APPENDIX

Appendix A-1 FOR ESTIMATION OF THE PRODUCER'S SURPLUS BENEFIT

PRV. : SULANIESI SELATAN KAB. : TANA TORAJA

Code No.	KECAMATAN NAME	CULTIVATED AREA : (PA)	YIELD RATE : (Y)	FARMER'S POPULATION: (AP)	CIRCULATED COMMODITY: (PG)
01	BONGGA KARADENG	1,360	1.02	18,173	3,300
02	MENGKEDEK	2,493	3.48	31,154	420
03	SANGALLA	2,887	4.23	12,981	620
04	MAKALE	1.653	5.08	31,155	2,800
05	SALUPUTTI	3,321	5.61	38,943	1,800
06	RINDINGALLO	2,975	3. 5 5	33,751	2,000
07	RANTEPAD	1,901	4.32	15,577	1,000
08	SANGGALANG!	5,990	8.30	41,539	720
09	SESEAN	2,750	1.46	36,347	1,200
<u> </u>					
		44			
·					
			<u> </u>		<u> </u>

	T1	r2	r ₃	r4
ANNUAL AVERAGE GROWTH RATI	4 . /	2.2	3.0	4.5

FARMER'S	NON-AGRO
CONSUMPTION: (Cp)	REQUIRMENT : (NG)
0.15 Ton/head/year	0.04 Ton/

	SEDAN	BUS	TRUCK	MOTOR CYCLE
RATE OF EACH VEHICLE TYPE %	32.81	3.74	16.81	46.65

AVERAGE	
FREIGHT TONAGE	D.8 Ton/Truck

Appendix A-2 Engineering Data

ROAD LINK DATA

PROVINCE: Sulawesi Selatan KABUPATEN: Tana Toraja

LINK	BEGINNING POINT	END POINT	LENGTH	THROUGH THE KEC. NAME & LENGTH			
NO.	(DESA NAME)	(DESA NAME)	(KM)	KEC. NAME	LENGTH (KM)	REMARKS	
01	Tombangkalua	Buntao'	3	Sangalla	3		
02	Makale	Sapan Deata	9	Makale	9		
03	Rura	La bo'	5	Rantepao	5		
04	Kondoran	La'bo'	8	Sangalla Rancepao Sanggalangi	2 5		
05	Seko	Pitungpena- nian	17	Sanggalangi	17		
06	Tombangkalua	Bokin	16	Sangalla Sanggalangi	2 14		
07	Alang-Alang	Madandan	5	Sanggalangi	5		
08	Sp. Salu	Salu	4	Sanggalangi	4		
09	Alang-Alang	Singki	6	Sanggalangi Rantepao	3 3		
10	Alang-Alang	Ke'pe'	15	Sanggalangi Rindingallo	6 9		
11	Tikala	Ke'pe'	11	Rindingallo Rantepao Sesean	5 5		
12	Rantepao	Pangli	7	Rantepao Sesean	6		
13	Barana	Pangli	13	Rantepao Sesean	5 8		
14	Sa'dan	Tandung	15	Sesean	15	· · · · · · · · · · · · · · · · · · ·	
15	Pangli	Tondoklitak	16	Rindingallo Sesean	4		
16	Kepala Pitu	Baruppu	12	Rindingallo	12		
17	Lemo	Buntang	1	Makale	1		
18	Rantepao	Buntulepong	1	Rantepao	1		
19	Tondoklitak	Sapan	14	Rindingallo	14		
20	Tondoklitak	Ke'pe'	8	Rindingallo	8		
21	Rantepao	Dalam Kota	8	Rantepao	8	Dalam Kota	
22	Alang-Alang	Londa	2	Sanggalangi	2		
23	Kondoran	Makula	5	Sangalla	5		
24	Ke'pe'	Kepala Pitu	10	Rindingallo	10		

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: Sulawesi Selatan KABUPATEN: Tana Toraja

LINK	BEGINNING POINT	BEGINNING END POINT POINT		THROUGH THE LENGTH NAME & LE		REMARKS	
NO.	(DESA NAME)	(DESA NAME)	(KM)	KEC. NAME	LENGTH (KM)	REPIARNS	
25	Pangli	Sa dan	, 5	Sesean	5		
26	Sa¹dan	Sangkaropi!	6	Sesean	6		
27	La'bo'	Tombangkalua'	2	Sanggalangi Rantapao	1.5 Q.5		
28	Buntao'	Sumalu	13	Sangalla Sanggalangi	11 2		
29	Makula	Batualu	5	Sangalla	5		
30	Rantepao	Tikala	5	Rantepao	5		
31	Patengko	Batualu	13	Mengkendek	13		
32	Makale	Ko'kang	10	Makale Saluputti	7 3		
33	Ko'kang	Ulusalu	7	Saluputti	7		
34	Vlusalu	Rembon	20	Saluputti	20		
35	Rembon	Bolokan	10	Saluputti	6		
36	Passo'bo	Buakayu	42	Rindingallo Bonggakaradeng Saluputti	28 14		
37	Mebali	Gandangbatu	15	Makale	15		
38	Tetebassi	Kondoran	8	Makale Sangalla	<u>3</u> 5		
39	To'buangin	Marinding	7	Mengkendek Makale	5 2		
40	Sarambu	Nanggala	2	Sanggalangi	2		
41	Madandan	Rantetayo	4	Sanggalangi	4		
42	Sullukan	Tandung	5	Sanggalangi	4		
43	Ko¹kang	Batusura'	9	Rantepao Saluputti	9		
44	Bala	Minanga	10	Makale	10		
45	Ge'tengan	Tinoring	6	Mengkendek	6		
46	Marinding	Ge'tengan	6	Mengkendek	6		
47	Maliba	Uluwai	9	Mengkendek	9		
48	Salubarani	Langso	4	Makale	4		

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: Sulawesi Selatan KABUPATEN: Tana Toraja

LINK	BEGINNING POINT	END POINT	LENGTH	THROUGH TH NAME & LE		REMARKS
NO.	(DESA NAME)	(DESA NAME)	(KM)	KEC. NAME	LENGTH (KM)	KEPIAKKS
49	Kondoran	Makale	8	Makale Sangalla	
50	Batupapan	Lamunan	4	Bonggakaradeng		
51	Batupapan	Lapandan	4	Bonggakaradeng	4	
52	Rantelemo	Tilangnga	3		3	
53	Kia'tang	To'kalim- buang	4	Makale	4	
54	Piongan	Dende '	4	Saluputti Rindingallo	3 1	
55	Dende'	Ke'pe'	10	Rindingallo	10	
56	Sa'dan Malim- bong	Sa'dan Ulu- salu	. 5	Sesean	5	
57	Leatung	Buntao	8	Sangalla Sanggalangi	6 2	
58	Sp.Buisun	Saluallo	7	Makale	7	
59	Rantetayo	Piongan	8	Saluputti	8	
60	Rembon	Masanda	12	Saluputti	12	
61	Sumalu	Penanda	5	Sangalla	5	
					:	
			·			
: '						
		t	1	 	†	·

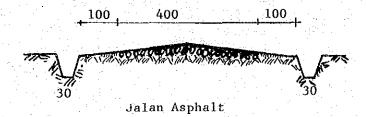
Please note the priority No. in the Remarks of this list for each links No. according to the each Kabupaten's development plan.

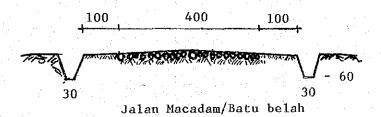
What Kind of Design Criteria has being applied for the new road construction and the improvement for the Kabupaten Road?

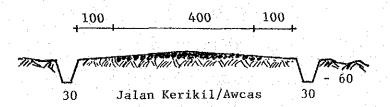
Kriteria Perencanaan yang dipakai pada program penanganan jalan Kabupaten, baik untuk jalan lama maupun pembangunan baru.

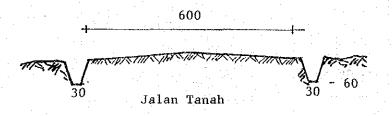
Please draw the Typical Cross Section of the Kabupaten Road.
Buat gambar dan penjelasan dari: Typical cross section yang dipakai pada program penanganan jalan selama ini (baik untuk jalan lama, maupun pembangunan baru)

TYPICAL CROSS SECTION.









KABUPATEN: Tana Toraja

LOCATION AND COSTS OF THE KABUPATEN

ROADS CONSTRUCTED OR INTROVED IN 1980/1981

Biaya konstruksi penanganan

jalan dan Jembatan Kabupaten thn. 1980/1981

LINK No .:	LOCATION From - To	Lebar per- kerasan(m)	Type per- kerasan	LENGTH Panjang	COSTS Harga	REMARKS Keterang
Nomor Ruas	(dari - ke)	Lebar Jembatan	Type Lembatan Gravel	(KM)	(Rp 10 ⁶)	an
02	Rante dada - Bera	4	Gravel	3	26,077	
·····	The second secon					
. 24	Pangala' - Ke'pe'	4	Gravel	5.5	46,270	
40		4	Gravel	3.2		
40	Sarambu - Totumbang	•			26,305	
25	Pangli - Batutumonga	4	Gravel	2	16 703	
	rangir bacucumonga	=			16,731	
34	Ulusalu - Bittuang	4	Grave1	3	24,580	
		4	Beton	16 m	18,700	
25	Pangli - Sa'dan	4	Gravel	4.5	36,497	
		. 44 - 1 -9	-	-	, ,0,4,,	
01	Tombangkalua' - Ledo	4	Gravel	2.6	21,574	
		-		-	21,3,7	
45	Kota Ge'tengan	4	Gravel	0.75	6,400	
	,	-		-	0,700	
57	Laatung - Buntao'	-		-	10,360	
		4		8 m		
14	Sa'dan - Tandung	4	Gravel	8.7	30,400	
· ·		4	Gravel	7 17		
	Lampio - Pintu	<u></u>	Graver	7.17	27,500	
:			ı			

^{*} PAVENENT TYPE : Pls note the appropriate No. below.

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

KABUPATEN: Tana Toraja

LOCATION AND COSTS OF THE KABUPATEN

ROADS CONSTRUCTED OR INPROVED IN 1981/1982

Biaya konstruksi penanganan

jalan dan jembatan Kabupaten thn. 1981/1982

LINK	LOCATION From - To	Lebar per- kerasan(m)	Type per- kerasan	LENGTH Panjang	COSTS Harga	REMARKS Keterang-
Nomor Ruas	(dari - ke)	Lebar Jembatan	Type Jembaran	(KM)	(Rp 10 ⁶)	an an
36	Passa'bo - Leon	6	Earth	18	68,580	
20	Tondoklitak - To rea	4	Grave1	2.3	19,537	
20	Lengkong - To'rea	4	. Gravel	3	23,937	
37	Mebali - Tabang	4	Gravel	4.5	41,714	
	Tampo - Simbuang			-	20,886	
		4	Gravel	16 m 2.5		
29	Totumbang - Makula'	4	Gravel		21,385	· · · · · · · · · · · · · · · · · · ·
34	Bittuang - Ulusalu	6		1.5	18,050	
02	Makale - Bera	4	Gravel -	1.5	14,646	
40	Sarambu - Nanggala	6	-	4 m	11,036	
31	Pa'tengko - Batualu	4	Grave1	8	107,170	
· 						
					-	
			*			

^{*} 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

KABUPATEN: Tana Toraja

LOCATION AND COSTS OF THE KABUPATEN

ROADS CONSTRUCTED OR INPROVED IN 1982/1983

Biaya konstruksi penanganan

jalan dan jembatan Kabupaten thm. 1982/1983

Nomor	LOCATION From - To	Lebar per- kerasan(m)	Type per- kerasan	LENGTH Panjang	COSTS Harga	REMARKS Keterang
Ruas	(dari - ke)	Lebar Jembatan	Type	(KM)	(Rp 10 ⁶)	an
36	Malombong - Leon	4	Jembakan Earth	8.6	47,966	
						
29	Makula' - Batualu	4	Grave1	1.8	22,140	
21	Dalam Kota Rantepao	4	Asphalt Seal	2	24,375	
	Took Maricepho	_	-			
34	Ulusalu - Bittuang	4	Gravel	5	43,019	
		4	Asphalt Seal	1.9		
	Dalam Kota Makale		- Dear	1.7	24,994	
		4	Gravel	3.75		
20	Ke'pe' - To'rea		•	_	42,149	
10		4	Gravel	5	45,269	[
10	Lempo - Tondok Litak	_	_	-		
07	Alang-Alang-Madandan	4	Gravel	4	36,142	
· · · · · · · · · · · · · · · · · · ·						ļ
37	Sillanan - Gandangbatu	4	Gravel	4	46,500	
31	m	4	Gravel	8.6		}
31	Tampo - Makula'	-		-	60,140	
10	Buntutabang - Ke'pe'	4	Gravel	12	82,640	
: 	The second secon	- 4	-	-	62,640	
16	Pangala' - Baruppu'	4	Grave1	12	109,933	
		- 	Gravel	3		
14	Lilikira' - Tandung	-			26,150	1

[&]quot; 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

KABUPATEN: Tana Toraja LOCATION AND COSTS OF THE KABUPATEN

ROADS CONSTRUCTED OR INPROVED IN 1983/1984

Biaya konstruksi penanganan

jalan dan jembatan Kabupaten thm. 1983/1984

LINK	LOCATION From - To	Lebar per- kerasan(m)		LENGTH Panjang	COSTS Harga	REMARKS Keterang;
Nomor Ruas	(dari - ke)	Lebar Jembatan	Type Jembatan	(KM)	(Rp 10 ⁶)	an
37	Gandang batu - Buntu	4 -	Gravel	5	78,154	
20	Tondok litak - B. Tomunga	4	Gravel	5	55,500	
38	Tetebassi - Kondoran	4	Asphalt Seal	5	68,696	
34	Ulusalu - Se'seng	4	Gravel	3.7	47,919	
12	Rantepao - Pangli	4	- Asphalt Seal	3	43,430	
		4	Asphalt Seal	3		
03	Rura - Tombangkalua'	4	- Asphalt Seal		43,720	
24	Pangala' - Ke'pe'	4	-	2.4	33,974	
30	Rantepaò - Tikala		Asphalt Seal	0.7	14,749	
06	Tombangkalua'- Bastem	4	Gravel	9.5	158,213	
-	Makale - Burake	4	Gravel	3.5	45,150	
36	Rembon - Leon	4	Earth	10	72,000	
€.						
				-		

^{*} PAVEMENT TYPE : Pls note the appropriate No. below.

- 1. : Asphalt surface / penetrasi macadam
- 2. : Asphalt seal / pelaburan aspal
- 3. : Grave1 kerikil
- 4. : Gravel /ANCAS / kerikil / japat

KABUPATEN: Tana Toraja LOCATION AND COSTS OF THE KABUPATEN

ROADS CONSTRUCTED OR INPROVED IN 1984/1985

Biaya konstruksi penanganan

Jalan dan jembatan Kabupaten thm. 1984/1985

NO PINK	LOCATION From - To	Lebar per- kerasan(m)	Type perr kerasan	LENGTH Panjang	COSTS Harga	REMARKS Keterang:
Nomor Ruas	(dari - ke)	Lebar Jembatan 6/4	Type Lembatan Earth/Gravel	(KM)	(Rp 10 ⁶)	an
60	Bittuang - Pana'		tarth/Gravel	10	131,059	
23	Palawa' - Balusu	4	Gravel	3.97		
~	ralawa - Balusu			£eq.	38,200	
11	Tikala - Kalimbuang	3/4	Gravel	3.7	38,711	
06		4	Gravel	2.6	23,625	
	Tombangkalua' - Bastem	-		-	23,623	
42	Rantetayo - Madandan	4	Grave1	2.6	31,005	
	- Maniectayo - Madandan	_	-	_		
21	Dalam Kota Rantepao	4	Asphalt Seal	2.75	53,604	
			-			
32	Batupapan - Maulu	4	Asphalt Seal	5 -	72,614	
	The state of the s	4	Asphalt Seal	4		
12	Kakondongan - Pangli	-	-		73,000	
30	Rantepao - Tikala	4	Asphalt Seal	3	43,000	and the second section of the section of
					43,000	i i i i i i i i i i i i i i i i i i i
0.2	77 - Let 1 m 1 1 1 1	4	Asphalt Seal	4	67,850	
03	Ke'te' - Tombangkalua'					
07	Langda - Madandan	4	Gravel	0.6	22,065	
				-		
	Kota Ge'tengan	4	Asphalt Seal	1 3 8 m	19,488 12,352	
					12,332	
		-				
					-	

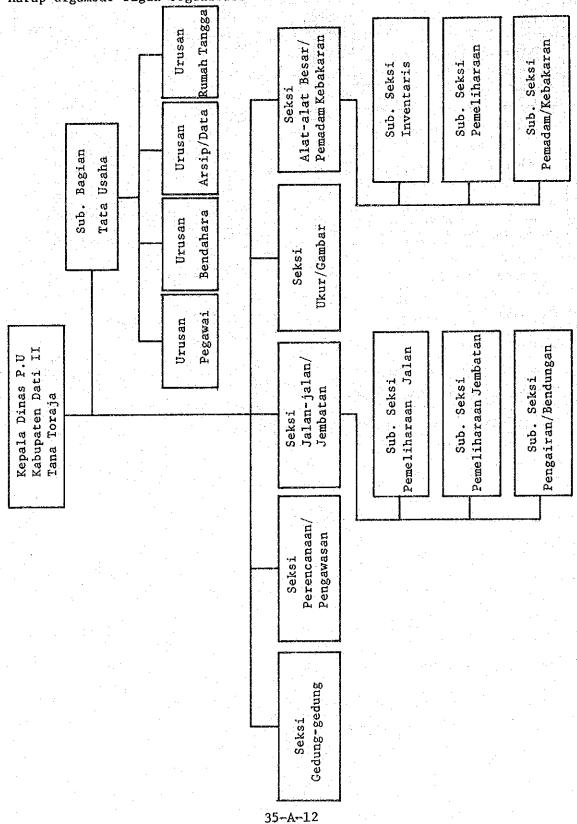
^{*} PAVEMENT TYPE : Pls note the appropriate No. below.

