

REPUBLIC OF SIERRA LEONE

MAKENI-KAMAKWIE ROAD PROJECT
FEASIBILITY STUDY REPORT
APPENDICES AND DRAWINGS

MAY 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

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受入 月日 84. 9. 27	L527
登録No. 09205	73.7 SDF

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APPENDIX A	NET RETURN OF AGRO-PRODUCTS PER ACRE
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PART I AGRICULTURAL STUDY SECTOR

APPENDIX A NET RETURN OF AGRO-PRODUCTS PER ACRE

(1) SWAMP RICE

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	1,300.00	2,800.00	
<u>Gross return</u>	Le	10.5	238.00	0.085Le/lbs
<u>Input</u>				
Labor				
Land preparation	M/D	25	25	
Nursery growing	M/D	1	1	
Transplanting	M/D	16	16	
Weeding	M/D	10	10	
Topdressing, spraying	M/D	-	2	
Bird scaring	M/D	5	5	
Harvesting	M/D	10	12	
Threshing, drying	M/D	6	8	
Total	M/D	73	79	
Seed	Le	12.00	12.00	60lbs x Le0.20
Fertilizers	Le	-	28.60	20-20-0: 110lbs x @Le0.12 Urea: 110lbs x @Le0.14
Spraying	Le	-	2.48	Machine cost: Le0.48 Insecticides: L.S.Le2.
Miscellaneous	Le	0.60	2.15	5% of the above costs
Total	Le	12.60	45.23	
<u>Net return</u>	Le	91.40	192.77	
<u>Net return ratio</u>	%	82.7	81.0	

(2) UPLAND RICE

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	1,000.00	1,800.00	
<u>Gross return</u>	Le	85.00	153.00	0.085Le/lbs
<u>Input</u>				
Labor				
Land preparation	M/D	15	20	
Seeding fertilizing	M/D	1	2	
Weeding	M/D	20	20	
Topdressing, spraying	M/D	-	2	
Bird scaring	M/D	5	5	
Harvesting	M/D	8	12	
Threshing, drying	M/D	5	6	
Total	M/D	54	67	
Seed	Le	14.00	14.00	70lbs x @Le0.20
Fertilizers	Le	-	18.80	20-20-0: 110lbs x @Le0.12 Urea: 40lbs x @Le0.14
Spraying	Le	-	2.48	Machine cost: Le0.48 Insecticides: L.S.Le2.00
Miscellaneous	Le	0.70	1.64	5% of the above costs
Total	Le	14.70	34.44	
<u>Net return</u>	Le	70.30	118.56	
<u>Net return ratio</u>	%	82.7	77.5	

(3) MAIZE

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	900.00	1,800.00	
<u>Gross return</u>	Le	54.00	108.00	0.06Le/lbs
<u>Input</u>				
Land preparation	M/D	10	15	
Seeding, fertilizing	M/D	1	2	
Weeding	M/D	10	15	
Harvesting	M/D	2	3	
Shelling, drying	M/D	3	5	
Total	M/D	26	40	
Seed	Le	4.00	4.00	40lbs x @Le0.10
Fertilizers	Le	-	16.50	15-15-15: 110lbs x @Le0.15
Spraying	Le	-	2.48	Machine cost: Le0.48 Insecticide: L.S.Le2.00
Total	Le	4.20	24.13	
<u>Net return</u>	Le	49.80	83.87	
<u>Net return ratio</u>	%	92.2	77.7	

(4) GUINEA CORN

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	1,500.00	2,300.00	
<u>Gross return</u>	Le	75.00	115.00	0.05Le/lbs
<u>Input</u>				
Land preparation	M/D	10	15	
Seeding fertilizing	M/D	1	2	
Thining, weeding	M/D	11	17	
Harvesting	M/D	3	5	
Threshing	M/D	2	4	
Total	M/D	27	43	
Seed	Le	4.00	4.00	40lbs x @Le0.10
Fertilizers	Le	-	16.50	15-15-15: 110lbs x @Le0.15
Spraying	Le	-	2.48	Machine cost: Le0.48 Insecticide: L.S.Le2.00
Miscellaneous	Le	0.20	1.15	5% of the above costs
<u>Net return</u>	Le	70.80	90.87	
<u>Net return ratio</u>	%	94.4	79.0	

(5) MILLET

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	1,300.00	2,300.00	
<u>Gross return</u>	Le	78.00	138.00	0.06Le/lbs
<u>Input:</u>				
Land preparation	M/D	10	15	
Seeding fertilizing	M/D	1	2	
Weeding	M/D	10	15	
Harvesting	M/D	8	12	
Threshing	M/D	3	5	
Total	M/D	32	49	
Seed	Le	4.00	4.00	40lbs x @Le0.10
Fertilizers	Le	-	16.50	15-15-15: 110lbs x @Le0.15
Miscellaneous	Le	0.20	1.03	5% of the above costs
Total	Le	4.20	21.53	
<u>Net return</u>	Le	64.80	42.53	
<u>Net return ratio</u>	%	72.0	70.5	

(6) CASSAVA

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	4,500.00	7,200.00	
<u>Gross return</u>	Le	90.00	144.00	0.02Le/lbs
<u>Input:</u>				
Labour				
Land preparation	M/D	20	20	
Planting, fertilizing	M/D	3	3	
Weeding	M/D	10	15	
Harvesting	M/D	10	15	
Total	M/D	43	48	
Seed	Le	24.00	24.00	120 x 0.20Le/100 sets
Fertilizers	Le	-	16.50	15-15-15: 110lbs x @Le0.15
Miscellaneous	Le	1.20	52.03	5% of the above costs
Total	Le	25.20	42.53	
<u>Net return</u>	Le	64.80	101.47	
<u>Net return ratio</u>	%	72.0	70.5	

(7) SWEET POTATO

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	2,900.00	4,000.00	
<u>Gross return</u>	Le	87.00	120.00	0.03Le/lbs
<u>Input</u>				
Land preparation	M/D	20	20	
Nursery growing	M/D	3	3	
Transplanting	M/D	5	5	
Weeding	M/D	10	15	
Harvesting	M/D	10	15	
Total	M/D	48	58	
Seed	Le	10.00	10.00	200 lbs x @Le0.05
Fertilizers	Le	-	16.50	15-15-15: 110lbs x @Le0.16
Miscellaneous	Le	0.50	1.33	5% of the above costs
Total	Le	10.50	27.83	
<u>Net return</u>	Le	76.50	92.17	
<u>Net return ratio</u>	%	87.9	76.8	

(8) GROUNDNUTS

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield (unshelled)</u>	lbs	1,000.00	1,700.00	
<u>Gross return</u>	Le	80.00	136.00	0.08Le/lbs
<u>Input</u>				
Labore				
Land preparation	M/D	10	15	
Seeding, fertilizing	M/D	1	2	
Weeding	M/D	10	15	
Harvesting, stripping	M/D	8	10	
Total	M/D	29	42	
Seed	Le	7.50	7.50	50lbs x @Le0.15
Fertilizers	Le	-	13.20	S.S.P. 110lbs x @Le0.12
Miscellaneous	Le	0.38	1.04	
Total	Le	7.88	21.74	
<u>Net return</u>	Le	72.12	114.26	
<u>Net return ratio</u>	%	90.1	84.00	

