APPENDIX

Appendix 1

INPUT DATA

FOR ESTIMATION OF THE PRODUCER'S SURPLUS BENEFIT

PRV. : RIAU KAB. : INDRAGIRI HILIR SURVEY YEAR : 1984

Code No.	KECAMATAN NAME	CULTIVATED AREA : (PA)	YIELD RATE : (Y)	FARMER'S POPULATION : (AP)	CIRCULATED COMMODITY : (PG)
01	RETEH	11,226	2,06	50,530	15,300
02	ENOK	741	2.00	25,400	18,500
03	KUALA INDRAGIRI	4,011	3.12	26,050	8,100
04	TEMBILAHAN	2,788	4.70	39,080	7,300
05	TEMPULING	5,120	4.09	25,410	8,100
06	GAUNG ANAK SERKA	4,364	2.54	37,170	9,600
07	MANDAH	0	0	15,880	12,300
08	KATEMAN	263	2.31	19,690	5,200
09	KERITANG	15,255	5.18	45,570	7,300
10	TANAH MERAH	0	0	20,010	11,400
11	BATANG TUAKA	3,547	3.45	15,570	5,000

	r_1	r_2	r_3	r_4
ANNUAL AVERAGE % GROWTH RATE	5.0	2.5	1.5	5.8

FARMER'S CONSUMPTION : (Cp)	NON-AGRO REQUIRMENT : (NG)
0.14 Ton/head/year	0.046 Ton/ton

	SEDAN	BUS	TRUCK	MOTOR CYCLE
RATE OF EACH VEHICLE TYPE %	0.20	0	0	99.80

AVERAGE FREIGHT TONAGE	0.8 Ton/Truck

Appendix A-2 Engineering Data

ROAD LINK DATA

PROVINCE : Riau

KABUPATEN: Indragiri Hilir

LINK NO.	BEGINNING POINT (DESA NAME)	END POINT (DESA NAME)	LENGTH (KM)	THROUGH THE KEC. NAME & LENGTH		REMARKS
				KEC. NAME	LENGTH (KM)	
01	Tembilahan	Pekan Arba	5	Tembilahan	5	
02	Tembilahan	Enok	23	Tembilahan Enok	12 11	
03	Sungai Luar	Sungai Empat	12	G.Anak Serka Batang Tuaka	2.5 9.5	
04	Enok	Benteng	17	Reteh Enok	5 12	
05	Benteng	Pulau Kijang	9	Reteh	9	
06	Pulau Kijang	Sanglar	16	Reteh	16	
07	Sanglar	Kota Baru Siberida	17	Reteh Keritang	8.5 8.5	
08	Kota Baru Siberida	Kuala Keritang	9	Keritang	9	
09	Kuala Keritang	Talang Jang - kang	16	Keritang	16	
10	Talang Jang - kang	Kemuning Tua	8	Keritang	8	
11	Kemuning Tua	Selensen	12	Keritang	12	
12	Sungai Luar	Sei. Dusun	9	Batang Tuaka	9	
13	Sei.Dusun	Sei.Piring	6	Batang Tuaka	6	
14	Sei.Piring	Tlk.Pinang	13	G.Anak Serka Batang Tuaka	7 6	
15	Tl .Pinang	Kuala Gaung	16	Gaung Anak Serka	16	
16	Tl .Pinang	Kuala Lahang	10	Gaung Anak Serka	10	
17	Kuala Lahang	Lahang Hulu	3	Gaung Anak Serka	3	
18	K. Baru Siberida	Tlk.Kiambang	22	Tempuling Keritang	4 18	
19	Sei.Rumbai	Reteh II	6	Enok	6	
20	Parit Masjid	Tempuling Transmigrasi	16	Tempuling	16	
21	Sei.Ara	Sei.Rumbai	8	Tempuling	8	
22	Khairah Mandah	Kuala Mandah	2	Mandah	2	
23	Khairah Mandah	Tabuhan Mandah	4	Mandah	4	
24	Enok	Simpang tiga	3	Enok	3	

Please note the priority No. in the Remarks of this list for each links No. according to the each Kabupaten's development plan.

ROAD LINK DATA

PROVINCE : Riau

KABUPATEN: Indragiri Hilir

LINK NO.	BEGINNING POINT (DESA NAME)	END POINT (DESA NAME)	LENGTH (KM)	THROUGH THE KEC. NAME & LENGTH		REMARKS
				KEC. NAME	LENGTH (KM)	
25	Simpang Tembilahan	Tj. Baru	7	Tembilahan Tanah Merah	3 4	
26	Pengalehan	Tl .Kiambang	5	Tempuling	5	
27	Tanjung Pasir	Tanjung Lajau	8	K.Indragiri Tanah Merah	5 3	
28	Terusan Mas	Sapat	5	Kuala Indragiri	5	
29	Tembilahan	Terusan Mas	10	Tembilahan	10	
30	Pulau Kijang	Sei.Terap	20	Reteh	20	
31	Pulau kijang	Senyerang	13	Reteh	13	

Please note the priority No. in the Remarks of this list for each links No. according to the each Kabupaten's development plan.

What Kind of Design Criteria has being applied for the new road construction and the improvement for the Kabupaten Road ?
Kriteria Perencanaan yang dipakai pada program penanganan jalan Kabupaten, baik untuk jalan lama maupun pembangunan baru.

Please draw the Typical Cross Section of the Kabupaten Road.
Buat gambar dan penjelasan dari: Typical cross section yang dipakai pada program penanganan jalan selama ini (baik untuk jalan lama, maupun pembangunan baru)

TYPICAL CROSS SECTION.

PROPINSI: Riau

E-03-(1)

KABUPATEN: Indragiri Hilir LOCATION AND COSTS OF THE KABUPATEN ROADS CONSTRUCTED OR INPROVED IN 1980/1981

Biaya konstruksi penanganan jalan dan jembatan Kabupaten thn. 1980/1981

LINK NO : Nomor Ruas	L O C A T I O N From - To (dari - ke)	Lebar perkerasan(m) / Lebar Jembatan	Type perkerasan / Type Jembatan	LENGTH Panjang (KM)	COSTS Harga (Rp 10^6)	REMARKS Keterangan
02	Tembilahan - Enok	3.5	Pasir	23	266.803	
		3	Kayu			
05	Benteng - Pl.Kijang	3.5	Pasir	9		
		3	Kayu			

* PAVEMENT TYPE : Pls note the appropriate No. below.

1. : Asphalt surface / penetrasi macadam
2. : Asphalt seal / pelaburan aspal
3. : Gravel / kerikil
4. : Gravel /AWCAS / kerikil / japat

PROPINSI: Riau

E-03-(2)

KABUPATEN: Indragiri Hilir

LOCATION AND COSTS OF THE KABUPATEN ROADS CONSTRUCTED OR INPROVED IN 1981/1982

Biaya konstruksi penanganan jalan dan jembatan Kabupaten thn. 1981/1982

LINK NO. : Nomor Ruas	LOCATION From - To (dari - ke)	Lebar perkerasan(m) / Lebar Jembatan	Type perkerasan / Type Jembatan	LENGTH Panjang (KM)	COSTS Harga (Rp 10^6)	REMARKS Keterangan
04	Enok - Benteng	3.5 / 3	Pasir / Kayu	17	156.898	
05	Pl.Kijang - Sanglar	3.5 / 3	Pasir / Kayu	13	258.678	

* PAVEMENT TYPE : Pls note the appropriate No. below.

1. : Asphalt surface / penetrasi macadam
2. : Asphalt seal / pelaburan aspal
3. : Gravel / kerikil
4. : Gravel /AWCAS / kerikil / japat

PROPINSI: Riau

E-03-(3)

KABUPATEN: Indragiri Hilir LOCATION AND COSTS OF THE KABUPATEN ROADS CONSTRUCTED OR INPROVED IN 1982/1983

Biaya konstruksi penanganan jalan dan jembatan Kabupaten thn. 1982/1983

LINK NO. : Nomor Ruas	LOCATION From - To (dari - ke)	Lebar perkerasan(m) / Lebar Jembatan	Type perkerasan / Type Jembatan	LENGTH Panjang (KM)	COSTS Harga (Rp 10^6)	REMARKS Keterangan
07	Sanglar - Kota Baru	3.5	Pasir	20	429.185	
		3	Kayu			
08	Kota Baru - Kw.Keritang	3.5	Pasir	8	65.111	
		3	Kayu			
09	Kw.Keritang - Tl.Jangkang	3.5	Pasir	15	121.005	
		3	Kayu			

* PAVEMENT TYPE : Pls note the appropriate No. below.

1. : Asphalt surface / penetrasi macadam
2. : Asphalt seal / pelaburan aspal
3. : Gravel / kerikil
4. : Gravel /AWCAS / kerikil / japat

PROPINSI: Riau

E-03-(4)

KABUPATEN: Indragiri Hilir LOCATION AND COSTS OF THE KABUPATEN ROADS CONSTRUCTED OR INPROVED IN 1983/1984

Biaya konstruksi penanganan jalan dan jembatan Kabupaten thn. 1983/1984

LINK NO Nomor Ruas	LOCATION From - To (dari - ke)	Lebar perkerasan(m) / Lebar Jembatan	Type perkerasan / Type Jembatan	LENGTH Panjang (KM)	COSTS Harga (Rp 10^6)	REMARKS Keterangan
10/11	Tl.Jangkang-Selensen	3.5	Pasir	17	178.127	
		3	Kayu			
03	Sei.Luar-Sei.Empat	3.5	Pasir	12	115.425	
		3	Kayu			
12	Sei.Luar-Sei.Dusun	3.5	Pasir	9	110.211	
		3	Kayu			
13	Sei.Dusun-Sei.Piring	3.5	Pasir	9	100.327	
		3	Kayu			

* PAVEMENT TYPE : Pls note the appropriate No. below.