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

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: Sulawesi Selatar KABUPATEN: Tana Toraja

DESCRIPTION /Uraian	NUMBER / Jumlah	REMARKS Keterangan
CONTROLING STAFF Staff teknis PUK	(19)	
DPUK ENGINEED Sarjana Teknik		
ASSISTANT ENGINEER Sarjana Muda Teknik	<u>-</u>	
TECHNICIAN STAFF Staff Teknik (STM)	19	
ADMINISTRATION Tenaga Administrasi	8	
SUPERVISOR Tenaga Pengawas	17	
WORKING FORCE Tenaga Pelaksana Lapangan	(15)	
OPERATORS Operators		
DRIVERS Supir	6	
MECHANICS Mechanic	_	
TRADESMAN Tukang	3	
L A B O U R Buruh / Pekerja		
OTHERS Lain-lain	3	
Total / jumlau	59	

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

LOCATION AND AREA OF DPUK WORKSHOP

Lokasi Workshop DPUK
PROPINSI : Sulawesi Selatan

KABUPATEN: Tana Toraja

LOCATION Lokasi	AREA (m2) Luas	NUMBER Jumlah	REMARKS Keterangan
Ge'tengan	10.000	1	

PROPINSI: Sulawesi Selatan

E-07

KABUPATEN: TanaToraja

LAND ACQUISITION COST Daftar harga pembebasan tanah

DESCRIPTION Uraian	UNIT Satuan	RATE (RP) Harga	REMARKS Keterangan
CITY/kota	M2	-	
VILLAGE / desa	M2		
RICE FIELD/sawah	М2	1,125	
DRY FIELD/ladang	M2	625	
MIX CROPS/panen	M2	•	
FOREST/hutan	M2	625	
SWAMP / rawa	M2	-	
OTHERS / lain-lain	M2	625	

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
2	В2	65,261,000	9	
-17	C1	59,713,000	8	
36	G2	42,293,000	7	
45	C3	31,847,000	5	
	•			
				- The first specific section of the
				The second secon

NOTE: DATI II

PROPINSI: Sulawesi Selatan KABUPATEN: Tana Toraja

LIST OF EXISTING EQUIPMENT OF LOCAL CONTRACTOR

NAME OF EQUIPMENT	RYTOTIN	EXISTING CONDITION/ Kondisi Peralatan							
Jenis peralatan	TYPE/ Tipe	P.Y	GOOD	R / Ju BAD Rusak	TOTAL	REASON OF BAD CONDT FION/Sebal Kerusakan	A 14 14 1		
Bulldozer									
Motor Grader			1						
Tyre Roller									
Steel Whell Roller									
Vibration Roller		************							
Wheel Loader		1							
Front End Loader and Backhoe		1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 ,							
Mobile Crane	3.7								
Concrete Mixer	g a share a								
Stone Crusher									
Portable Compressor									
lydraulic Excavator				7 F 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
Asphalt Paving Machine									
Asphalt Sprayer									
Asphalt Mixing Machine	s 41,					r i			
Mobile Workshop									
Mechanic Rammer									
Plate Tamper									
Pile Driver									
Leg Drill									
Hand Hammer							`		
Farm Tractor	<u> </u>								
Dump Truck									
Water Tank Truck									
Fuel Tank Truck			\						
Pick Up									
Jeep				 					
Motorcycle			 						
Generator	 					1			
Water Pump		1	1	1					
Others	<u> </u>	 -		1	***************************************				

LIST OF EXISTING EQUIPMENT OF P.U KABUPATEN

NAME OF EQUIPMENT	EXISTIN	G CONI	ITION/	Kondi	si Peral	latan	REQUIRE -	
Jenis peralatan	TYPE/		NUMBE	R / Ju	mlah	REASON OF	MENT / Ke- butuhan	
	Tipe	P.Y	GOOD Baik	BAD Rusak	TOTAL	TION/Sebal Kerusakan	peralatan baru	
Bulldozer								
Motor Grader			,		Andread Control			
Tyre Roller					3			
Steel Whell Roller								
Vibration Roller								
Wheel Loader	34 34		:					
Front End Loader and Backhoe								
Mobile Crane			. 0g-1		1.2			
Concrete Mixer								
Stone Crusher	•	1.0						
Portable Compressor								
Hydraulic Excavator		111111						
Asphalt Paving Machine							1.7.41	
Asphalt Sprayer								
Asphalt Mixing Machine								
Mobile Workshop						\$ 15		
Mechanic Rammer		1 2						
Plate Tamper								
Pile Driver								
Leg Drill								
Hand Hammer								
Farm Tractor								
Dump Truck								
Water Tank Truck								
Fuel Tank Truck								
Pick Up								
Jeep								
Notorcycle								
Generator								
Water Pump								
Others								

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

PROV : SULAWESI SELATAN KAB : TANA TURAJA

LINK NO : 59 (IIIB-1) LENGTH : 8 Km

UPGRADE : 7.0m road bed, 4.0m road with surface Dressing (1)

	UNIT	QUANTETY	LOCAL (C UNIT	COST >>> FOREIGN	COCAL	COST FOREIGN	\\\\\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
			ede en general Sinda en gelektrisk				
ite Clearance in Light Bush	42	20000.0	170	91	3,400,000	1,820,000	5,220,00
ubgrade Preparation	#2	56000.0	22	11	1,232,000	616,000	1,840,00
ormal Fill	a.}	4125.0	1,740	965	7,177,500	3,569,125	10,745,62
ill in Swamp		0.0	2,588	1,055	0	0	
ormal Excavation to Spoil	23	3278.0	1,011	524	3,331,270	1,728,152	5,062,43
ub Base Course	#3	4480.0	3,272	1,351	14,659,560	6,052,480	20,711,01
ase Course	•3	2240.0	4,500	2,303	10,080,000	5,158,720	15,239,72
houlder	₽2	24000.0	311	146	7,464,000	3,504,000	10,968,00
sphalt Patching	. 42	0.0	3,848	1,515	Q	o Q	1.5
urface Dressing (Single)	a 2	32000.0	658	766	21,056,000	24,512,000	45,568,00
urface Oressing (Double)	\$2	0.0	814	1,207	0	0	
arth Drain .		7100.0	725	119	1,547,500	B44,900	7,412,40
arth Drain in Swamp (by machine)	a 3	0.0	1,231	475	0	0	
ipe Culvert D80cm		174.0	47,928	50,157	8,339,472	8,727,318	17,066,79
asonry Culvert (80x80cm)	6	0.0	67,346	40,314	0	0	
etaining Wall and Wing Wall (Timber)	a2	0.0	16,210	216	0	0	
etaining Wall and Wing Wall (Masonry)	43	8.03	48,423	11,706	2,944,118	711,724	3,655,84
abion Protection	- 3		13,236	121		0	0,000,0
ew Bridge (Timber)	SET	1.0	101100		. 0	ň	
ew Bridge (Concrete)	SET	1.0			ň	n.	
en bliege toonerezer	4.1	, ,,,			•		
			Sub Total		86,253,428	57,243,419	143,496,84
		· .					
verhead (15%)					12,939,014	0,586,512	21,524,52
	1						
			TOTAL COST		99,191,442	65,829,931	165,021,37
				: · · · · · · · · · · · · · · · · · · ·			
				·			
unual routine maintenance of road	Ke	8.0	149,984	7,260	1,197,872	58,080	1,257,95
outine maintenance of asphalt road	Ka	8.0	384,800	151,500	3,078,400	1,212,000	4,290,40
			Sub Total		4,278,272	1,270,080	5,548,35
sintenance of Timber Bridge (New)	e 2	0.0	and the second second	1,121	0	115101000	2121212
aintenance of Concrete Bridge (New)	2	0.0	2,161	3,002	. 0	v.	
sintenance of Timber Bridge (Exist)	= 2	0.0		2,405	v	0	
sintenance of Concrete Bridge (Exist)	#2	0.0	4,190	2,445	. 0	0	
stuckuurs of routiets prinds (exter)	R.C.	V. U	7,170	4,410			
	. · · · .	*:	F	nament and			05 103
			Earthwork &			o/Kal :	20,627,6
	+ .		Tiaber			p/s2) :	
			Concrete			p/m21 :	14 14
			Survived	Value		(Rp) :	17,545,4
			Maintenance	Rate without	Rei dan	(%)	3.3

FROV : SULAWEST SELATAN

KAB : TANA TORAJA

LINK NO

54 (1110)

LENGTH : 4 Km

UPGRADE : 6.0m road bed, 4.0m road with surface Subbase Cource

ITEM ((C UNIT COST >>> COST **>>>>>** UNIT QUANTITY LOCAL FOREIGN LOCAL FOREIGN JATOT Site Clearance in Light Bush 12000.0 2.040.000 3,132,000 170 91 1,092,000 Subgrade Preparation 24000.0 **2**2 22 529,000 264,000 792,000 Normal Fill 1300.0 1,740 e3 865 2,262,000 1,124,500 3,386,500 Fill in Swamp **#**3 0.0 2,596 1.055 Hormal Excavation to Spoil 1590.0 аŠ 1,011 524 1,607,490 833,160 2,440,650 Sub Base Course 8,376,320 #3 2560.0 3,272 1,351 11,834,880 3,458,560 Base Course æ3 4,500 2,303 Shoulder B000.0 2,488,000 #2 311 146 1,168,000 3,656,000 Asphalt Patching 0.0 3,848 1,515 Surface Dressing (Single) 658 **a**2 0.0 766 1,207 Surface Dressing (Double) **#2** 0.0 914 . 0 Earth Drain 4200.0 925 119 3,895,000 499,800 4,384,800 Earth Drain in Swamp (by machine) 1,231 475 93 .G.0 Pipe Culvert D80cm 4,888,656 10,004,670 102.0 47,928 50,157 5,116,014 Hasonry Culvert (80x80cm) 0.0 67,346 10,314 0 Retaining Wall and Wing Wall (Timber) 16,710 RŽ 0.0 246 0 0 Retaining Wall and Wing Wall (Masonry) æ3 35.2 48,423 11,706 1,704,489 \$12,051 2,116,510 Gabion Protection 43 0.0 13,236 121 0 . 0 3,890,526 New Bridge (Timber) SET 1.0 398,038 4,278,564 New Bridge (Concrete) 1.0 31,670,481 Sub Total 14,356,123 46,026,604 Overhead (15%) 4,750,572 2,153,418 6,903,990 TOTAL COST 52,930,594 36,421,053 16,509,541 Manual routine maintenance of road 4.0 149,984 7,260 599,936 .29,040 628,976 195,757 98,186 352,744 783,028 1,135,772 Routine maintenance of gravel road 4.0 Sub Total 1,764,748 1,382,964 381,784 10,146 Haintenance of Timber Bridge (Kew) 16.0 1,121 162,336 17,936 180,272 Maintenance of Concrete Bridge (New) 0.0 2,161 3,002 .0 0 æ2 . 0 Haintenance of Timber Bridge (Exist) 0.0 8,831 2,405 Maintenance of Concrete Bridge (Exist) 0.0 4,190 2,445 Earthwork & Pavement Unit Cost (Rp/Ka) 12,002,562 Timber Bridge Unit Cost (Rp/m2) 307,522 Concrete Bridge Unit Cost (Rp/m2) Survived Value 4,733,752 (Rp) Maintenance Rate without Bridge (),) 3.68 New Bridge Cost Rate (X) 9.30

PROV BULAWEST SELATAN KAB : TANA TORAJA

LINK NO

49 (IIIB-1) LENGTH : 8 Km

UPORADE 6.0m road bed, 4.0m road with surface Dressing (1)

1 T E H	UNIF	YTIIKAUD	(((UNIT LOCAL	COST >>> FOREIGN	\\\\\\ Local	CUST FORETEN	///// Jatot
ot Billies Sub	_0	1000 0	170		1 020 000	የ11 ሰሰለ	TORLL AND
ite Clearance in Light Bush	= ?	4000.0	170	91	1,020,000	546,000	1,566,000
ubgrade Preparation	12	18000.0	27	11	1,056,000	528,000	1,584,000
ormal fill	#3	3150.0	1,740	865	5,481,000	2,721,750	8,205,750
ill in Swamp	n3	0.0	2,586	1,055	7 017 170	2,054,080	8,017,200
ormal Excavation to Spoil	6 3	3920.0	1,011	524	3,963,120		
ub Rase Course	3	4480.0	3,272	1,351	14,659,560	6,052,480	20,711,04
ase Course	#3 #2	17.11.11	1,500	2,303	10,080,000	5,158,720	15,238,72
houlder	• 2 • 2	0.00041	311	146	4,976,000	2,336,000	7,312,00
sphalt Patching		1.4	3,848	1,515	0	74 513 000 .	45 510 00
urface Dressing (Single)	■ ?	32000.0	659	766	21,056,000	24,512,000	45,568,00
urface Dressing (Double)	#2	0.0	814	1,207	7 JAN 500	345,100	3,027,600
arth Drain		2900.0	925	119 475	2,692,500	313,100	3,027,00
arth Drain in Swamp (by machine)	a 3	0.0	1,231	100	V	0	
ipe Culvert DAOca		0.0	17,928	50,157			7 105 54
asonry Culvert (80x80cm)	. 8	66.0	67,346	40,314	4,444,836	2,660,724	7,105,56
etaining Wall and Wing Wall (Timber)	a ?	0.0	16,210	246	V	0e 167	175 54
etaining Wall and Wing Wall (Masonry)	63	7.3		11,706	353,497	85,453	438,94
abion Protection	8 3	0.0		121	0	0	
ex Bridge (Timber)	SET			:	Q	0	
en Bridge (Concrete)	SET	1.0			Ū	0	-
			Sub Total		69,771,503	47,003,307	. 116,774,81
verhead (15%)					10,465,725	7,050,496	17,516,22
			TOTAL COST		80,237,228	54,053,803	134,291,03
anual routine maintenance of road	Ke	8.0	149,984	7,260	1,199,872	58,080	1,257,95
outing maintenance of asphalt road	Ka	9.0	384,800	151,500	3,078,400	1,212,000	4,290,40
			Sub Total		1,278,272	1,270,080	5,548,35
aintenance of Timber Bridge (New)	- ₽2	0.0	10,146	1,121	0	0	
aintenance of Concrete Bridge (New)	•2	0.0	2,161	3,002	0	0	
aintenance of Timber Bridge (Exist)	-2	0.0	8,031	2,405	0	. 0	n need gra
aintenance of Concrete Bridge (Exist)	n2	0.0	4,190	2,445	0	0	
			Earthwork &	Pavement Ur	nit Cost (Rp/H	(a) :	16,786,37
					nit Cost (Rp/s		
	: "		4.5	-	nit Cost (Rp/e	(2) t	
			Survived	Unforma .	(R _s	1) :	17,545,47
			and the second s		•	1)	1/3010111
		:	Maintenance New Bridge	Rate without	•		4,1

: SULAWESI SELATAN KAB : TANA TORAJA

LINK NO : 42 (1118-2) LENGTH : 4 Km

UPGRADE : 6.0m road bed, 4.0m road with surface Base Cource

		*********					(Rp)
1:1 E H	1857	BHANTITU		COST >>>	((((111	>>>>>
	U/(1)	PITTHAND	LOCAL	FOREIGN	LOCAL	FOREIGH	ATOT
Site Clearance in Light Bush	. #2	5000.0	170	91	850,000	455,000	1,305,00
Subgrade Preparation	• 2	12000.0	22		261,000	132,000	396,00
Normal Fill	# 3	1470.0	1,740	865	2,557,800	1,271,550	3,829,35
Fill in Swamp	•3	0.0	2,586	1,055	0	0	-11-11-1
Mormal Excavation to Spoil	#3	639.0	1,011	524	645,019	334,312	979,33
Sub Pase Course	a3	1372.0	3,212	1,351	4,489,184	1,853,572	6,342,75
Base Course	#3	960.0	4,500	2,303	4,320,000	2,210,880	6,530,88
Shoul der	- 2	8000.0	311	146	2,488,000	1,168,000	3,656,00
Asphalt Patching	• 2				0	0	x1000100
Surface Dressing (Single)	#2	0.0	658	766	ŏ	a	
Surface Oressing (Double)	#2		814	1,207	'n	ň	
Earth Drain		2500.0	725		2,312,500	297,500	2,610,00
Earth Drain in Swamp (by machine)	-3	77.7	1.231	475	Z for Lings	T11 1000	riotolo
ipe Culvert D8Oca	-		47,920	50,157	2,012,976	2,106,594	4,119,5
lasonry Culvert (80x80cm)	. 8	0.0	67,346	40,314	416151110	Yinginia	11227301
Retaining Wall and Wing Wall (Tieber)	n2	0.0	16,210	216	0	^	the second
Retaining Wall and Ming Wall (Masonry)	#3	12.8	18,123	11,706	e de la companya de	140 074	310 11
abion Protection	3 3	0.0	13,236	121	619,814	149,836	769,65
ew Bridge (Tjøber)	SET	1.0	191490		, v	V.	·
lew Bridge (Concrete)	SEI	1.0			0	0	100
en prinde reputriets	35 1	1.0			. v	, V	
			Sub Total		20,559,292	9,979,244	30,538,5
					calcoultin	(1,,,1,,,,	00100010
lyerhead (15%)					3,083,893	1,496,886	4,580,7
			TATAL CARY	* +	D7 117 100		
			TOTAL COST		23,643,185	11,476,130	35,119,3
anual routine maintenance of road	- Ka	4.0	149,984	7,260	599,936	29,010	628,9
outine maintenance of gravel road	Κø	4.0		88,186	793,028	352,744	1,135,7
			Sub Total		1,392,964	381,784	1,761,7
aintenance of limber Bridge (Kewl	n 2	0.0	10,146	1,121	0	0	
aintenance of Concrete Bridge (New)	e 2	0.0	2,161	3,002	0	0	
aintenance of Timber Bridge (Exist)	8 7	0.0	8,831	2,405	0	0	
aintenance of Concrete Bridge (Exist)	e 2	16.0	4,190	2,445	67,040	37,120	106,1