(9) TOBACCO

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	1,100.00	1,300.00	
<u>Gross return</u>	Le	583.00	689.00	1st class: 0.5Le/lbs 2nd class: 0.45Le/lbs 3rd class: 0.30Le/lbs average: 0.53Le/lbs
<u>Input</u>				
Land preparation	M/D	15	20	
Transplanting	M/D	10	10	
Weeding	M/D	15	15	
Spraying	M/D	2	3	
Harvesting	M/D	5	7	
Curing	M/D	5	6	
Grading, binding	M/D	5	6	
Total	M/D	57	67	
Seedling	Le	40.20	40.20	1,340 x @0.03Le
Fertilizers	Le	48.40	113.70	15-15-15: with 450lbs x @Le0.15 without 220lbs x @Le0.14 Sulphate potash: with 336lbs x @Le0.14 without 110lbs x @Le0.14
Spraying	Le	10.00	15.00	
Fuel wood	5 cords	50.00	50.00	
Depreciation of curing ban	Le	80.00	80.00	80.00Le/year x 1.3 Durable period: 5 years
Miscellaneous	Le	11.45	14.95	5% of the above cost
Total	Le	240.03	313.85	
<u>Net return</u>	Le	342.97	375.15	
<u>Net return ratio</u>	%	58.8	54.4	

(10) ORANGE

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	9,000.00	13,200.00	
<u>Gross return</u>	Le	180.00	264.00	0.02Le/lbs
<u>Input</u>				
Seedlings	Le	12.50	12.50	250 seedlings x @Le0.05 Growing period: 20 years
Fertilizer	Le	-	16.50	15-15-15: 110lbs x @Le0.15
Spraying cost	Le	-	10.00	
Miscellaneous	Le	1.25	3.90	10% of above cost
Total	Le	13.75	42.90	
<u>Net return</u>	Le	116.25	221.10	
<u>Net return ratio</u>	%	92.4	83.8	

(11) MANGO

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	4,400.00	6,600.00	
<u>Gross return</u>	Le	132.00	196.00	0.03Le/lbs
<u>Input</u>				
Seedlings	Le	5.50	5.50	6m x 6m 110seedlings x @Le0.05 Growing period: 20 years
Fertilizer	Le	-	16.50	15-15-15: 110lbs x @Le0.15
Spraying	Le	-	5.00	
Miscellaneous	Le	0.55	2.70	10% of the above costs
<u>Total</u>	Le	6.05	29.70	
<u>Net return</u>	Le	125.95	234.30	
<u>Net return ratio</u>	%	95.4	88.8	

(12) BANANA

	<u>Unit</u>	<u>Minimum Yield</u>	<u>Maximum Yield</u>	<u>Unit Price/Cost</u>
<u>Yield</u>	lbs	2,900.00	4,400.00	
<u>Gross return</u>	Le	116.00	176.00	0.04Le/lbs
<u>Input</u>				
Seedlings	Le	13.20	13.20	440 seedlings x @Le0.03 Growing period: 8 years
Fertilizer	Le	-	16.50	15-15-15: 110lbs x @Le0.15
Spraying	Le	-	5.00	L.S.
Miscellaneous	Le	1.32	3.47	10% of the above cost
<u>Total</u>	Le	14.52	38.17	
<u>Net return</u>	Le	101.48	137.83	
<u>Net return ratio</u>	%	87.5	78.3	

(13) CATTLE

	<u>Unit</u>	<u>Average</u>	<u>Unit Price/Cost</u>
<u>Liveweight</u>	lbs	440.00	
<u>Gross return</u>	Le	150.00	0.34Le/head
<u>Input (per head)</u>			
Veterinary cost and other expenses	Le	15.00	L.S.
<u>Net return</u>	Le	135.00	
<u>Net return ratio</u>	%	90.00	

(14) SHEEP

	<u>Unit</u>	<u>Average</u>	<u>Unit Price/Cost</u>
<u>Liveweight</u>	lbs	55.00	
<u>Gross return</u>	Le	44.00	0.80Le/head
<u>Input</u>			
Veterinary cost and other expenses	Le	4.40	L.S.
<u>Net return</u>	Le	39.60	
<u>Net return ratio</u>	%	90.0	

(15) GOAT

	<u>Unit</u>	<u>Average</u>	<u>Unit Price/Cost</u>
<u>Liveweight</u>	lbs	51.00	
<u>Gross return</u>	Le	40.80	0.8Le/lbs
<u>Input</u>			
Veterinary cost and other expenses	Le	4.00	L.S.
<u>Net return</u>	Le	36.80	
<u>Net return ratio</u>	%	90.2	

APPENDIX B ECONOMIC PRICE OF FERTILIZER AT THE PROJECT AREA

(1) Compound Fertilizer 20-20-0

CIF at Freetown	216.00 ^{Le/ton}
Clearing, handling, etc.	5.00
Transportation cost from Freetown to Makeni	20.00
Transportation cost from Makeni to the Project Site*	10.00
Managing cost	5.00
Economic price at the Project Site	256.00 ^{Le/ton} 0.12 ^{Le/lbs}

(2) Urea

CIF at Freetown	264.00 ^{Le/ton}
Clearing, handling, etc.	5.00
Transportation cost from Freetown to Makeni	20.00
Transportation cost from Makeni to the Project Site*	10.00
Managing cost	5.00
Economic price at the Project Site	309.00 ^{Le/ton} 0.14 ^{Le/lbs}

(3) Compound Fertilizer 15-15-15

CIF at Freetown	288.00 ^{Le/ton}
Clearing, handling, etc.	5.00
Transportation cost from Freetown to Makeni	20.00
Transportation cost from Makeni to the Project Site*	10.00
Managing cost	5.00
Economic price at the Project Site	328.00 ^{Le/ton} 0.15 ^{Le/lbs}

(4) Single Super Phosphate

CIF at Freetown	216.00 ^{Le/ton}
Clearing, handling, etc.	5.00
Transportation cost from Freetown to Makeni	20.00
Transportation cost from Makeni to the Project Site*	10.00
Managing cost	5.00
Economic price at the Project Site	256.00 ^{Le/ton} 0.12 ^{Le/lbs}

(5) Sulphate of Potash

CIF at Freetown	264.00 ^{Le/ton}
Clearing, handling, etc.	5.00
Transportation cost from Freetown to Makeni	20.00
Transportation cost from Makeni to the Project Site*	10.00
Managing cost	5.00
Economic price at the Project Site	309.00 ^{Le/ton} 0.14 ^{Le/lbs}