1. : Asphalt surface / penetrasi macadam
2. : Asphalt seal / pelaburan aspal
3. : Gravel / kerikil
4. : Gravel /AWCAS / kerikil / japat

PROPINSI: Riau

E-03-(5)

KABUPATEN: Indragiri Hilir LOCATION AND COSTS OF THE KABUPATEN ROADS CONSTRUCTED OR INPROVED IN 1984/1985

Biaya konstruksi penanganan jalan dan jembatan Kabupaten thn. 1984/1985

LINK NO Nomor Ruas	LOCATION From - To (dari - ke)	Lebar perkerasan(m) / Lebar Jembatan	Type perkerasan / Type Jembatan	LENGTH Panjang (KM)	COSTS Harga (Rp 10^6)	REMARKS Keterangan
02	Tembilahan-Enok	3.5 / 3	Pasir / Kayu	23	131.181	
04	Enok-Benteng	3.5 / 3	Pasir / Kayu	17	103.746	
05	Benteng-Pl.Kijang	3.5 / 3	Pasir / Kayu	9	54.527	
14	Sei.Piring-Tl.Pinang	3.5 / 3	Pasir / Kayu	15	193.313	
15	Tl.Pinang-Kw.Gaung	3.5 / 3	Pasir / Kayu	10	136.285	

* PAVEMENT TYPE : Pls note the appropriate No. below.

1. : Asphalt surface / penetrasi macadam
2. : Asphalt seal / pelaburan aspal
3. : Gravel / kerikil
4. : Gravel /AWCAS / kerikil / japat

PROPINSI : Riau

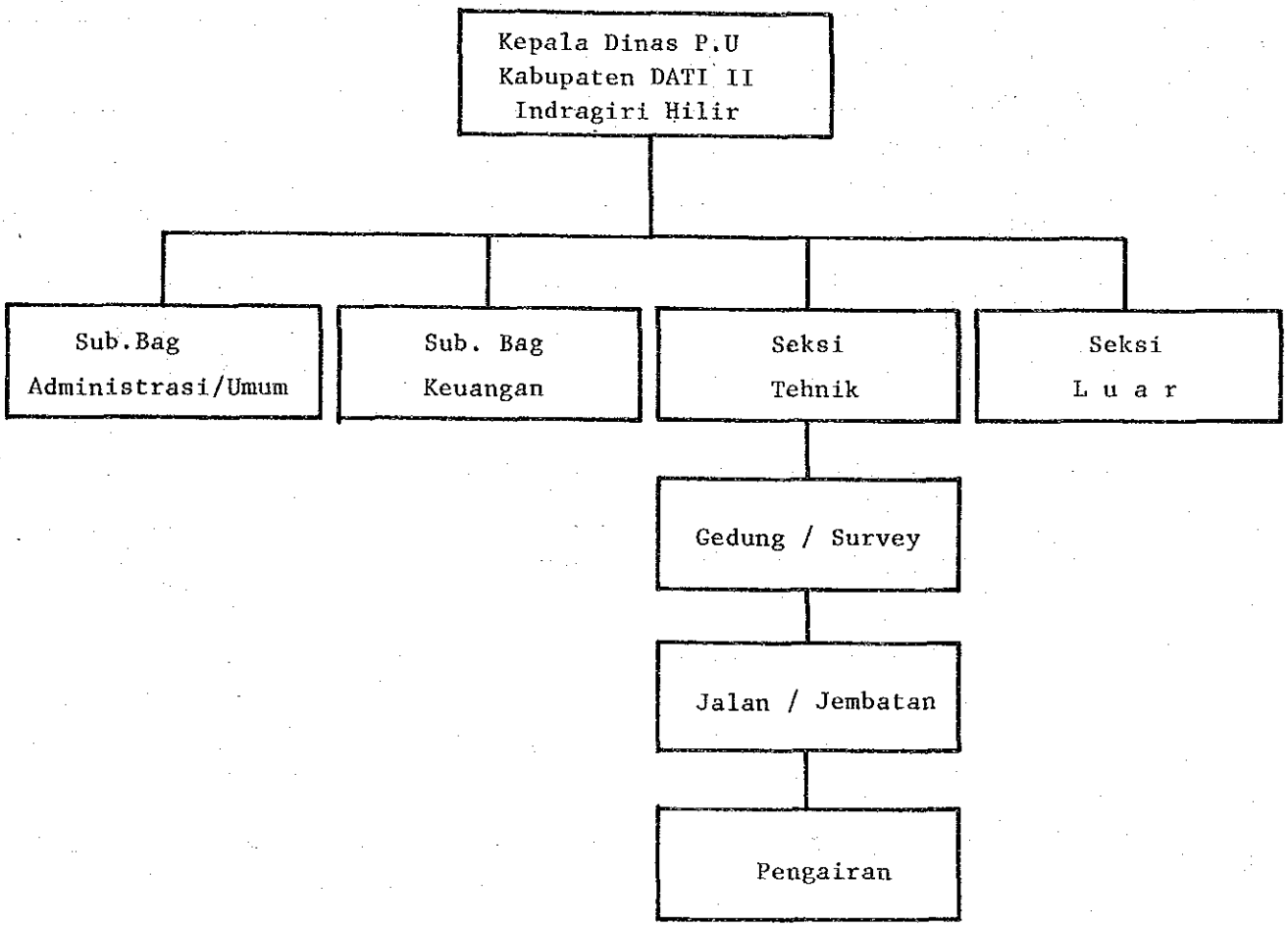
KABUPATEN: Indragiri Hilir

E-04

EXISTING ORGANIZATION IN KABUPATEN

Structur Organisasi yang ada dari P.U Kabupaten

Please draw the Cart of the Existing Organization in the Kabupaten.
Harap digambar bagan organisasi dari DPUK.



EXISTING STAFF RESOURCES OF BINA MARGA OF PU KABUPATEN

Tenaga Dinas PUK yang ada

PROPINSI: Riau

KABUPATEN: Indragiri Hilir

DESCRIPTION /Uraian	NUMBER / Jumlah	REMARKS Keterangan
CONTROLING STAFF Staff teknis PUK	———	———
DPUK ENGINEED Sarjana Teknik		
ASSISTANT ENGINEER Sarjana Muda Teknik	1	1
TECHNICIAN STAFF Staff Teknik (STM)	14	8
ADMINISTRATION Tenaga Administrasi	14	6
SUPERVISOR Tenaga Pengawas	19	4
WORKING FORCE Tenaga Pelaksana Lapangan	———	———
OPERATORS Operators		
DRIVERS Supir	1	
MECHANICS Mechanic	2	2
TRADESMAN Tukang		
L A B O U R Buruh / Pekerja	7	
OTHERS Lain-lain		
TOTAL / JUMLAH	58	21

Catatan ; Untuk kolom keterangan harap diisi berapa orang yang telah mendapat Training.

LOCATION AND AREA OF DPUK WORKSHOP

E-06

Lokasi Workshop DPUK

PROPINSI : Riau

KABUPATEN: Indragiri Hilir

LOCATION Lokasi	AREA (m2) Luas	NUMBER Jumlah	REMARKS Keterangan
Tembilahan	1.000		

PROPINSI: Riau

KABUPATEN: Indragiri Hilir

E-07

LAND ACQUISITION COST

Daftar harga pembebasan tanah

DESCRIPTION Uraian	UNIT Satuan	RATE (RP) Harga	REMARKS Keterangan
CITY/kota	M2	3.000 s/d 15.000	
VILLAGE / desa	M2	2.000 s/d 5.000	
RICE FIELD/sawah	M2	500 s/d 1.500	
DRY FIELD/ladang	M2	125 s/d 750	
MIX CROPS/panen	M2		
FOREST/hutan	M2		
SWAMP / rawa	M2		
OTHERS / lain-lain	M2		

PROPINSI: Riau

E-08

KABUPATEN: Indragiri Hilir

Classification of local contractors at Kabupaten level.

Klasifikasi kontraktor di Kabupaten

COMPANY NAME Nama Kontraktor	CLASS Kelas	CAPITAL Modal (Rp)	NUMBER OF EMPLOYEE Jumlah pegawai	REMARKS Keterangan
12	C1			
12	C2			

NOTE: DATI II

PROPINSI:

KABUPATEN:

E-09

LIST OF EXISTING EQUIPMENT OF LOCAL CONTRACTOR

Name of contractor

NAME OF EQUIPMENT Jenis peralatan	EXISTING CONDITION/ Kondisi Peralatan						REQUIRE - MENT / Kebutuhan peralatan baru
	TYPE/ Tipe	P.Y	NUMBER / Jumlah			REASON OF BAD CONDITION/Sebab Kerusakan	
			GOOD Baik	BAD Rusak	TOTAL Jumlah		
Bulldozer							
Motor Grader							
Tyre Roller							
Steel Whell Roller							
Vibration Roller							
Wheel Loader							
Front End Loader and Backhoe							
Mobile Crane							
Concrete Mixer							
Stone Crusher							
Portable Compressor							
Hydraulic Excavator							
Asphalt Paving Machine							
Asphalt Sprayer							
Asphalt Mixing Machine							
Mobile Workshop							
Mechanic Rammer							
Plate Tamper							
Pile Driver							
Leg Drill							
Hand Hammer							
Farm Tractor							
Dump Truck							
Water Tank Truck							
Fuel Tank Truck							
Pick Up							
Jeep							
Motorcycle							
Generator							
Water Pump							
Others							
-							

PROPINSI:

KABUPATEN:

LIST OF EXISTING EQUIPMENT OF P.U KABUPATEN

NAME OF EQUIPMENT Jenis peralatan	EXISTING CONDITION/ Kondisi Peralatan						REQUIRE - MENT / Kebutuhan peralatan baru
	TYPE/ Tipe	P.Y	NUMBER / Jumlah			REASON OF BAD CONDITION/Sebab Kerusakan	
			GOOD Baik	BAD Rusak	TOTAL Jumlah		
Bulldozer							
Motor Grader							
Tyre Roller							
Steel Whell Roller							
Vibration Roller							
Wheel Loader							
Front End Loader and Backhoe							
Mobile Crane							
Concrete Mixer							
Stone Crusher							
Portable Compressor							
Hydraulic Excavator							
Asphalt Paving Machine							
Asphalt Sprayer							
Asphalt Mixing Machine							
Mobile Workshop							
Mechanic Rammer							
Plate Tamper							
Pile Driver							
Leg Drill							
Hand Hammer							
Farm Tractor							
Dump Truck							
Water Tank Truck							
Fuel Tank Truck							
Pick Up							
Jeep							
Motorcycle							
Generator							
Water Pump							
Others							