	4 .		Farthwork &	Payement Uni	Frank IDa	/Km) :	8,779,8
						/60/ : /82) :	01///10
			Concrete			/#21 : /#21 :	
		* *	Survived	Value uni		/#2/ : Rp} :	7 171 7
				Rate without		npr : Zj :	3,171,3 5.
and the second of the second			Hew Dridge			<u>)</u>	

PROV : SULAWESI SELATAN KAB : TANA TORAJA

LINK NO : 41 (IIIA) LENGTH : 5 Km

UPBRADE : 7.0m road bed, 4.0m road with surface Dressing (2)

TTEK	HNIT	QUANTITY	CCC UNIT	COST >>>	LOCAL	COST FOREIGN)))))) TOTA
			- conc				
ite Clearance in Light Bush	#2	10000.0	170		1,700,000	910,000	2,610,00
ubgrade Preparation	a 2	35000.0	22	- 11	770,000	385,000	1,155,00
ormat Fill	#3	500.0	1,740	862	870,000	432,500	1,302,5
ill in Swamp	вЗ	0.0	2,586	1,055	0	0	
ormal Excavation to Spoil	æ3	752.0	1,011	524	760,272	394,048	1,151,3
ub Base Course	8 3	2800.0	3,272	1,351	9,161,600	3,782,800	12,944,4
ase Course	£ 3	1600.0	1,500	2,303	7,200,000	3,484,800	10,881,8
houlder	* 2	15000.0	311	146	4,665,000	2,190,000	6,855,0
sphalt Patching	. m2	0.0	3,848	1,515	0	0	•
urface Dressing (Single)	■2	0.0	658	766	0	0	
urface Dressing (Double)	e 2	20000.0	814	1,207	16,280,000	24,140,000	40,420,0
arth Drain		10000.0	925	119	9,250,000	1,190,000	10,440,0
arth Drain in Swamp (by machine)		0.0	1,231	475	0	0	
ipe Culvert DBOcm		64.0	47,928	50,157	3,067,392	3,210,048	6,277,4
asonry Culvert (80x80cm)		0.0	67,346	10,314	0,00,1015	0	
etaining Hall and Hing Hall (Timber)	2	0.0	16,210	246	Ŏ	0.	
etaining Wall and Wing Wall (Masonry)	#3	22.4	18,423	11,706	1,081,675	262,214	1,346,8
abion Protection	à 3	0.0	13,236	121	0	5001211	1141414
ew Bridge (Timber)	132	1.0	101120		. 0	0	
ен Bridge (Concrete)	SET	1.0		:22	Ů	Ŏ	
	·		Sub Total		54,808,939	40,581,410	95,390,3
The state of the s							
verhead (15%)					8,221,340	6,087,211	14,308,5
		. 1	TOTAL COST		63,030,279	46,668,621	107.698.9
			1				
anual routine maintenance of road	Κ×	5.0	149,984	7,260	749,920	36,300	786,2
outine maintenance of asphalt road	Ke	5.0	384,800	151,500	1,924,000	757,500	2,681,5
		-	Sub lotal	: •	2,673,920	793,800	3,467,7
aintenance of Timber Dridge (Hen)	a 2	0.0	10,146	1,121	0	0	
aintenance of Concrete Bridge (New)	a2	0.0	2,161	3,002	0	0	
aintenance of Timber Bridge (Exist)	n2	0.0	6,831	2,405	0	0	
aintenance of Concrete Bridge (Exist)		0.0	4,190	2,445	0	. 0	
					·		
•				Pavenent Un			21,939,7
					it Cost (Rp/		
			and the second second		it Cost (Rp/		
				Yalue		p) :	13,076,7
			the state of the s	Rate without) :	3.
· · · · · · · · · · · · · · · · · · ·			len Bridge	P. 1 P. 1	()		

PROV

SULAWEST SELATAN

KAB : TANA TORAJA

LINK NO

36 (1110)

LENGTH : 42 Km

UPGRADE : 6.0m road bed, 4.0m road with surface Subbase Cource

, i tjeti	UNIT	QUANTITY	(((UNI) Local	COST >>> FOREIGN	<< Local	((((COST Foreign	>>>>> TOTA
ite Clearance in Light Bush	a 2	78200.0	170	91	13,294,000		20,410,20
ubgrade Preparation	• 2	240000.0	22	11	5,280,000	2,640,000	
oreal fili	aJ	459172.0	1,740	865	798,959,280	397,183,780	1,196,143,06
ill in Swamp	8 3	0.0	2,586	1,055	0		
ormal Excavation to Spoil	m 3		1,011	524	1,105,671	2,127,964	6,233,63
ub Base Course	• •3	25636.0	3,272	1,351	83,880,992	34,634,236	
ase Course	m3	480.0	4,500	2,303	2,160,000		
houlder	• 2	B4000.0	311	146	26,124,000		
sphalt Patching	e 2	0.0	3,848	1,515	0	0	05,000,11
urface Dressing (Single)	a 2	0.0	658	766		0.	er jolg se er
urface Dressing (Double)	a2	0.0	814	1,207	ň	Ō	
arth Drain	1	73800.0	925	119	68,265,000		77,047,20
arth Drain in Swamp (by machine)	43	0.0	1,231	475	00,100,100	0,,01,144	111011112
ipe Culvert 880cm	2	593.0	17,728		27,942,024	29,241,531	57,183,55
asonry Culvert (80x80cm)	 a	0.0	67,346	40,314	7111121021	27,241,331	31,100,100
etaining Hall and Ning Hall (Timber)	2	0.0		246			
etaining Wall and Wing Wall (Hasonry)	13	192.4	18,423	11,706			10,967,52
abion Protection	n3	0.0		121	010051000	411001114	
ex Bridge (Timber)	SEI	1.0			31,807,170	2,820,702	34,627,87
ew Bridge (Concrete)	SET	1.0			31,661,110	61050 ¹ 105	34/021/01
			Sub Total		1,070,650,492	500 ACL 333	1 510 101 11
			Juu Tutat	•	1,010,030,112	20010211551	1,570,701,71
verhead (15%)					160,597,573	75,007,684	235,605,25
			TOTAL COST	+	1,231,248,069	575 A50 OI1	1,808,306,97
			101112 0001		1,231,210,000	111,000,111	110001000111
					440		
anual routine maintenance of road	Ke	42.0	[49,984	7,260	6,299,328	301,920	6,604,24
outine maintenance of gravel road	Κu	12.0	195,757	88,186	8,221,794		
			Sub Total	,	11,521,122		
aintenance of Timber Bridge (New)	₽2	184.0	10,146	1,121	1,866,864		
aintenance of Concrete Bridge (New)	s 2	0.0	2,161		0		
aintenance of Timber Bridge (Exist)	a?	242.0	8,931	2,405			
aintenance of Concrete Bridge (Exist)	.2	0.0	4,190	2,445		•	
sentenunce of done eet 2. rays terrises					•	•	

			Earthwork &		Init Cost (Rp/Kal :	42,059,10
•			Timber	Bridge l	Jnit Cost (Rp/#2) :	216,4
			Concrete	Bridge l		Ro/#2) :	
			CONCLECE	pstrade c	anife content	UDINE!	
			Survived	Va)ue	onit Cost (•	47.406.09
				Value			47,406,09

PROV : SULAWESI SELATAN

KAB : TANA TORAJA

LINK ND : 34 (IIIA)

LENGTH : 20 Km

UPGRADE : 6.0m road bed, 4.0m road with surface Dressing (2)

<<< unit cost >>> >>>>> TEH (((((COST LOCAL FOREIGN LOCAL 5,087,500 Site Clearance in Light Bush 19500.0 3,315,000 1,774,500 Subgrade Preparation ***2** 48000.0 22 . 11 1,056,000 528,000 1,504,000 Normal Fill 43 15970.0 1,740 865 27,787,800 13,814,050 41,601,850 Fill in Swamp 2,586 1,055 ь3 0.0 Normal Excavation to Spoil 6760.0 1,011 524 6,834,360 3,542,240 10,376,600 •3 Sub Base Course 3,272 1,351 20,508,896 8,468,068 20,976,964 43,539,200 6400.0 28,800,000 14,739,200 Base Course **a**3 4,500 2,303 40000.0 146 12,440,000 5,840,000 18,280,000 Shoulder . 311 Asphalt Patching #2 0.0 3,848 1,515 Surface Dressing (Single) .2 658 0.0 766 Surface Dressing (Double) 96,560,000 161,480,000 80000.0 814 1,207 65,120,000 119 1,499,400 Earth Drain 12600.0 925 11,655,000 13,154,400 Earth Drain in Swamp (by machine) 1,231 475 0.0 Pine Culvert D80cm 47.0 47,920 50,157 2,252,616 2,351,319 4.609.995 . Hasonry Culvert (80x80cm) 67,346 40,314 Retaining Wall and Wing Wall (Timber) - #2 16,210 246 . 0 0.0 Retaining Wall and Wing Wall (Masonry) 1,737,170 . . 3 146.4 48,423 11,706 7,185,973 8,923,143 . 0 Gabion Protection m3 0.0 13,236 121 New Bridge (Timber) 0 SET 0 0 1.0 New Bridge (Concrete) SET 1.0 186,955,645 150,840,007 337,815,652 Sub Total Overhead (15%) 28,043,346 22,629,001 50,672,347 TOTAL COST 214,998,991 173,489,008 Manual routine maintenance of road Κe 20.0 149,984 7,260 2,999,680 145,200 3,144,880 Routine maintenance of asphalt road 20.0 384,800 151,500 7,696,000 3,030,000 10,726,000 Sub Jotal 10,695,680 3,175,200 13,970,980 Maintenance of Timber Bridge (New) 0.0 10,146 1,121 . 0 0 Maintenance of Concrete Bridge (Kew) 0.0 2,161 3,002 Haintenance of Timber Bridge (Exist) 72.0 831 173,160 2,405 635,832 808,992 **æ**2 1,556,242 Naintenance of Concrete Bridge (Exist) 4,190 2,445 2,666,935 634.5 4,223,177 Earthwork & Pavement Unit Cost (Rp/Ka) 19,424,400 Tinber Bridge Unit Cost (Rp/a2) (Rp/#2) Concrete **Bridge** Unit Cost Survived Value (Rp) 34,066,371 Maintenance Rate without Oridge **(X)** 3.57

Hew Bridge Cost Rate

(1)

PROV : SULAWESI SELATAN

KAB TANA TORAJA

LINK NO : 33 (IIIA)

LENGTH : 7 Km

UPGRADE : 6.0m road bed, 4.0m road with surface Dressing (2)

I T E H <<< UNIT COST >>> · (((((COST >>>>> UNIT QUANTITY LOCAL FOREIGN LOCAL FOREIGN TOTAL Site Clearance in Light Bush 9<u>1</u> 0.0 170 Subgrade Preparation **u**2 0.0 22 0 Normal Fill #3 490.0 1,740 865 852,600 423,850 Fill in Swamp 0.0 2,586 1,055 0 Normal Excavation to Spoil 41.0 43 Sub Base Course 1,011 524 21,184 . 3 764.0 3,272 1,351 3,151,208 1,302,364 4,456,572 Rase Course 43 2240.0 10,080,000 4,500 2,303 5,158,720 15,238,720 Shoulder *2 14000.0 311 116 4,354,000 2,044,000 6,398,000 Asphalt Patching 62 0.0 3,848 1,515 Surface Dressing (Single) #2 0.0 658 766 Surface Dressing (Double) 28000.0 22,792,000 **#**2 814 1,207 33,796,000 56,588,000 119 Earth Drain 1900.0 925 - 1 1,757,500 226,100 1,983,600 Earth Drain in Swamp (by machine) **a**3 0.0 1,231 475 Pipe Culvert DBOca 7.0 47,928 50,157 335,496 351.099 686,595 . Masonry Culvert (80x80cm) 0.0 67,346 40,314 Retaining Wall and Wing Wall (Timber) - 12 0.0 16,210 246 Retaining Wall and Wing Wall (Masonry) 0.0 48,423 11,706 Gabion Protection **43** 0.0 13,236 121 New Bridge (Timber) SET . 1.0 New Bridge (Concrete) SET 1.0 86,690,872 Sub Cotal 43,367,255 43,323,617 Overhead (151) 6,505,088 6,498,542 13,003,630 TOTAL COST 49,872,343 49,822,159 97,694,502 Hanual routine maintenance of road 7.0 149,984 7,260 1.019.888 50,820 1,100,708 Routine maintenance of asphalt road 381,800 7.0 151,500 2,693,600 1,060,500 3,754,100 3,743,488 Sub Total 1,111,320 4,854,808 Maintenance of Timber Bridge (New) 12 0.0 10,146 1,121 0 . 0 2,161 3,002 Maintenance of Concrete Bridge (Ken) 0.0 **s**2 0 Maintenance of Himber Bridge (Exist) 0.0 8,831 2,405 2,445 Maintenance of Concrete Bridge (Exist) 1,190 670,400 391,200 160.0

> Earthwork & Pavement Unit Cost (Rg/Kn) 14,242,072 Bridge Unit Cost lisber (Rp/#2) Concrete **Bridge** Unit Cost (Rp/#2) Survived (Rp) Value 7,374,937 Maintenance Rate without Bridge (1) 4.87 New Bridge Cost Rate {Z}

PROV : SULAWEST SELATAN

KAB : TANA TURAJA

LINK ND : 32 (111A)

LENGTH : 10 Km

UPGRADE : 7.0m road bed, 4.0m road with surface Dressing (2)

(Rp)

ite Clearance in Light Bush ubgrade Preparation	أحدثه بدأبديه حدما	a dia a	LOCAL	FOREIGN	LOCAL	FOREIGN	TOTAL
						د چر چونژه په ده غه بيا مد سدمر ش به	
	# 2	0.0	170	91	0	0.1	
	* 2	0.0	22	11	0		
ormal Fill	*3	4550.0	1,740	865	7,917,000	3,935,750	11,852,75
ill in Swamp	m3	0.0	2,586	1,055	0	0	
ormal Excavation to Spoil	m 3	1570.0	1,011	524	1,587,270	822,680	2,409,95
ub Base Course	•3	169.0	3,272	1,351	549,696	726,769	776.6
ase Course	a 3	320.0	4,500	2,303	1,440,000	736,960	2,176,9
houlder	e 2	30000.0	311	146	9,330,000	4,380,000	13,710,0
sphalt Patching	•2	673.0	3,848	1,515	2,589,704	1,019,595	3,609,2
urface Dressing (Single)	n2	36000.0	658	766	23,688,000	27,576,000	51,261,0
urface Dressing (Double)	12		814	1,207	3,256,000	4,828,000	8,084,0
arth Drain		0.0	925	119	0	0	
arth Drain in Swamp (by machine)	-3	0.0	1,231	475	ñ	Ó	4 2
ipe Culvert DBOcm		0.0	47,928	50,157	ņ	۵	e sejesji
asonry Culvert (80x80cm)	•	0.0	67,346	10,314	٨	ń	
etaining Wall and Wing Wall (Timber)	•2	0.0	16,210	216	ñ		
etaining Wall and Wing Wall (Masonry)	23	0.0	10,123	11,706	ñ	ň	
abion Protection	#3	0.0	13,236	121	Ň	ň	4. 1
ew Bridge (Timber)	SET	1.0	101100		. 0	۸	
ew Bridge (Concrete)	SET	1.0			0	Ŏ	ing samples
			Sub Total		50,357,470	43,525,953	93,883,6
							,,.
verhead (152)					7,553,650	6,528,892	14,082,5
			TOTAL COST		57,911,320	50,054,845	107,966,1

anual routine maintenance of road	· Ka	10.0	147,984	7,250	1,499,840	72,600	1,572,4
outine maintenance of asphalt road	Κ×	10.0	384,800	151,500	3,840,000	1,515,000	5,363,0
		100	Sub Total		5,347,840	1,587,600	6,935,4
aintenance of Timber Bridge (New)	a2	0.0	10,146	1,121	0	0	
aintenance of Concrete Bridge (New)	•2	0.0		3,002	0	0	garage Alexander
sintenance of Huber Bridge (Exist)	. e2	469.5	8,831	2,405	4,146,419	1,129,219	5,275,6
sintenance of Concrete Bridge (Exist)	. 2	42.0	4,190	2,445	175,980	102,690	278,6
*****						·	
		,	Earthwork &	Pavesont IIa	it Cost (Rp/	(Val	10 101 4
			Timber		it Cost (Rp/		10,796,6
			and the second second	Value			1 115 -
				varue Rate without		(p) :	1,165,5
. •			Hew Bridge		Bridge (12		6.