Note: * Cost for 1/2 distance from Makeni to Kamakwie
Source: JICA Mission

APPENDIX C FUTURE POPULATION, HOUSEHOLD AND FARMLAND

***** FUTURE POPULATION *****

WITH THE ROAD PROJECT

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MAKARI GBANTI	5546.	5670.	5796.	5924.	6056.	6190.	6327.	6518.	6715.	6917.	7126.
PENDENBU GOWAHUN	25169.	25377.	25587.	25797.	26009.	26222.	26436.	26861.	27293.	27731.	28176.
SANDA TENRARAN	17104.	17417.	17734.	18057.	18386.	18720.	19060.	19559.	20070.	20594.	21132.
GBANTI KAMARANKA	16437.	16600.	16776.	16948.	17121.	17295.	17471.	17787.	18109.	18436.	18768.
MAGBAIAMBA	5300.	5323.	5345.	5368.	5391.	5413.	5436.	5501.	5567.	5634.	5702.
SANDA LOKO	13832.	13919.	14006.	14093.	14181.	14268.	14356.	14558.	14763.	14970.	15180.
SELA LIMBA	23724.	24086.	24454.	24826.	25203.	25586.	25973.	26575.	27189.	27817.	28459.
TOTAL	107112.	108397.	109698.	111014.	112346.	113694.	115058.	117359.	119707.	122100.	124543.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MAKARI GBANTI	7340.	7561.	7788.	8022.	8263.	8510.	8765.	9027.	9297.	9575.	9860.
PENDENBU GOWAHUN	28626.	29084.	29548.	30018.	30495.	30980.	31470.	31968.	32473.	32986.	33505.
SANDA TENRARAN	21662.	22247.	22826.	23419.	24027.	24651.	25290.	25944.	26615.	27303.	28008.
GBANTI KAMARANKA	19107.	19450.	19800.	20155.	20516.	20883.	21256.	21635.	22020.	22412.	22810.
MAGBAIAMBA	5770.	5839.	5909.	5979.	6050.	6122.	6194.	6267.	6341.	6415.	6491.
SANDA LOKO	15392.	15607.	15825.	16045.	16268.	16493.	16721.	16952.	17186.	17423.	17662.
SELA LIMBA	29115.	29785.	30470.	31170.	31886.	32616.	33363.	34126.	34906.	35702.	36516.
TOTAL	127033.	129574.	132165.	134808.	137504.	140255.	143059.	145920.	148839.	151816.	154852.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MAKARI GBANTI	10154.	10457.	10768.	11088.	11418.	11757.	12105.	12464.	12833.	13213.	13603.
PENDENBU GOWAHUN	34032.	34566.	35108.	35657.	36214.	36779.	37351.	37932.	38520.	39117.	39722.
SANDA TENRARAN	28730.	29470.	30229.	31006.	31802.	32618.	33454.	34311.	35189.	36088.	37009.
GBANTI KAMARANKA	23215.	23626.	24043.	24468.	24899.	25338.	25783.	26236.	26696.	27163.	27638.
MAGBAIAMBA	6566.	6643.	6720.	6799.	6877.	6957.	7037.	7118.	7200.	7283.	7366.
SANDA LOKO	17904.	18149.	18397.	18648.	18901.	19158.	19418.	19680.	19946.	20215.	20487.
SELA LIMBA	37348.	38197.	39065.	39951.	40857.	41782.	42726.	43692.	44677.	45684.	46713.
TOTAL	157949.	161107.	164330.	167616.	170968.	174388.	177875.	181433.	185061.	188762.	192537.

***** FUTURE POPULATION *****

WITHOUT THE ROAD PROJECT

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MAKARI GBANTI	5546.	5670.	5796.	5924.	6056.	6190.	6327.	6467.	6610.	6756.	6905.
PENDENBU GOWAHUN	25169.	25377.	25587.	25797.	26009.	26222.	26436.	26651.	26867.	27084.	27302.
SANDA TENRARAN	17104.	17417.	17734.	18057.	18386.	18720.	19060.	19405.	19756.	20113.	20476.
GBANTI KAMARANKA	16437.	16606.	16776.	16948.	17121.	17295.	17471.	17648.	17826.	18005.	18187.
MAGBAIAMB	5300.	5323.	5345.	5368.	5391.	5413.	5436.	5458.	5480.	5503.	5525.
SANDA LOKU	13832.	13919.	14006.	14093.	14181.	14268.	14356.	14444.	14532.	14621.	14709.
SELA LIMBA	23724.	24086.	24454.	24826.	25203.	25586.	25973.	26366.	26764.	27168.	27577.
TOTAL	107112.	108397.	109698.	111014.	112346.	113694.	115058.	116439.	117836.	119250.	120681.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MAKARI GBANTI	7057.	7212.	7370.	7532.	7697.	7866.	8038.	8213.	8392.	8575.	8762.
PENDENBU GOWAHUN	27521.	27742.	27963.	28185.	28409.	28634.	28859.	29086.	29314.	29543.	29772.
SANDA TENRARAN	20845.	21220.	21602.	21989.	22384.	22784.	23191.	23605.	24026.	24453.	24888.
GBANTI KAMARANKA	18369.	18553.	18738.	18924.	19112.	19302.	19492.	19684.	19878.	20073.	20269.
MAGBAIAMB	5547.	5570.	5592.	5614.	5636.	5658.	5680.	5702.	5724.	5746.	5767.
SANDA LOKU	14798.	14887.	14976.	15065.	15155.	15244.	15334.	15424.	15514.	15604.	15694.
SELA LIMBA	27991.	28411.	28836.	29267.	29704.	30147.	30595.	31049.	31509.	31976.	32448.
TOTAL	122129.	123594.	125077.	126578.	128097.	129634.	131189.	132763.	134357.	135969.	137600.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MAKARI GBANTI	8952.	9147.	9345.	9547.	9754.	9965.	10180.	10399.	10623.	10852.	11085.
PENDENBU GOWAHUN	30003.	30235.	30468.	30702.	30937.	31173.	31410.	31648.	31887.	32127.	32368.
SANDA TENRARAN	25329.	25778.	26234.	26697.	27168.	27647.	28133.	28627.	29129.	29639.	30157.
GBANTI KAMARANKA	20466.	20666.	20866.	21068.	21271.	21476.	21682.	21890.	22099.	22309.	22521.
MAGBAIAMB	5789.	5811.	5832.	5854.	5875.	5897.	5918.	5939.	5960.	5981.	6002.
SANDA LOKU	15784.	15875.	15966.	16056.	16147.	16238.	16329.	16420.	16511.	16603.	16694.
SELA LIMBA	32927.	33411.	33902.	34400.	34903.	35413.	35930.	36454.	36984.	37521.	38064.
TOTAL	139251.	140922.	142613.	144324.	146056.	147808.	149582.	151377.	153193.	155031.	156891.