Appendix A-3 CONSTRUCTION AND MAINTENANCE COST FOR PROPOSED ROAD LINKS

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 5 (IIIB-2) LENGTH : 9 Km

UPGRADE : 7.0m road bed, 3.5m road with surface Base Cource

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>> LOCAL	FOREIGN	<<<<<< COST LOCAL	FOREIGN	>>>>>> TOTAL
Site Clearance in Light Bush	m2	0.0	245	91	0	0	0
Subgrade Preparation	m2	64800.0	31	11	2,008,800	712,800	2,721,600
Normal Fill	m3	0.0	2,574	962	0	0	0
Fill in Swamp	m3	6960.0	5,385	267	37,479,600	1,858,320	39,337,920
Normal Excavation to Spoil	m3	600.0	1,495	522	897,000	313,200	1,210,200
Cement Stabilizing	m3	5325.3	11,814	14,289	62,913,094	76,093,211	139,006,305
Cement Stabilizing	m3	1890.0	11,814	14,289	22,328,460	27,006,210	49,334,670
Shoulder	m2	31500.0	447	146	14,080,500	4,599,000	18,679,500
Asphalt Patching	m2	0.0	10,443	1,644	0	0	0
Surface Dressing (Single)	m2	0.0	1,514	1,323	0	0	0
Surface Dressing (Double)	m2	0.0	2,080	2,087	0	0	0
Earth Drain	m	0.0	1,336	119	0	0	0
Earth Drain in Swamp (by machine)	m3	48000.0	1,836	473	88,128,000	22,704,000	110,832,000
Pipe Culvert D80cm	m	0.0	68,867	58,844	0	0	0
Masonry Culvert (80x80cm)	m	0.0	118,628	44,536	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	200.0	18,526	246	3,705,200	49,200	3,754,400
Retaining Wall and Wing Wall (Masonry)	m3	0.0	86,546	10,826	0	0	0
Gabion Protection	m3	0.0	36,654	120	0	0	0
New Bridge (Timber)	SET	1.0	--	--	3,993,284	255,112	4,248,396
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
			Sub Total		235,533,938	133,591,053	369,124,991
Overhead (15%)					35,330,090	20,038,657	55,368,747
			TOTAL COST		270,864,028	153,629,710	424,493,738
Manual routine maintenance of road	Km	9.0	220,752	7,236	1,986,768	65,124	2,051,892
Routine maintenance of gravel road	Km	9.0	975,577	42,615	8,780,193	383,535	9,163,728
			Sub Total		10,766,961	448,659	11,215,620
Maintenance of Timber Bridge (New)	m2	8.0	12,383	1,009	99,064	8,072	107,136
Maintenance of Concrete Bridge (New)	m2	0.0	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	243.2	12,414	2,347	3,019,084	570,790	3,589,874
Maintenance of Concrete Bridge (Exist)	m2	0.0	6,962	2,563	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	46,623,120
Timber Bridge	Unit Cost	(Rp/m2)	:	610,707
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	69,503,152
Maintenance Rate without Bridge		(%)	:	2.67
New Bridge Cost Rate		(%)	:	1.15

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 4 (IIIB-2) LENGTH : 17 Km

UPGRADE : 7.0m road bed, 3.5m road with surface Base Cource

(Rp)

ITEM	UNIT	QUANTITY	UNIT COST LOCAL	UNIT COST FOREIGN	COST LOCAL	COST FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	245	91	0	0	0
Subgrade Preparation	m2	81000.0	31	11	2,511,000	891,000	3,402,000
Normal Fill	m3	0.0	2,574	862	0	0	0
Fill in Swamp	m3	6412.5	5,385	267	34,531,312	1,712,137	36,243,449
Normal Excavation to Spoil	m3	100.0	1,495	522	149,500	52,200	201,700
Cement Stabilizing	m3	7572.3	11,814	14,289	89,459,152	108,200,594	197,659,746
Cement Stabilizing	m3	3570.0	11,814	14,289	42,175,980	51,011,730	93,187,710
Shoulder	m2	59500.0	447	146	26,596,500	8,687,000	35,283,500
Asphalt Patching	m2	0.0	10,443	1,644	0	0	0
Surface Dressing (Single)	m2	0.0	1,514	1,323	0	0	0
Surface Dressing (Double)	m2	0.0	2,080	2,087	0	0	0
Earth Drain	m	0.0	1,338	119	0	0	0
Earth Drain in Swamp (by machine)	m3	60000.0	1,836	473	110,160,000	28,380,000	138,540,000
Pipe Culvert D80cm	m	0.0	68,867	58,844	0	0	0
Masonry Culvert (80x80cm)	m	0.0	118,628	44,536	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	400.0	18,526	246	7,410,400	98,400	7,508,800
Retaining Wall and Wing Wall (Masonry)	m3	0.0	86,546	10,826	0	0	0
Gabion Protection	m3	0.0	36,654	120	0	0	0
New Bridge (Timber)	SET	1.0	--	--	47,953,824	2,734,520	50,688,344
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
			Sub Total		360,947,668	201,767,581	562,715,249
Overhead (15%)					54,142,150	30,265,137	84,407,287
			TOTAL COST		415,089,818	232,032,718	647,122,536
Manual routine maintenance of road	Km	17.0	220,752	7,236	3,752,784	123,012	3,875,796
Routine maintenance of gravel road	Km	17.0	975,577	42,615	16,584,809	724,455	17,309,264
			Sub Total		20,337,593	847,467	21,185,060
Maintenance of Timber Bridge (New)	m2	216.0	12,383	1,009	2,674,728	217,944	2,892,672
Maintenance of Concrete Bridge (New)	m2	0.0	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	6,962	2,583	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	34,637,114
Timber Bridge	Unit Cost	(Rp/m2)	:	269,868
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	98,829,873
Maintenance Rate without Bridge		(%)	:	3.60
New Bridge Cost Rate		(%)	:	9.01

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 2 (IIIB-1) LENGTH : 23 Km

UPGRADE : 7.0m road bed, 3.5m road with surface Dressing (1)

(Rp)

ITEM	UNIT	QUANTITY	UNIT COST LOCAL	UNIT COST FOREIGN	COST LOCAL	COST FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	245	91	0	0	0
Subgrade Preparation	m2	186300.0	31	11	5,775,300	2,049,300	7,824,600
Normal Fill	m3	0.0	2,574	862	0	0	0
Fill in Swamp	m3	9660.0	5,385	267	52,019,100	2,579,220	54,598,320
Normal Excavation to Spoil	m3	400.0	1,495	522	598,000	208,800	806,800
Cement Stabilizing	m3	14353.5	11,814	14,289	169,572,249	205,097,161	374,669,410
Cement Stabilizing	m3	5635.0	11,814	14,289	66,571,890	80,518,515	147,090,405
Shoulder	m2	80500.0	447	146	35,983,500	11,753,000	47,736,500
Asphalt Patching	m2	0.0	10,443	1,644	0	0	0
Surface Dressing (Single)	m2	80500.0	1,514	1,323	121,877,000	106,501,500	228,378,500
Surface Dressing (Double)	m2	0.0	2,080	2,087	0	0	0
Earth Drain	m	2600.0	1,336	119	3,473,600	309,400	3,783,000
Earth Drain in Swamp (by machine)	m3	138000.0	1,836	473	253,368,000	65,274,000	318,642,000
Pipe Culvert D80cm	m	8.0	68,867	58,844	550,936	470,752	1,021,688
Masonry Culvert (80x80cm)	m	0.0	118,628	44,536	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	100.0	18,526	246	1,852,600	24,600	1,877,200
Retaining Wall and Wing Wall (Masonry)	m3	0.0	86,546	10,826	0	0	0
Gabion Protection	m3	0.0	36,654	120	0	0	0
New Bridge (Timber)	SET	1.0	--	--	22,527,407	1,259,722	23,787,129
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
			Sub Total		734,169,582	476,045,970	1,210,215,552
Overhead (15%)					110,125,437	71,406,895	181,532,332
			TOTAL COST		844,295,019	547,452,865	1,391,747,884
Manual routine maintenance of road	Km	23.0	220,752	7,236	5,077,296	166,428	5,243,724
Routine maintenance of asphalt road	Km	23.0	1,044,300	164,400	24,018,900	3,781,200	27,800,100
			Sub Total		29,096,196	3,947,628	33,043,824
Maintenance of Timber Bridge (New)	m2	104.0	12,383	1,009	1,287,832	104,936	1,392,768
Maintenance of Concrete Bridge (New)	m2	0.0	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	515.2	12,414	2,347	6,395,692	1,209,174	7,604,866
Maintenance of Concrete Bridge (Exist)	m2	0.0	6,962	2,563	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	59,321,421
Timber Bridge	Unit Cost	(Rp/m2)	:	263,031
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	291,686,668
Maintenance Rate without Bridge		(%)	:	2.42
New Bridge Cost Rate		(%)	:	1.97

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 9 (IIIB-1) LENGTH : 16 Km

UPGRADE : 6.5m road bed, 3.5m road with surface Dressing (1)

(Rp)

ITEM	UNIT	QUANTITY	UNIT COST LOCAL	UNIT COST FOREIGN	COST LOCAL	COST FOREIGN	COST TOTAL
Site Clearance in Light Bush	m2	0.0	245	91	0	0	0
Subgrade Preparation	m2	6480.0	31	11	200,880	71,280	272,160
Normal Fill	m3	0.0	2,574	862	0	0	0
Fill in Swamp	m3	513.0	5,385	267	2,762,505	136,971	2,899,476
Normal Excavation to Spoil	m3	75.0	1,495	522	112,125	39,150	151,275
Cement Stabilizing	m3	2798.3	11,814	14,289	33,059,116	39,984,908	73,044,024
Cement Stabilizing	m3	3920.0	11,814	14,289	46,310,880	56,012,880	102,323,760
Shoulder	m2	48000.0	447	146	21,456,000	7,008,000	28,464,000
Asphalt Patching	m2	0.0	10,443	1,644	0	0	0
Surface Dressing (Single)	m2	56000.0	1,514	1,323	84,784,000	74,088,000	158,872,000
Surface Dressing (Double)	m2	0.0	2,080	2,087	0	0	0
Earth Drain	m	0.0	1,336	119	0	0	0
Earth Drain in Swamp (by machine)	m3	4800.0	1,836	473	8,812,800	2,270,400	11,083,200
Pipe Culvert D80cm	m	0.0	68,867	58,844	0	0	0
Masonry Culvert (80x80cm)	m	0.0	118,628	44,536	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	75.0	18,526	246	1,389,450	18,450	1,407,900
Retaining Wall and Wing Wall (Masonry)	m3	0.0	86,546	10,826	0	0	0
Gabion Protection	m3	0.0	36,654	120	0	0	0
New Bridge (Timber)	SET	1.0	--	--	63,486,511	3,430,068	66,916,579
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
			Sub Total		262,374,267	183,060,107	445,434,374
Overhead (15%)					39,356,140	27,459,016	66,815,156
			TOTAL COST		301,730,407	210,519,123	512,249,530
Manual routine maintenance of road	Km	16.0	220,752	7,236	3,532,032	115,776	3,647,808
Routine maintenance of asphalt road	Km	16.0	1,044,300	164,400	16,708,800	2,630,400	19,339,200
			Sub Total		20,240,832	2,746,176	22,987,008
Maintenance of Timber Bridge (New)	m2	344.0	12,383	1,009	4,259,752	347,096	4,606,848
Maintenance of Concrete Bridge (New)	m2	0.0	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	6,962	2,563	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	27,205,967
Timber Bridge	Unit Cost	(Rp/m2)	:	223,704
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	71,595,568
Maintenance Rate without Bridge		(%)	:	5.28
New Bridge Cost Rate		(%)	:	15.02