FROV : SULAWESI SELATAN

KAB : TANA TORAJA

LINK NO : 5 (1118-1)

LENGTH : 17 Km

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

TTEH (((UNIT COST))) ****** **>>>>>** UNIT QUANTITY LUCAL FOREIGN LOCAL FOREIGN TOTAL Site Clearance in Light Bush 50250.0 170 91 8,512,500 1,572,750 13,115,250 Subgrade Preparation 110500.0 2 22 - 11 2,431,000 1,215,500 3,646,500 Normal Fill 1,740 #3 16135.0 865 28,074,900 13,956,775 42,031,675 Fill in Swamp 33 0,0 2,586 1,055 0 0 Normal Excavation to Spoil 43 2236.0 1,011 524 2,260,576 1,171,664 3,432,260 Sub Base Course .3 8330.0 3,272 1,351 11,253,830 27,255,760 38,509,590 Base Course 4,500 9,591,995 •3 4165.0 18,742,500 2,303 28,334,495 Shoulder 57 51000.0 311 146 15,861,000 7,446,000 23,307,000 Asphalt Patching 1,515 42 0.0 3,848 Surface Dressing (Single) 59500.0 658 **#**2 766 39,151,000 45,577,000 84,728,000 Surface Dressing (Double) 0.0 814 m2 1,207 - 0 Earth Drain . 23000.0 925 119 21,275,000 2,737,000 24,012,000 Earth Drain in Swamp (by machine) 0.0 1,231 475 Pipe Culvert DBOca 50,157 15,912,096 16,652,124 32,564,220 332.0 47,929 Masonry Culvert (80x80cm) 0.0 67,346 40,314 Retaining Wall and Wing Wall (limber) **a**2 0.0 16,210 246 0 Retaining Wall and Wing Wall (Hasonry) 11,706 6,926,860 43 115.2 49,423 5,578,329 1,348,531 Gabion Protection 33 0.0 13,236 121 New Bridge (limber) SET 1.0 5,716,737 498,253 6,214,790 New Bridge (Concrete) 1.0 Sub Total 170,801,418 116,021,422 306,822,840 Overhead 1 15%) 28,620,212 17,403,213 46,023,425 TOTAL COST 219,421,630 133,424,635 352,846,265 Manual routine maintenance of road 17.0 149,984 7,260 2,549,728 123,420 2,673,148 384,800 Routine maintenance of asphalt road 17.0 151,500 6,541,600 2,575,500 9,117,100 Κœ Sub Total 9,091,328 2,698,920 11,790,248 10.0 1,121 Maintenance of Timber Bridge (New) 10,146 405,840 44,840 450,680 Maintenance of Concrete Bridge (New) **=2** 0.0 2,161 3,002 0 00 Maintenance of Timber Bridge (Exist) . 2 32.0 8,831 2,405 282,592 76,960 Maintenance of Concrete Bridge (Exist) 0.0 4,190 2,445 62 Earthwork & Payement Unit Cost (Rp/Ka) 20,335,237 Timber Bridge Unit Cost (Rp/m2) 179,681 Concrete Bridge Unit Cost (Rp/m2) Value Survived (Rp) 32,623,612 Maintenance Rate without Bridge **(2)** 3.41 New Bridge Cost Rate (2) 2.03

FROV SULAWESI SELATAN KAB TANA TURAJA

LINK: NO (IIIB-2) LENGTH 16 Km

UPGRADE 5.5m road bed, 4.0m road with surface Base Cource

(An) , ((((() ITEN <<< UNIT COST >>> CUST **>>>>>>** UNIT QUARTITY LOCAL FOREIGN FORELGN TOTAL LOCAL Site Clearance in Light Bush **62** 22250.0 170 91 3,782,500 2,021,750 5,807,250 it Subgrade Preparation 60500.0 22 1,331,000 665,500 1,996,500 11844.0 Normal Fill **3**3 1.740 865 20,608,560 10,245,060 30,853,620 Fill in Swamp 0.0 2,596 **a**3 1,055 . 0 Normal Excavation to Spoil 1490.0 1.011 524 1,506,390 780,760 Sub Base Course 9,632,089 1,351 23,328,051 32,960,140 . #3 7129.6 3,272 Base Course a3 3840.0 4,500 2,303 17,280,000 8,843,520 26,123,520 Shoulder 24000.0 311 146 7,464,000 3,504,000 10,768,000 Asphalt Patching 0.0 3,848 1,515 658. Surface Dressing (Single) 0.0 m2 766 a 1,207 Surface Dressing (Double) 814 0.0 Earth Drain 20500.0 925 18,762,500 2,439,500 21,402,000 119 Earth Drain in Swamp (by machine) 0.0 1,231 •3 475 Pipe Culvert D90cm 269.0 47,928 50,157 12,844,704 13,442,076 26,286,780 Masonry Culvert (80x80cm) 67,346 - 0 0.0 40,314 Retaining Wall and Wing Wall (Timber) **e**2 0.0 16,210 246 Retaining Wall and Wing Wall (Masonry) 99.2 18,423 11,706 4,803,561 1,161,235 5,964,776 =3 Babion Protection 0.0 13,236 121 0 New Bridge (Timber) SET 1.0 5,723,037 498,802 6,221,839 SET New Bridge (Concrete) 1.0 117,634,303 53,237,292 Total 170,871,595 (15%) 17,845,145 Överhead 7,985,593 25,630,739 TOTAL COST 135,279,448 61,222,885 196,502,333 Manual routine maintenance of road K∎ 16.0 149,984 7,260 2,399,744 116,160 2,515,904 Routine maintenance of gravel road 16.0 195,757 88,186 3,132,112 1,410,976 4,543,088 Sub lotal 5,531,856 1,527,136 7,058,992 Haintenance of Timber Bridge (New) 40.0 10,146 1,121 405,840 44,840 450,680 Maintenance of Concrete Bridge (New) 3,002 0 0 **m**2 0.0 2,161 0 Haintenance of Timber Bridge (Exist) ₽2 0.0 8.831 2,405 0 0 0 Maintenance of Concrete Bridge (Exist) 0.0 4,190 2,445 Earthwork & Pavement Unit Cost (Ro/Ke) 11,834,201 iimber Bridge Unit Cost (Rp/m2) 170,978 Bridge Concrete Unit Cost (Ro/+2) 16,480,070 Survived Value (Rp) Maintenance Rate without Bridge **(%)** 3,73 New Bridge Cost Rate (2) 3.64

PROV : SULAWEST SELATA

KAB I TANA TORAJA

LINK NO : 7 (1118-1)

(1118-1) LENGTH F 5 Km

UPGRADE : 7.0m road bed, 4.0m road with surface Dressing (1)

(Rp

		net en e. Landinge		COST >>>))))))
	TIRU	QUANTITY	LOCAL	FORE16N	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	#2	20000.0	170	71	3,400,000	(,820,000	5,220,00
Subgrade Preparation	a 2	0.0	22	11	0	0	gan finsky) p
Normal Fill	#3	2820.0	1,740	965	4,906,800	2,439,300	7,346,10
Fill in Swamp	#3	0.0	2,588	1,055	0	0	354 A. F. C.
Vormal Excavation to Spoil	m3	3100.0	1,011	524	3,134,100	1,624,400	4,758,50
Bub Base Course	m3	1805.0	3,272	1,351	5,905,960	2,438,555	0,344,51
Rase Course	a 3	1400.0	4,500	2,303	6,300,000		9,524,20
Shoulder	n 2	15000.0	311	146	4,665,000	2,190,000	6,855,00
Asphalt Patching	. #2	0.0	3,848	1,515	0	Q	ri në nës
Surface Dressing (Single)	■2	20000.0	658	766	13,160,000	15,320,000	28,480,00
Surface Oressing (Double)	n 2	0.0	8)4	1,207	0	0	
Earth Drain		4400.0	925	119	4,070,000	523,600	1,593,60
Earth Drain in Swamp (by machine)	2 3	0.0	1,231	475	0	0	
Pipe Culvert DBOcm	R	0.0	47,928	50,157	0	0	an is the second
Masonry Culvert (80x80cm)		0.0	67,346	40,314	0	0	
Retaining Wall and Hing Wall (Timber)	± 2	0.0	16,210	246	0	0	
Retaining Wall and Wing Wall (Hasonry)	# 3	0.0	48,423	11,706	. 0	0	
Babion Protection	63	0.0	13,236	121	ò	0	er Tagler
New Bridge (Ilmber)	SET	1.0			. 0	0	
New Bridge (Concrete)	SET	1.0	- 	· - -	0	0	
		٠	Sub Total	.*	45,541,860	29,580,055	75,121,91
Dverhead (15%)					6,831,279	4,437,000	11,268,28
			TOTAL COST		52,373,139	34,017,063	84,390,20
			TOTAL COST		arlaiatrai	2410111002	001010120
		~==,					
fanual routine maintenance of road	Ke	5.0	147,784	7,260	749,920	36,300	786,22
Routine maintenance of asphalt road	· Ka	5.0	384,800	151,500	1,924,000	757,500	2,691,50
			Sub latal	•	2,673,720	793,800	3,467,72
laintenance of limber Bridge (New)	#2	0.0	10,146	1,121	0	0	
faintenance of Concrete Bridge (New)	s 2	0.0	2,161	3,002	0.	0	
Maintenance of Timber Bridge (Exist)	*2	140.0	9,831	2,405	1,236,340	336,700	1,573,04
Maintenance of Concrete Bridge (Exist)	62	302.0	4,190	2,445	1,265,380	738,390	2,003,77
	:	•		:			
				. :	•		
			Earthwork & F	avement Uni	t Cost (R)	o/Kaj i	17,278,04
						o/Kai :	17,278,04
			Timber E	Brlåge Uni	t Cost (Rp		17,278,04
			Timber E Concrete E	Brlåge Uni	t Cost (Rj t Cost (Rj	p/#2} :	
	·		Timber E Concrete E	Bridge Uni Bridge Uni Balue	t Cost (R) t Cost (R)	o/#2) : o/#2) :	17,278,04 7,746,00

PROV : SULAWEST SELATAN

KAB : TANA TORAJA

LINK NO : 31 (IIIB-1)

LENGTH : 13 Km

UPGRADE: 1 6.0m road bed, 4.0m road with surface Dressing (1)

(((UHIT COST))) ITEH · ((((() C051 **>>>>>>** UNIT QUANTITY LOCAL FORETON FOREIGN TOTAL LOCAL Site Clearance in Light Bush 0.0 170 5.91. 11 0 Subgrade Preparation •? 22 0 0.0 Normal Fill 4893.0 1,740 865 8,513,820 4,232,445 12,746,265 **a**3 Fill in Swamp 0.0 2,586 1,055 3,991,000 Mormal Excavation to Spoil 2600.0 1,011 524 5,628,600 1,362,400 **B**3 9,652,824 Sub Base Course 6,831,936 2,820,888 2089.0 3,272 1,351 Base Course 3640.0 4,500 2,303 16,380,000 8,382,920 24,762,920 Shoulder : 11,882,000 **a**7 26000.0 311... 146 8,084,000 3,796,000 Asphalt Patching 0.0 3,848 1,515 34,216,000 39,832,000 74,048,000 Surface Dressing (Single) 52000.0 658 766 Surface Dressing (Double) #2 0.0 814 1,207 Earth Drain 925 119 0.0 Earth Drain in Swamp (by machine) •3 0.0 1,231 475 0 Pipe Culvert D80cm 47,928 50,157 0.0 . Masonry Culvert (80x80cm) 40,314 8 0.0 67,346 Retaining Wall and Wing Wall (Timber) 16,210 246 **a**2 0.0 Retaining Wall and Wing Wall (Masonry) **a**3 0.0 48,423 11,706 Gabion Protection a3 0.0 13,236 121 New Pridge (Timber) SET 1.0 New Bridge (Concrete) 1.0 76,656,356 60,426,653 137,083,009 Total Overhead 11,498,453 9,063,997 20,562,450 TOTAL COST 88,154,809 1,949,792 2,044,172 149,984 7,260 94,380 Manual routine maintenance of road Κæ 13.0 151,500 5,002,400 1,969,500 6,971,900 Routine maintenance of asphalt road K. 13.0 384,800 9,016,072 2,063,880 Sub Total 6,952,192 Maintenance of Timber Bridge (New) 1,121 . 0 . 0 10,146 . 0 •2 0.0 Maintenance of Concrete Bridge (Mem) 0.0 2,161 3,002 0 0 'nΖ Maintenance of Tlober Bridge (Exist) 2,405 ß ١Z 0.0 8,831 0 Maintenance of Concrete Bridge (Exist) 729,060 4,190 2,445 425,430 1,154,490 174.0 Earthwork & Pavement Unit Cost (Rp/Ka) 12,126,574 Tieber Dr i dge Unit Cost (Rp/a2) Unit Cost Pridge (Rp/a2) Concrete

Survived

Value

New Bridge Cost Rate

Maintenance Rate without Bridge

11,709,560

5.72

(Rp)

(7.)

(2)

PROV : SULAWESI SELATA

KAB : TANA TORAJA

LINK NO : 17 (1118-2)

17 (1118-2) LENGTH : 1 Km

UPGRADE : 7.0m road bed, 4.0m road with surface Base Cource

114 K	UNIT	QUANTLIY	<<< UNIT	COST >>> FOREIGN	\(\(\(\)	COST FOREIGN))))))
			LEVELL			CHOCKON.	TOTAL
NIL - NC							
Site Clearance in Light Bush	•2	4000.0	170	91	680,000	364,000	1,044,000
Subgrade Preparation	n2	0.0	22	11	0	. 0	0
Rormal Fill	# 3	250.0	1,740	865	135,000	216,250	651,250
fill in Swamp	a 3	0.0	2,586	1,055	0	0	. 0
Normal Excavation to Speil	m3	285.0	1,011	524	260,135	149,340	437,475
Sub Base Course	•3	332.5	3,272	1.351	1,087,940	449,207	1,537,147
Base Course	93	240.0	4,500	2,303	1,080,000	552,720	1,632,720
Shoulder	a 2	3000.0	311	146	933,000	438,000	1,371,000
Asphalt Patching	- m2	0.0	3,948	1,515	0	0	0
Surface Dressing (Single)	* 2	0.0	859	766	: 0	0.	0
Surface Dressing (Double)	52	0.0	814	1,207	0	0	0
Earth Drain	•	0.0	925	119	0	0	0
Earth Orain in Swamp (by machine)	e 3	0.0	1,231	475	0	. 0	0
Pipe Culvert D80cm		6.0	47,928	50,157	287,568	300,742	588,510
Masonry Culvert (80x80cm)		0.0	67,346	10,314	0	0.00	0.53
Retaining Wall and Wing Wall (Timber)	e2	0.0	16,210	216	0 :	0	Č
Retaining Hall and Wing Wall (Hasonry)	. aj		18,423	11,706	û	Ŏ	
Gabion Protection	= 3	0.0	13,236	121	Ů	0	Č
New Bridge (Timber)	SET	1.0	101230	77	0	0	Č
New Bridge (Concrete)	3E T					0	(
new milinde conuctatal	951	1.0		· · · · ·			
			Sub Total		4,791,643	2,470,459	7,262,102
Overhead (ISI)	•				718,746	370,568	1,089,314
	:		TOTAL COST		5,510,389	2,841,027	8,351,416
			total Cost		0,010,001	t to at loca	919911110
Want and a state and a said	v _		ian ona	1 2/0	tan doa	7,260	157 246
Manual routine maintenance of road	Ka v-	· ·	147,984	7,260	147,984		157,244
Routine maintenance of gravel road	K	1.0	- 3	89,196	195,757	98,186	283,943
			Sub Total	1 121	345,741	95,446	441,187
Maintenance of Timber Bridge (New)	* 7		10,146	1,121	0	- 0	(
Maintenance of Concrete Bridge (New)	22		2,161	3,002	0	0	
Haintenance of Timber Bridge (Exist)	•2		8,831	2,405	0		
Maintenance of Concrete Bridge (Exist)	#2	0.0	1,190	2,445	. 0	0	
			Earthwork &	Payeepni IIn	it Cost IPa	/Ka) :	8,351,417
				1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1		/n2)	0,00.,
						/#2)	
·							
							710 577
	٠.			Value	į	Rp) ;	769,573 5.28

PROV : SULAWESI SELATAN

KAB : TANA TORAJA

LINK NO : 23 (IIIB-1)

LENGTH : 5 Km

UPGRADE : 6.5m road bed, 4.0m road with surface Dressing (1)

