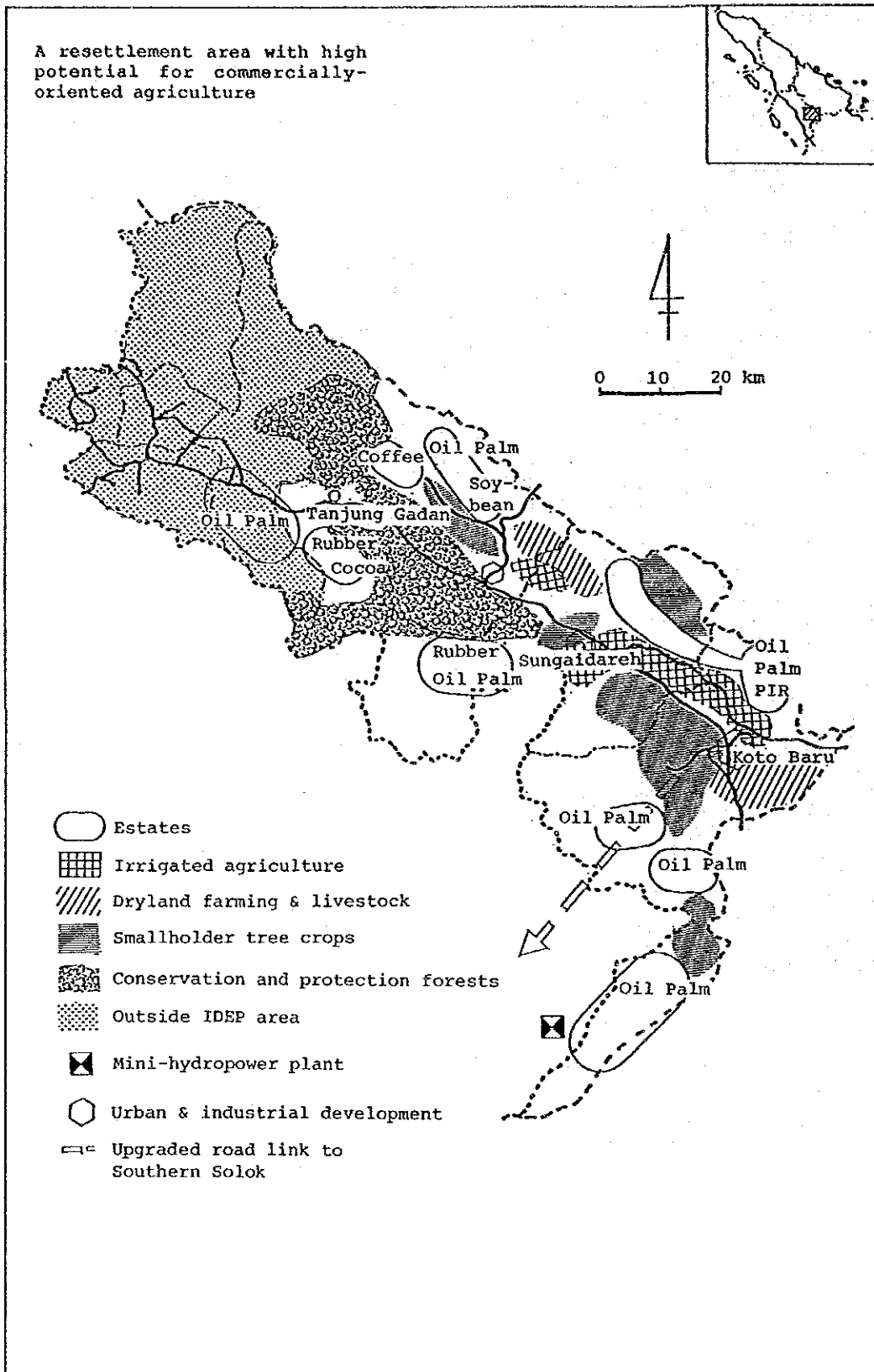


Diagram 39. South Sijunjung IDEP Project List

P-7 South Sijunjung													Pub Inv						
Code	Project	REPELITA V				REPELITA VI				REPELITA VII & VIII 1999 - 2008	High Priority	GFS	Rep. V (US\$M)						
		89	90	91	92	93	94	95	96					97	98				
I. Productive Sectors																			
A-2	Tropical Fruit Development						-	-	+	+	+	+	+	+					
A-39	Dryland Farming Development			-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1.0
A-40	Paddy Post-Harvest Technology Development						-	+	+	+	+	+	+	+	+	+	+		
A-43	Livestock Development (beef cattle)			-	+	+	+	+	+	+	+	+	+	+	+	+	+	3.0	
A-45	Smallholder Rubber Development						-	+	+	+	+	+	+	+	+	+	+		
C-5	Sinamar Coal Resources Development			-	-	+	+	+	+	+	+	+	+	+	+	+	+	1.6	
D-52	Agro-Industries			-	+	+	+	+	+	+	+	+	+	+	+	+	+	0*	
D-56	Livestock-Related Industries						-	+	+	+	+	+	+	+	+	+	+		
D-63	Light Engineering Industries																		
II. Infrastructural Sectors																			
B-61	Sungaidersih Irrigation																		
E-1	Fuel Efficient Stove Dissemination	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0*	1.0
E-2	Rural Electrification	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0*	2.0
E-26	Mini-Hydropower																		
F-1	Arterial Road Upgrading	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0*	5.0
F-2	Road Disaster Prevention	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0*	5.0
F-44	Salok-Bangka Road Betterment																		
F-53	Pekanbaru-Sawahlunto Road Betterment																		
G-4	Introduction of Rural Telecommunications	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0*	2.0
G-32	100 Small Earth Stations Provision																		
G-34	Coin Telephone Sets Provision																		
K-3	Secondary Cities Urban Development			-	-	+	+	+	+	+	+	+	+	+	+	+	+		
III. Others																			
P-12	Production and Marketing Study	-	-															0*	1.0
												Total		21.6					

Notes: 1. --- denotes "study," +++ "implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. Public investment is for Repelita V. The figures are subject to further study.