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 20 (IIIB-1) LENGTH : 16 Km

UPGRADE : 6.0m road bed, 3.5m road with surface Dressing (1)

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>> LOCAL	FOREIGN	<<<<<< COST >>>>>> LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	m2	0.0	245	91	0	0	0
Subgrade Preparation	m2	96000.0	31	11	2,976,000	1,056,000	4,032,000
Normal Fill	m3	0.0	2,574	862	0	0	0
Fill in Swamp	m3	8700.0	5,385	267	46,849,500	2,322,900	49,172,400
Normal Excavation to Spoil	m3	2426.0	1,495	522	3,626,870	1,266,372	4,893,242
Cement Stabilizing	m3	7840.0	11,814	14,289	92,621,760	112,025,760	204,647,520
Cement Stabilizing	m3	3920.0	11,814	14,289	46,310,880	56,012,880	102,323,760
Shoulder	m2	40000.0	447	146	17,880,000	5,840,000	23,720,000
Asphalt Patching	m2	0.0	10,443	1,644	0	0	0
Surface Dressing (Single)	m2	56000.0	1,514	1,323	84,784,000	74,088,000	158,872,000
Surface Dressing (Double)	m2	0.0	2,080	2,087	0	0	0
Earth Drain	m	0.0	1,336	119	0	0	0
Earth Drain in Swamp (by machine)	m3	60000.0	1,836	473	110,160,000	28,380,000	138,540,000
Pipe Culvert D80cm	m	0.0	68,867	58,844	0	0	0
Masonry Culvert (80x80cm)	m	0.0	118,628	44,536	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	18,526	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	86,546	10,826	0	0	0
Gabion Protection	m3	0.0	36,654	120	0	0	0
New Bridge (Timber)	SET	1.0	--	--	44,818,575	2,227,830	47,046,405
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
			Sub Total		450,027,585	283,219,742	733,247,327
Overhead (15%)					67,504,137	42,482,961	109,987,098
			TOTAL COST		517,531,722	325,702,703	843,234,425
Manual routine maintenance of road	Km	16.0	220,752	7,236	3,532,032	115,776	3,647,808
Routine maintenance of asphalt road	Km	16.0	1,044,300	164,400	16,709,800	2,630,400	19,339,200
			Sub Total		20,240,832	2,746,176	22,987,008
Maintenance of Timber Bridge (New)	m2	300.0	12,383	1,009	3,714,900	302,700	4,017,600
Maintenance of Concrete Bridge (New)	m2	0.0	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	6,962	2,563	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	49,320,691
Timber Bridge	Unit Cost	(Rp/m2)	:	180,345
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	163,718,016
Maintenance Rate	without Bridge	(%)	:	2.91
New Bridge Cost Rate		(%)	:	6.42

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 18 (IIIB-1) LENGTH : 22 Km

UPGRADE : 6.5m road bed, 3.5m road with surface Dressing (1)

(Rp)

I T E M	UNIT	QUANTITY	UNIT COST LOCAL	UNIT COST FOREIGN	COST LOCAL	COST FOREIGN	COST TOTAL
Site Clearance in Light Bush	m2	0.0	245	91	0	0	0
Subgrade Preparation	m2	143000.0	31	11	4,433,000	1,573,000	6,006,000
Normal Fill	m3	0.0	2,574	862	0	0	0
Fill in Swamp	m3	11062.5	5,385	267	59,571,562	2,953,687	62,525,249
Normal Excavation to Spoil	m3	3399.0	1,495	522	5,081,505	1,774,278	6,855,783
Cement Stabilizing	m3	10780.0	11,814	14,289	127,354,920	154,035,420	281,390,340
Cement Stabilizing	m3	5390.0	11,814	14,289	63,677,460	77,017,710	140,695,170
Shoulder	m2	66000.0	447	146	29,502,000	9,636,000	39,138,000
Asphalt Patching	m2	0.0	10,443	1,644	0	0	0
Surface Dressing (Single)	m2	77000.0	1,514	1,323	116,578,000	101,871,000	218,449,000
Surface Dressing (Double)	m2	0.0	2,080	2,087	0	0	0
Earth Drain	m	16000.0	1,336	119	21,376,000	1,904,000	23,280,000
Earth Drain in Swamp (by machine)	m3	60000.0	1,836	473	110,160,000	28,380,000	138,540,000
Pipe Culvert D80cm	m	0.0	69,867	58,844	0	0	0
Masonry Culvert (80x80cm)	m	0.0	118,628	44,536	0	0	0
Retaining Wall and Wing Wall (Timber)	m2	0.0	18,526	246	0	0	0
Retaining Wall and Wing Wall (Masonry)	m3	0.0	86,546	10,826	0	0	0
Gabion Protection	m3	0.0	36,654	120	0	0	0
New Bridge (Timber)	SET	1.0	--	--	44,233,740	2,200,106	46,433,846
New Bridge (Concrete)	SET	1.0	--	--	0	0	0
			Sub Total		581,968,187	381,345,201	963,313,388
Overhead (15%)					87,295,228	57,201,780	144,497,008
			TOTAL COST		669,263,415	438,546,981	1,107,810,396
Manual routine maintenance of road	Km	22.0	220,752	7,236	4,856,544	159,192	5,015,736
Routine maintenance of asphalt road	Km	22.0	1,044,300	164,400	22,974,600	3,616,800	26,591,400
			Sub Total		27,831,144	3,775,992	31,607,136
Maintenance of Timber Bridge (New)	m2	300.0	12,383	1,009	3,714,900	302,700	4,017,600
Maintenance of Concrete Bridge (New)	m2	0.0	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.0	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.0	6,962	2,563	0	0	0

Earthwork & Pavement	Unit Cost	(Rp/Km)	:	47,927,794
Timber Bridge	Unit Cost	(Rp/m2)	:	177,996
Concrete Bridge	Unit Cost	(Rp/m2)	:	
Survived Value		(Rp)	:	225,112,272
Maintenance Rate without Bridge		(%)	:	3.00
New Bridge Cost Rate		(%)	:	4.82

Appendix A-4 CONSTRUCTION AND MAINTENANCE QUANTITIES
FOR ALL PROPOSED ROAD LINKS
(CONSTRUCTION)

PROV : RIAU KAB : INDRAGIRI HILIR

ITEM	UNIT	(1988)	(1989)	(1990)	(1991)	(1992)	(TOTAL)
EQUIPMENT :							
Bulldozer	hr	294.0	736.4	815.7	924.0	879.3	3649.4
Bulldozer/Ripper	hr	113.6	290.7	338.2	393.8	394.5	1530.8
Swamp Bulldozer	hr	145.0	320.0	338.6	242.5	397.4	1443.5
Motor Grader	hr	601.0	1544.3	1738.5	2008.7	1930.9	7823.4
Road Stabilizer	hr	294.0	736.4	815.7	924.0	879.3	3649.4
Hand-guide Vib. Roller	hr	70.4	145.0	139.0	455.0	473.7	1283.1
Tire Roller	hr	233.3	559.9	616.8	695.6	140.0	2245.6
Vibratory Roller (D&T)	hr	677.0	1688.5	1876.7	2017.2	2067.7	8327.1
Hydraulic Excavator; Wheel	hr	2250.0	5670.0	5737.5	7069.5	7083.0	27810.0
Wheel Loader	hr	554.6	1395.3	1561.8	1779.8	1713.5	7005.0
Water Tank Truck	hr	564.0	1392.7	1536.7	1626.9	1653.0	6773.3
Dump Truck	hr	5159.6	13437.2	14887.6	16846.2	16396.2	66726.8
Flat Bed Truck with Crane	hr	143.2	258.3	235.7	441.6	400.9	1479.7
Flat Bed Truck	hr	744.4	1824.5	2009.7	2368.3	1634.3	8581.2
Concrete Mixer	hr	0.0	0.2	0.3	0.7	0.0	1.2
Water Pump	hr	0.0	0.2	0.3	0.7	0.0	1.2
Concrete Vibrator	hr	0.0	0.2	0.3	0.7	0.0	1.2
Asphalt Sprayer	hr	233.3	559.9	616.8	695.6	140.0	2245.6
LABOUR :							
Mandur	man day	834.5	2039.8	2193.3	2651.4	2484.4	10203.4
Skilled Labourer	man day	1407.4	2614.5	2446.5	4321.0	3662.6	14452.0
Carpenter	man day	685.6	1231.0	1121.5	2100.6	1928.6	7067.3
Mason	man day	0.0	0.0	0.0	0.0	0.0	0.0
Labourer	man day	5863.2	15786.5	18285.0	18796.8	17170.2	75901.7
Driver	man day	1171.9	2987.9	3305.2	3769.8	3472.4	14707.2
Operator	man day	907.1	2274.2	2439.0	2886.8	2788.6	11295.7
MATERIAL :							
Bitumen	l	47833.3	114799.9	126459.3	142603.1	28700.0	460395.6
Asphalt Oil	l	9566.6	22960.0	25291.8	28520.6	5740.0	92079.0
Kerosene	l	11433.3	27439.9	30226.8	34085.6	6860.0	110045.6
Sand	m3	10463.9	24858.5	27029.9	26768.3	30184.1	119304.7
Cement	bag	11319.0	28356.7	31413.4	35588.9	33855.9	140533.9
River Stone	m3	0.0	0.0	0.0	0.0	0.0	0.0
Steel Moulds	set	0.0	1.6	2.0	4.4	0.0	8.0
Timber	m3	62.2	112.1	102.1	195.2	186.8	658.4
Paint	l	386.7	700.3	640.1	1265.1	1103.0	4095.2
Reinforcing Steel	kg	0.0	51.0	63.8	140.3	0.0	255.1
Tying Wire	kg	0.0	0.4	0.5	1.2	0.0	2.1
BaseCourse Material	m3	0.0	0.0	0.0	0.0	0.0	0.0
Crushed Stone	m3	466.6	1120.4	1234.2	1392.4	280.0	4493.6