(((UNIT COST >>> TTEH **>>>>>** (((((UNIT QUANTITY LOCAL FOREIGN TOTAL FOREIGN LOCAL 5000.0 850,000 455,000 1,305,000 Site Clearance in Light Bush 170 91 Subgrade Preparation * 11 0.0 22 0 0 •2 845 Normal Fill •3 1980.0 1.740 3,445,200 1,712,700 Fill in Swamp •3 0.0 2,586 1,055 0 Normal Excavation to Spoil 104.800 307,000 .3 200.0 1,011 524 202,200 702,469 1,351 2,185,696 3,088,164 Sub Base Course •3 6.846 3,272 7,619,360 Base Course 43 1120.0 4,500 2,303 5,040,000 2,579,360 3,887,500 1,025,000 5,712,500 Shoul der 146 **a**7 12500.0 311 Asphalt Patching 1,515 46,176 18,180 64,356 12.0 3,848 Surface Dressing (Single) 13,160,000 15,320,000 28,480,000 **n**2 20000.0 659 766 1,207 Surface Dressing (Double) *****2 814 0 0 9.0 238,000 Earth Drain 2000.0 725 119 1,850,000 2,088,000 ä 475 Earth Drain in Swamp (by machine) Ĝ 1,231 0 #3 0.0 Pipe Culvert DBOca 50,157 . 0.0 47,928 Masonry Culvert (80x80cm) 67,346 0 0.0 40,314 0 Retaining Wall and Wing Wall (Timber) a2 16,210 246 0.0 Retaining Wall and Wing Wall (Masonry) •3 0.0 48,423 11,706 Gabion Protection • 3 0.0 13,236 121 Hen Bridge (Timber) set 1.0 New Bridge (Concrete) SET 23,155,508 Sub Total 30,666,772 53,822,280 4,600,015 3,473,326 8,073,341 Overhead 1 15% 1 26,628,834 TOTAL COST 35,266,787 61,895,621 749,920 5.0 149,981 7,260 36,300 786,220 Manual routine maintenance of road Kα 1,924,000 Routine maintenance of asphalt road 384,800 151,500 757,500 2,681,500 793,800 2,673,920 3,467,720 Sub lotal Maintenance of Timber Bridge (New) 10,146 1,121 . 0 0 0.0 Haintenance of Concrete Bridge (New) O ...0 **#**2 0.0 2,161 3,002 0 Maintenance of Timber Bridge (Exist) 8,831 2,405 •2 0.0 Maintenance of Concrete Bridge (Exist) 4,190 2,445 29,340 Earthwork & Pavement Unit Cost (Ro/Ku) 12,379,124 Ør i dge (Rp/s2) Timber Unit Cost Concrete 0ridge Unit Cost (Ro/e2) Survived Yalue (Rp) 3,685,586 Maintenance Rate without Bridge (X) 5.60 Hem Bridge Cost Rate (%)

PROV : SULAWESI SELATAN

KAB : TANA TORAJA

LINK NO : 27 (IIIB-1)

LENGTH : 5 Km

UPGRADE : 5.5m road bed, 3.5m road with surface Dressing (1)

ITEN				COST >>>	((((and the second second	>>>>>
	TIKU	QUANTLIY	LOCAL	FORELGN	LOCAL	FOREIGN	TOTAL
Site Clearance in Light Bush	a 2	0.0	170	91	0	0	(
Subgrade Preparation	n 2	11000.0	22	li	242,000	121,000	363,000
Normal FIII	. #3	1013.0	1,740	845	1,762,620	874,245	2,638,96
Fill in Swamp	m3	0.0	2,585	1.055	0	0	- 10 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Hormal Excavation to Spoil	83	338.0	1,011	524	341,718	177,112	519,83
Sub Base Course	a 3	1511.0	3,272	1,351	4,943,992	2,041,361	6,985,35
Base Course	#3	1225.0	4,500	2,303	5,512,500	2,821,175	8,333,67
Shoulder	#2	10000.0	311	146	3,110,000	1,460,000	4,570,00
Asphalt Patching	B 2	0.0	3,848	1,515	311101000	11100,000	11010100
Surface Dressing (Single)	•2	17500.0	5,010 658	766	11,515,000	13,405,000	24,920,00
Surface Dressing (Double)	92						
		0.0	814	1,207	1 707 500	170.500	1 E// AA
Earth Drain		1500.0	925	119	1,387,500	178,500	1,566,00
Earth Drain in Swamp (by machine)	a 3	0.0	1,231	475	0	0	
Pipe Culvert D8Oca	. •	6.0	47,928	50,157	287,568	300,942	588,51
Masonry Culvert (80x80cm)		24.0	67,346	40,314	1,616,304	967,536	2,583,84
Retaining Wall and Ming Wall (Timber)	₽ 2	0.0	16,210	246	. 0 .	Q	
Retaining Wall and Wing Wall (Masonry)	a 3	2.7	48,423	11,706	140,426	33,947	174,37
Babion Protection	#3	0.0	13,236	121	0	0	
New Bridge (Timber)	SEI	1.0			. 0	0	
New Bridge (Concrete)	SET	1.0	·		0	0	
			Sub Total		30,859,628	22,382,818	53,242,44
Overhead (15%)					4,628,944	3,357,422	7,986,36
							in a second
	* 4		TOTAL COST	11 1	35,488,572	25,740,240	61,228,81
						e e e e e e e e e e e e	
				• • •	118 000	71 700	781 B
Manual routine maintenance of road	Kø.	5.0	149,984	1,260	749,920	36,300	788,27
Routine maintenance of asphalt road	Km	5.0	384,800	151,500	1,924,000	757,500	2,681,50
	_		Sub Total		2,673,920	793,800	3,467,77
faintenance of limber Dridge (New)	9 2	0.0	10,146	1,121	0	0	
laintenance of Concrete Bridge (New)	# 2	0.0	2,161	3,002	0	0	
Maintenance of Ilmber Bridge (Exist)	#2	0.0	8,931	2,405	0	. 0	***
Maintenance of Concrete Bridge (Exist)	n 2	40.0	4,170	2,445	167,600	97,800	265,40
					·		3-2-6-2
			- 11 1 1	6		w.t.	15 546 14
			7.5	Pavement Uni		/Kn) 1	12,245,70
			Timber	Bridge Uni	•	/m2	
		•	Concrete	•		/#2)	1 861
			Survived	Value		Rp) 1	6,556,4
			Haintenance Hew Bridge	Rate without		X) :	5.6

Appendix A-4

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

PROV : SULAWEST	I SELA			TANA T	ORAJA		
ITEH	UNIT	(1988)		(1990)	(1991)	< 1992 >	(TOTAL)
EQUIPMENT :							
Bulldozer/Ripper	hr	937.5	1724.4	1684.8	2220.6	7369.B	13837.1
Swamp Bulldozer	hr	0.0	0.0	0.0	0.0	0.0	0.0
Hotor Grader	hr	394.4	1278.6	1362.3	1734.3	505.B	5275.4
Hand-guide Vib. Roller	hr	105.0	6,808		758.7	301.5	2352.5
Tire Roller	hr	511.0	755.5	1131.5	1309.9	0.0	3707.9
Vibratory Roller (D&T)	hr	472.4	1619.5	1608.5	2012.6	4585.4	10318.4
Hydraulic Excavator; Wheel	hr	0.0	0.0	7.9	2.8	0.0	10.6
Wheel Loader	hr.	724.8	2482.7	2540.1	3192.7	3582.2	12722.5
Water Tank Truck	hr	229.7	1013.3	796.7	1198.1		
Dump Truck	hr	6085.6	19483.6	19294.3	23793.4	27140.1	95797.0
Flat Bed Truck with Crane	hr	4.8	128.2	349.9	564.9	242.9	1589.6
Flat Red Truck	hr	615.0	1104.0		1827.4	103.1	5187.5
Portable Crusher/Screening	hr	130.1	469.7	453.1	529.0	7.1	1589.6
Concrete Hixer	hr	1.0	170.0		200.6	62.7	
Water Pump	hr	1.0	132.7	132,9	162.4	51,7	480.7
Concrete Vibrator	hr		50.3	47.6	96.0	29.9	272.8
Asphalt Sprayer	hr.		755.5	1131.5	1307.9	0.0	~ : 3707.9
LARGUR :		•					
Handur	∎an day	482.7	1871.2	1824.1	2324.5	2003.7	8506.2
Skilled Labourer	man day	379.0	1061.0	1026.6	1604.7	739.0	4808.3
Carpenter	man day	0.3	217.2	103.6	201.6	341.1	945.8
Kason	∌an day	0.0	106.2	213.4	191.1	54.7	645.4
Labourer	man day	4973.7	19949.4	19445.7	23083.5	17569.7	84721.0
Oriver	aan day	1283.4	3741.8	4024.6	4927.1	5375.4	19555.3
Operator	man day	706.7	2010.8	2115.6	2697.7	2888.3	10447.1
HATERIAL :			1.5				
Bitusen	1	107408.4	184166.6	257824.8	268566.1	0.0	817965.9
Asphalt 011	1	20599.7		41045.0	53/10.0		140308.2
Kerosene	i	25100.0	36266.6	54784.8	64191.7	0.0	180343.9
Sand	e3	321.8	684.0	839.2	1254.5	164.4	3263.9
Cement	bag	15.0	921.9	776.1	1329.0	457.9	3498.9
River Stone	n3	0.0	196.2	213.4	191.1	54.7	415.4
Steel Houlds	set	6.0	340.5	220.3	481.2	174,9	1222.9
liaber	a 3	0.0	18.1	7.8	22.8	30.0	78.7
Paint	ì	0.0	128.4	51.3	170.6	215.1	565.4
Reinforcing Steel	kg	191.4	10861.9	7995.8	15702.3	5579.3	40330.7
Tying Wire	kg	1.7	98.7	72.6	142.7	50.7	366.4
Equivalent Royalty	n 3	5968.8	28493.7	29009.8		~~	2001

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

SULAWESI SELATAN KAB : TANA TORAJA UNIT < 1988 > (1989 > (1990 > < 1991 > EQUIPMENT : Bulldozer/Ripper 0.0 hr 0.0 Swamp Bulldozer 0.0 hr 0.0 0.0 0.0 0.0 0.0 Hotor Grader hr 383.3 753.2 827.5 778.5 747.5 3490.0 Hand-guide Vib. Roller 258.7 hr 675.0 780.0 1267.5 1980.0 Tire Roller hr 383.3 753.2 827.5 778.5 747.5 3490.0 Vibratory Roller (D&T) 0.0 hr . 0.0 0.0 0.0 0.0 0.0 Hydraulic Excavator: Wheel 0.0 ⊸hг. 0.0 0.0 0.0 0.0 0.0 Wheel Loader hr 135.9 279.5 314.0 336.2 382.1 1447.7 Water lank Iruck hr 0.0 0.0 0.0 0.0 0.0 Dump Truck hr 1333.0 3026.6 3442.9 4550.5 6250.0 18603.0 Flat Bed Truck with Crane hr. 1184.7 3050.7 3149.0 3780.6 3921.1 15086.1 Flat Red Truck hr 1632.3 3341.6 3698.0 3907.6 4362.9 Portable Crusher/Screening hr 68.4 158.5 141.2 170.7 195.0 Concrete Hixer hr 3.1 7.5 9.5 7.2 9.9 37.2 Nater Pump hr. 3.1 7.2 7.5 9.5 9.9 37.2 Concrete Vibrator hr 3.1 7.5 7.2 9.5 7.9 37.2 Asphalt Sprayer hr 0.0 0.0 0.0 0.0 0.0 LABOUR : Handur ean day 603.7 1306.6 1454.2 1707.4 2108.0 7179.9 Skilled Labourer man day 275.0 780.5 852.7 1238.1 1700.2 4846.5 Carpenter man day 52.9 172.7 173.6 204.6 197.5 801.3 Hason gan day 0.0 0.0 0.0 0.0 .. 0.0 0.0 Labourer pan day 7105.4 15257.2 17023.8 20026.8 24909.1 84321.3 Driver man day 737.9 1691.9 1840.5 2190.2 2576.1 9036.6 Operator. man day 173.8 346.1 382.4 374.4 380.1 HATERIAL : 6075.0 Bituaen 2328.7 7020.0 11407.5 17820.0 Asphalt Oil .0.0 .1 0.0 0.0 0.0 0.0 0.0 780.0 Kerosene 1 675.0 1267.5 258.7 1980.0 4961.2 137.5 Sand 119.7 220.7 339.9 ε.Χ 46.2 864.0 Ceaent 105.6 110.B 138.8 144.9 46.3 546.4 bao-River Stone 0.0 0.0 0.0 0.0 0.0 0.0 - 43 Steel Houlds set 0.0 0.0 0.0 0.0 0.0 0.0. limber · a3 4.5 15.1 15.2 17.9 17.3 Paint 28.9 99.6 99.6 116.6 111.2 455:9 567.3 Reinforcing Steel 237.9 542.9 713.6 744.8 2808.5 2.1 5.1 6.4 Tying Wire 4.9 6.7 25.2 3960.7 1726.6 4448.1 4762.5 5412.0 20509.7 Equivalent Royalty

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

PROV : SUL	.AWESI	Site L. A	ATAN	KAB :	TANA	rdraja -		
ITEN		UNIT	(1988)	(1989)	(1990)	< 1991 >	(1992)	< TOTAL >
DIPHENI :								
Dulli dan me 101 awar		b.m.	837.5	1774 1	1694.8	2220.6	7369.0	13937.1
Bulldozer/Ripper Swamp Bulldozer		hr: he		1724.4	0.0	0.0	0.0	0.0
Hotor Grader		<i>jhr</i> lir	the second of the second	2031.8	2187.9	2512.8	1253.3	8765.4
Hand-quide Vib. Roll	l'or	hr	363.7	1283.9	1358.4	2026.2	2281.5	7313.7
lire Roller	i ei	hr	B94.3	1508.7	1757.0	2089.4	747.5	7197.9
Vibratory Roller (D)	LT)	hr	492.4	1617.5	1608.5	2012.6	4585.4	10318.4
llydraulic Excavator		lir	0.0	0.0	7.8	2.8	0.0	10.6
Wheel Loader		hr		2762.2	2851.1	3528.9	3964.3	14170.2
Water Tank Truck		hr	and the second second	1013.3	996.7	1178.1	2351.3	5788.1
Dump Truck		hr			22737.2	28343.9	33390.1	114400.0
Flat Bed Truck with		hr.	1199.5	3478.9		4345.4	4164.0	16675.7
Flat Bed Truck	:	hr		1 1 1 1 1		5735.0	4465.9	22129.8
Portable Crusher/Scr	eeninn	hr	190.5	610.9	611.6	699.7	202.7	2323.4
Concrete Nixer		hr	4.1	177.2	183.1	210.1	72.6	647.1
Water Pump		hr	4.1		140.4	t e	61.6	517.9
Concrete Vibrator		hr	4.1	65.5	55.1	95.5	39.8	260.0
Asphalt Sprayer		hr	511.0	755.5	1131.5	1309.9	0.0	3707.9
ABOUR :								
Handur		man day	1086.4	3177.9	3278.3	4031.9	4111.7	15686.1
Skilled Labourer		man day	653.0	1841.5	1079.3	2842.8	2438.2	7654.8
Carpenter		man day		391.9	217.2	486.2	538.6	1747.1
Hason		man day	0.0	186.2	213.4	191.1	54.7	645.4
Labourer		man day		35205.6	36469.5	43110.3	42477.8	169242.3
Dr i ver		nan day		5636.7	5865.1	7117.3	7951.5	28591.9
Uperator		man day	880.5	2396.9	2478.0	3072.1	3266.4	12103.9
NERIAL :		ć						
Bitunen		i	109737.1	190241.6	264844.8	279973.6	17820.0	862617.1
Asphalt Oil		i	20599.9	24933.3	41065.0	53710.0	0.0	140308.2
Kerosene	4.5	i	25359.5	36941.6	55564.8	65459.2	1980.0	185305.1
Sand		a 3		803.7	976.7	1475.2	504.3	4127.9
Cenent		bag	61.3	1027.5	9.889	1466.8	602.8	4045.3
River Stone		a.3	0.0	186.2	213.4	191.1	54.7	645.4
Steel Moulds		set	6.0	340.5	220.3	481.2	174.9	
Haber		a 3	4.5	33.2	23.0	40.7	47.3	118.7
Paint		}	28.9	228.0	150.9	287.2	326.3	1021.3
Reinforcing Steel		kg	129.3	11404.8	8565.1	16415.9	6324.1	43139.2
Tying Wire		kg		103.6	17.7	149.1	57.4	391.6
Equivalent Royalty		a3	7895.4	32454.4	33457.9	39288.7	15473.5	128569.9

Appendix A-5

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

a wi = = = = + + + + + + + + + + + + + + +	******						(1000 Rp)
ITEH	UNIT	(1988)	(1989)			(1992)	(IDTAL)
EQUIPHENT :	.4.	PA _ 3.30	241,321	216 206	101 ANS	367,911	1 746 471
		0.1001	2111021	2101100	3001114	2011111	112101111
Bulldozer/Ripper	15585	13,052	26,074	26,257	34,608	114.959	215,649
Swamp Bulldozer	11444	0	0				
Motor Grader	13321	5,253	17,032				70,271
Nand-guide Vib. Roller	1576	165		911			3,705
Tire Roller	10484	5,357	7,920	11,862			39,871
Vibratory Roller (D&T)	6662	3,280	10,789		13,407		68,739
Hydraulic Excavator; Wheel	12428	0	0	96			130
Wheel Loader	16520	15,277	41,014	41,962	52,743		210,173
Water Yank Truck		880	3,899	3,835	4,610	9,047	22,271
Dump Truck	5329	32,430	103,828	102,817	126,795	144,629	
Flat Bed Truck with Crane	4903	23	2,099		2,769		7,791
Flat Bed Truck	3197	1,960	3,518		5,823		16,530
Portable Crusher/Screening	43072	5,606	20,240		22,795		68,496
Concrete Mixer	8943	В	1,520	1,570		560	5,451
Water Pump	471	0	62	62	76	24	224
Concrete Vibrator	301	0 -	17	14	25		61
Asphalt Sprayer	2052	1,048	1,550	2,321	2,687	0	7,606
LABOUR :		21,931	78,488	77,032	96:044	84,642	358,937
Handur	3000	1,449	5,613	5,472	6,973	6,011	25,517
Skilled Labourer	2500	745	2,652	2,566	4,011	1,945	
Carpenter	3000	0	657	310	844	1,023	2,834
Kason	3000	0	558	640	573	164	1,935
Labourer	2000	9,747	39,896	38,891	46,167	35,139	169,840
Driver	3500	4,491	13,806	14,086	17,244	18,813	68,440
Operator	7500	5,300	15,306	15,867	20,232	21,647	78,352
HATERIAL :		70,085	137,604	179,765	216,121	18,938	622,513
Bitumen	400	42,963	73,666	103,129	107,426	0	327,184
Asphalt Oil	800	16,479	19,946	32,852	42,968	0	112,245
Kerosene	250	6,275	9,066	13,696	16,047	0	45,084
Sand	.8000	2,574	5,472	6,713	10,036	1,315	26,110
Ceaent	4500	67	4,148	3,492	5,976	2,060	15,743
River Stone	7000	0	1.303	1,493	1,337	382	4,515
Steel Houlds	7000	42	2,383	1,542	3,360	1,224	8,559
limber	175000	0	3,167	1,365	3,990	5,250	13,772
Paint	2500	0	321	128	426	537	1,412
Reinforcing Steel	1000	191	10,861	7,995	15,702	5,579	40,328
Tying Hire	1500	2	148	108	214	76	548
Equivalent Royalty	250	1,492	7,123	7,252	9,631	2,515	27,013