***** NUMBER OF FARM HOUSEHOLD *****

WITH THE ROAD PROJECT

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MAKARI GBANTI	780.	797.	815.	833.	852.	870.	890.	917.	944.	973.	1002.
PENDENBU GOWAHUN	3539.	3569.	3598.	3628.	3658.	3687.	3718.	3777.	3838.	3900.	3962.
SANDA TENRARAN	2405.	2449.	2494.	2539.	2586.	2633.	2680.	2750.	2822.	2896.	2972.
GBANTI KAMARANKA	2311.	2335.	2359.	2383.	2408.	2432.	2457.	2501.	2547.	2593.	2639.
MAGBAIAMBIA	745.	749.	752.	755.	758.	761.	764.	774.	783.	792.	802.
SANDA LUKU	1945.	1957.	1970.	1982.	1994.	2006.	2019.	2047.	2076.	2105.	2135.
SELA LIMBA	3336.	3387.	3439.	3491.	3544.	3598.	3653.	3737.	3823.	3912.	4002.
TOTAL	15063.	15243.	15426.	15611.	15799.	15988.	16180.	16504.	16834.	17170.	17514.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MAKARI GBANTI	1032.	1063.	1095.	1128.	1162.	1197.	1233.	1269.	1307.	1346.	1387.
PENDENBU GOWAHUN	4026.	4090.	4155.	4221.	4288.	4356.	4426.	4496.	4567.	4639.	4712.
SANDA TENRARAN	3049.	3129.	3210.	3293.	3379.	3467.	3556.	3648.	3743.	3839.	3939.
GBANTI KAMARANKA	2687.	2735.	2784.	2834.	2885.	2937.	2989.	3042.	3097.	3152.	3208.
MAGBAIAMBIA	811.	821.	831.	841.	851.	861.	871.	881.	892.	902.	913.
SANDA LUKU	2165.	2195.	2225.	2256.	2288.	2319.	2351.	2384.	2417.	2450.	2484.
SELA LIMBA	4094.	4189.	4285.	4383.	4484.	4587.	4692.	4799.	4909.	5021.	5135.
TOTAL	17864.	18221.	18586.	18957.	19337.	19723.	20118.	20520.	20930.	21349.	21776.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MAKARI GBANTI	1428.	1470.	1514.	1559.	1606.	1653.	1702.	1753.	1805.	1858.	1913.
PENDENBU GOWAHUN	4786.	4861.	4937.	5014.	5093.	5172.	5253.	5334.	5417.	5501.	5586.
SANDA TENRARAN	4040.	4144.	4251.	4360.	4472.	4587.	4704.	4825.	4948.	5075.	5204.
GBANTI KAMARANKA	3265.	3322.	3381.	3441.	3501.	3563.	3626.	3689.	3754.	3820.	3887.
MAGBAIAMBIA	923.	934.	945.	956.	967.	978.	990.	1001.	1013.	1024.	1036.
SANDA LUKU	2518.	2552.	2587.	2622.	2658.	2694.	2731.	2768.	2805.	2843.	2881.
SELA LIMBA	5252.	5371.	5493.	5618.	5745.	5876.	6008.	6144.	6283.	6424.	6569.
TOTAL	22212.	22656.	23109.	23571.	24042.	24523.	25014.	25514.	26024.	26545.	27076.

***** NUMBER OF FARM HOUSEHOLD *****

WITHOUT THE ROAD PROJECT

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MAKARI GBANTI	780.	797.	815.	833.	852.	870.	890.	909.	930.	950.	971.
PENDENBU GOWAHUN	3539.	3569.	3598.	3628.	3658.	3687.	3718.	3748.	3778.	3809.	3839.
SANDA TENRARAN	2405.	2449.	2494.	2539.	2586.	2633.	2680.	2729.	2778.	2828.	2879.
GBANTI KAMARANKA	2311.	2335.	2359.	2383.	2408.	2432.	2457.	2482.	2507.	2532.	2557.
MAGBAIAMBIA	745.	749.	752.	755.	758.	761.	764.	768.	771.	774.	777.
SANDA LOKO	1945.	1957.	1970.	1982.	1994.	2006.	2019.	2031.	2044.	2056.	2069.
SELA LIMBA	3336.	3387.	3439.	3491.	3544.	3598.	3653.	3708.	3764.	3820.	3878.
TOTAL	15063.	15243.	15426.	15611.	15799.	15988.	16180.	16374.	16571.	16770.	16971.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MAKARI GBANTI	992.	1014.	1036.	1059.	1082.	1106.	1130.	1155.	1180.	1206.	1232.
PENDENBU GOWAHUN	3870.	3901.	3932.	3964.	3995.	4027.	4058.	4090.	4122.	4154.	4187.
SANDA TENRARAN	2931.	2984.	3038.	3092.	3148.	3204.	3261.	3319.	3379.	3439.	3500.
GBANTI KAMARANKA	2583.	2609.	2635.	2661.	2688.	2714.	2741.	2768.	2795.	2823.	2850.
MAGBAIAMBIA	780.	783.	786.	789.	793.	796.	799.	802.	805.	808.	811.
SANDA LOKO	2081.	2094.	2106.	2119.	2131.	2144.	2156.	2169.	2182.	2194.	2207.
SELA LIMBA	3936.	3995.	4055.	4116.	4177.	4239.	4302.	4366.	4431.	4497.	4563.
TOTAL	17174.	17380.	17589.	17800.	18014.	18230.	18449.	18670.	18894.	19121.	19350.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MAKARI GBANTI	1259.	1286.	1314.	1343.	1372.	1401.	1432.	1462.	1494.	1526.	1559.
PENDENBU GOWAHUN	4219.	4252.	4285.	4317.	4351.	4384.	4417.	4450.	4484.	4518.	4552.
SANDA TENRARAN	3562.	3625.	3689.	3754.	3821.	3888.	3956.	4026.	4096.	4168.	4241.
GBANTI KAMARANKA	2878.	2906.	2934.	2963.	2991.	3020.	3049.	3078.	3108.	3137.	3167.
MAGBAIAMBIA	814.	817.	820.	823.	826.	829.	832.	835.	838.	841.	844.
SANDA LOKO	2220.	2232.	2245.	2258.	2271.	2283.	2296.	2309.	2322.	2335.	2348.
SELA LIMBA	4630.	4698.	4767.	4837.	4908.	4980.	5053.	5126.	5201.	5276.	5353.
TOTAL	19582.	19817.	20055.	20296.	20539.	20786.	21035.	21287.	21543.	21801.	22063.