CONSTRUCTION AND MAINTENANCE QUANTITIES
FOR ALL PROPOSED ROAD LINKS
(MAINTENANCE)

PROV : RIAU KAB : INDRAGIRI HILIR

ITEM	UNIT	(1988)	(1989)	(1990)	(1991)	(1992)	(TOTAL)
EQUIPMENT :							
Bulldozer	hr	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozer/Ripper	hr	0.0	0.0	0.0	0.0	0.0	0.0
Swamp Bulldozer	hr	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader	hr	144.7	279.1	276.5	261.0	186.0	1147.3
Road Stabilizer	hr	0.0	0.0	0.0	0.0	0.0	0.0
Hand-guide Vib. Roller	hr	0.0	0.0	240.0	570.0	915.0	1725.0
Tire Roller	hr	144.7	279.1	276.5	261.0	186.0	1147.3
Vibratory Roller (D&T)	hr	0.0	0.0	0.0	0.0	0.0	0.0
Hydraulic Excavator; Wheel	hr	0.0	0.0	0.0	0.0	0.0	0.0
Wheel Loader	hr	0.0	0.0	0.0	0.0	0.0	0.0
Water Tank Truck	hr	0.0	0.0	0.0	0.0	0.0	0.0
Dump Truck	hr	0.0	0.0	480.0	1140.0	1830.0	3450.0
Flat Bed Truck with Crane	hr	1305.6	2543.1	2526.1	2515.6	2615.2	11505.6
Flat Bed Truck	hr	552.7	1067.5	1250.0	1457.1	1458.0	5785.3
Concrete Mixer	hr	0.0	0.0	0.0	0.0	0.0	0.0
Water Pump	hr	0.0	0.0	0.0	0.0	0.0	0.0
Concrete Vibrator	hr	0.0	0.0	0.0	0.0	0.0	0.0
Asphalt Sprayer	hr	0.0	0.0	0.0	0.0	0.0	0.0
LABOUR :							
Mandur	man day	209.6	405.7	546.3	750.3	881.9	2793.8
Skilled Labourer	man day	362.4	706.0	861.2	1244.8	1502.5	4676.9
Carpenter	man day	194.6	379.0	376.5	464.3	479.2	1893.6
Mason	man day	0.0	0.0	0.0	0.0	0.0	0.0
Labourer	man day	2088.0	4036.2	5761.5	8049.4	9631.6	29566.7
Driver	man day	371.6	722.3	829.0	979.8	1116.3	4019.0
Operator	man day	48.2	93.0	92.1	87.0	62.0	382.3
MATERIAL :							
Bitumen	l	0.0	0.0	2160.0	5130.0	8235.0	15525.0
Asphalt Oil	l	0.0	0.0	0.0	0.0	0.0	0.0
Kerosene	l	0.0	0.0	240.0	570.0	915.0	1725.0
Sand	m3	0.0	0.0	40.0	95.0	152.5	287.5
Cement	bag	0.0	0.0	0.0	0.0	0.0	0.0
River Stone	m3	0.0	0.0	0.0	0.0	0.0	0.0
Steel Moulds	set	0.0	0.0	0.0	0.0	0.0	0.0
Timber	m3	17.6	34.4	34.2	42.1	43.4	171.7
Paint	l	126.0	245.5	243.8	300.7	310.3	1226.3
Reinforcing Steel	kg	0.0	0.0	0.0	0.0	0.0	0.0
Tying Wire	kg	0.0	0.0	0.0	0.0	0.0	0.0
BaseCourse Material	m3	393.7	735.7	962.9	1215.3	1185.0	4492.6
Crushed Stone	m3	0.0	0.0	24.0	57.0	91.5	172.5

CONSTRUCTION AND MAINTENANCE QUANTITIES
FOR ALL PROPOSED ROAD LINKS
(TOTAL)

PROV : RIAU KAB : INDRAGIRI HILIR

ITEM	UNIT	(1988)	(1989)	(1990)	(1991)	(1992)	(TOTAL)
EQUIPMENT :							
Bulldozer	hr	294.0	736.4	815.7	924.0	879.3	3649.4
Bulldozer/Ripper	hr	113.6	290.7	338.2	393.8	394.5	1530.8
Swamp Bulldozer	hr	145.0	320.0	338.6	242.5	397.4	1443.5
Motor Grader	hr	745.7	1823.4	2015.0	2269.7	2116.9	8970.7
Road Stabilizer	hr	294.0	736.4	815.7	924.0	879.3	3649.4
Hand-guide Vib. Roller	hr	70.4	145.0	379.0	1025.0	1388.7	3008.1
Tire Roller	hr	378.0	839.0	893.3	956.6	326.0	3392.9
Vibratory Roller (D&T)	hr	677.0	1688.5	1876.7	2017.2	2067.7	8327.1
Hydraulic Excavator; Wheel	hr	2250.0	5670.0	5737.5	7069.5	7083.0	27810.0
Wheel Loader	hr	554.6	1395.3	1561.8	1779.8	1713.5	7005.0
Water Tank Truck	hr	564.0	1392.7	1536.7	1626.9	1653.0	6773.3
Dump Truck	hr	5159.6	13437.2	15367.6	17986.2	18226.2	70176.8
Flat Bed Truck with Crane	hr	1448.8	2801.4	2761.8	2957.2	3016.1	12985.3
Flat Bed Truck	hr	1297.1	2892.0	3259.7	3825.4	3092.3	14366.5
Concrete Mixer	hr	0.0	0.2	0.3	0.7	0.0	1.2
Water Pump	hr	0.0	0.2	0.3	0.7	0.0	1.2
Concrete Vibrator	hr	0.0	0.2	0.3	0.7	0.0	1.2
Asphalt Sprayer	hr	233.3	559.9	616.8	695.6	140.0	2245.6
LABOUR :							
Mandur	man day	1044.1	2445.5	2739.6	3401.7	3366.3	12997.2
Skilled Labourer	man day	1769.8	3320.5	3307.7	5565.8	5165.1	19128.9
Carpenter	man day	880.2	1610.0	1498.0	2564.9	2407.8	8960.9
Mason	man day	0.0	0.0	0.0	0.0	0.0	0.0
Labourer	man day	7951.2	19822.7	24046.5	26846.2	26801.8	105468.4
Driver	man day	1543.5	3710.2	4134.2	4749.6	4588.7	18726.2
Operator	man day	955.3	2367.2	2531.1	2973.8	2850.6	11678.0
MATERIAL :							
Bitumen	l	47833.3	114799.9	128619.3	147733.1	36935.0	475920.6
Asphalt Oil	l	9566.6	22960.0	25291.8	28520.6	5740.0	92079.0
Kerosene	l	11433.3	27439.9	30466.8	34655.6	7775.0	111770.6
Sand	m3	10463.9	24858.5	27069.9	26863.3	30336.6	119592.2
Cement	bag	11319.0	28356.7	31413.4	35588.9	33855.9	140533.9
River Stone	m3	0.0	0.0	0.0	0.0	0.0	0.0
Steel Moulds	set	0.0	1.6	2.0	4.4	0.0	8.0
Timber	m3	79.8	146.5	136.3	237.3	230.2	830.1
Paint	l	512.7	945.8	883.9	1565.8	1413.3	5321.5
Reinforcing Steel	kg	0.0	51.0	63.8	140.3	0.0	255.1
Tying Wire	kg	0.0	0.4	0.5	1.2	0.0	2.1
BaseCourse Material	m3	393.7	735.7	962.9	1215.3	1185.0	4492.6
Crushed Stone	m3	466.6	1120.4	1258.2	1449.4	371.5	4666.1

Appendix A-5

CONSTRUCTION AND MAINTENANCE COSTS FOR ALL PROPOSED ROAD LINKS (CONSTRUCTION)

PROV : RIAU KAB : INDRAGIRI HILIR

(1000 Rp)

ITEM	UNIT	(1988)	(1989)	(1990)	(1991)	(1992)	(TOTAL)
EQUIPMENT :		131,919	333,603	360,611	417,803	399,151	1,643,087
Bulldozer	19423	5,710	14,303	15,843	17,946	17,078	70,880
Bulldozer/Ripper	20739	2,355	6,028	7,013	8,167	8,181	31,744
Swamp Bulldozer	14923	2,183	4,775	5,052	3,618	5,930	21,538
Motor Grader	17277	10,383	26,680	30,036	34,704	33,360	135,163
Road Stabilizer	12596	3,703	9,275	10,274	11,638	11,075	45,965
Hand-guide Vib. Roller	1809	127	262	251	823	856	2,319
Tire Roller	15864	3,701	8,882	9,784	11,034	2,220	35,621
Vibratory Roller (D&T)	8483	5,742	14,323	15,920	17,111	17,540	70,636
Hydraulic Excavator; Wheel	17227	38,760	97,677	98,839	121,786	122,018	479,080
Wheel Loader	20322	11,270	28,355	31,738	36,169	34,821	142,353
Water Tank Truck	5967	3,365	8,310	9,169	9,707	9,863	40,414
Dump Truck	7580	39,109	101,853	112,848	127,694	124,283	505,787
Flat Bed Truck with Crane	7066	1,011	1,825	1,665	3,120	2,832	10,453
Flat Bed Truck	5374	4,000	9,804	10,800	12,727	8,782	46,113
Concrete Mixer	8753	0	1	2	6	0	9
Water Pump	638	0	0	0	0	0	0
Concrete Vibrator	476	0	0	0	0	0	0
Asphalt Sprayer	2233	520	1,250	1,377	1,553	312	5,012
LABOUR :		37,514	91,917	100,774	119,074	109,041	458,320
Mandur	4000	3,338	8,159	8,773	10,605	9,937	40,812
Skilled Labourer	3250	4,574	8,497	7,951	14,043	11,903	46,968
Carpenter	4500	3,085	5,539	5,046	9,452	8,678	31,800
Mason	4500	0	0	0	0	0	0
Labourer	2750	16,123	43,412	50,283	51,691	47,218	208,727
Driver	5000	5,859	14,939	16,526	18,849	17,362	73,535
Operator	5000	4,535	11,371	12,195	14,434	13,943	56,478
MATERIAL :		197,315	472,506	515,866	581,631	417,003	2,184,321
Bitumen	750	35,874	86,099	94,844	106,952	21,525	345,294
Asphalt Oil	1500	14,349	34,440	37,937	42,780	8,610	138,116
Kerosene	250	2,858	6,859	7,556	8,521	1,715	27,509
Sand	4500	47,087	111,863	121,634	120,457	135,828	536,869
Cement	6000	67,914	170,140	188,480	213,533	203,135	843,202
River Stone	30000	0	0	0	0	0	0
Steel Moulds	8000	0	12	16	35	0	63
Timber	180000	11,196	20,178	18,378	35,136	33,624	118,512
Paint	2000	773	1,400	1,280	2,530	2,206	8,189
Reinforcing Steel	1200	0	61	76	168	0	305
Tying Wire	1000	0	0	0	1	0	1
BaseCourse Material	36000	0	0	0	0	0	0
Crushed Stone	37000	17,264	41,454	45,665	51,518	10,360	166,261