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

PROV : SULAWESI	SELATA	N.	KAB :	TANA T	DRAJA"	(1000 Rp)
ITEN	UNIT	< 1988 >	〈 1989 〉	< 1990 >	(1991)	(1992)	(TOTAL)
EQUIPMENT :		32,863	71,496	78,587	89,755	102,156	373,867
Bulldozer/Ripper	15585	0	. 0	0	0	0	0
Swamp Bulldozer	11444	. 0.	. 0	0	0	0	0
Motor Grader	13321	5,105		11,023	10,370	9,957	46,488
Hand-guide Vib. Roller	1576	407	1,063	1,229	1,997	3,120	7,816
Tire Roller	10484	4,018	7,896	8,675	8,161	7,836	36,586
Vibratory Roller (D&T)	6662	0	0	0	0	0	Ò
Hydraulic Excavator; Wheel	12428	0	0:	0		145 A 0	0
Wheel Loader	16520	2,245	4,617	5,187	5,554	6,312	23,915
Water Yank Truck	3848	0	0	0	0	Altr, 19 🐧 👫	0
Dump Truck	5329	7,103		18,347		33,306	
Flat Bed Truck with Crane		5,808			19,536	19,225	73,965
Flat Bed Truck	3197	5,202	10,647	11,785	12,453	13,904	53,993
Portable Crusher/Screening	13092	2,947	6,094	4.830	7,355	8,402	31,618
Concrete Hixer	8943	27	64	- 67	84	88,	330
Water Pump	471	1 .	3	3	4	4	15
Concrete Vibrator	471 301	0	2.	2	2	2	B
Asphalt Sprayer	2052	0	0	0	0	0	. 0
LABOUR :		20,751	45,418	50,369	59,356	72,848	248,742
Handur	3000	1,811	3,919	4,362	5,122	6,324	21,538
Skilled Labourer	2500		1,951	2,131	3,095		12,114
Carpenter	3000	158	518	520	613	572	2,401
Hason	3000	- 0	0	0	0	0	0
Labourer	2000	14,210	30,514		40,053	49,816	169,640
Driver	3500	2,582		6,441	•	9,016	31,625
Operator	7500	1,303		2,889		2,850	12,424
Datental		7: 450	0.416	B 160	18 162		18 616
MATERIAL:		3,152	8,460	9,198	12,603	16,406	49,819
Bitumen	400	931	2,430	2,808	4,563	7,128	17,860
Asphalt Oil	800	0	0	0	0	0	0
Kerosene	250	64	168	195	316	495	1,238
Sand	8000	369	957	1,100	1,765	2,719	6,910
Cesent	4500	208	475	478	624	652	2,457
River Stone	7000	0.	0	0	0	0	0
Steel Houlds	7000	0:	0	• 0	0	. 0.	0
Timber	175000	787.	2,612	2,660	3,132	3,027	12,248
Paint	2500	72	247	249	29 l	278	1,139
Reinforcing Steel	1000	237	542	569	713	744	2,805
Tying Mire	1500	3		. 1	9	10	36
Equivalent Royalty	250	401	990	1,112	1,170	1,353	5,176

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

PROV : SULAWESI	oc.Lf	PHN	KAB :	TANA T	บหลาก	(1000 Rp)		
ITEN	UNIT	< 1989 >	(1989)	(1990)	(1991)	(1992)	< 10TAL >	
EQUIPHENT :		117,202	312,817	325,293	394,959	470,067	1,620,338	
Buildozer/Ripper	15585	13,052	26,874	26,257	34,608	114,858	215,649	
Swamp Bulldozer	11444	0	0	0	0	0	0	
Notor Grader	13321	10,358	27,065	29,170	33,472	16,694		
Hand-guide Vib. Roller	1576			2,140	3,192	3,595	11,521	
Tire Roller	10484	9,375			21,893	7,836	75,457	
Vibratory Roller (D&T)	6662	3,280	-	10,715	13,407	30,547		
Hydraulic Excavator; Wheel	12428	0			34	0	130	
Wheel Loader	16520	17,522	45,631	1 1 1	58,297		234,088	
Water Tank Truck	3848	880	3,899	3,835	1,610			
Dump Truck	5329	39,533	119,956		151,044	177,935		
Flat Bed Truck with Crane	4703		17,056	17 140	21,305	20,415	81,756	
Flat Red Truck	3187	7,162	14,167		18,276	14,232	70,523	
Portable Crusher/Screening	13092	8,553	26,324		30,150		100,114	
Concrete Mixer	8743	35	1,584		1,977	648	5,781	
Water Pump	171	ų, L	65	65	80 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	28		
Concrete Vibrator	301	0	19	16	27	10	239 72	
Asphalt Sprayer	2052	1,048	1,550	2,321	2,687	0	7,606	
LABOUR t		42,682	123,906	128,701	155,400	157,490	607,679	
Nandur	3000	3,259	9,532	9,834	12,095	12,335	47,055	
Skilled Labourer	2500	1,632	4,603	4,697	7,106	6,095	24,133	
Carpenter	3000	158	1,175	830	1,457	1,615	5,235	
Mason	3000	0	558	640	573	164	1,935	
Labourer	2000	23,957	70,410		86,220	84,955	338,480	
Driver	3500	7,073	19,727	20,527	24,709	27,827	100,065	
Operator	7500	6,603	17,901	18,735	23,040	24,497	70,776	
HATERIAL :		73,237	146,064	188,963	228,724	35,344	672,332	
Bitumen	400	43,894	76,096	105,937	111,909	7,128	345,044	
Asphalt Dil	800	16,479	19,946	32,852	12,968	0.	112,245	
Kerasene	250	6,339	9,234	13,891	16,363	495	16,322	
Sand	8000	2,943	6,429	7,813	11,801	4,034	33,020	
Cenent	4500	275	4,623	3,990	6,600	2,712	18,200	
River Stone	7000	0	1,303	1,493	1,337	302	4,515	
Steel Houlds	7000	42	2,383	1,542	3,368	1,224	8,559	
limber	175000	787	5,807	4,025	7,122	8,277	26,020	
Paint	2500	72	570	377	717	815	2,551	
Reinforcing Steel	1000	428	11,403	8,564	16,415	6,323	43,133	
Tying Hire	1500	5	155	115	223	86	584	
Equivalent Royalty	250	1,973	0,113	8,364	9,821	3,868	32,139	

Appendix A-6

QUANTITIES OF BRIDGE ON PROPOSED ROAD LINKS

	PROV	-	. 1	, S	ULA	NE8 I	SELA	TAN	K	AB	r T	ANA 1	FORAJA				
LINK	BRIDGE NAME		Ka	Fram		TYPE >> T) (NEW			LENGTH	NO.	LENGTH		AREA (EXIST) (a2)	AREA (NEW) (n2)		ABUT	CLASS
36	S.KAROKA S.RATTE S.KANAKA S.PAKKADUA S.HABAYA T.SANDANGAN T.SIPE	:	20 25 30	PSSB PSSB PSSB PSSB PSSB PSSB PSSB		- TH - TH - TH - TH K K	LOT	(C)	5.00 6.00 11.00 4.00 14.00 23.00 13.50	1 2 1 2	5.00 6.00 5.50 4.00 7.00 23.00 13.50	4.00 4.00 4.00 4.00	0.00 0.00 0.00 0.00	11 1	0 1 0	_	IIIC
12	S.KALUA		3	NDDN	K	Β		~	4.00	1	4.00	4.00	16.00		0	2	111B-2
54	S.RATTE		17	MAKL	L	L TH	107	(B)	4.00	1	4.00	4.00	12.00	16.00	0	2	IIIC

	PROV		: 8	ULAWI	si	BELA'	TAN	K	AB	: 10	ANA 1	roraji	A			
LINK NO	BRIDGE NAKE	Ko	From	(1 >> (181X3)	PE >> (NEW)	DESTEN LOAD	SPAN CLASS		NO	SPAN LENGTH	HIDIH	AREA (EXIST)	AREA (NEN)	PIER	APUT	ROAD CLASS
						4.5		(a)	(na)	(g)	(a)	(#2)	(n2)	(no)	(no)	
5	KOLESOK I	ø	SEKO	t.			:	8.00	1	8.00	4.00	32.00		^	2	1118-1
	AVAK KARE	16	SEKO		TH	101	(8)	10.00		5.00	4.00		40.00	•	2	1110 1
b	SAPAN DEATA	9	TON	KK	TH	101	(8)	10.00	2	5.00	4.00	0.40	40.00	1	2	1118-2
7	ALANG-ALANG	6	RPAO	KK				40.00		40.00	3.50	140.00			2	1118-1
	S.PALIPADANG		RPAD	KB				4.00	i	4.00	b.00	24.00		0		1119-1
	S. SOPAI	. 7	RPAO	RB				40.00		10.00	5.00	10 tells 10 miles	F	0	2	
•	S. BULU-BULU	9	RPAD	KB				8,00	1	8.00	6.00	48.00	eli la	۸	,	41 - C
	S. PADETTERAN	12	RPAO	KB				6.00	i	6.00	5.00	30.00		ŏ	2	Production (Co.) Projection
23	MAKULAK	4	KDAN	KB				3,00	1	3.00	4.00	12.00		.0	2	1119-1
29	DONE	1	HKLK	K9				10.00	1	10.00	4.00	40.00		0	2	1118-1
31	HALINO 1	2	PTGO	KB				9.00	·	9.00	4.00	36.00		0	2	1118-1
	MALINO II		PT60	KB	1111		1.15	4.00		4.00	1.5	24.00		0	2	IIID
	 ■ ■ 25 ■ 155 × 1		GTGN	KB	*,			3.00		3.00	6.00	18.00		V	2	
	PIRI I		KLBG	KB				3.00	1	3,00	6.00	18.00		٠, ٧	2	
	PIRI II		HRRG	KB		2		15.00	,	15.00	4.00	60.00	·. · · ·		2	
			TLHB	K8				3.00	1	3.00	6.00	18.00		ŏ	2	
32	PONGRONGRONS	4	DIKL	KB				6.00		6.00		18.00		0	2	IIIA
	MAULU		DIKL	KK		*		47.00	i		9.99	469.53		Ô	2	****
**: + '	DIDOK		DIKL	KÐ				4.00		4.00	6.00			Õ	2	
33	KAKONS	11	HAKL	KB				40.00	10	4.00	4.00	160.00		9	2	IIIA
34	S. BOHBON	3	ULU	KB				10.00	i	10.00	5.50	55.00		0	2	111A
	S. KAREPE	3	ULU	KB.				5.00	î	5.00	6.00			0	2	1117
	S. TINA	4	ULU	KB			-	11.00	,	11.00	4.00	44.00	-	'n	2	
	S.DALLE BATE	Á	ULU	KB				00.01	· i	10.00	4.00	10.00	1.	^	2	
•	S.BITURU	5	ULU	K8				4.00	í	4.00	4.00	16.00		٨	2	
	S, BEKKA I	5	ULU	KB				4.00	i	4.00	1.00	16.00		A	2	
	S.BEKKA 11	5	ULU	KB				10.00	i	10.00	4.00	10.00		Ô	2	
	S. TENDAN TALLU	6	ULU	KB				3.00	i	3.00	4.00			Ů	2	
	S. BOLLO	6	ULU	KB				9.00	1	9.00	4.00	36.00		Ŏ	2	
	S.SOLAK	7	ULU	K8		:		4.00	1	4.00	4.00	16.00		0	2.	
	S. TOHAKKA	7	ULU	KK				4.00	1	4.00	4.00	16.00		ò	2	
.*	S. BULO	8	ULU	. KB	٠.			10.00	i	10.00	4.00	40.00		ō	2	
	S.PARODO	9	ULU	KB				26.00	· 1	26.00	4.00	104.00		Ö	2	
	S.PONGSINBONG	11	ULU	PB				3,00	ì	3.00	4.00	12.00		ò	2	
	S.TOBABAK	14	ULU	KP			*.	9,50	j	9,50	4.00	38.00	•	Ō.	2	
	S.KOHDONGAN	14	ULU	KB				10.00	į	10.00	4.00	10.00		Ō	2	
	S. RANTEL IMPONG	14	ULU	K.B				6.00	i	6.00	5.00	30.00		Ŏ	2	
	S.ROHTTA	17	ULU	KK				8,00	i	8.00	5.00	40.00		Ŏ	2	
	S. TOPATTUNG	17	ULU	KK				4.00	i	4.00	4.00	16.00		ŏ	2	
	S.NANGALA	17	ULU	K8				15.00	1	15.00	4.50	67.50		0	. 2	
36	I.PARAPPO		PRPO	KK				24.00	1	24.00	4.00	96.00		0	2	ILIC
	S.BULO	4	PSSR		TH	101	(C)	6.00	1	6.00	4.00	0.00	24.00	0	2	

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

PROV : BULAWEBI BELATAN KAB : TANA TORAJA
LINK NO : 5 (IIIB-1) LENGTH : 17 Km

ITEH	4.0		' (((UNIT	COST >>>	((((<< cost	>>>>>
	TINU	QUANTERY	LOCAL	FOREIGN	LOCAL	FOREIGN	TOTA

uperstructure (Timber;Span 3m;10T)	•2	0.00	57,099	3,541		0	14.5
uperstructure (Timber(Span Sm(O))	•2	40.00	63,246	3,910	2,529,840	156,400	2,686,24
uperstructure (Timber;Span Bm;[OT)	. 2	0.00	83,772	5,137	0	0	
uperstructure (limber Span 3m;BM50)	•2	0.00	70.B00	4,379	0	0	
uperstructure (Timber;Span 5m;8M50)	■2	0.00	77,295	1,745	0	0	
uperstructure (Timber Span Bm; 8H50)	•2	0.00	98,031	6,007	0	. 0	
uperstructure (Concrete;Span 3m;BNSO)	•2	0.00	61,533	105,772	0	0	
uperstructure (Concrete; Span 5m; BMSO)		0.00	63,026	118,305	Ò	9	
uperstructure (Concrete;Span 8m;9M50)	42	0.00	64,794	128,925	0	0	
uperstructure (Concrete;SpaniOm;BK50)	₽2	0.00	70,745	146,523	0	0	
uperstructure (Concrete;Span!Sa;BK50)		0.00	75,991	172,720	0	0	
ubstructure (Piersfor Timber;101)	KO	1.00	197,331	32,863	197,331	32,963	530,1
ubstructure (Abut; for [imber; 10])	KO	2.00	1,341,783	154,495	2,689,566	308,990	
ubstructure (Pier; for Timber; 8H50)	NO	0.00	731,419	48,632	0	0	45
obstructure (Abut; for Timber; BMSO)	NO	0.00	1,521,240	171,666	0	Ò	
ubstructure (Piersfor Concrete BMSO)	NO	0.00	1,859,838	467,969	0	Ó	11.
ubstructure (Abut; for Concrete; 9H5O)	NO	0.00	3,911,821	984,591	0	0	
emolition of Bridge (Timber-)Timber)	•2	0.00	15,752	1,374	0	0	
emolition of Bridge (Timber-)Concrete)	•2	0.00	15,752	1,374	0	. 0	
emolition of Bridge (Concrete)	a2	0.00	93,530	79,848	0	0	
			10.111		405 040		150.1
aintenance of Timber Bridge (New)	62	10.00	10,146	1,121	405,840	44,840	450,6
sintenance of Concrete Bridge (New)	•2 -2		2,161	3,002	V		750 5
mintenance of limber Bridge (Exist)	•2		8,831	2,105	282,592	76,960	359,5
sintenance of Concrete Bridge (Exist)	#2	0.00	4,190	2,445	. (1, 10
				100			1 1.4
(Without Overhead)	1	IDTAL COST	(Timber Brid		5,716,737	498,253	6,214,9
	1.5		(Concrete Br			. 0	
	·. 1	IOTAL COST	(without Mai	ntenance)	5,716,737	498,253	6,214,9

1.0						278 F	
(Overhead : 15%)	. 1	IDTAL COST	(Timber Brid (Concrete Br		6,574,248	572,991	7,147,2