Diagram 40. Mentawai Islands IDEP

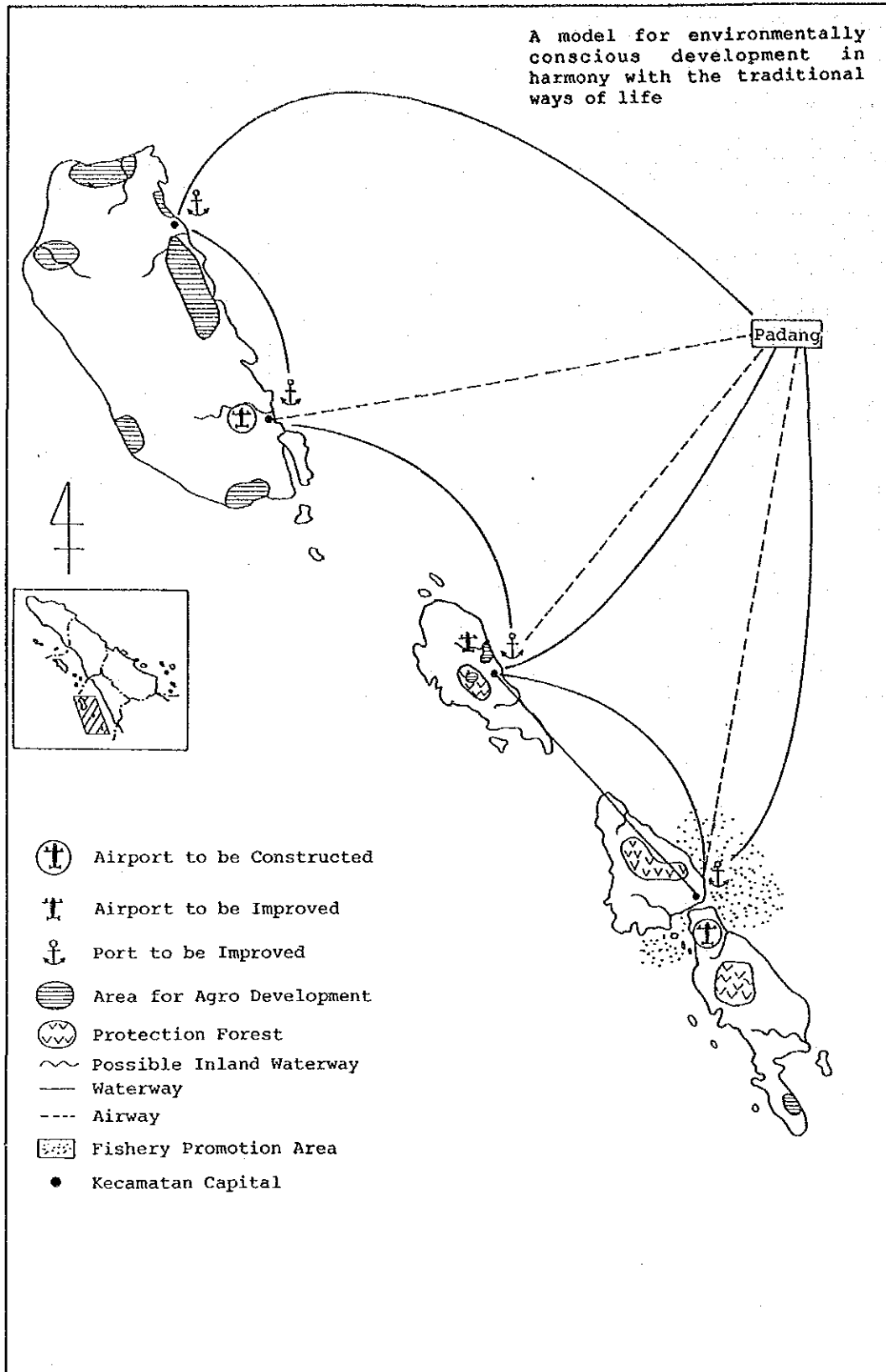


Diagram 41. Mentawai Islands IDEP Project List

P-8 Mentawai Islands																
Code	Project	REPELITA V					REPELITA VI					REPELITA VII & VIII	High	GFS	Pub Inv Rep. V (US\$M)	
		89	90	91	92	93	94	95	96	97	98	1999 - 2008				Priority
I. Productive Sectors																
A-47	Cash Crop Development			--	++	++	++	++	++	++	++			0		0.7
A-49	Small-Scale Fishery Development			--	++	++	++	++						0		7.0
A-52	Pilot-Scale Fish Processing			--	++	++										
D-4	Dev. of Marketable Handicraft Products			--	++	++	++							0	0*	0.4
D-54	Wood/Rattan Processing Industries			--	++	++										
D-55	Fishery/Aquaculture-Related Industries			--	++	++										
D-58	Craft Industries			--	++	++										
II. Infrastructural Sectors																
E-2	Rural Electrification		--	--	++	++	++	++	++	++	++	+++++		0	0*	1.0
F-47	Remote Island Sea Transportation Service			--	++	++	++	++						0	0*	0.5
F-48	Inland Waterway Development					--	--	++	++	++	++					
F-51	Mentawai Airport Const. and Maintenance					--	++	++	++	++	++	++++				
G-31	TDMA Satellite Link Expansion						++	++	++	++						
G-34	Coin Telephone Sets Provision							++	++	++	++					
G-38	Introduction of Rural Telecommunications		--	--	++	++	++	++	++	++	++			0	0	0.5
III. Others																
H-1	Natural Conservation Planning			--	--	++	++	++	++	++	++			0		0.5
L-10	ADP for Mentawai Islands					--	++	++	++	++	++					
														[Total]	10.6	

Notes: 1. --- denotes "study," ++++ "implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. Public investment is for Repelita V. The figures are subject to further study.

Diagram 42. Rokan Basin IDEP

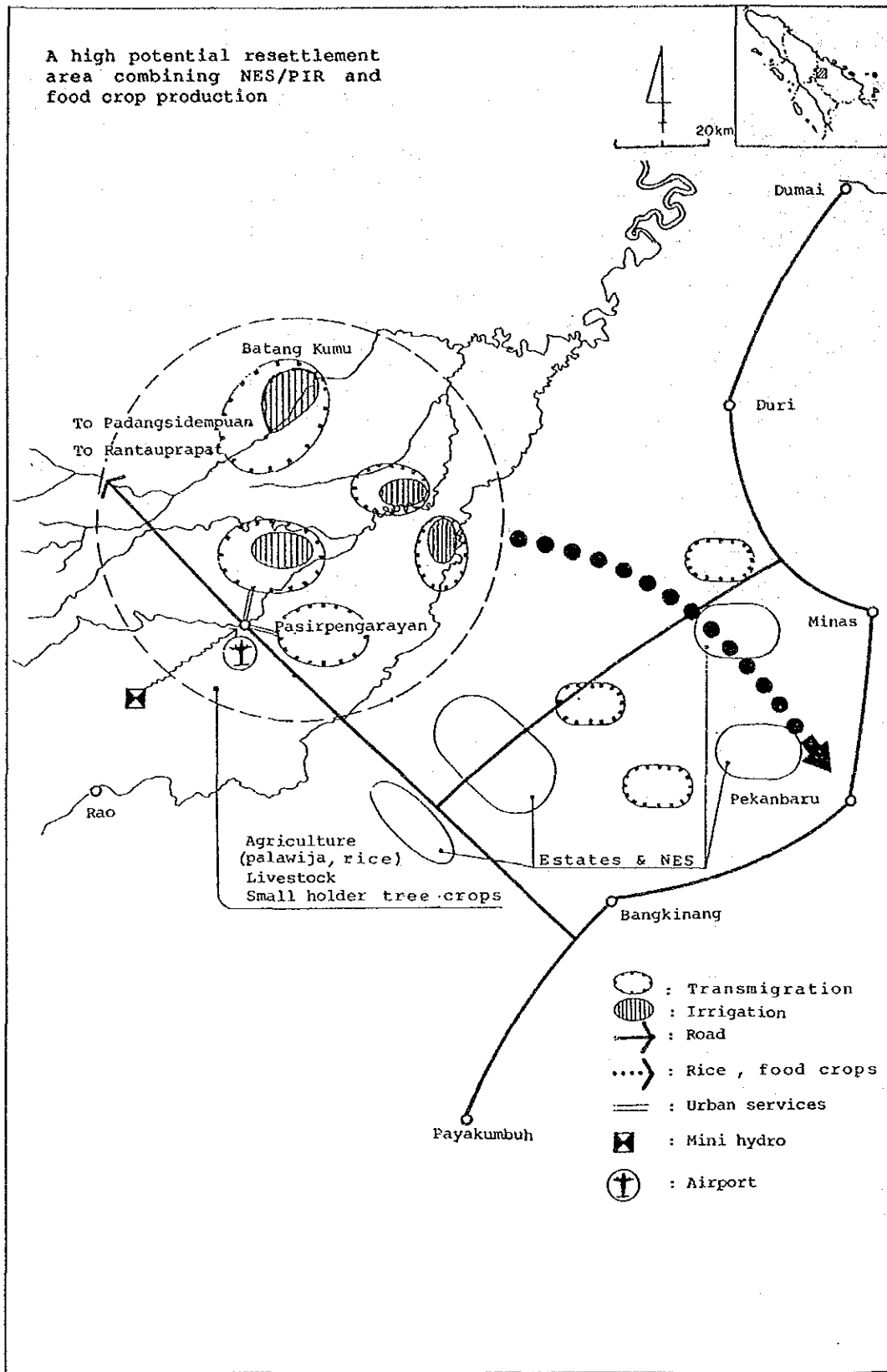
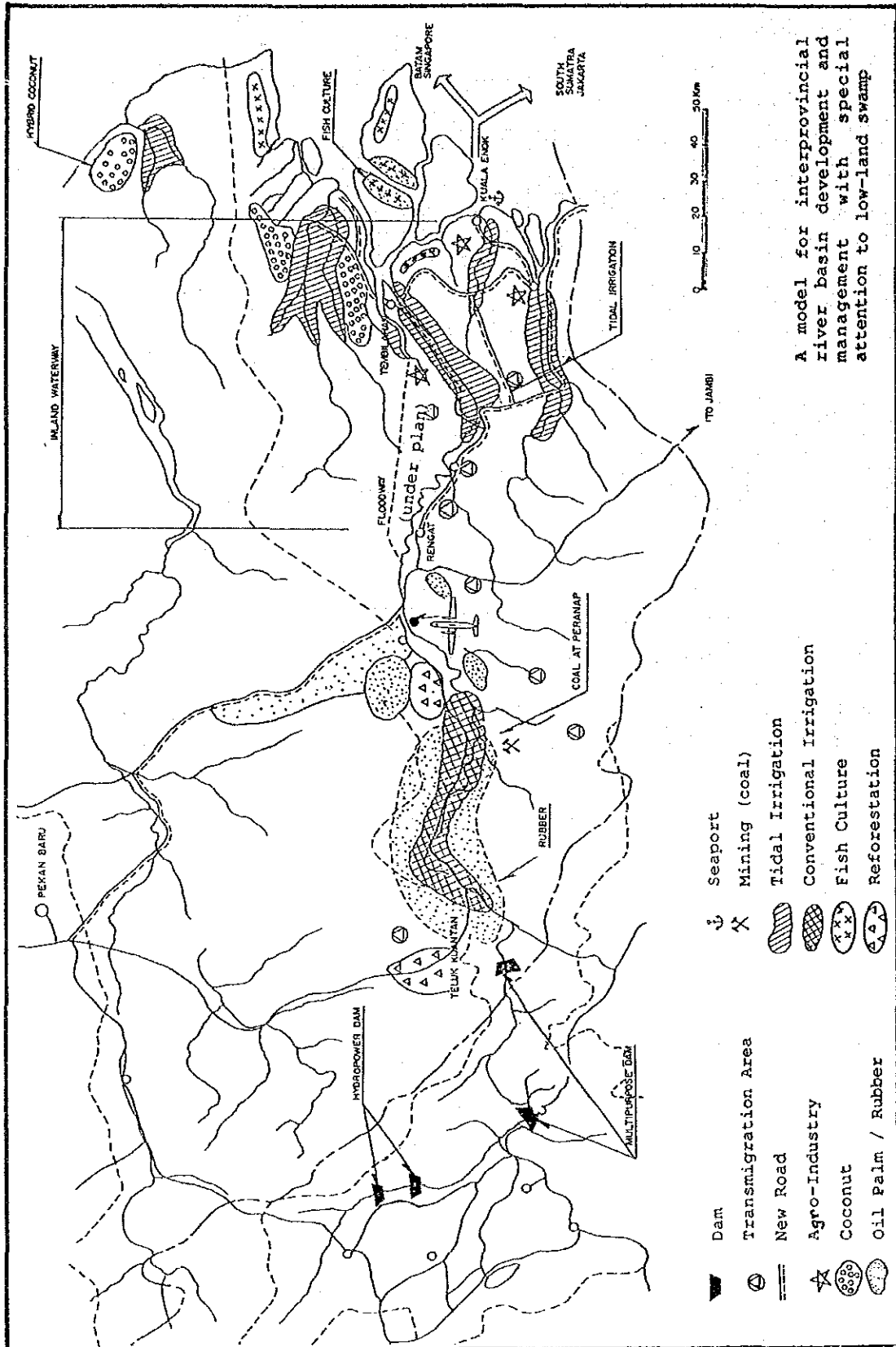