APPENDIX D-I

ACREAGE OF FUTURE FARMLAND

WITH THE ROAD PROJECT

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MAKARI GBANTI	3744.	3827.	3912.	3999.	4088.	4178.	4271.	4400.	4533.	4669.	4810.
PENDENBU GOWAHUN	16989.	17130.	17271.	17413.	17556.	17700.	17844.	18131.	18423.	18719.	19019.
SANDA TENRARAN	11545.	11756.	11971.	12189.	12411.	12636.	12865.	13202.	13547.	13901.	14264.
GBANTI KAMARANKA	11095.	11209.	11324.	11440.	11556.	11674.	11793.	12006.	12223.	12444.	12669.
MAGBAIAMBIA	3577.	3593.	3608.	3623.	3639.	3654.	3669.	3713.	3758.	3803.	3849.
SANDA LOKO	9337.	9395.	9454.	9513.	9572.	9631.	9690.	9827.	9965.	10105.	10247.
SELA LIMBA	16014.	16258.	16506.	16758.	17012.	17270.	17532.	17938.	18353.	18777.	19210.
TOTAL	72301.	73168.	74046.	74935.	75834.	76744.	77664.	79218.	80802.	82418.	84066.
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MAKARI GBANTI	4955.	5104.	5257.	5415.	5577.	5744.	5916.	6093.	6275.	6463.	6656.
PENDENBU GOWAHUN	19323.	19632.	19945.	20262.	20584.	20911.	21243.	21579.	21920.	22265.	22616.
SANDA TENRARAN	14636.	15017.	15408.	15808.	16218.	16639.	17070.	17512.	17965.	18430.	18905.
GBANTI KAMARANKA	12897.	13129.	13365.	13604.	13848.	14096.	14348.	14604.	14864.	15128.	15397.
MAGBAIAMBIA	3895.	3941.	3988.	4036.	4084.	4132.	4181.	4230.	4280.	4330.	4381.
SANDA LOKO	10390.	10535.	10682.	10830.	10981.	11133.	11287.	11443.	11601.	11760.	11922.
SELA LIMBA	19653.	20105.	20567.	21040.	21523.	22016.	22520.	23035.	23561.	24099.	24648.
TOTAL	85748.	87462.	89212.	90996.	92815.	94672.	96565.	98496.	100466.	102475.	104525.
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MAKARI GBANTI	6854.	7058.	7268.	7485.	7707.	7936.	8171.	8413.	8662.	8919.	9182.
PENDENBU GOWAHUN	22971.	23332.	23698.	24068.	24444.	24826.	25212.	25604.	26001.	26404.	26812.
SANDA TENRARAN	19393.	19892.	20404.	20929.	21466.	22017.	22582.	23160.	23752.	24359.	24981.
GBANTI KAMARANKA	15070.	15947.	16229.	16516.	16807.	17103.	17404.	17709.	18020.	18335.	18656.
MAGBAIAMBIA	4432.	4484.	4536.	4589.	4642.	4696.	4750.	4805.	4860.	4916.	4972.
SANDA LOKO	12085.	12250.	12418.	12587.	12758.	12932.	13107.	13284.	13464.	13645.	13829.
SELA LIMBA	25210.	25783.	26369.	26967.	27578.	28203.	28840.	29492.	30157.	30837.	31531.
TOTAL	106615.	108747.	110922.	113141.	115404.	117712.	120066.	122467.	124916.	127414.	129963.

WITHOUT THE ROAD PROJECT

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MAKARI GBANTI	3744.	3827.	3912.	3999.	4088.	4178.	4271.	4365.	4462.	4560.	4661.
PENDENBU GOWAHUN	16989.	17130.	17271.	17413.	17556.	17700.	17844.	17989.	18135.	18282.	18429.
SANDA TENRARAN	11545.	11756.	11971.	12189.	12411.	12636.	12865.	13099.	13336.	13577.	13822.
GBANTI KAMARANKA	11095.	11209.	11324.	11440.	11556.	11674.	11793.	11912.	12032.	12154.	12276.
MAGBAIAMBIA	3577.	3593.	3608.	3623.	3639.	3654.	3669.	3684.	3699.	3714.	3730.
SANDA LOKO	9337.	9395.	9454.	9513.	9572.	9631.	9690.	9750.	9809.	9869.	9929.
SELA LIMBA	16014.	16258.	16506.	16758.	17012.	17270.	17532.	17797.	18066.	18338.	18614.
TOTAL	72301.	73168.	74046.	74935.	75834.	76744.	77664.	78596.	79539.	80494.	81460.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MAKARI GBANTI	4763.	4868.	4975.	5084.	5196.	5309.	5425.	5544.	5665.	5788.	5914.
PENDENBU GOWAHUN	18577.	18726.	18875.	19025.	19176.	19328.	19480.	19633.	19787.	19941.	20096.
SANDA TENRARAN	14071.	14324.	14581.	14843.	15109.	15379.	15654.	15933.	16217.	16506.	16799.
GBANTI KAMARANKA	12399.	12523.	12648.	12774.	12901.	13029.	13157.	13287.	13417.	13549.	13681.
MAGBAIAMBIA	3745.	3760.	3775.	3789.	3804.	3819.	3834.	3849.	3864.	3878.	3893.
SANDA LOKO	9989.	10049.	10109.	10169.	10229.	10290.	10350.	10411.	10472.	10533.	10594.
SELA LIMBA	18854.	19177.	19464.	19755.	20050.	20349.	20652.	20958.	21269.	21584.	21902.
TOTAL	82437.	83426.	84427.	85440.	86465.	87503.	88553.	89615.	90691.	91779.	92880.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
MAKARI GBANTI	6043.	6174.	6308.	6445.	6584.	6726.	6871.	7020.	7171.	7325.	7482.
PENDENBU GOWAHUN	20252.	20409.	20566.	20724.	20882.	21042.	21202.	21362.	21524.	21686.	21848.
SANDA TENRARAN	17097.	17400.	17708.	18021.	18339.	18662.	18990.	19323.	19662.	20006.	20356.
GBANTI KAMARANKA	13815.	13949.	14085.	14221.	14358.	14496.	14635.	14776.	14917.	15059.	15202.
MAGBAIAMBIA	3908.	3922.	3937.	3951.	3966.	3980.	3995.	4009.	4023.	4037.	4051.
SANDA LOKO	10655.	10716.	10777.	10838.	10899.	10961.	11022.	11084.	11145.	11207.	11268.
SELA LIMBA	22225.	22553.	22884.	23220.	23560.	23904.	24253.	24606.	24964.	25326.	25693.
TOTAL	93955.	95122.	96264.	97419.	98588.	99771.	100968.	102179.	103405.	104646.	105902.