PROV : BULAWEBI BELATAN

KAB ... TANA TORAJA

LINK NO : 6 (IIIB-2) LENGTH : 16 Km

				<u>.</u> 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		(Rp)
ITEN	UNIT	QUANTITY	<<< UNIT	COST >>> FOREIGN	(((((Local		>>>>> TOTAL
				,			
Superstructure (lieber;Span Ja;101)	2	0.00	57,099	3,511	0	. 0	. 0
Superstructure (Timber; Span 5m; 101)	e 2		63,246	3,910	2,527,840	156,400	2,686,240
Superstructure (Timber; Span 8m; 101)	e2		83,772	5,137	0	0	0
Superstructure (Timber; Span 3m; 8H50)	92		70,800	4,379	0	0	0
Superstructure (limber; Span Se; DMSO)	a2	0.00	77,295	1,715	0	0	0
Superstructure (Timber; Span 8m; 9H50)	• 2	0.00	98,031	6,007	0	0	0
Superstructure (Concrete; Span 3m; 8M50)	a 2	and the second section of	61,533	105,772	0	0	0
Superstructure (Concrete:Span 5m:8M50)	m2	0.00	63,026	118,305	0	0	0
Superstructure (Concrete; Span Ba; BH50)	•2	0.00	64,794	128,925	. 0	0	0
Superstructure (Concrete; Spanios; BH50)	a2	0.00	70,745	146,523	0	0	0
Superstructure (Concrete;SpaniSa;BHSO)	#2	0.00	75,991	172,720	0	0	0
Substructure (Pier; for Timber; 101)	ND	1.00	497,331	32,863	497,331	32,863	530,194
Substructure (Abut; for limber; 101)	NO		1,344,783	151,495	2,689,566	300,970	2,998,556
Substructure (Pieryfor Timber; BMSO)	ND	0.00	731,419	48,632	0	Ö	0
Substructure (Abut) for Timber (8850)	HO	er i filologija	1,521,240	171,666	0	0	0
Substructure (Pierifor Concrete; 8H50)	NO		1,859,838	467,969	0	0	0
Substructure (Abut; for Concrete; BX50)	NO		3,911,821	981,591	0	0	
Demolition of Bridge (Timber-)Timber)	m2		15,752	1,374	6,300	549	6,849
Demolition of Bridge (Timber-)Concrete)	# 2		15,752		0	0	0
Demolition of Bridge (Concrete)	∌2	0.00	93,530	79,848	0	. 0	0
Maintenance of Haber Bridge (New)	= 2	10.00	10,146	1,121	105,840	44,840	450,680
Haintenance of Concrete Bridge (New)	a?	0.00	2,161	3,002	1.0	0	0
Haintenance of Timber Bridge (Exist)	•2	0.00	9,831	2,405	1 .0 √	0	0
Maintenance of Concrete Bridge (Exist)	■2	0.00	4,190	2,145	0,	0	0
(Without Overhead)			(Timber Bride		5,723,037	498,B02	6,221,839
			(Concrete Bri		V	100.000	(001 070
· · · · · · · · · · · · · · · · · · ·		IDIAL COST	(without Main	ntenance)	5,723,037	498,802	6,221,839
A District of the Landschool o		This once	Attaba Data	l	/ ED1 ±07	E37 182	3 100 440
(Overhead : 15%)	1	IDIAL CUST	(limber Brid		6,581,493	573,622	7,155,115
•		***** ****	(Concrete Br		(501 407	0 E27 400	0
	* * * * *	IUIAL LUSI	(without Main	ncenancel	6,581,493	573,622	7,155,115

FROV

SULAWESI SELATAN

KAB : TANA TORAJA

LINK NO : 7 (IIIB-1)

LENGTH : 5 Km

(Ro) <<< UNIT COST >>> ******* COST **>>>>>** UNIT QUANTITY FORELGH LOCAL LOCAL FOREIGH TOTAL Superstructure (Timber; Span 3m; 101) 57,099 3,511 0.00 Superstructure (limber; Span Sm; 101) **12** 0.00 63,246 3,910 Superstructure (HeberiSpan 8m; 101) 0.00 83,772 5,137 12 4,379 Superstructure (Timber; Span 3m; BM50) 70,800 0.00 .2 77,295 4,745 Superstructure (Timber;Span 5m; BN50) 0.00 6,007 Superstructure (limber;Span Ba;8850) 98,031 • 2 0.00 105,772 Superstructure (Concrete; Span Je; DMSO) •2 0.00 61,533 Superstructure (Concrete; Span 5m; BMSO) 63,026 118,305 22 0.00 128,925 Superstructure (Concrete; Span 8m; BN50) 64,794 • 2 0.00 Superstructure (Concrete; Spanion; 8850) 70,745 146,523 0.00 •2 Superstructure (Concrete; Spanism; 8M50) •2 0.00 75,991 172,720 Substructure (Pierglar Timberg101) 497,331 32,863 HO 0.00 Substructure (Abut; for limber; 101) 154,495 1,344,783 NO. 0.00 Substructure (Pier; for Timber; BN50) 731,419 10,632 HO 0.00 1,521,240 Substructure (Abut; for Timber; 8850) NO 0.00 171,666 467,969 Substructure (Pieryfor Concrete; BH50) NO. 0.00 1,859,838 984,591 Substructure (Abut; for Concrete; BN50) NO 0.00 3,911,821 Demolition of Bridge (Timber-)limber) 0.00 15,752 1,374 •2 Demolition of Bridge (Himber-)Concrete) 0.00 15,752 1,374 #2 Demotition of Bridge (Concrete) 0.00 93,530 79,84B 0.00 10,146 1,121 Maintenance of Timber Bridge (New) •2 Haintenance of Concrete Bridge (New) 0.00 2,161 3,002 0 a2 Maintenance of Timber Bridge (Exist) 140.00 9.831 2,405 1,236,340 336,700 1,573,040 .2 1,265,380 738,390 2,003,770 Haintenance of Concrete Bridge (Exist) 302.00 4,190 2,445 TOTAL COST (Timber Bridge) 1 Without Overhead) (Concrete Bridge) 101AL COST (without Maintenance) (Overhead : 15%) TOTAL COST (Timber Bridge)

(Concrete Bridge)
TOTAL COST (without Haintenance)

PROV : SULAWEST SELATAN

KAB : TANA TORAJA

LINK NO 1 23 (1119-1)

LENGTH : 5 Km

								1 Rp 1
I TEH	UNIT	QUANTITY	<<< UNIT	COST >>> FORETGH	(((((Local	COST KOLJANOJ	>	>>>> TOTAL
uperstructure (Mimber;Span Jm;101)	# 2	0.00	57,099	3,541	0	0		. 0
uperstructure (HimberjSpan 5m;101)	=2	0.00	63,246	3,910	. 0 .	0		0
uperstructure (Timber;Span 8m;10T)	e2	0.00	93,772	5,137	0	0		. 0
uperstructure (Fimber;Span 3m;BN50)	n2	0.00	70,800	4,379	0	0		0
uperstructure (Timber;Span 5m;8H5O)	n2	0.00	77,295	4,745	0	0		. 0
uperstructure (limber;Span 8m;8850)	a2	0.00		6,007	0	0		0
uperstructure (Concrete;Span 3m;9M50)	a 2	0.00	61,533	105,772	0	0		0
uperstructure (Concrete;Span 5m;8H5O)		0.00	63,026	118,305	0	Ō	-	0
uperstructure (Concrete;Span 8a;BM50)	#2	0.00	64,794	128,925	0	0		0
uperstructure (Concrete;Spaniou;BH50)	52	0.00	70,745	146,523	0.	0		Ò
uperstructure (Concrete;Spani5m;BM50)	#2	0.00	75,991		0	0		0
ubstructure (Piersfor Timbers101)	NO	0.00	497,331	32,863	0	0		
ubstructure (Abut; for Ilaber; 101)	NO	0.00	1,344,783	154,495	0	0		C
ubstructure (Pier; for Timber; PH50)	HD	0.00	731,419	48,632	0	0		. (
ubstructure (Abut;for Timber;BH50)	NO	0.00	1,521,240	171,666	0	. 0		(
ubstructure (Pleryfor Concrete;BH50)	NO	0.00	1,859,038	467,969	0	. 0		(
ubstructure (Abut) for Concrete(8HSO)	HO	0.00	3,911,921	984,591	0	0		
emolition of Bridge (Timber->Timber)	m2	0.00	15,752	1,374	0	0	٠	
emolition of Bridge (Timber->Concrete)	= 2	0.00	15,752	1,374	0	0	ŕ	
emolition of Bridge (Concrete)	9 2	0.00		79,848	0	0	•	(
aintenance of Timber Bridge (New)	s 2	0.00	10,146	1,121	0	0		C
aintenance of Concrete Bridge (New)	a 2	0.00	2,161	3,002	0	0		
aintenance of Timber Bridge (Exist)	#2	0.00	8,631	2,105	0	0		
aintenance of Concrete Bridge (Exist)	m?	12.00	4,190	2,145	50,280	29,340		79,620

(Without Overhead)	1	OTAL COST	(Timber Brid		0	0		(
		100	(Concrete Br		, 0	0		(
:	1	IOTAL COST	(without Mai	ntenancel	0	. 0		
(Dverhead : 15%)	. 1	IOTAL COST	(Timber Brid	qe)	0	0		
(Ditilitae 10%)						-		
(president law)			(Concrete Or	idgel	0	0		į,

SULAWESI SELATAN

KAB : TANA TORAJA

LINK NO : 29 (1118-1)

LENGTH : 5 Km

							(Rp)
TIEN TO STATE OF THE	UNIT	QUANTITY	CCAL LOCAL	COST >>> FOREIGN	CCCCC Local	COST FOREIGN	>>>>> TOTAL
Superstructure (limber;Span 3m;101)	*2	0.00	57,099	3,511	0	0	. 0
Superstructure (Timber; Span Sm; 101)	a 2	0.00	63,246	3,910	0	0	0
Superstructure (Timber; Span 8m; 101)	*2	0.00	83,772	5,137	0	0	0
Superstructure (Timber; Span Jm; BMSO)	•2	0.00	70,800	4,379	0	0	Q
Superstructure (limber; Span Sm; 8K50)	•2	0.00	77,295	1,745	Ò	0	0
Superstructure (Timber; Span 8m; 8MSO)	•2	0.00	78,031	6,007	0	0	0
Superstructure (Concrete; Span 3m; BN50)	•2	0.00	61,533	105,772	0	0	0
Superstructure (Concrete; Span 5m; 8H50)	.2	0.00	63,026	118,305	0	0	0
Superstructure (Concrete; Span 8a; 8850)	a2	0.00	44,794	128,925	0	0	0
Superstructure (Concrete; Spanion; BM50)	*2	0.00	70,745	146,523	0.0	0	0
Superstructure (Concrete; Spanise; BMSO)	#2	0.00	75,991	172,720	0	0	0
Substructure (Pier; for Timber; 101)	NO		497,331	32,863	0.0	0	0
Substructure (Abut; for Timber; 101)	HO	0.00	1,341,783	154,495	0	0	. 0
Substructure (Pierstur Timber: BMSO)	KO		731,419	48,632	0	0	0
Substructure (Abut; for Timber; 8850)	NO.	0.00	1,521,240	171,666		0	0
Substructure (Pier; for Concrete; BM50)	NO		1,859,830	467,969	· · · · · · · · · · · · · · · · · · ·	0	0
Substructure (Abut; for Concrete; 8H50)	NO	the second section is a second	3,911,821	984,591	o o	0	0
Demolition of Bridge (Timber-)Timber)	a 2	0.00	15,752	1,374	0	0	0
Demolition of Bridge (Timber-)Concrete)	•2		15,752	1,374	Ô	. 0	0
Demotition of Bridge (Concrete)	*2		93,530	77,848	0	0	0
Maintenance of Timber Bridge (New)	• 2	0.00	10,146	1,121	0	0	0
Haintenance of Concrete Bridge (Hew)	o 2	0.00		3,002	0	0	0
Maintenance of Timber Bridge (Exist)	e 2	0.00	8,931	2,405	0	0	0
Haintenance of Concrete Bridge (Exist)	■2	40.00	4,190	2,445	167,600	97,800	265,400
			,				
(Without Overhead)		rotal cost	(Timber Bride	nel	a	0	0
t mittigat with negative		IDINE SEAL	(Concrete Br		Ô	ò	0
· ·	,	10101 10101	(without Main		ñ	Ô	Ó
•		IDINE COOL	THICHOUL HOLD	renance,			
			F				
(Gverhead : 15%)		TOTAL COST	(Timber Bride	ge)	0	. 0	0
• •			(Concrete 9r		0	0	0
			twithout Hair				

SULAWESI SELATAN

KAB : TANA TORAJA

LINK NO + 31 (IIIB-1)

LENGTH : 13 Km

	٠.					ili. Tanan kanan	(Rp)
TYEN THE STATE OF	ואט	YTIIKAUQ	<<< UNIT	COST >>> FOREIGN	\\\\\\ Local	COST FOREIGN	>>>>> TOTAL
			p w is a D 4 W 2 * * * * B *	**********			
Superstructure (Timber:Span 3m;101)	a 2	0.00	57,099	3,541	0	0	0
Superstructure (Timber Span 5m;101)	■2	0.00	63,246	3,910	0	0	0
Superstructure (Timber; Span 8m; 107)	#2	0.00	83,772	5,137	0	0	0
Superstructure (Timber;Span 3m;BH50)	•2	0.00	70,B00	4,379	0	0	0
Superstructure (Flaber; Span Sa; BH50)	= 2	0.00	77,275	4,745	0	Ò	0
Superstructure (Timber; Span Bm; BH50)	m2	0.00	98,031	6,007	0	0	0
Superstructure (Concrete;Span Ja;BH50)	m2	0.00	61,533	105,772	0	0	0
Superstructure (Concrete;Span 50;8850)	e2	0.00	63,026	118,305	0	0	0
Superstructure (Concrete;Span 8m;BM50)	•2	0.00	64,794	128,925	0	0	0
Superstructure (Concrete; Spanion; 8%50)	•2	0.00	70,745	146,523	0	0	0
Superstructure (Concrete;Span15m;BMSO)	*2	0.00	75,991	172,720	0	et i 0	0
Substructure (Pierifor Haber;101)	NO	0.00	497,331	32,863	0	0	0
Substructure (Abut; for Timber; 101)	NO	0.00	1,341,783	154,495	0	.0	0
Substructure (Pieryfor Timber, BM50)	ND	0.00	731,419	48,632	0	0	0
Substructure (Abut; for Fieber; BHSO)	NO	0.00	1,521,240	171,666	. 0 -	0	0
Substructure (Pieryfor Concrete, 9850)	NO	0.00	1,859,839	467,969	0	0	0
Substructure (Abut; for Concrete; BM50)	NO	0.00	3,911,821	784,571	0	0	0
Demolition of Bridge (Timber-)Timber)	± 2	0.00	15,752	1,374	0	0	0
Demolition of Bridge (Timber-)Concrete)		0.00	15,752	1,374	0	0	0
Demolition of Bridge (Concrete)	D 2	0.00	93,530	79,848	0	0	0
Maintenance of Fiaber Bridge (New)	•2	0.00	10,146	1,121	. • 0	.0	0
Haintenance of Concrete Bridge (New)	n ?	0.00		3,002	0	0	0
Haintenance of Himber Bridge (Exist)	•2	0.00	8,831	2,405	0	0	0
Maintenance of Concrete Bridge (Exist)	•2	174.00		2,445	729,060	125,430	1,154,490
(Without Overhead)	Ť	OTAL COST	(Timber Brid	ae)	0	0	. 0
The tribute of the tr	-		(Concrete Br		0	0	. 0
	. 1		(without Mai		0	0	0

(Overhead : 15%)	ī	OTAL COST	(Timber Brid		. 0	0	0
			(Concrete Or		0	0	0
	Ţ	OTAL COST	lwithout Hai	ntenancel	. 0	. 0	0

SULAWESI SELATAN KAB : TANA TURAJA

LINK NO

32 (IIIA) LENGTH : 10 Km

				*******			(Rp
TER	UNIT	QUANTITY	<>< UNIT-	COST >>> FOREIGN	(((((LOCAL	COST FOREIGN)))))) Total
uperstructure (fimber;Span 3m;10T)		0.00	57,099	3,541	0	. 0	i .
uperstructure (limber;Span 5m;101)	•2		63,246	3,910	Ŏ	0	
uperstructure (Timber Span 8m;101)	•2		83,772	5,137	0	0	1
uperstructure (limber;Span Jm;BH50)	• 2		70,800	4,379	0	0	
uperstructure (Timber;Span Sm;8M50)	n 2			4,745	0	0	
uperstructure (Timber;Span Bm;BM50)	•2		78,031	6,007	0	Ó	
uperstructure (Concrete:Span 3m;8850)	•2		61,533	105,772	. 0	0	
uperstructure (Concrete;Span 5m;8M50)	• •2		The second secon	118,305	Ŏ	0	
uperstructure (Concrete;Span 8s;BM50)	e2		64,794	128,925	٨	٥	
uperstructure (Concrete;Spaniom;BM50)	a 7			146,523	Û	Ó	*
uperstructure (Concrete;SpaniSa;BM50)	a?		75,991	172,720	Λ.	ń	
ubstructure (Pier; for Timber; 101)	NO		497,331	32,863	0	0	
ubstructure (Abut; for Timber; 10T)	NO		1,344,783	154,495	n	ň	:
ubstructure (Pier; for Timber; 8H5O)	NO.	5 P. L. 199	731,419	18,632	0	0	1.71
ubstructure (Abutifor Timber;BHSO)	77.1	0.00	1,521,240	171,666	0	Λ.	:
ubstructure (Pier; for Concrete; BMSO)	HO		1,859,938	467,969	0	Ô	: **
ubstructure (Abut;for Concrete;RH50)			3,911,821	984,591	0	0	
emplition of Bridge (Timber->limber)	a2		15,752	1,374	Û	ň	157.3
emolition of Bridge (limber-)Concrete)	=2			1,374	ń	6	The second
emolition of Bridge (Concrete)	•2		93,530	79,848	٨	ň	: 1
sagiltion of pilode (roucists)	#2	0.00	70,430	11,010	V		
aintenance of Tlaber Bridge (New)	a 2		10,146		0	. 0	
aintenance of Concrete Bridge (New)	#2	0.00	2,161	3,002	0	0,	1.5 354.5
aintenance of limber Bridge (Exist)	•2	469.53	8,831	2,405	4,146,419	1,129,219	5,275,6
aintenance of Concrete Bridge (Exist)	B 2	42.00	4,190	2,445	175,980	102,690	278,6
				· · · · · ·			
(Without Overhead)	Ì		(Timber Bride		0 -	0 :	
			(Concrete Br		0	0	
		TOTAL COST	(without Main	ntenancel	0	0	
		***** ***		•	۵	•	
(Overhead : 15%)	ì	inter chai	(Timber Brid		Ü	, V	
		.ne., xp=-	(Concrete Bri		Ü	V	
		IDIAL CUST	(without Hair	ntenancel	V	. 0	