Diagram 43. Rokan Basin IDEP Project List

P-9 Rokan Basin															
Code	Project	REPELITA V				REPELITA VI				REPELITA VII & VIII		High Priority	GFS	Pub Inv Rep. V (US\$M)	
		89	90	91	92	93	94	95	96	97	98				1999 - 2008
I. Productive Sectors															
A-53	Dryland Farming Development		--	++	++	++	++	++					0		1.8
A-54	Paddy Post-Harvest Technology Development				--	--	++	++							
A-55	Livestock Development			--	++	++	++	++							
A-57	Smallholder Rubber Development						++	++	++	++					
A-58	Nucleus Estate and Smallholder Development						++	++	++	++	+++++				
D-65	Agro-Industries			--	++	++	++	++				0	0*		
D-70	Livestock-Related Industries			--	++	++	++	++							
D-78	Light Engineering Industries			--	++	++	++	++							
II. Infrastructural Sectors															
B-64	Rokan Basin Overall Development		--	--	--		++	++	++	++	+++++	0		2.0	
B-65	Batang Kumu Irrigation		++	++	++	++	++	++				0		35.0	
B-68	Batang Lubuk Irrigation						--	--	--	++	+++++				
B-69	Batang Rokan Kiri Irrigation								--	--	+++++				
B-70	Batang Sosa Irrigation				--	--	++	++	++	++					
E-1	Fuel Efficient Stove Dissemination		--	--	++	++	++	++	++	++	+++++	0	0*	1.0	
E-2	Rural Electrification		++	++	++	++	++	++	++	++	+++++	0	0*	2.0	
E-32	Rokan Kiri-1 Hydropower						--	--	++	++	+++++				
F-52	Dumai-P. Sidempuan Road Network Dev.						++	++	++						
F-61	River Transportation Development						--	--	++	++					
G-4	Introduction of Rural Telecommunications			--	--	++	++	++	++	++		0	0*	10.0	
G-43	TDMA Satellite Link Expansion						++	++	++	++					
G-44	100 Small Earth Stations Provision										+++++				
G-46	Coin Telephone Sets Provision				++	++	++	++	++						
K-3	Secondary Cities Urban Development		--	--	++	++	++	++	++			0		5.0	
III. Others															
H-3	Conservation & Management of Wildlife				--	++	++					0	0*	0.5	
L-2	Rural Technology Extension Program		--	--	++	++	++	++	++	++	+++++				
I-12	ADP for North Kampar (and West Bengkalis)						--	--	++	++	+++++				
P-12	Production and Marketing Study		--									0	0*	1.0	
												Total	58.3		

Notes: 1. --- denotes "study," ++++ "implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. Public investment is for Repalita V. The figures are subject to further study.

Diagram 44. Indragiri River IDEP



A model for interprovincial river basin development and management with special attention to low-land swamp

Diagram 45. Indragiri River IDEP Project List

Code	Project	REPELITA V				REPELITA VI				REPELITA VII & VIII 1999 - 2008	High Priority	GFS	Pub Inv. Rep. V (US\$M)		
		89	90	91	92	93	94	95	96					97	98
I. Productive Sectors															
A-53	Dryland Farming Development				-+	++	++	++	++	++	++	++++	0	0	0.5
A-54	Paddy Post-Harvest Technology Development	-+	++	++	++	++	++	++	++	++	++++	0	0	1.0	
A-55	Livestock Development (beef cattle)			-+	++	++	++	++	++	++	++++	0	0	0.5	
A-56	Smallholder Coconut Development					++	++	++	++	++	++++				
A-57	Smallholder Rubber Development				++	++	++	++	++	++	++++				
A-58	Nucleus Estate and Smallholder Development					++	++	++	++	++	++++				
A-59	Brackish Water Aquaculture Development					--	-+	++	++	++					
A-60	Brackish Water Aquaculture Intensification										++++				
A-62	Marciculture Development	-	--	-+	++	++	++	++	++	++		0	0*	3.0	
A-63	Freshwater Prawn Culture Development					--	--	++	++	++					
C-6	Cerent Coal Resources Development		--	--	++	++	++	++	++	++		0	0	2.2	
C-7	Peat Energy Resources Development							--	--	--	++++				
C-8	Rare Metal Resources Development				--	--	++	++	++	++					
D-4	Dev. of Marketable Handicraft Products	-	++	++								0	0*	0.4	
D-65	Agro-Industries				-	++	++	++	++	++		0	0*		
D-68	Wood/Rattan Processing Industries					-	++	++	++	++					
D-69	Fishery/Aquaculture-Related Industries							--	++	++	++				
D-70	Livestock-Related Industries					-	++	++	++	++					
D-78	Light Engineering Industries		-	++	++	++	++	++	++	++					
H-13	Natural Forest Management System							--	++	++					
H-14	Re/Afforestation Development		-	++	++	++	++	++	++	++	++	0	0	1.5	
II. Infrastructural Sectors															
B-62	Water Supply in Coastal Swampy Zone (B-66)		++	++	++	++	++	++	++	++	++	0		2.6	
B-66	Kuantan/Indragiri Basin Overall Development	--	++	++	++	++	++	++	++	++	++	0	0	1.3	
B-67	Integrated Swamp Development	--	--	--	--	++	++	++	++	++	++	0	0	1.0	
B-71	Rengat Left Bank Irrigation (B-66)					--	--	++	++	++	++	0			
B-72	S. Cenako Irrigation (B-66)							--	--	++	++++	0			
E-1	Fuel Efficient Stove Dissemination	--	++	++	++	++	++	++	++	++	++	0	0*	0.7	
E-2	Rural Electrification	++	++	++	++	++	++	++	++	++	++	0	0*	1.0	
F-3	Sumatra East Coast Road Development*	--	--	++	++	++	++	++	++	++	++	0	0*	20.0	
F-4	Bridge Replacement Program	--	++	++	++	++	++	++	++	++	++	0	0*	10.0	
F-57	Integrated Transport System Development	--	--	++	++	++	++	++	++	++	++	0	0	5.0	
F-57	Kuala Enok Port (based on the result of F-57)				--	--	++	++	++	++	++				
F-63	Rengat Airport Improvement		--	++	++	++	++	++	++	++	++				
G-4	Introduction of Rural Telecommunications	--	-	++	++	++	++	++	++	++	++	0	0*	5.0	
G-41	Kabupaten Local Telephone Network Expansion					++	++	++	++	++	++				
G-43	TDMA Satellite Link Expansion					++	++	++	++	++	++				
G-44	100 Small Earth Stations Provision										++++				
G-47	Coin Telephone Sets Provision					++	++	++	++	++	++				
G-49	South Riau Digital Microwave System	--	++	++	++	++	++	++	++	++	++	0	0	8.0	
J-1	Urban and Rural Water Supply Program I	--	--	++	++	++	++	++	++	++	++	0		15.0	
K-3	Secondary Cities Urban Development	--	++	++	++	++	++	++	++	++	++	0		10.0	
K-12	Urban Drainage and Solid Waste Program					-	--	++	++	++	++				
K-13	Urban Road Improvement Program					--	-	++	++	++	++				
III. Others															
H-3	Conservation & Management of Wildlife				--	++	++	++	++	++	++	0	0*	0.5	
L-2	Rural Technology Extension Program	--	++	++	++	++	++	++	++	++	++				
L-11	ADP for Indragiri Hillir					--	--	++	++	++	++	0	0*	1.0	
P-12	Production and Marketing Study	--													
											Total		90.2		