CONSTRUCTION AND MAINTENANCE COSTS
FOR ALL PROPOSED ROAD LINKS
(MAINTENANCE)

PROV : RIAU KAB : INDRAGIRI HILIR

(1000 Rp)

I T E M	UNIT	(1988)	(1989)	(1990)	(1991)	(1992)	(TOTAL)
EQUIPMENT :		16,989	32,954	37,801	43,926	48,003	179,673
Bulldozer	19423	0	0	0	0	0	0
Bulldozer/Ripper	20739	0	0	0	0	0	0
Swamp Bulldozer	14923	0	0	0	0	0	0
Motor Grader	17277	2,499	4,822	4,777	4,509	3,213	19,820
Road Stabilizer	12596	0	0	0	0	0	0
Hand-guide Vib. Roller	1809	0	0	434	1,031	1,655	3,120
Tire Roller	15864	2,295	4,427	4,386	4,140	2,950	18,198
Vibratory Roller (D&T)	8483	0	0	0	0	0	0
Hydraulic Excavator; Wheel	17227	0	0	0	0	0	0
Wheel Loader	20322	0	0	0	0	0	0
Water Tank Truck	5967	0	0	0	0	0	0
Dump Truck	,7580	0	0	3,638	8,641	13,871	26,150
Flat Bed Truck with Crane	7066	9,225	17,969	17,849	17,775	18,479	81,297
Flat Bed Truck	5374	2,970	5,736	6,717	7,830	7,835	31,088
Concrete Mixer	8753	0	0	0	0	0	0
Water Pump	638	0	0	0	0	0	0
Concrete Vibrator	476	0	0	0	0	0	0
Asphalt Sprayer	2233	0	0	0	0	0	0
LABOUR :		10,731	20,796	27,126	36,604	42,943	138,200
Mandur	4000	838	1,622	2,185	3,001	3,527	11,173
Skilled Labourer	3250	1,177	2,294	2,798	4,045	4,883	15,197
Carpenter	4500	875	1,705	1,694	2,089	2,156	8,519
Mason	4500	0	0	0	0	0	0
Labourer	2750	5,742	11,099	15,844	22,135	26,486	81,306
Driver	5000	1,858	3,611	4,145	4,899	5,581	20,094
Operator	5000	241	465	460	435	310	1,911
MATERIAL :		17,593	33,168	44,055	58,454	61,567	214,837
Bitumen	750	0	0	1,620	3,847	6,176	11,643
Asphalt Oil	1500	0	0	0	0	0	0
Kerosene	250	0	0	60	142	228	430
Sand	4500	0	0	180	427	686	1,293
Cement	6000	0	0	0	0	0	0
River Stone	30000	0	0	0	0	0	0
Steel Moulds	8000	0	0	0	0	0	0
Timber	180000	3,168	6,192	6,156	7,578	7,812	30,906
Paint	2000	252	491	487	601	620	2,451
Reinforcing Steel	1200	0	0	0	0	0	0
Tying Wire	1000	0	0	0	0	0	0
BaseCourse Material	36000	14,173	26,485	34,664	43,750	42,660	161,732
Crushed Stone	37000	0	0	888	2,109	3,385	6,382

CONSTRUCTION AND MAINTENANCE COSTS
FOR ALL PROPOSED ROAD LINKS
(TOTAL)

PROV : RIAU KAB : INDRAGIRI HILIR

(1000 Rp)

I T E M	UNIT	(1988)	(1989)	(1990)	(1991)	(1992)	(TOTAL)
EQUIPMENT :		148,908	366,557	398,412	461,729	447,154	1,822,760
Bulldozer	19423	5,710	14,303	15,843	17,946	17,078	70,880
Bulldozer/Ripper	20739	2,355	6,028	7,013	8,167	8,181	31,744
Swamp Bulldozer	14923	2,163	4,775	5,052	3,618	5,930	21,538
Motor Grader	17277	12,882	31,502	34,813	39,213	36,573	154,983
Road Stabilizer	12596	3,703	9,275	10,274	11,638	11,075	45,965
Hand-guide Vib. Roller	1809	127	262	685	1,854	2,511	5,439
Tire Roller	15864	5,996	13,309	14,170	15,174	5,170	53,819
Vibratory Roller (D&T)	8483	5,742	14,323	15,920	17,111	17,540	70,636
Hydraulic Excavator; Wheel	17227	38,760	97,677	98,839	121,786	122,018	479,080
Wheel Loader	20322	11,270	28,355	31,738	36,169	34,821	142,353
Water Tank Truck	5967	3,365	8,310	9,169	9,707	9,863	40,414
Dump Truck	7580	39,109	101,853	116,486	136,335	138,154	531,937
Flat Bed Truck with Crane	7066	10,236	19,794	19,514	20,895	21,311	91,750
Flat Bed Truck	5374	6,970	15,540	17,517	20,557	16,617	77,201
Concrete Mixer	8753	0	1	2	6	0	9
Water Pump	638	0	0	0	0	0	0
Concrete Vibrator	476	0	0	0	0	0	0
Asphalt Sprayer	2233	520	1,250	1,377	1,553	312	5,012
LABOUR :		48,245	112,713	127,900	155,678	151,984	596,520
Mandur	4000	4,176	9,781	10,958	13,606	13,464	51,985
Skilled Labourer	3250	5,751	10,791	10,749	18,088	16,786	62,165
Carpenter	4500	3,960	7,244	6,740	11,541	10,834	40,319
Mason	4500	0	0	0	0	0	0
Labourer	2750	21,865	54,511	66,127	73,826	73,704	290,033
Driver	5000	7,717	18,550	20,671	23,748	22,943	93,629
Operator	5000	4,776	11,836	12,655	14,869	14,253	58,389
MATERIAL :		214,908	505,674	559,921	640,085	478,570	2,399,158
Bitumen	750	35,874	86,099	96,464	110,799	27,701	356,937
Asphalt Oil	1500	14,349	34,440	37,937	42,780	8,610	138,116
Kerosene	250	2,858	6,859	7,616	8,663	1,943	27,939
Sand	4500	47,087	111,863	121,814	120,884	136,514	538,162
Cement	6000	67,914	170,140	188,480	213,533	203,135	843,202
River Stone	30000	0	0	0	0	0	0
Steel Moulds	8000	0	12	16	35	0	63
Timber	180000	14,364	26,370	24,534	42,714	41,436	149,418
Paint	2000	1,025	1,891	1,767	3,131	2,826	10,640
Reinforcing Steel	1200	0	61	76	168	0	305
Tying Wire	1000	0	0	0	1	0	1
BaseCourse Material	36000	14,173	26,485	34,664	43,750	42,660	161,732
Crushed Stone	37000	17,264	41,454	46,553	53,627	13,745	172,643

Appendix A-6 QUANTITIES OF BRIDGE ON PROPOSED ROAD LINKS

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO	BRIDGE NAME	Km	From	<< TYPE >> (EXIST)	(NEW)	DESIGN LOAD	SPAN CLASS	LENGTH (m)	SPAN NO (no)	SPAN LENGTH (m)	WIDTH (m)	AREA (EXIST) (m2)	AREA (NEW) (m2)	PIER (no)	ABUT (no)	ROAD CLASS
20	PARIT 1	1	PRMD	--	TM	10T	(C)	25.00	4	6.25	4.00	0.00	100.00	3	2	IIIB-1
	PARIT 2	2	PRMD	--	TM	10T	(C)	25.00	4	6.25	4.00	0.00	100.00	3	2	
	PARIT 3	3	PRMD	--	TM	10T	(C)	25.00	4	6.25	4.00	0.00	100.00	3	2	