SULAWESI SELATAN

KAB TENA TORAJA

LINK NO : 33 (IIIA)

LENGTH : 7 Km

		*****							(Ap)
	ITEN		UNI	T QUANTITY	<<< UNIT	COST >>> FOREIGN	(((((Local	COST FOREIGN	>>>>> TOTAL
					E 76 16 16 76 76 76 76 76 76 76 76 76 76 76 76 76	, ape piu pap ang gu piu mai pili lim dan am lim m	- 40		
٠.	Superstructure	(Timber Span 3m;101)		2 0.00	57,099	3,541	. 0	0	0.0
	Superstructure	(Timber;Span Sm; 101)		2 0.00	63,246	3,910	0	0	0
	Superstructure	(HimberjSpan Hmj101)		2 0.00	83,772	5,137	0	0	0
	Superstructure	(limber;Span Jm;BH50)		2 0.00	70,B00	4,379	0 /	0	0
	Superstructure	(Tieber;Span 5#18H50)	1	2 0.00	77,295	4,745	0	0	0
	Superstructure	(Timber;Span Bm;8H50)	1	2 0.00	98,031	6,007	0	0	0.4
	Superstructure	(Concrete; Span 3m; 8H50)		2 0.00	81,533	105,772		0	0
	Superstructure	(Concrete; Span 5m; BH50)		2 0.00	63,026	118,305	0	0	1 1 0
	Superstructure	(Concrete; Span 8m; BMSO)		2 0.00	61,794	128,925	0	0	0
	Superstructure	(Concrete; Span10m; BM50)		2 0.00	70,715	146,523	0	0	0
	Superstructure	(Concrete; Span (5a; BMSO)		2 0.00	75,991	172,720	0	0	0
		ier;for limber;107)	N	0.00	497,331	32,863	0	0	.01
	Substructure (A	lbut;for Timber;10T)	N	0 00	1,341,783	151,475	0	0	0
	Substructure (P	iersfor limber;BN50)		0.00	731,419	49,632	0		0
		but for Timber (8M50)	N	0.00	1,521,240	171,666	0	0	0
		ierifor Concrete; BH50)	N	0.00	1,859,838	457,969	0	0	0
	Substructure (A	but; for Concrete; BM50)	N	0.00	3,711,821	984,591	0	0	0
	Demolition of B	Bridge (limber->limber)		2 0.00	15,757	1,374	0	0	0
	Desolition of 8	Pridge (Timber-)Concrete)		2 0.00	15,752	1,374	0	0	0
		dridge (Concrete)		2 0.00	93,530	79,848	0	0	0
	Naintenance of	limber Bridge (New)		2 0.00	10,146	1,121	. 0		Ō
		Concrete Bridge (New)		7 0.00	2,161	3,002	Ô		0
		Timber Bridge (Exist)	_	2 0.00	8,831	2,405	0		
		Concrete Bridge (Exist)		2 160.00	4,190	2,445	670,400	391,200	
-									
	1	Without Overhead)		TOTAL COST	(Tieber Bride	J6)	0		0
					(Concrete Bri		0	0	0
		:			(without Hali		0	0	0
•		0		THEAL BARY	471.b. D. 2.1				
	. (Overhead : 15% }		IUTAL CUST	(Timber Bride		Ų	0	0
					(Concrete Bri		0	0	0
				IUIAL COST	(without Main	ntenance)	. • • • • •	. 0	, 0

SULAWEST SELATAN KAB T TANA TORAJA

							{ Rp }
LIEH	UNIT	QUANTITY			(((((Local	COST Fore IGN	>>>>> TOTAL
					• • • • • • • • • • • • • • • • • • •		
uperstructure (limber;Span 3m;t01)	e2	0.00		3,511	(west (
uperstructure (limber;Span 5m;101)	#2	0.00		3,910	0	. 0	(
uperstructure (Timber;Span 8m;10T)	2				. 44, 0, 4		. (
uperstructure (Timber;Span 3m;BNSO)		0.00	70,800			0	1. 15. 15.4
uperstructure (flaber(Span 5m;8H50)	# 2	0.00	77,295	4,745	0	0	
uperstructure (Timber;Span Ba;BMSO)	. ■2		98,031	6,007	0	0	
uperstructure (Concrete)Span 3a(8M50)	•2	0.00	61,533	105,772	0	. 0	. 1. (1)
Superstructure (Concrete; Span 5%; 8850)	= 2	0.00	63,026	118,305	0	- 0	
uperstructure (Concrete; Span 80; BHSO)	n2		61,791	128,925	0	0	
uperstructure (Concrete;Span10m;BH50)	a2		70,745	146,523		0	
uperstructure (Concrete:Span15m;8H50)	m2			172,720	Ŏ		Line of the
ubstructure (Pierifor Timber;101)	NO		497,331	32,863		0	700 (200 (1) (1) (1) (1)
ubstructure (Abutifor Timber;101)	KO		1,344,783		0		
Substructure (Pierglor TimbergBM50)	NO		731,419		Õ		
ubstructure (Abut;for Timber;8M50)	NO ON		1,521,240			Ů.	
Substructure (Pierifor Concrete; 8850)	KO		1,859,838		•	Ŏ	
ubstructure (Abut; for Concrete; BNSO)	NO.			984,591	Ŏ	0	
	#2				0	0	
emolition of Bridge (Timber-)Timber)			15,752	1,374			
enolition of Pridge (limber-)Concrete)	#2			1,374		U .	
Peanlition of Bridge (Concrete)	a 2	0.00	93,530	79,848	0	0	
Maintenance of Timber Bridge (New)	•2	0.00	10,146	1,121	0	0	· · · · · · · · · · · · · · · · · · ·
faintenance of Concrete Bridge (New)	•2	0.00	2,161	3,002	0	0	
faintenance of Timber Bridge (Exist)	•2	72.00		2,405	635,832	173,160	808,99
Maintenance of Concrete Bridge (Exist)	*2	836.50	4,190	2,445	2,666,935	1,556,242	4,223,17
(Without Overhead)	,	TONY IATO	(Timber Brid	no)	0	0	
f Mrtwar nictures 1		UINL CODI	(Concrete Br		o A	. 0	
•			(without Nai		10	ñ	
		NINE PROI	turtunnt Lay	iitengiite,	. v		
*							
(Overhead : 151)	. 1	DIAL COST	(Timber Brid	gel	0	0	
			(Concrete Br		0	0	
			(without Nat		0	0	

PROV : SULAWESI BELATAN

KAB : TANA TURAJA

FINK NO : 39 (IIIC)

LENGTH : 42 Km

							(Rp)
T.T.E.H	UNIT	QUANTITY	<<< UNIT Local	COSI >>> FOREIGN	(((((COST FOREIGN	>>>>> rotal
			**********		****************		
Superstructure (Pimber;Span 3m;101)	2	0.00	57,099	3,541	. 0	. 0	0
Superstructure (limber Span Sm;101)	•2	36.00	63,246	3,910	2,276,656	140,760	2,417,616
Superstructure (Timber;Span 8m;101)	a2	148.00	83,772	5,137	12,398,254	760,276	13,158,532
Superstructure (Timber;Span Ja;BM50)	•2	0.00	70,800	4,379	0	0	0
Superstructure (Timber;Span Sm;BMSO)	*2	0.00	77,295	4,745	. 0	0	0
Superstructure (Timber;Span Bm;BM50)	•2	0.00	79,031	6,007	0	0	0
Superstructure (Concrete;Span 3m; BHSO)	*2		61,533	105,772	0	0	0
Superstructure (Concrete; Span Sm; BM50)	•2	0.00	63,026	118,305	Ô	0	Ô
Superstructure (Concrete; Span 8m; 8K50)	a2	0.00	64,794	128,925	0	ñ	Ď.
Superstructure (Concrete Spanios BH50)	#2		70,745	146,523	Ô	Ŏ	Ň
Superstructure (Concrete; Span15#; BM50)	#2	0.00	75,991	172,720	Ó	Ô	Ů
Substructure (Pier; for Timber; 101)	סא	2.00	497,331	32,863	991,662	45 726	1,060,300
Substructure (Abut; for Tieber; 10]	KO	12.00	1,344,783	154,495	16,137,396	1,853,940	
Substructure (Pieryfor Habery8850)	NO	0.00	731,119	48,632	1011011010	1,000,110	11111111
Substructure (Abut; for Timber; 8X50)	NO	0.00	1,521,240	171,666	ð	Ó	Ò
Substructure (Pier; for Concrete; BHSO)	NO	0.00	1,859,838	467,969	Ŏ	Ò	Ó
Substructure (Abut; for Cancrete; BHSO)	KO	0.00	3,911,821	984,591	ò	. 0	
Desutition of Oridge (Timber-) Timber)	e 2	0.00	15,752	1,374	Ġ	g	
Demotition of Bridge (Timber-)Concrete)	n 2		15,752	1,374	0	0	0
Demotition of Bridge (Concrete)	#2	0.00	93,530	79,848	0	0	•
Haintenance of Timber Bridge (New)	a 2	184.00	10,146	1,121	1,866,864	206,264	2,073,128
Maintenance of Concrete Bridge (New)		0.00	2,161	3,002	0	0	0
Maintenance of Timber Bridge (Exist)	#2	242.00	8,831	2,405	2,137,102	582,010	2,719,117
Maintenance of Concrete Bridge (Exist)	•2	0.00	4,190	2,415	0	0	
(Without Overhead)		IOTAL CUST	(Timber Bridg		31,807,170	2,820,702	34,627,877
			(Concrete Bri		0	0	_:
	. 1	UTAL COST	fuithout Main	tenance)	31,807,170	2,820,702	34,627,877
			***************			*********	
{ Overhead : 15% }	١	IDIAL COST	{Ti⊕ber Bridg	e)	36,578,246	3,243,807	39,B22,053
			(Concrete Bri		0	0	0
			(without Main		36,578,246	3,243,807	39,822,053

: BULAWESI SELATAN

KAB : TANA TORAJA

LINK NO : 42 (1118-2) LENGTH : 4 Km

	. 20. 2					2	(Rp)
THE NOTICE OF THE STATE OF THE	UNIT	QUANTITY	<<< UNIT LOCAL	COST >>> Foreign	<<<<<	COST FOREIGN	///// total
				************	******		
uperstructure (Ilaber;Span Ja;101)	•2	0.00	57,099	3,541	0	0	
uperstructure (limber;Span 5m;101)	*2	0.00	63,246	3,910	0	0	
perstructure (Timber;Span 8m;107)	#2	0.00	83,772	5,137	0	0	
operstructure (limber;Span Ja;RM50)	#2	0.00	70,800	4,379	0	0	
perstructure (limber;Span 5m;BM50)	• 2	0.00	77,295	4,745	0	0	
operstructure (Timber;Span 8m;8H5O)	. 2	0.00	98,031	6,007	0	. 0	
operatructure (Concrete;Span Ju;8N50)	•2	0.00	61,533	105,772	0	0	
perstructure (Concrete; Span 5e; BM50)	#2.	0.00	63,026	118,305	0	0	
iperstructure (Concrete Span 8e; 8850)	2		61,794	128,925	0	0	
uperstructure (Concrete;SpantOm; PM50)	n 2	5 6	70,745	116,523	0	0	
iperstructure (Concrete; Spant5a; BNSO)	42	0.00	75,991	172,720	0	0	
bstructure (Pier; for Timber; 101)	NO	4	197,331	33,863	0	0	
ibstructure (Abut; far Tieber; 10f)	HO	0.00	1,344,783	154,495	0	0	ta a a fili
ibstructure (Pier;for Timber;BMSO)	NO	0.00	731,419	18 632	0	0	100
ibstructure (Abut: for Timber: 8M50)	NO	0.00	1,521,240	171,666	0	0	
obstructure (Pieryfor Concrete; BN50)	סא	5.4	1,859,838	467,989	0	0	*
obstructure (Abut; for Concrete; 8150)	NO	0.00	3,911,821	984,591	6	0	
emotition of Bridge (Timber-)limber)	a 2	0.00	15,752	1.371	0	0	
emotition of Bridge (Timber-)Concrete)	•2	0.00	15,752	1,371	0	. 0	
emolition of Bridge (Concrete)	2	0.00	93,530	79,848	0	0	<u>.</u>
sintenance of Timber Bridge (Hew)	•2	0.00	10,146	1,121	0	0	.as
aintenance of Concrete Bridge (New)		0.00	2,161	3,002	0	0	
sintenance of limber Bridge (Exist)	■2	4.0	8,831	2,105	0	0	
intenance of Concrete Bridge (Exist)	•2	16.00	4,190	2,445	67,040	39,120	105,16
.,							
(Nithout Overhead)	1		(Timber Brid	not	0	0	
CHITHOUT CASTURAGE	•	otur root	(Concrete Br		0	۸	
	. 1	INTAL COST	(without Mai		Ô		
		DINE BAAL	**************************************		-		*****
(Overhead : 15%)		nyai ener	(Timber Brid	n a l	ń ·		
/ Ascuiten : 194 /		DINC COST	(Concrete Br		ń		•
		INTAL CHET	lwithout Mai		ก	-6	
		DINE POST	INTERNOPE URL	DPENENCE)		V	

: SULAWERI BELATAN KAD

KAD : TANA TURAJA

LINE NO : 54 (111C)

LENGTH : 4 Km

				*********			(Rp
	UHIT	YTTKAUG	(((UNIT LOCAL	COST >>> FOREIGN	\\\\\\ Local	COST FOREIGN	///// Atot

Superstructure (Ilaber;Span Ja;101)	a 2	0.00	37,099	3,511	0	0	
uperstructure (Timber;Span Sm;101)	a 2	16.00	63,246	3,910	1,011,935	62,560	1,074,49
uperstructure (Timber;Span Bm;107)	a2	0.00	03,772	5,137	0	0	2111
uperstructure (limber;Span 3m;BH50)	p 2	0.00	70,800	4,379	ħ	ñ	
uperstructure (Timber;Span 5m;8H50)	.2	· · ·	77,295	4,745	å :	0	
uperstructure (Timber;Span 8m;BHSO)	.2	0.00	98,031	6,007	0	. 6	
uperstructure (Concrete;Span 3m;BH50)	e 2	0.00	61,533	105,772	ń	Ó	1
uperstructure (Concrete;Span 5m;8H50)	•2	0.00	63,026	118,305	0	0.	
uperstructure (Concrete;Span 8m;BHSO)	# 2	0.00	64,794	128,925	Ó	n	
uperstructure (Concrete; Span10m; BH50)	2 2		70,745	146,523	Ŏ	0	
uperstructure (Concrete; Span15m; BH50)	#2	0.00	75,991	172,720	0	o	
ubstructure (Pier; for Timber; 101)	NO	0.00	497,331	32,863	0	0	
ubstructure (Abut; for Timber; 101)	NO	2,00	1,344,783	154,495	2,689,566	309,990	2,998,5
ubstructure (Pier; for Timber; BNSO)	HD	0.00	731,419	48,632	0	0	
ubstructure (Abut; for Timber; 8M50)	NO	0.00	1,521,240	171,666	0	0	
ubstructure (Pier;for Concrete;BH50)	NO	0.00	1,859,838	467,969	0	0	
ubstructure (Abut; for Concrete; BNSO)	NO	0.00	3,911,821	981,591	0	0	
emplition of Bridge (Timber-)limber)	e 2	12.00	15,752	1,374	189,024	16,488	205,5
emolition of Bridge (Timber-)Concrete)	a 2	0.00		1,374	0	9	
emolition of Bridge (Concrete)	a 2	0.00	93,530	79,848	0	0	
aintenance of Timber Bridge (New)	•2	16.00	10,146	1,121	162,336	17,936	180,2
aintenance of Concrete Bridge (New)	a2	0.00	2,161	3,002	0	0	
aintenance of Timber Bridge (Exist)	e2	0.00	8,831	2,105	0	Ó,	
aintenance of Concrete Bridge (Exist)	•2	0.00	4,190	2,445	0	0	
(Without Overhead)		IOTAL COST	(Maber Brid	je)	3,890,526	388,038	4,278,5
•			(Concrete Br	dge)	0	.0	
	1	TOTAL COST	(without Hali	itenance)	3,890,526	388,038	4,278,5
			*****			*****	
(Overhead : 151))	IOTAL COST	(Timber Brid		4,474,105	446,244	4,920,3
			(Concrete Br		0	0	
		INIAL CUST	(without Hair	ntenancei	4,474,105	446,244	4,920,3