Notes: 1. ---- denotes "study," ++++ "implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. (B-66) denotes that this project is to be integrated into B-66.
5. * Upgrading is required in addition to the on-going construction works.
6. Public Investment is for Repelita V. The figures are subject to further study.

Diagram 46. Riau Islands IDEP

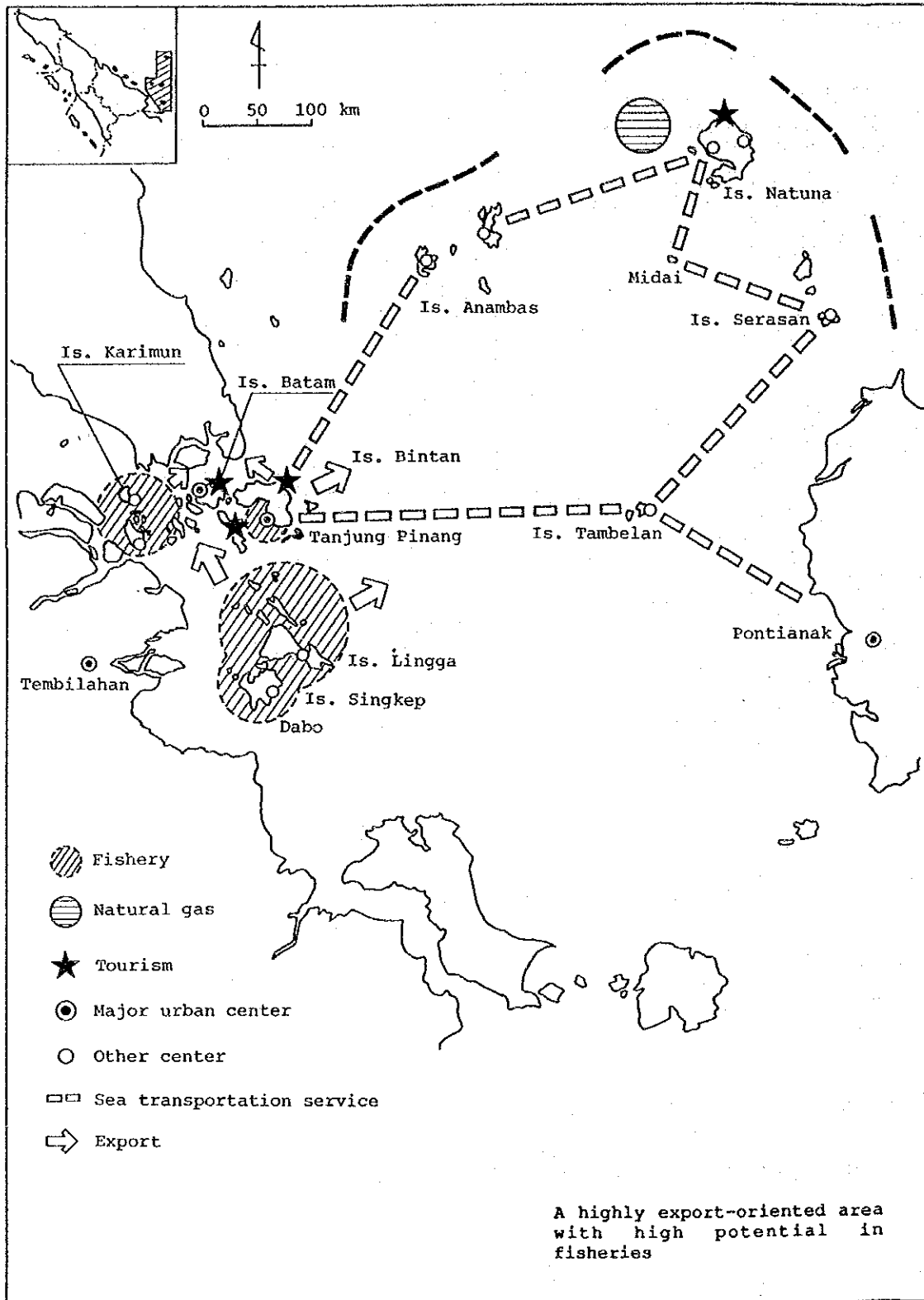


Diagram 47. Riau Islands IDEP Project List

P-11 Riau Islands															
Code	Project	REPELITA V					REPELITA VI				REPELITA VII & VIII	High Priority	GFS	Pub Inv Rep. V (US\$M)	
		89	90	91	92	93	94	95	96	97	98				1999 - 2008
I. Productive Sectors															
A-61	Fishery Education						--	--	++	++	++	++			
A-62	Marciculture Development	--	++	++	++	++	++						0	0*	3.0
D-4	Dev. of Marketable Handcraft Products				++	++							0	0*	0.4
D-65	Agro-Industries				++	++	++						0	0*	
D-67	Rubber Products Industries				++	++	++								
D-68	Wood/Rattan Processing Industries				++	++	++								
D-69	Fishery/Aquaculture-Related Industries				++	++	++					0			
D-70	Livestock-Related Industries				++	++	++					0			
D-71	Mineral Processing Industries				++	++	++								
D-72	Craft Industries				++	++	++								
D-74	Garment and Other Textile Industries				++	++	++								
D-78	Light Engineering Industries				++	++	++								
J-12	Batam & Bintan Islands Marine Tourism Dev.	--	++	++	++	++						0		31.2	
II. Infrastructural Sectors															
D-7	Industrial Estate/Area (Tanjung Pinang)						--	++	++	++					
E-1	Fuel Efficient Stove Dissemination	--	--	++	++	++	++	++	++	++	++	0	0*	0.5	
E-2	Rural Electrification	++	++	++	++	++	++	++	++	++	+++++	0	0*	1.0	
F-58	Riau Islands Sea Transportation Service				++	++						0	0	2.0	
F-60	Batam-Bintan Ferry Connection				++	++						0		1.0	
F-64	Tanjung Pinang Airport Improvement				++	++	++								
F-65	Singkep Airport Improvement				++	++	++								
G-4	Introduction of Rural Telecommunications	--	++	++	++	++	++					0	0*	5.0	
G-42	Subscriber Radio System (Phase I)										-----				
G-43	TDMA Satellite Link Expansion						--	++	++	++	++				
G-46	Coin Telephone Sets Provision				++	++	++								
K-12	Urban Drainage and Solid Waste (Tg. Pinang)						--	++	++	++					
III. Others															
L-13	ADP For Riau Islands	--	++	++	++	++	++	++	++	++	++	0	0	1.0	
												Total	45.1		

Notes: 1. ---- denotes "study," ++++ "implementation."
2. On-going projects are excluded from the list.
3. "GFS" stands for Guideline for Study. An asterisk (*) indicates that this Guideline for Study is common to several IDEPs.
4. Public investment is for Repelita V. The figures are subject to further study.