APPENDIX D-2

PRODUCT VOLUME

WITH THE ROAD PROJECT

1000 Lbs.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
SWAMP RICE	8421.	8794.	9043.	9462.	9893.	10337.	10795.	11292.	12189.	13164.	14181.
UPLAND RICE	39534.	41061.	42717.	44556.	46425.	48325.	50256.	52344.	54254.	56383.	58569.
MAIZE	2212.	2357.	2505.	2661.	2817.	2976.	3135.	3304.	3401.	3511.	3622.
GUINEA CORN	1085.	1095.	1103.	1110.	1117.	1123.	1128.	1136.	1160.	1187.	1213.
MILLET	2482.	2522.	2563.	2603.	2642.	2681.	2720.	2764.	2856.	2956.	3058.
CASSAVA	7353.	7419.	7480.	7534.	7586.	7637.	7686.	7751.	7958.	8189.	8420.
SWEET POTATO	3145.	3208.	3273.	3340.	3406.	3472.	3538.	3612.	3671.	3741.	3812.
GROUNDNUTS	13795.	14088.	14462.	14949.	15447.	15959.	16483.	17061.	17914.	18855.	19831.
TOBACCO	2227.	2235.	2259.	2303.	2348.	2393.	2439.	2491.	2595.	2710.	2830.
ORANGE	14706.	14869.	15032.	15196.	15359.	15664.	16116.	34540.	34911.	35264.	35599.
MANGO	2672.	2685.	2698.	2711.	2724.	2737.	2760.	2794.	4074.	4089.	4103.
BANANA	1216.	1228.	1245.	1266.	1893.	1903.	1912.	1922.	1943.	1968.	2393.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
SWAMP RICE	15244.	16354.	17512.	18720.	19980.	21294.	22663.	24090.	25576.	27123.	28735.
UPLAND RICE	60813.	63117.	65482.	67909.	70400.	72957.	75581.	78272.	81034.	83867.	86773.
MAIZE	3736.	3851.	3969.	4089.	4212.	4336.	4463.	4593.	4724.	4858.	4994.
GUINEA CORN	1240.	1265.	1291.	1316.	1341.	1365.	1388.	1411.	1433.	1454.	1475.
MILLET	3159.	3262.	3365.	3468.	3571.	3675.	3779.	3883.	3987.	4091.	4195.
CASSAVA	8650.	8881.	9110.	9339.	9566.	9791.	10015.	10237.	10456.	10673.	10886.
SWEET POTATO	3883.	3954.	4026.	4098.	4171.	4243.	4316.	4389.	4462.	4536.	4609.
GROUNDNUTS	20845.	21897.	22989.	24122.	25297.	26516.	27779.	29090.	30448.	31855.	33314.
TOBACCO	2955.	3083.	3217.	3356.	3499.	3648.	3803.	3963.	4128.	4300.	4478.
ORANGE	35965.	36364.	41987.	42495.	42973.	43424.	43838.	44218.	44559.	44860.	45117.
MANGO	4115.	4135.	4161.	4952.	4967.	4980.	4991.	4999.	5004.	5007.	5007.
BANANA	2417.	2439.	2461.	2481.	2500.	2518.	2535.	2550.	2564.	2576.	2586.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SWAMP RICE	30412.	31227.	32063.	32921.	33799.	34700.	35623.	36570.	37540.	38534.	39554.
UPLAND RICE	89754.	92811.	95946.	99161.	102457.	105836.	107656.	109507.	111388.	113301.	115246.
MAIZE	5133.	5274.	5417.	5563.	5711.	5862.	5933.	6004.	6076.	6148.	6221.
GUINEA CORN	1494.	1513.	1531.	1547.	1563.	1577.	1566.	1554.	1541.	1527.	1512.
MILLET	4298.	4401.	4503.	4605.	4706.	4806.	4815.	4824.	4831.	4836.	4839.
CASSAVA	11096.	11302.	11503.	11700.	11892.	12078.	12058.	12031.	11999.	11961.	11916.
SWEET POTATO	4682.	4755.	4828.	4901.	4974.	5046.	5073.	5100.	5125.	5150.	5174.
GROUNDNUTS	34825.	36390.	38011.	39691.	41429.	43229.	44323.	45444.	46592.	47767.	48970.
TOBACCO	4662.	4797.	4936.	5079.	5225.	5375.	5529.	5687.	5849.	6015.	6186.
ORANGE	45327.	45484.	45587.	45634.	45617.	45535.	45383.	45156.	44852.	44461.	43984.
MANGO	5005.	4999.	4990.	4978.	4963.	4943.	4920.	4894.	4863.	4827.	4788.
BANANA	2595.	2602.	2607.	2610.	2611.	2609.	2606.	2600.	2592.	2580.	2567.

WITH THE ROAD PROJECT

1000 Lbs.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
CATTLE	4241.	4285.	4331.	4376.	4422.	4469.	4517.	4601.	4687.	4775.	4864.
SHEEP	1523.	1539.	1555.	1572.	1588.	1605.	1622.	1653.	1684.	1715.	1747.
GOATS	2697.	2725.	2754.	2783.	2812.	2842.	2872.	2926.	2981.	3036.	3093.
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CATTLE	4955.	5049.	5144.	5240.	5339.	5440.	5543.	5648.	5756.	5865.	5977.
SHEEP	1780.	1813.	1847.	1882.	1918.	1954.	1991.	2029.	2067.	2107.	2147.
GOATS	3151.	3210.	3271.	3332.	3395.	3460.	3525.	3592.	3660.	3730.	3801.
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CATTLE	6091.	6207.	6326.	6447.	6571.	6697.	6826.	6958.	7092.	7229.	7369.
SHEEP	2188.	2230.	2272.	2316.	2360.	2405.	2452.	2499.	2547.	2597.	2647.
GOATS	3873.	3947.	4023.	4100.	4179.	4259.	4341.	4424.	4510.	4597.	4686.

WITHOUT THE ROAD PROJECT

1000 Lbs.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
SWAMP RICE	8421.	8704.	9043.	9462.	9893.	10337.	10795.	11205.	11954.	12604.	13397.
UPLAND RICE	39534.	41061.	42717.	44550.	46425.	48325.	50256.	52219.	53446.	54691.	55954.
MAIZE	2212.	2357.	2505.	2661.	2817.	2976.	3135.	3296.	3339.	3381.	3424.
GUINEA CORN	1085.	1095.	1103.	1110.	1117.	1123.	1128.	1134.	1141.	1148.	1155.
MILLET	2482.	2522.	2563.	2603.	2642.	2681.	2720.	2758.	2807.	2855.	2903.
CASSAVA	7353.	7419.	7480.	7534.	7586.	7637.	7686.	7733.	7805.	7875.	7943.
SWEET POTATO	3145.	3208.	3273.	3340.	3406.	3472.	3538.	3604.	3617.	3631.	3643.
GROUNDNUTS	13795.	14088.	14462.	14949.	15447.	15959.	16483.	17020.	17630.	18255.	18896.
TOBACCO	2227.	2235.	2259.	2303.	2348.	2393.	2439.	2485.	2561.	2638.	2717.
ORANGE	14706.	14869.	15032.	15196.	15359.	15664.	16116.	34540.	34740.	34924.	35092.
MANGO	2672.	2685.	2698.	2711.	2724.	2737.	2760.	2794.	4056.	4053.	4050.
BANANA	1216.	1228.	1245.	1266.	1893.	1903.	1912.	1922.	1930.	1938.	1946.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
SWAMP RICE	14153.	14933.	15736.	16564.	17418.	18296.	19202.	20134.	21094.	22081.	23098.
UPLAND RICE	57235.	58535.	59854.	61192.	62550.	63927.	65323.	66740.	68177.	69634.	71112.
MAIZE	3467.	3510.	3554.	3597.	3641.	3685.	3729.	3773.	3817.	3862.	3906.
GUINEA CORN	1161.	1166.	1171.	1176.	1180.	1183.	1185.	1187.	1189.	1189.	1189.
MILLET	2950.	2997.	3042.	3087.	3131.	3174.	3216.	3257.	3297.	3336.	3374.
CASSAVA	8007.	8070.	8129.	8186.	8240.	8290.	8338.	8382.	8422.	8459.	8493.
SWEET POTATO	3656.	3668.	3679.	3690.	3700.	3710.	3719.	3727.	3735.	3743.	3749.
GROUNDNUTS	19554.	20228.	20920.	21629.	22356.	23101.	23864.	24647.	25449.	26270.	27112.
TOBACCO	2797.	2880.	2965.	3052.	3141.	3232.	3326.	3421.	3519.	3619.	3722.
ORANGE	35244.	35377.	35492.	35586.	35661.	35715.	35745.	35753.	35736.	35694.	35626.
MANGO	4045.	4040.	4034.	4028.	4020.	4011.	4002.	3991.	3979.	3967.	3953.
BANANA	1953.	1959.	1965.	1971.	1976.	1980.	1984.	1987.	1990.	1992.	1993.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SWAMP RICE	24144.	24597.	25058.	25526.	26002.	26485.	26977.	27476.	27984.	28500.	29024.
UPLAND RICE	72611.	74131.	75672.	77235.	78819.	80426.	81168.	81915.	82669.	83429.	84195.
MAIZE	3951.	3996.	4041.	4086.	4131.	4176.	4193.	4211.	4227.	4244.	4261.
GUINEA CORN	1188.	1187.	1184.	1181.	1177.	1172.	1155.	1137.	1119.	1100.	1081.
MILLET	3410.	3445.	3479.	3512.	3543.	3573.	3552.	3530.	3507.	3484.	3459.
CASSAVA	8522.	8547.	8568.	8585.	8598.	8606.	8524.	8438.	8350.	8258.	8162.
SWEET POTATO	3755.	3761.	3765.	3769.	3772.	3775.	3765.	3756.	3745.	3733.	3721.
GROUNDNUTS	27974.	28857.	29761.	30688.	31636.	32607.	33171.	33742.	34323.	34913.	35512.
TOBACCO	3826.	3907.	3988.	4071.	4156.	4241.	4329.	4417.	4508.	4599.	4693.
ORANGE	35531.	35406.	35252.	35068.	34851.	34602.	34317.	33996.	33640.	33243.	32807.
MANGO	3938.	3922.	3905.	3887.	3868.	3847.	3826.	3803.	3778.	3753.	3726.
BANANA	1994.	1994.	1993.	1991.	1989.	1986.	1982.	1978.	1973.	1966.	1959.