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO	BRIDGE NAME	Km	From	<< TYPE >> (EXIST)	(NEW)	DESIGN LOAD	SPAN CLASS	LENGTH (m)	SPAN NO (no)	SPAN LENGTH (m)	WIDTH (m)	AREA (EXIST) (m2)	AREA (NEW) (m2)	PIER (no)	ABUT (no)	ROAD CLASS
2	SEI.GUMPANG	1	TBHN	KK				21.00	9	2.33	3.20	67.20		8	2	IIIB-1
	SEI.CONEL	3	TBHN	KK				7.00	3	2.33	3.20	22.40		2	2	
	PR.MESJID	8	TBHN	KK	TM	10T	(A)	7.00	3	2.33	4.00	15.40	28.00	2	2	
	PARIT OPET	11	TBHN	KK				8.00	4	2.00	3.20	25.60		3	2	
	PR.LAYAR	11	TBHN	KK				7.00	3	2.33	3.20	22.40		2	2	
	SEI.BOLOK	12	TBHN	KK				8.00	4	2.00	3.20	25.60		3	2	
	PR.SUNTUNG	13	TBHN	KK	TM	10T	(A)	7.00	3	2.33	4.00	22.40	28.00	2	2	
	PR.MANTOK	13	TBHN	KK				7.00	3	2.33	3.20	22.40		2	2	
	PR.JAWA	13	TBHN	KK				12.00	5	2.40	3.20	38.40		4	2	
	PR.LABAI	14	TBHN	KK				7.00	4	1.75	3.20	22.40		3	2	
	PR.JONTROK	14	TBHN	KK				9.00	4	2.25	3.20	28.80		3	2	
	PR.JAMILAH	16	TBHN	KK				9.00	4	2.25	3.20	28.80		3	2	
	PR.SENTOSA	17	TBHN	KK				9.00	4	2.25	3.20	28.80		3	2	
	PR.MAKMUR	18	TBHN	KK				9.00	4	2.25	3.20	28.80		3	2	
	PR.GANTUNG	19	TBHN	KK				8.00	4	2.00	3.20	25.60		3	2	
	PR.MUNTOR	19	TBHN	KK				8.00	4	2.00	3.20	25.60		3	2	
	PR.BENGKOK	19	TBHN	KK				9.00	4	2.25	3.20	28.80		3	2	
	PR.H.NAIL	20	TBHN	KK				9.00	4	2.25	3.20	28.80		3	2	
	PR.DUKUN	21	TBHN	KK	TM	10T	(A)	12.00	4	3.00	4.00	38.40	48.00	3	2	
	PR.JAMBRAH	22	TBHN	KK				7.00	3	2.33	3.20	22.40		2	2	
	PR.MANTOK	23	TBHN	KK				7.00	3	2.33	3.20	22.40		2	2	
4	N.I	4	ENK	--	TM	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	IIIB-2
	N.I	8	ENK	--	TM	10T	(C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	N.I	9	ENK	--	TM	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
	N.I	10	ENK	--	TM	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
	N.I	11	ENK	--	TM	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
	N.I	13	ENK	--	TM	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
	N.I	14	ENK	--	TM	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
	N.I	17	ENK	--	TM	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
5	PRH.KALLA	1	BTNG	KK				2.00	6	0.33	3.20	6.40		5	2	IIIB-2
	PARIT ROBE	2	BTNG	KK	TM	10T	(A)	2.00	1	2.00	4.00	6.40	8.00	0	2	
	PARIT PAME	3	BTNG	KK				2.00	6	0.33	3.20	6.40		5	2	
	PARIT BUGIS	4	BTNG	KK				18.00	7	2.57	3.20	57.60		6	2	
	PARIT BACOK	4	BTNG	KK				18.00	7	2.57	3.20	57.60		6	2	
	PRT.HRG.MULYO	5	BTNG	KK				18.00	7	2.57	3.20	57.60		6	2	
	SEI.PAYUNG	8	BTNG	KK				18.00	7	2.57	3.20	57.60		6	2	
9	PARIT 7	1	KLKR	--	TM	10T	(C)	15.00	2	7.50	4.00	0.00	60.00	1	2	IIIB-1
	PARIT 8	3	KLKR	--	TM	10T	(C)	20.00	3	6.67	4.00	0.00	80.00	2	2	
	PARIT 6	4	KLKR	--	TM	10T	(C)	12.00	2	6.00	4.00	0.00	48.00	1	2	
	PARIT 5	6	KLKR	--	TM	10T	(C)	11.00	2	5.50	4.00	0.00	44.00	1	2	
	PARIT 4	7	KLKR	--	TM	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
	PARIT 3	8	KLKR	--	TM	10T	(C)	8.00	1	8.00	4.00	0.00	32.00	0	2	
	PARIT 2	9	KLKR	--	TM	10T	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	
	PARIT 1	10	KLKR	--	TM	10T	(C)	7.00	1	7.00	4.00	0.00	28.00	0	2	
18	PARIT 1	1	KTBR	--	TM	10T	(C)	20.00	3	6.67	4.00	0.00	80.00	2	2	IIIB-1
	PARIT 2	1	KTBR	--	TM	10T	(C)	25.00	4	6.25	4.00	0.00	100.00	3	2	
	PARIT 3	1	KTBR	--	TM	10T	(C)	30.00	4	7.50	4.00	0.00	120.00	3	2	

Appendix A-7 CONSTRUCTION AND MAINTENANCE COST OF BRIDGES ON PROPOSAL ROAD LINKS

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 2 (IIIB-1) LENGTH : 23 Km

(Rp)

ITEM	UNIT	QUANTITY	UNIT COST LOCAL	UNIT COST FOREIGN	COST LOCAL	COST FOREIGN	COST TOTAL
Superstructure (Timber;Span 3m;10T)	m2	104.00	67,141	2,998	6,982,664	311,792	7,294,456
Superstructure (Timber;Span 5m;10T)	m2	0.00	74,348	3,311	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	0.00	98,504	4,351	0	0	0
Superstructure (Timber;Span 3m;BM50)	m2	0.00	83,252	3,707	0	0	0
Superstructure (Timber;Span 5m;BM50)	m2	0.00	90,888	4,019	0	0	0
Superstructure (Timber;Span 8m;BM50)	m2	0.00	115,270	5,088	0	0	0
Superstructure (Concrete;Span 3m;BM50)	m2	0.00	88,097	127,583	0	0	0
Superstructure (Concrete;Span 5m;BM50)	m2	0.00	91,223	142,694	0	0	0
Superstructure (Concrete;Span 8m;BM50)	m2	0.00	94,543	155,500	0	0	0
Superstructure (Concrete;Span10m;BM50)	m2	0.00	103,629	176,711	0	0	0
Superstructure (Concrete;Span15m;BM50)	m2	0.00	112,858	208,298	0	0	0
Substructure (Pier;for Timber;10T)	NO	7.00	584,835	27,724	4,093,845	194,068	4,287,913
Substructure (Abut;for Timber;10T)	NO	6.00	1,667,310	112,169	10,003,860	673,014	10,676,874
Substructure (Pier;for Timber;BM50)	NO	0.00	860,118	41,015	0	0	0
Substructure (Abut;for Timber;BM50)	NO	0.00	1,874,927	126,412	0	0	0
Substructure (Pier;for Concrete;BM50)	NO	0.00	3,495,498	496,793	0	0	0
Substructure (Abut;for Concrete;BM50)	NO	0.00	7,096,827	953,086	0	0	0
Demolition of Bridge (Timber->Timber)	m2	76.20	18,990	1,061	1,447,038	80,848	1,527,886
Demolition of Bridge (Timber->Concrete)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	158,945	92,920	0	0	0
Maintenance of Timber Bridge (New)	m2	104.00	12,383	1,009	1,287,832	104,936	1,392,768
Maintenance of Concrete Bridge (New)	m2	0.00	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	515.20	12,414	2,347	6,395,692	1,209,174	7,604,866
Maintenance of Concrete Bridge (Exist)	m2	0.00	6,962	2,563	0	0	0
(Without Overhead)	TOTAL COST (Timber Bridge)				22,527,407	1,259,722	23,787,129
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				22,527,407	1,259,722	23,787,129
(Overhead : 15%)	TOTAL COST (Timber Bridge)				25,906,518	1,448,680	27,355,198
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				25,906,518	1,448,680	27,355,198

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 4 (IIIB-2) LENGTH : 17 Km

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>> LOCAL	FOREIGN	<<<<<< COST LOCAL	FOREIGN	>>>>>> TOTAL
Superstructure (Timber;Span 3m;10T)	m2	0.00	67,141	2,998	0	0	0
Superstructure (Timber;Span 5m;10T)	m2	0.00	74,368	3,311	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	216.00	98,504	4,351	21,276,864	939,816	22,216,680
Superstructure (Timber;Span 3m;BM50)	m2	0.00	83,252	3,707	0	0	0
Superstructure (Timber;Span 5m;BM50)	m2	0.00	90,888	4,019	0	0	0
Superstructure (Timber;Span 8m;BM50)	m2	0.00	115,270	5,088	0	0	0
Superstructure (Concrete;Span 3m;BM50)	m2	0.00	89,097	127,583	0	0	0
Superstructure (Concrete;Span 5m;BM50)	m2	0.00	91,223	142,694	0	0	0
Superstructure (Concrete;Span 8m;BM50)	m2	0.00	94,543	155,500	0	0	0
Superstructure (Concrete;Span10m;BM50)	m2	0.00	103,629	176,711	0	0	0
Superstructure (Concrete;Span15m;BM50)	m2	0.00	112,858	208,298	0	0	0
Substructure (Pier;for Timber;10T)	NO	0.00	584,835	27,724	0	0	0
Substructure (Abut;for Timber;10T)	NO	16.00	1,667,310	112,169	26,676,960	1,794,704	28,471,664
Substructure (Pier;for Timber;BM50)	NO	0.00	860,118	41,015	0	0	0
Substructure (Abut;for Timber;BM50)	NO	0.00	1,874,927	126,412	0	0	0
Substructure (Pier;for Concrete;BM50)	NO	0.00	3,495,498	496,793	0	0	0
Substructure (Abut;for Concrete;BM50)	NO	0.00	7,096,827	953,086	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	158,945	92,920	0	0	0
Maintenance of Timber Bridge (New)	m2	216.00	12,383	1,009	2,674,728	217,944	2,892,672
Maintenance of Concrete Bridge (New)	m2	0.00	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	6,962	2,563	0	0	0
(Without Overhead)	TOTAL COST (Timber Bridge)				47,953,824	2,734,520	50,688,344
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				47,953,824	2,734,520	50,688,344
(Overhead : 15%)	TOTAL COST (Timber Bridge)				55,146,898	3,144,698	58,291,596
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				55,146,898	3,144,698	58,291,596