V. FINANCE AND INSTITUTION

64. Investment Required from Macroeconomic Aspect

The Team estimated the necessary investment required in the Region during Repelita V for achieving one-percent higher growth rate of GDP than national average from macroeconomic aspect. Based on the assumed ICOR (incremental capital output ratio) in the Region, the Team obtained Rp. 18.3 trillion. In the same manner, the necessary investment required during Repelita VI and Repelita VII - VIII are estimated at Rp. 24.8 trillion and Rp. 87.1 trillion, respectively. These figures include both public and private investments. Further breakdown into four provinces and between IDEPs and non-IDEPs are shown in Diagram 48. Based on the experience during Repelita IV, Rp. 18.3 trillion may be broken down into public budget (Rp. 6.4 trillion, 35%) and private investment (Rp. 11.9 trillion, 65%).

65. Estimated Investment for Priority Projects

The Team considered it important to know at least the magnitude of the required project cost to be implemented during Repelita V, if not during the entire period of 1989 - 2008. Subject to feasibility study, the total cost for the 177 high priority IDEP projects is estimated at Rp. 3.6 trillion (US\$2,115 million). In addition, there are 42 "S" projects outside the 11 IDEPs to be implemented during Repelita V, whose cost is roughly estimated at Rp. 1.6 trillion (US\$954 million). Thus, the magnitude of the investments required during Repelita V would be about Rp. 5.2 trillion (US\$3,069 million) for 219 priority projects in the Region. However, please note that these figures cover only "public" budgets and do not include "private" investment whose estimation is more difficult due to a variety of factors involved in private investment for the majority of industry projects. It is interesting to note that the average size of areas and investments of 11 IDEPs is similar to those of the Brantas River Basin Development in East Java, where major OECF financing has been made since 1968.

66. State Budget and Private Investment

As already explained in para. 9, the state budget necessary to achieve an average growth rate of 5% during Repelita V, was around Rp. 240 trillion, with Rp. 107 trillion (45%) being development budget, and Rp. 133 trillion (55%) being routine budget. It is assumed that out of the Rp. 107 trillion state development budget, Rp. 64.2 trillion (60%) will be distributed to the 27 provinces directly through INPRES or indirectly through sectoral projects to be implemented by the central government and project aids. The Team further assumes that Rp. 6.42 trillion (10% of the 27 provincial portion) will be allocated to the Region, because the Region occupies about 11% of the national population. Concerning the private investment, the Team assumed that Rp. 11.9 trillion will come to the Region. It can be safely said that the available public fund in the Region (Rp. 6.42 trillion) is sufficient to initiate 219 priority projects during Repelita V (Rp. 5.2 trillion) and also very close to the estimated public fund (Rp. 6.4 trillion) required from macroeconomic aspect.

Diagram 48. Investment Required from Macroeconomic Aspect

Province/IDEP	Population (x 1000) 1988	Investment Required* (x Rp. billion)			
		REPELITA V 1989-1993	REPELITA VI 1994-1998	REPELITA VII/VIII 1999-2008	Total 1989-2008
Aceh Province	3,225 (100.0)	3,480 (100.0)	4,664 (100.0)	14,852 (100.0)	22,994 (100.0)
Northern Aceh IDEP	923 (28.6)	1,095 (31.5)	1,467 (31.5)	4,248 (28.6)	6,810 (29.6)
West Aceh IDEP	343 (10.6)	553 (15.9)	742 (15.9)	1,889 (12.7)	3,184 (13.8)
Non-IDEP (Aceh)	1,959 (60.7)	1,832 (52.6)	2,455 (52.6)	8,715 (58.7)	13,002 (56.5)
North Sumatra Province	10,104 (100.0)	8,583 (100.0)	12,180 (100.0)	45,353 (100.0)	66,116 (100.0)
Metropolitan Medan IDEP	5,633 (55.8)	4,550 (53.0)	6,455 (53.0)	24,037 (53.0)	35,042 (53.0)
West Coast Tapanuli IDEP	1,149 (11.4)	1,270 (14.8)	1,803 (14.8)	5,669 (12.5)	8,742 (13.2)
Nias Island IDEP	551 (5.5)	944 (11.0)	1,340 (11.0)	3,742 (8.3)	6,026 (9.1)
Non-IDEP (North Sumatra)	2,771 (27.4)	1,819 (21.2)	2,582 (21.2)	11,905 (26.2)	16,306 (24.7)
West Sumatra Province	3,839 (100.0)	2,258 (100.0)	3,062 (100.0)	10,001 (100.0)	15,321 (100.0)
Minang Highlands IDEP	1,611 (42.0)	901 (39.9)	1,222 (39.9)	3,990 (39.9)	6,113 (39.9)
South Sijunjung IDEP	135 (3.5)	237 (10.5)	322 (10.5)	875 (8.8)	1,434 (9.4)
Mentawai Islands IDEP	51 (1.3)	117 (5.2)	159 (5.2)	390 (3.9)	666 (4.3)
Non-IDEP (West Sumatra)	2,042 (53.2)	1,003 (44.4)	1,359 (44.4)	4,746 (47.5)	7,108 (46.4)
Riau Province	2,821 (100.0)	4,007 (100.0)	4,911 (100.0)	16,851 (100.0)	25,769 (100.0)
Rokan Basin IDEP	128 (4.5)	270 (6.8)	331 (6.8)	986 (5.9)	1,587 (6.2)
Indragiri River IDEP	637 (22.6)	1,178 (29.4)	1,444 (29.4)	4,567 (27.1)	7,189 (27.9)
Riau Islands IDEP	416 (14.7)	766 (19.1)	938 (19.1)	2,730 (16.2)	4,434 (17.2)
Non-IDEP (Riau)	1,640 (58.1)	1,793 (44.7)	2,198 (44.7)	8,568 (50.8)	12,559 (48.7)
Northern Sumatra (4 Provinces)	19,989 (100.0)	18,327 (100.0)	24,816 (100.0)	87,056 (100.0)	130,200 (100.0)
IDEPs Total	11,577 (57.9)	11,880 (64.8)	16,222 (65.4)	53,122 (61.0)	81,225 (62.4)
Non-IDEPs Total	8,412 (42.1)	6,447 (35.2)	8,594 (34.6)	33,934 (39.0)	48,975 (37.6)

Note: *1988 constant price.

Source: JICA Study Team estimates.

67. Major Issues in Mobilizing Necessary Resources

The above three paragraphs clarify that the financing prospect for the Region's Integrated Development Plan is bright, provided that the following major issues are satisfactorily resolved.

- (i) Mobilization of the private investments; since about 65% of the required funds in the Region should be mobilized by the private circle, it is essential for the government to create favorable climate which attracts both domestic and international private investors.
- (ii) Financial capability of the provincial government; at present, 88% of the total public development expenditures in the four provinces for the first four years of the Repelita IV was financed by the transfers from the central government or indirectly through various departments of the central government in the form of sectoral projects. This high financial dependence of the provincial government on the central government should be rectified, if real decentralization policy is to be implemented.
- (iii) Specific allocation of the IGGI fund; in 1987, about 41% of the external project assistance went to nation-wide projects, another 20% went to Java. Only some 14% of the project assistance was focused specifically on regions outside Java. On the other hand, Repelita V emphasizes more provincially-based development plans, which require more specifically allocated funds. It is advisable to request donors to allocate more funds to region-specific projects which have more clear-cut development impact.