WITHOUT THE ROAD PROJECT

1000 lbs

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
CATTLE	4241.	4285.	4331.	4376.	4422.	4469.	4517.	4565.	4614.	4663.	4713.
SHEEP	1523.	1539.	1555.	1572.	1588.	1605.	1622.	1640.	1657.	1675.	1693.
GOATS	2697.	2725.	2754.	2783.	2812.	2842.	2872.	2903.	2934.	2965.	2997.
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CATTLE	4764.	4816.	4868.	4921.	4974.	5028.	5083.	5139.	5196.	5253.	5311.
SHEEP	1711.	1730.	1748.	1767.	1787.	1806.	1826.	1846.	1866.	1887.	1908.
GOATS	3030.	3062.	3095.	3129.	3163.	3198.	3233.	3268.	3304.	3340.	3377.
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CATTLE	5370.	5429.	5490.	5551.	5613.	5676.	5740.	5805.	5871.	5937.	6005.
SHEEP	1929.	1950.	1972.	1994.	2016.	2039.	2062.	2085.	2109.	2133.	2157.
GOATS	3415.	3453.	3491.	3530.	3570.	3610.	3650.	3692.	3733.	3776.	3819.

APPENDIX D-3 INCREMENTAL VALUE ADDED

1000 Les.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
SWAMP RICE	0.	0.	0.	0.	0.	0.	0.	2.	16.	33.	52.
UPLAND RICE	0.	0.	0.	0.	0.	0.	0.	7.	50.	105.	163.
MAIZE	0.	0.	0.	0.	0.	0.	0.	0.	3.	6.	10.
GUINEA CORN	0.	0.	0.	0.	0.	0.	0.	0.	1.	2.	2.
MILLET	0.	0.	0.	0.	0.	0.	0.	0.	3.	5.	8.
CASSAVA	0.	0.	0.	0.	0.	0.	0.	0.	2.	4.	7.
SWEET POTATO	0.	0.	0.	0.	0.	0.	0.	0.	1.	3.	4.
GROUNDNUTS	0.	0.	0.	0.	0.	0.	0.	3.	20.	41.	65.
TOBACCO	0.	0.	0.	0.	0.	0.	0.	2.	10.	21.	33.
ORANGE	0.	0.	0.	0.	0.	0.	0.	0.	3.	6.	9.
MANGO	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.
BANANA	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	14.
TOTAL	0.	0.	0.	0.	0.	0.	0.	15.	109.	229.	369.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
SWAMP RICE	73.	95.	119.	146.	174.	204.	237.	272.	309.	350.	392.
UPLAND RICE	224.	268.	355.	425.	499.	576.	657.	741.	829.	921.	1018.
MAIZE	14.	17.	21.	25.	30.	34.	39.	44.	49.	54.	59.
GUINEA CORN	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
MILLET	11.	14.	17.	21.	24.	27.	31.	34.	38.	42.	46.
CASSAVA	9.	12.	14.	16.	19.	21.	24.	27.	29.	32.	34.
SWEET POTATO	6.	7.	9.	10.	12.	13.	15.	17.	19.	20.	22.
GROUNDNUTS	90.	116.	144.	174.	206.	240.	276.	314.	354.	397.	442.
TOBACCO	46.	60.	74.	90.	106.	124.	142.	162.	183.	205.	229.
ORANGE	13.	18.	112.	120.	128.	136.	143.	150.	158.	164.	171.
MANGO	2.	3.	4.	24.	25.	26.	26.	27.	28.	28.	29.
BANANA	15.	15.	16.	17.	17.	18.	18.	19.	19.	20.	20.
TOTAL	505.	649.	891.	1075.	1247.	1427.	1617.	1817.	2026.	2246.	2476.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SWAMP RICE	438.	466.	494.	524.	555.	587.	621.	656.	692.	730.	769.
UPLAND RICE	1118.	1223.	1332.	1446.	1565.	1689.	1768.	1849.	1932.	2018.	2105.
MAIZE	65.	70.	76.	82.	89.	95.	99.	103.	107.	111.	115.
GUINEA CORN	14.	15.	16.	17.	18.	19.	20.	20.	21.	21.	22.
MILLET	50.	54.	58.	62.	66.	71.	73.	75.	77.	79.	81.
CASSAVA	37.	40.	42.	45.	48.	50.	51.	52.	53.	54.	55.
SWEET POTATO	24.	26.	28.	30.	32.	34.	35.	36.	38.	39.	40.
GROUNDNUTS	490.	540.	593.	649.	708.	770.	811.	853.	897.	943.	990.
TOBACCO	253.	271.	290.	309.	329.	350.	372.	395.	419.	444.	470.
ORANGE	177.	183.	189.	194.	199.	203.	206.	209.	211.	212.	212.
MANGO	29.	30.	30.	30.	31.	31.	31.	31.	31.	31.	31.
BANANA	21.	21.	21.	21.	22.	22.	22.	22.	22.	22.	22.
TOTAL	2717.	2939.	3171.	3411.	3661.	3921.	4109.	4302.	4499.	4703.	4911.