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 5 (IIIB-2) LENGTH : 9 Km

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>> LOCAL	FOREIGN	<<<<<< COST LOCAL	FOREIGN	>>>>>> TOTAL
Superstructure (Timber;Span 3m;10T)	m2	8.00	67,141	2,998	537,128	23,984	561,112
Superstructure (Timber;Span 5m;10T)	m2	0.00	74,368	3,311	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	0.00	98,504	4,351	0	0	0
Superstructure (Timber;Span 3m;BM50)	m2	0.00	83,252	3,707	0	0	0
Superstructure (Timber;Span 5m;BM50)	m2	0.00	90,888	4,019	0	0	0
Superstructure (Timber;Span 8m;BM50)	m2	0.00	115,270	5,088	0	0	0
Superstructure (Concrete;Span 3m;BM50)	m2	0.00	88,097	127,583	0	0	0
Superstructure (Concrete;Span 5m;BM50)	m2	0.00	91,223	142,694	0	0	0
Superstructure (Concrete;Span 8m;BM50)	m2	0.00	94,543	155,500	0	0	0
Superstructure (Concrete;Span10m;BM50)	m2	0.00	103,629	176,711	0	0	0
Superstructure (Concrete;Span15m;BM50)	m2	0.00	112,858	208,298	0	0	0
Substructure (Pier;for Timber;10T)	NO	0.00	584,835	27,724	0	0	0
Substructure (Abut;for Timber;10T)	NO	2.00	1,667,310	112,169	3,334,620	224,338	3,558,958
Substructure (Pier;for Timber;BM50)	NO	0.00	860,118	41,015	0	0	0
Substructure (Abut;for Timber;BM50)	NO	0.00	1,874,927	126,412	0	0	0
Substructure (Pier;for Concrete;BM50)	NO	0.00	3,495,498	496,793	0	0	0
Substructure (Abut;for Concrete;BM50)	NO	0.00	7,096,827	953,086	0	0	0
Demolition of Bridge (Timber-)Timber)	m2	6.40	18,990	1,061	121,536	6,790	128,326
Demolition of Bridge (Timber-)Concrete)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	158,945	92,920	0	0	0
Maintenance of Timber Bridge (New)	m2	8.00	12,383	1,009	99,064	8,072	107,136
Maintenance of Concrete Bridge (New)	m2	0.00	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	243.20	12,414	2,347	3,019,084	570,790	3,589,874
Maintenance of Concrete Bridge (Exist)	m2	0.00	6,962	2,563	0	0	0
(Without Overhead)	TOTAL COST (Timber Bridge)				3,993,284	255,112	4,248,396
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				3,993,284	255,112	4,248,396
(Overhead : 15%)	TOTAL COST (Timber Bridge)				4,592,277	293,379	4,885,655
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				4,592,277	293,379	4,885,655

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 9 (IIIB-1) LENGTH : 16 Km

(Rp)

I T E M	UNIT	QUANTITY	UNIT COST LOCAL	UNIT COST FOREIGN	COST LOCAL	COST FOREIGN	TOTAL
Superstructure (Timber;Span 3m;10T)	m2	0.00	67,141	2,998	0	0	0
Superstructure (Timber;Span 5m;10T)	m2	0.00	74,368	3,311	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	348.00	98,504	4,351	33,885,376	1,496,744	35,382,120
Superstructure (Timber;Span 3m;BM50)	m2	0.00	83,252	3,707	0	0	0
Superstructure (Timber;Span 5m;BM50)	m2	0.00	90,888	4,019	0	0	0
Superstructure (Timber;Span 8m;BM50)	m2	0.00	115,270	5,088	0	0	0
Superstructure (Concrete;Span 3m;BM50)	m2	0.00	80,097	127,583	0	0	0
Superstructure (Concrete;Span 5m;BM50)	m2	0.00	91,223	142,694	0	0	0
Superstructure (Concrete;Span 8m;BM50)	m2	0.00	94,543	155,500	0	0	0
Superstructure (Concrete;Span10m;BM50)	m2	0.00	103,629	176,711	0	0	0
Superstructure (Concrete;Span15m;BM50)	m2	0.00	112,858	208,298	0	0	0
Substructure (Pier;for Timber;10T)	NO	5.00	584,835	27,724	2,924,175	138,620	3,062,795
Substructure (Abut;for Timber;10T)	NO	16.00	1,667,310	112,169	26,676,960	1,794,704	28,471,664
Substructure (Pier;for Timber;BM50)	NO	0.00	860,118	41,015	0	0	0
Substructure (Abut;for Timber;BM50)	NO	0.00	1,874,927	126,412	0	0	0
Substructure (Pier;for Concrete;BM50)	NO	0.00	3,495,498	496,793	0	0	0
Substructure (Abut;for Concrete;BM50)	NO	0.00	7,096,827	953,086	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	158,945	92,920	0	0	0
Maintenance of Timber Bridge (New)	m2	344.00	12,383	1,009	4,259,752	347,096	4,606,848
Maintenance of Concrete Bridge (New)	m2	0.00	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	6,962	2,563	0	0	0
(Without Overhead)	TOTAL COST (Timber Bridge)				63,486,511	3,430,068	66,916,579
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				63,486,511	3,430,068	66,916,579
(Overhead : 15%)	TOTAL COST (Timber Bridge)				73,009,488	3,944,578	76,954,066
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				73,009,488	3,944,578	76,954,066

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 18 (IIIB-1) LENGTH : 22 Km

(Rp)

ITEM	UNIT	QUANTITY	<<< UNIT COST >>> LOCAL	FOREIGN	<<<<<< COST LOCAL	FOREIGN	>>>>>> TOTAL
Superstructure (Timber;Span 3m;10T)	m2	0.00	67,141	2,998	0	0	0
Superstructure (Timber;Span 5m;10T)	m2	0.00	74,368	3,311	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	300.00	98,504	4,351	29,551,200	1,305,300	30,856,500
Superstructure (Timber;Span 3m;BM50)	m2	0.00	83,252	3,707	0	0	0
Superstructure (Timber;Span 5m;BM50)	m2	0.00	90,888	4,019	0	0	0
Superstructure (Timber;Span 8m;BM50)	m2	0.00	115,270	5,088	0	0	0
Superstructure (Concrete;Span 3m;BM50)	m2	0.00	80,097	127,583	0	0	0
Superstructure (Concrete;Span 5m;BM50)	m2	0.00	91,223	142,694	0	0	0
Superstructure (Concrete;Span 8m;BM50)	m2	0.00	94,543	155,500	0	0	0
Superstructure (Concrete;Span10m;BM50)	m2	0.00	103,629	176,711	0	0	0
Superstructure (Concrete;Span15m;BM50)	m2	0.00	112,858	208,298	0	0	0
Substructure (Pier;for Timber;10T)	NO	8.00	584,835	27,724	4,678,680	221,792	4,900,472
Substructure (Abut;for Timber;10T)	NO	6.00	1,667,310	112,169	10,003,860	673,014	10,676,874
Substructure (Pier;for Timber;BM50)	NO	0.00	860,118	41,015	0	0	0
Substructure (Abut;for Timber;BM50)	NO	0.00	1,874,927	126,412	0	0	0
Substructure (Pier;for Concrete;BM50)	NO	0.00	3,495,498	496,793	0	0	0
Substructure (Abut;for Concrete;BM50)	NO	0.00	7,096,827	953,086	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	158,945	92,920	0	0	0
Maintenance of Timber Bridge (New)	m2	300.00	12,383	1,009	3,714,900	302,700	4,017,600
Maintenance of Concrete Bridge (New)	m2	0.00	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	6,962	2,563	0	0	0
(Without Overhead)	TOTAL COST (Timber Bridge)				44,233,740	2,200,106	46,433,846
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				44,233,740	2,200,106	46,433,846
(Overhead : 15%)	TOTAL COST (Timber Bridge)				50,868,801	2,530,122	53,398,923
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				50,868,801	2,530,122	53,398,923

PROV : RIAU KAB : INDRAGIRI HILIR

LINK NO : 20 (IIIB-1) LENGTH : 16 Km

(Rp)

ITEM	UNIT	QUANTITY	UNIT COST LOCAL	UNIT COST FOREIGN	COST LOCAL	COST FOREIGN	TOTAL
Superstructure (Timber;Span 3m;10T)	m2	0.00	67,141	2,998	0	0	0
Superstructure (Timber;Span 5m;10T)	m2	0.00	74,368	3,311	0	0	0
Superstructure (Timber;Span 8m;10T)	m2	300.00	98,504	4,351	29,551,200	1,305,300	30,856,500
Superstructure (Timber;Span 3m;BM50)	m2	0.00	83,252	3,707	0	0	0
Superstructure (Timber;Span 5m;BM50)	m2	0.00	90,888	4,019	0	0	0
Superstructure (Timber;Span 8m;BM50)	m2	0.00	115,270	5,088	0	0	0
Superstructure (Concrete;Span 3m;BM50)	m2	0.00	88,097	127,583	0	0	0
Superstructure (Concrete;Span 5m;BM50)	m2	0.00	91,223	142,694	0	0	0
Superstructure (Concrete;Span 8m;BM50)	m2	0.00	94,543	155,500	0	0	0
Superstructure (Concrete;Span10m;BM50)	m2	0.00	103,629	176,711	0	0	0
Superstructure (Concrete;Span15m;BM50)	m2	0.00	112,858	208,298	0	0	0
Substructure (Pier;for Timber;10T)	NO	9.00	584,835	27,724	5,263,515	249,516	5,513,031
Substructure (Abut;for Timber;10T)	NO	6.00	1,667,310	112,169	10,003,860	673,014	10,676,874
Substructure (Pier;for Timber;BM50)	NO	0.00	860,118	41,015	0	0	0
Substructure (Abut;for Timber;BM50)	NO	0.00	1,874,927	126,412	0	0	0
Substructure (Pier;for Concrete;BM50)	NO	0.00	3,495,498	496,793	0	0	0
Substructure (Abut;for Concrete;BM50)	NO	0.00	7,096,827	953,086	0	0	0
Demolition of Bridge (Timber->Timber)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Timber->Concrete)	m2	0.00	18,990	1,061	0	0	0
Demolition of Bridge (Concrete)	m2	0.00	158,945	92,920	0	0	0
Maintenance of Timber Bridge (New)	m2	300.00	12,383	1,009	3,714,900	302,700	4,017,600
Maintenance of Concrete Bridge (New)	m2	0.00	3,698	3,604	0	0	0
Maintenance of Timber Bridge (Exist)	m2	0.00	12,414	2,347	0	0	0
Maintenance of Concrete Bridge (Exist)	m2	0.00	6,962	2,563	0	0	0
(Without Overhead)	TOTAL COST (Timber Bridge)				44,818,575	2,227,830	47,046,405
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				44,818,575	2,227,830	47,046,405
(Overhead : 15%)	TOTAL COST (Timber Bridge)				51,541,361	2,562,005	54,103,366
	(Concrete Bridge)				0	0	0
	TOTAL COST (without Maintenance)				51,541,361	2,562,005	54,103,366