Diagram 49. High Priority Projects for Public Investment in 11 IDEPs

Number Sector	P-1 North Aceh	P-2 West Aceh	P-3 Medan	P-4 Tapanuli	P-5 Nias	P-6 Minang	P-7 Sijunjung	P-8 Mentawai	P-9 Rokan	P-10 Indragiri	P-11 Riau	Total
A. Agri-/Fishery	3	3	1	7	4	2	2	2	1	4	1	30
B. Water Resources	2	3	2	3	1	2			2	3		18
C. Mining		1		1			1			1		4
D. Industry	2	1	2	1	1	1	0	1	0	1	1	11
E. Energy/Power	2	3	7	4	2	3	2	1	2	2	2	30
F. Transportation	4	4	6	4	3	4	2	1		3	2	33
G. Telecommunication	1	1	4	2	1	4	1	1	1	2	1	19
H. Forest/Environ't	1		1		1			1	1	2		7
I. Tourism			1		1						1	3
J. Water Supply		1	1	1						1		4
K. Urban Dev.		1	2	2		1			1	1		8
L. Rural Dev.											1	1
P. Market Study	1	1	1	1	1	1	1		1	1		9
Total	16	19	28	26	15	18	9	7	9	21	9	177
Investment (\$M)												
Number Sector												
A. Agri-/Fishery	19.1	23.0	2.0	26.8	5.8	4.4	4.0	7.7	1.8	5.0	3.0	102.6
B. Water Resources	4.6	5.2	50.0	35.0	20.0	60.0			37.0	4.9		216.7
C. Mining		0.5		2.4			1.6			2.2		6.7
D. Industry	5.4	0.4	15.4	0.4	0.4	0.4	0	0.4	0	0.4	0.4	23.6
E. Energy/Power	20.0	6.2	465.0	75.7	2.0	186.2	3.0	1.0	3.0	1.7	1.5	765.3
F. Transportation	102.6	49.0	150.0	121.0	31.0	140.0	10.0	0.5		35.0	3.0	642.1
G. Telecommunication	0.6	1.7	84.1	12.0	2.0	22.4	2.0	0.5	10.0	13.0	5.0	15.3
H. Forest/Environ't	0.5		1.5		2.0			0.5	0.5	2.0		7.0
I. Tourism			29.0		20.0						31.2	80.2
J. Water Supply		17.0	5.0	5.0						15.0		42.0
K. Urban Dev.		10.0	20.0	15.0		5.0			5.0	10.0		65.0
L. Rural Dev.											1.0	1.0
P. Market Study	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0		9.0
Total	153.8	114.0	823.0	294.3	84.2	419.4	21.6	10.6	58.3	90.2	45.1	2,114.5

Source: Team's estimation (US\$1 = Rp 1,700)

68. Decentralization of Authorities

- (i) Decentralization and local coordination were furthered by Law Number 5/1974, the Regional Government Act. This gives the local executives legal authority. The creation of the Provincial Planning Board (BAPPEDA) beginning in 1974, and the District Planning Board (also BAPPEDA) in 1980 provided an institutional vehicle with which the local government can plan and coordinate local development activity. Financially, the Central Government has recently initiated grant programs including INPRES and channeled budget to provincial governments. But there is still room to improve provincial governments financial and institutional capacity to coordinate development programs at the local level.
- (ii) Some successful cases have recently emerged. For example, USAID-financed Provincial Development Program (PDP) started operation in Central Java and Aceh in 1978/79 with two main purposes: (i) to decentralize authority and funding to the District/Provincial governments under BAPPEDA; and (ii) to increase income and productivity of the rural poor. In response to the Team's questions at the mini-workshops held in August 1988 about the best projects assisted in the past, provincial government staff enumerated a number of small but institutionally successful projects: for instance, PDP (USAID), West Pasaman Area Development (West Germany), rural water supply (the Netherlands), provincial road and bridge improvements (IBRD), small irrigation and livestock distribution (ADB) and rural electrification (France). They also responded that their priority during Repelita V (1989/90 - 93/94) will be given to those projects which contribute to employment generation, export and production supporting infrastructure. In this context, it would be highly desirable if each provincial government's own development priority is conveyed to donors through more explicit format of the IGGI project list before their pledging.

69. Management of IDEP

After the completion of the present study, IDEPs are expected to be fit into the Indonesian regional development planning and implementation system by the initiatives of Indonesian ministries and agencies of the central government and development organizations in the province. For the implementation of IDEPs it may not be necessary to set up a new institution; however, it is advisable to give the following responsibilities to the existing regional planning and implementation machineries by strengthening them further.

- (i) IDEP coordination at the central level:
- to develop concepts, policies and strategies of IDEP;
 - to approve IDEP long-term (20 years), medium-term (5 years) and annual programs prepared by each BAPPEDA;
 - to coordinate and monitor the implementation of IDEP by identifying problems and seek their solution;
 - to develop and guide coordination with national and international agencies;
 - to hold at least quarterly meetings; and
 - to submit the results of its meetings to the Chairman of BAPPENAS with copies to the ministers of all ministries concerned.
- (ii) IDEP coordination at the provincial level:
- to strengthen each BAPPEDA TK I for daily operating of IDEP activities;
 - to plan and prepare IDEP programs (long and medium term and annual);
 - to coordinate implementation; and
 - to monitor and report.

Diagram 50 "S" Projects Outside IDEPs for Public Investment

Project	(US\$ million)					Total
	Aceh	N. Sumatra	W. Sumatra	Riau		
A-18 Pilot Fish Processing	0.7					0.7
B-2 Rivermouth Improvent	2.5	2.5	2.5			7.5
B-10 Krueng Aceh Irrigation	35.0					35.0
B-43 Lower Asahan Dev.		40.0				40.0
B-44 Bilah-Barumen Basin		2.0				2.0
C-1 Non-Metallic Mineral Center		6.0				6.0
D-1 Industry Extension Service	2.5	2.5	2.5	2.5		10.0
D-2 Small Industry (BIPIK)	2.5	2.5	2.5	2.5		10.0
D-3 Agro-industry	2.5	2.5	2.5	2.5		10.0
D-5 Institute for Industry Tech.		5.0				5.0
D-12 Distributed Data Processing				50.0		50.0
E-4 Mini-Hydropower	17.5					17.5
E-30 Kota Panjang Hydropower				200.0		200.0
E-31 Power Grid System				100.0		100.0
F-12 Besitang-Langsa Rail	70.0					70.0
F-20 Banda Aceh Airport	7.0					7.0
F-55 Dumai Port (Ext.)				87.0		87.0
F-56 Pekanbaru Port				1.5		1.5
F-59 Benkalis Ferry				1.0		1.0
F-66 Pekanbaru Airport				7.0		7.0
G-5, 39 Kotamadya Tele-phone	57.0			103.2		160.2
G-36 Telecom Training			2.4			2.4
G-45 Data Communication System				20.0		20.0
H-7 Watershed Manag't Center		11.0				11.0
J-1 Tourism Manag't Center	4.5	4.5	4.5	4.5		18.0
K-4 Banda Aceh Drainage	25.0					25.0
L-4 Pidie Area Development	50.0					50.0
Total	(13) 276.7	(10) 78.5	(6) 16.9	(13) 581.7	(42) 953.8	

Source: Team's estimation (US\$1 = Rp1,700)

VI. CONCLUSIONS AND RECOMMENDATIONS

70. Conclusions of the Study

- (i) During these 20-year periods starting from Repelita I in 1969, the Indonesian economy has achieved considerable success and attained self-sufficiency in rice. However, the continuous fall of the prices of oil/gas and primary products starting from the early 1980s, it faced serious deficit in balance of payment. In order to cope with these difficulties, the Government introduced a series of economic stabilization program and structural adjustments since 1983. They included budgetary cuts, tax reforms, devaluations of Rupiah, promotion of non-oil/gas exports, privatization, decentralization and deregulation in production, investment, transportation and financial and banking sectors. The IGGI supported these Government's efforts with a large amount of special assistance including policy-based program lending and local cost financing.
- (ii) Under these circumstances, Repelita V started in April 1989 with two major targets. One is to accomplish the structural adjustment and the other is to build strong springboard to accelerate the country's economic growth into the sustainable "take-off" stage starting from the second 25-year Long-term development in 1994. In order to absorb the increased labor population (11.9 million) during Repelita V period, the Plan determined that the average annual rate of economic growth should be 5%. This Study intended to formulate, as a part of the National Development Plan, an integrated regional development plan of the Region and identify priority projects for implementation during Repelita V and up to 2008.
- (iii) The Region, having 14% of the national land and 11% of the national population, has a set of comparative advantages including abundant natural resources, exportable commodities, the largest industrial base outside Java, relatively well-developed infrastructures, tourist attractions and proximity to Singapore and Malaysia, and the gateway to the Indian Ocean of the Western Pacific Economic Zone to be formed in the near future. The Team's first assumption was that these advantages should be fully utilized to contribute to the national economic growth and that the average annual growth rate of the Region should be one percent higher than that of the nation's.
- (iv) Given the vast land area of the Region and limited financial and human resources, the Team considered it more efficient to select some priority areas first, identify priority projects within those areas, and integrate them sectorally and with proper phasing. This resulted in the creation of 11 Integrated Development Programs (IDEPs), as the central concept of the Study. Adding some outside-IDEF projects, the Team finally selected 219 high priority projects to be implemented during Repelita V, out of 430 projects in the Long List to be implemented during the entire study period 1989-2008.

- (v) Total investment requirements for the Region during Repelita V are estimated at Rp. 18.3 trillion, of which Rp. 6.4 trillion would come from Government's development budget and the remaining Rp. 11.9 trillion may be mobilized from private sources. These amounts are within a reasonable range of estimated funds for the Repelita V. The fund's availability depends, therefore, on whether both the Government's development budget and private investment estimated in the Repelita V are achievable or not. Another key issue would be institutional capability of the Government, particularly of provincial and local governments. These targets are undoubtedly ambitious. However, in view of the successful macro-economic structural changes so far achieved, continuous Government's efforts in deregulation policies, current favorable international prices of oil/gas, people's enthusiasm for development and the political stability of the resource-rich country, the Team is of the view that there is reasonable opportunity to achieve the targets. The Team's recommendations derived from the conclusions of the Study are summarized in the following paragraphs.

71. Recommendations on Overall Development Strategy

- (i) The Region's comparative advantages (with abundant natural resources, exportable commodities, the largest industrial base outside Java, relatively well developed infrastructure, tourist attractions and proximity to Singapore and Malaysia) should be fully developed.
- (ii) "Growth with equity" should be observed as master development strategy, which ensure the Region's potential fully developed with one percent higher annual growth rate of GDP than the national annual growth rate.
- (iii) The four provinces' distinct characteristics and potentials should be fully developed, in due respect to interprovincial linkage, as Medan to be an emerging core of the entire Sumatra in 2008. Less developed west coast should be opened as a gateway of the future West Pacific Economic Zone to huge potential market surrounding the Indian Ocean.

72. Recommendations on Area-based IDEP Approach

In order to maximize the effectiveness of limited financial and human resources in the vast land area of the Region, an area-based approach called "Integrated Development Program (IDEP)" was selected as the central concept of this Study. The eleven IDEPs are given their respective roles, for which the development should take place. Before a project or projects within one IDEP are selected for implementation, a study on production and marketing of the key commodities in the IDEP is desirable to be undertaken with the following special features of each IDEP in mind.

- (i) Northern Aceh IDEP - A major industrial base on the primary axis, with close interaction with agriculture.
- (ii) West Aceh IDEP - Agricultural development base for the entire western side of Aceh: an example of relatively less advanced areas.
- (iii) Metropolitan Medan IDEP - The Center not only for the Region but also for the entire Sumatra economy with strong industrial, agricultural and service activities.

- (iv) West Coast Tapanuli IDEP - A high potential area yet to be developed on the primary axis between Medan and Padang.
- (v) Nias Island IDEP - A model for island development aiming at a higher integration with outside economies.
- (vi) Minang Highland IDEP - the agricultural center for the Region, located on the primary axis and on a major gateway to the west.
- (vii) South Sijunjung IDEP - A resettlement area with high potential for commercially-oriented agriculture.
- (viii) Mentawai Islands IDEP - A model for environmentally conscious development in harmony with the traditional way of life.
- (ix) Rokan Basin IDEP - A high potential resettlement area combining NES/PIR and food crop production.
- (x) Indragiri River IDEP - A model for interprovincial river basin development and management with special attention to low-land swamp.
- (xi) Riau Islands IDEP - Socio-economic development of the scattered islands with a highly export-oriented area and high potential in fisheries.

73. Recommendations on Sectoral Development Strategy

Both within and outside IDEP, the following sectoral development strategy should be observed, when a project is selected for implementation.

- (i) Agriculture: while sustaining rice self-sufficiency, agricultural diversification (in food crops with balanced nutrients, livestock and post-harvest) with substantial inputs of technical cooperation would be the single most important strategy to ensure increasing productive and remunerative employment and to encourage export of palm oil, rubber, coffee and other agriculture-originated products which account for majority of the non-oil export.
- (ii) Fishery: in view of already too crowded and resources-depleting east coast fishery, future trends would be shifted more to the west coast and marine fishery, which requires strengthening infrastructure, credit and technical cooperation in both public and private sectors in the west coast.
- (iii) Industry: the Region accommodates an impressive number of industries based on locally available natural resources such as cement, fertilizer, aluminium articles, pulp and paper, palm oil, rubber processing, fish processing. But it should overcome disadvantages including inconvenient access to foreign markets which require efficient administrative and financial services. It should also create favorable climate and business infrastructure conducive to private enterprises, such as electricity, telecommunication, transportation, water, education and health facilities.

- (iv) Water: a comprehensive watershed management study including irrigation, flood control, industry, and domestic use and hydro-power generation is a vital element of socio-economic development. Particularly, irrigation is required innovative technology serving not only for sustaining self-sufficiency in rice but also for more productive crop diversification and aquaculture. A new entrepreneur of selling abundant and high-quality water may also interest public as well as overseas dry countries.
- (v) Energy: in order to save limited oil resources, systematic efforts should be continued with focus on efficient production of coal, natural gas and renewable energy resources such as hydro-power and sunshine. On the other hand, dissemination of fuel-efficient stove will contribute to save energy consumption.
- (vi) Transportation and communications: the road network is the prerequisite of area development to break closed self-contained societies leading to more rational land use and environmental protection. A chain of west coast ports for the future trading through the Indian Ocean and revitalization of mass-transit railways may be considered by targeting the next century. Local telephone network and rural telecommunications are both urgently required together with telephone outside plant maintenance centers.
- (vii) Urban and Rural Development: based on the spatial planning and along the two population-transportation axes of the Region, efficient urban-rural linkages should be a leading principle of regional development. Particularly, secondary cities urban development including drainage, solid waste, road and water supply will receive high priority. Area development type of rural development should also be encouraged to give equal opportunity to underserved, poor and isolated remote areas.
- (viii) Tourism: international, interregional and interprovincial travel routes and package tour programs should be first planned. Establishment of the Tourism Management Center is urgently required, along the construction of minimum infrastructure, while other activities will be left to the private sector.
- (ix) Environment, Forestry and Natural Resource Management: in accordance with the Government Regulation (No. 29, year 1986), all development projects should take environmental aspect into consideration. On the other hand, forestry production should be continued to meet industrial and energy needs by way of better natural resources management. A well-coordinated research network should be established, before massive investment opportunities are identified for the purpose of conservation of limited resources, rich biological and animal genetics and environmental protection on the global basis including land, water, air and climate.
- (x) Employment: at least one million people should be absorbed in the Region during Repelita V period alone. To avoid explosion of unemployment in the urban areas, sufficient job through the development of intensified agriculture, small-scale, traditional and informal enterprises, and cooperatives should be accommodated in the rural areas where 75% of the total population live.

- (xi) Other sectors: education, human resources development, health, housing, youth, women, culture, cooperative, science/technology, etc. are not specifically mentioned in this Report, but they are all important and should be implemented in the Region along the line of the national policy.

74. Recommendations on Private Resource Mobilization

Since about 65% of the required funds in the Region should be mobilized by the private circle, it is essential for the Government to create favorable climate in which the political stability insures risk-free investment, the on-going deregulation measures result in procedural efficiency, and the adequate infrastructures attract both domestic and international private enterprises to come in. Private investors are requested to endeavor to find ways of positive participation in the development without delay. Further, the Government's well-organized effort is urgently recommended to attract international private investors, particularly at this crucial time when the rising wage level in the newly industrializing areas such as Thailand, Malaysia and even Jakarta makes their growth slow down near saturation points.

75. Recommendations on Closer Consultation with Donors

Since the foreign aid shares more than half of the state development budget during Repelita V, it is recommendable for the Government to consult with donors in making their aids more effectively. Presently, the IGGI contributions go to too many nation-wide investment programs with emphasis on Java, leaving only less than 20% of the project assistance to be addressed specifically to outer islands. It may be more effective for donors to finance to specific projects including IDEPs. Further, the financial capability of the provincial governments should be augmented, through appropriate financing modes, to support Government's decentralization policy. Donors are also required to consider a variety of assistance modes suitable for implementation of integrated projects, including ODA (loan or grant financial assistance and technical cooperation), private investments, advisory services, non-governmental organization's participation and their combinations.

76. Recommendations on Institutional Innovations

More authority of the provincial and local governments should be given administratively and financially, along the line where the Regional Government Act (Law Number 5/1974) was promulgated. In particular, BAPPEDA's capability in planning and coordinating regional development programs must be urgently strengthened. It is also important to attract young staff who are willing to go to remote areas such as IDEPs, by providing a little additional incentives in terms of salary, better living conditions, or future promotion opportunities. Advisors who are recruited either from domestic or foreign sources and stay in either Jakarta or provinces may also be helpful to keep watch IDEP ongoing at all the times. A set of JICA's final reports on this Study may be utilized effectively for the Government to formulate its own strategy and action programs for its implementation including personnel assignments and budget allocations.

ABBREVIATIONS

AAC	Annual Allowable Cut
AARD	Agency for Agricultural Research and Development
AATE	Agency for Agricultural Training and Education
ADB	Asian Development Bank
ADP	Area Development Program
AGRARIA	Badan Pertanahan Nasional
APBD	Anggaran Pendapatan dan Belanja Daerah
APBN	Anggaran Pendapatan dan Belanja Negara
ASEAN	Association of Southeast Asian Nations
BANGDA	Pembangunan Daerah
BANGDES	Pembangunan Desa
BAPPEDA	Badan Perencanaan Pembangunan Daerah
BAPPENAS	Badan Perencanaan Pembangunan Nasional
BBN	Bea Balik Nama
BHN	Basic human needs
BIPIK	Small-scale Industry Development Guidance
BKPM	Badan Koordinasi Penanaman Modal
BKPMD	Badan Koordinasi Penanaman Modal Daerah
BMG	Institute of Meteorology and Geophysics
BNA	Basic Needs Approach
BOE	Barreles of Oil Equivalent
BPAM	Water supply management unit
BPLPs	Tourism Development and Training Schools
BPPI	Marine Fishery Development Center
BPPT	Agency for the Assessment and Application of Technology
BPS	Biro Pusat Statistik
BUTSI	Badan Urusan Tenaga Sukarela Indonesia
CAD/CAM	Computer Aided Design/Computer Aided Manufacturing
CIDA	Canadian International Development Agency
CNG	Compressed Natural Gas
CPUE	Catch per Unit Effort
CRIFC	Central Research Institute for Food Crops
CV	Central Valley Area
DAS	Daerhd Aliran Sungai
DB	Directorate of Coal
DBM	Dinas Bina Marga
DDC	District Development Center
DEG	Directorate of Environmental Geology
DGCK	Directorate General of Cipta Karya
DGENE	Directorate General of Electric Power and New Energy
DGF	Directorate General of Fisheries
DGH	Directorate General of Highways
DGLC	Directorate General of Land Communication
DGSC	Directorate General of Sea Communications
DGT	Directorate General of Tourism
DGWRD	Directorate General for Water Resources Development
DJA	Direktorat Jendral Agraria
DJPU	Direktorat Jenderal Perhubungan Udara
DPEB	Direktorat Pengembangan Energi Baru
DPMA	Institute of Hydraulic Engineering
DPP	Dewan Pimpinan Pusat
DPU	Departemen Pekerjaan Umum
EC	The European Community
EEZ	Exclusive Economic Zone
EP	Eastern Plateu Area
ESCAP	Economic and Social Commission for Asia and the Pacific
Ex-Im Bank	Export-Import Bank
F/S	Feasibility Study
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization
FETC	Forestry Education and Training Center

FRDC	Forest Research and Development Center
GBHN	Garis-garis Besan Haluan Negara
GDP	Gross domestic product
GOI	Government of Indonesia
GRDP	Gross Regional Domestic Product
GTZ	Gesellschaft fur Technische Zusammenarbeit
HPH	Hak Pengusahaan Hutan (forest concession)
HPHH	Forest concession of short term and small scale
HPPS	Hydro Power Potentials Study
HRD	Human Resources Development
HTI	Hutan Tanaman Industri
IBRD	International Bank for Reconstruction and Development
ICOR	Incremental Capital Output Ratio
IDC	Interprovincial Development Center
IDCJ	International Development Center of Japan
IDEP	Integrated Development Program
IFPRI	International Food Policy Research Institute
IGGI	Inter-Governmental Group on Indonesia
IIMI	International Irrigation Management Institute
IKK	Ibu Kota Kecamatan
ILOR	Incremental labor-output ratio
ILS	Instrument Landing System
IMCE	Inter-ministerial Committee on Electrification
IMF	International Monetary Fund
IMTCE	Inter-ministerial Technical Committee on Energy
INPRES	Instruksi Presiden
INTAM	Tambak intensification
IPEDA	Iuran Pembangunan Daerah
IRR	Internal Rate of Return
ITU	International Telecommunication Union
IUIDP	Integrated Urban Infrastructure Development Program
JAIDO	Japan International Development Organization
JICA	Japan International Cooperation Agency
KADIN	Indonesian Chamber of Commerce and Industry
KBOE	Thousand Barrels of Oil Equivalent
KIK	Small investment credit
KIP	Kampung Improvement Programme
KLH	Kependudukan dan Lingkungan Hidup
KMKP	Permanent working capital credit
KPD	Rural development extension worker
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
LSC	Local Service Center
MIGA	Multilateral Investment Guarantee Agency
MITI	Ministry of International Trade and Industry
MMBOE	Million Barrels of Oil Equivalent
MME	Ministry of Mines and Energy
MMSCFD	Million Standard Cubic Feet Per Day
MOA	Ministry of Agriculture
MSY	Maximum Sustainable Yield
MUDP	Medan Urban Development Project
NAIEs	Newly Agro-industrializing Economies
NDC	National Development Center
NEDO	New Energy and Industrial Technology Development Organization
NES	Nucleus Estate Scheme
NG	Natural Gas
NGO	Non-governmental Organization
NIEs	Newly Industrializing Economies
NRER	New and Renewable Energy Resources
NUDS	The National Urban Development Strategy Project
NWC	North Western Coast Area
O&M	Operation and maintenance
ODA	Official Development Assistance

OECF	Overseas Economic Cooperation Fund
OMR	Operaton, Maintenance and Repair
OPMC	Outside Plant Maintenance Center
P3KT	Program Peningkatan Perbaikan Kampung Terpadu
PDAM	Perusahaan Daerah Air Minum
PDC	Provincial Development Center
PDP	Provincial Development Program
PELNI	Pelayaran Nasional Indonesia
PEMDA	Pemerintah Daerah
PERUMTEL	Perusahaan Umum Telekomunikasi
PHPA	Pelesterian Hutan dan Perlindungan Alam
PIR	Perkebunan Inti Rakyat
PJKA	Perusahaan Jawatan Kereta Api
PKB	Pajak Kendaraan Bermotor
PLN	Perusahaan Listrik Negara
PMUs	Project Management Units
POSTEL	Ministry of Tourism, Post and Telecommunication
PPI	Provincial fish landing center
PPW	Proyek Pengembangan Wilayah
PSB	P.T. Perikanan Samudra Besar
PUSDATA	Pusat Pengolahan Data
PUSIDO	Pusat Informasi dan Dokumentasi
RDC	Regional Development Center
RE	Rural Electrification
RSE	Remote Sensing Engineering Project
SATUGAS	Satuan Tugas
SBK	Small satellite station
SDM	Directorate of Mineral Resources
SKDP	Sambungan Komunikasi Data Packet (Packet Data Communication Systems)
SLDD	Subscriber long distance dialing
STDP	Smallholder Tree Crops Development Project
SUA	Strategic Urban Areas
SWC	South Western Coast Area
TDMA	Time Division Multiple Access
TEU	Twenty-foot Equivalent Unit
TGHK	Tata guna hutan kesepakatan (concensus on Forest Land Use)
TK.I.	Tingkat I (level I)
TPI	Forest management system
U.K.	United Kingdom
U.S.A.	United States of America
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Programme
UPPI	Provincial level marine fisheries development unit
US	United States
USAID	United States Agency for International Development
USSR	Union of Soviet Socialist Republics
VROM	Direktorat Perumahan Negeri (Pemerintahan) Belanda
WMTC	Watershed Management Technology Center