***** VALUE ADDED *****											
	1000 Les.										
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
CATTLE	0.	0.	0.	0.	0.	0.	0.	14.	29.	44.	60.
SHEEP	0.	0.	0.	0.	0.	0.	0.	1.	1.	2.	3.
GOATS	0.	0.	0.	0.	0.	0.	0.	1.	2.	3.	4.
TOTAL	0.	0.	0.	0.	0.	0.	0.	16.	32.	49.	67.
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CATTLE	76.	92.	109.	127.	145.	163.	182.	202.	222.	242.	264.
SHEEP	3.	4.	5.	6.	6.	7.	8.	9.	10.	11.	12.
GOATS	6.	7.	8.	9.	11.	12.	13.	15.	16.	18.	19.
TOTAL	85.	103.	122.	142.	162.	183.	204.	226.	248.	271.	295.
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CATTLE	286.	308.	331.	355.	379.	404.	430.	456.	484.	512.	540.
SHEEP	13.	14.	15.	16.	17.	18.	19.	20.	22.	23.	24.
GOATS	21.	23.	24.	26.	28.	30.	32.	34.	36.	38.	40.
TOTAL	319.	345.	370.	397.	424.	452.	481.	511.	541.	572.	604.

APPENDIX D-4 LOCAL CONSUMPTION

WITH THE ROAD PROJECT

1000 Les.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
RICE (PADDY)	36253.	36918.	37593.	38278.	38975.	39684.	40403.	41459.	42542.	43651.	44787.
MAIZE	2207.	2241.	2277.	2313.	2349.	2387.	2424.	2482.	2541.	2601.	2663.
GUINEA CORN	1082.	1086.	1091.	1095.	1100.	1104.	1108.	1121.	1134.	1147.	1161.
MILLET	2474.	2504.	2535.	2565.	2597.	2628.	2660.	2714.	2768.	2824.	2881.
CASSAVA	7348.	7411.	7475.	7540.	7604.	7670.	7736.	7863.	7993.	8125.	8260.
SWEET POTATO	3128.	3158.	3189.	3220.	3251.	3283.	3314.	3373.	3433.	3493.	3555.
GROUNDNUTS	2356.	2385.	2413.	2442.	2472.	2501.	2531.	2582.	2634.	2686.	2740.
TOBACCO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ORANGE	2941.	2974.	3006.	3039.	3072.	3133.	3223.	6908.	6982.	7053.	7120.
MANGO	1336.	1343.	1349.	1356.	1362.	1369.	1380.	1397.	2037.	2044.	2051.
BANANA	851.	860.	871.	886.	1325.	1332.	1339.	1345.	1360.	1378.	1675.
TOTAL	59976.	60880.	61799.	62734.	64107.	65089.	66119.	71244.	73424.	75003.	76892.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
RICE (PADDY)	45952.	47145.	48367.	49620.	50903.	52218.	53565.	54945.	56358.	57807.	59290.
MAIZE	2726.	2791.	2857.	2925.	2994.	3065.	3137.	3211.	3287.	3365.	3444.
GUINEA CORN	1174.	1187.	1201.	1214.	1228.	1241.	1255.	1269.	1282.	1296.	1310.
MILLET	2939.	2998.	3058.	3120.	3183.	3247.	3312.	3379.	3447.	3516.	3587.
CASSAVA	8396.	8534.	8675.	8817.	8962.	9110.	9259.	9411.	9565.	9722.	9881.
SWEET POTATO	3618.	3682.	3746.	3813.	3880.	3948.	4018.	4089.	4161.	4234.	4308.
GROUNDNUTS	2795.	2851.	2908.	2966.	3025.	3086.	3147.	3210.	3274.	3340.	3407.
TOBACCO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ORANGE	7193.	7273.	8397.	8499.	8595.	8685.	8768.	8844.	8912.	8972.	9023.
MANGO	2058.	2067.	2081.	2476.	2484.	2490.	2495.	2499.	2502.	2504.	2504.
BANANA	1692.	1708.	1723.	1737.	1750.	1763.	1774.	1785.	1795.	1803.	1810.
TOTAL	78541.	80235.	83012.	85186.	87003.	88851.	90730.	92641.	94583.	96558.	98565.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
RICE (PADDY)	60810.	62367.	63962.	65596.	67269.	68984.	70740.	72538.	74380.	76267.	78200.
MAIZE	3525.	3608.	3693.	3780.	3869.	3960.	4053.	4149.	4246.	4346.	4448.
GUINEA CORN	1324.	1338.	1352.	1366.	1380.	1393.	1407.	1421.	1435.	1449.	1463.
MILLET	3659.	3733.	3808.	3885.	3963.	4043.	4124.	4208.	4292.	4379.	4467.
CASSAVA	10043.	10207.	10373.	10543.	10714.	10889.	11066.	11246.	11429.	11614.	11803.
SWEET POTATO	4384.	4461.	4540.	4619.	4701.	4783.	4867.	4953.	5039.	5128.	5218.
GROUNDNUTS	3475.	3544.	3615.	3688.	3761.	3837.	3913.	3992.	4071.	4153.	4236.
TOBACCO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ORANGE	9065.	9097.	9117.	9127.	9123.	9107.	9077.	9031.	8970.	8892.	8797.
MANGO	2502.	2500.	2495.	2489.	2481.	2472.	2460.	2447.	2431.	2414.	2394.
BANANA	1816.	1821.	1825.	1827.	1827.	1827.	1824.	1820.	1814.	1806.	1797.
TOTAL	100604.	102676.	104780.	106918.	109089.	111294.	113532.	115803.	118109.	120448.	122821.

WITH THE ROAD PROJECT

1000 Les.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
CATTLE	2852.	2927.	2962.	2997.	3033.	3070.	3107.	3169.	3232.	3297.	3363.
SHEEP	1392.	1409.	1426.	1443.	1461.	1478.	1496.	1526.	1556.	1587.	1619.
GOATS	1500.	1518.	1536.	1554.	1573.	1592.	1611.	1643.	1676.	1709.	1744.
TOTAL	5784.	5853.	5924.	5995.	6067.	6139.	6213.	6337.	6464.	6593.	6725.
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CATTLE	3430.	3498.	3568.	3640.	3713.	3787.	3863.	3940.	4019.	4099.	4181.
SHEEP	1651.	1684.	1718.	1753.	1788.	1823.	1860.	1897.	1935.	1974.	2013.
GOATS	1778.	1814.	1850.	1887.	1925.	1964.	2003.	2043.	2084.	2125.	2168.
TOTAL	6860.	6997.	7137.	7280.	7425.	7574.	7725.	7880.	8037.	8198.	8362.
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CATTLE	4265.	4350.	4437.	4526.	4616.	4708.	4803.	4899.	4997.	5097.	5199.
SHEEP	2053.	2094.	2136.	2179.	2223.	2267.	2312.	2359.	2406.	2454.	2503.
GOATS	2211.	2256.	2301.	2347.	2394.	2441.	2490.	2540.	2591.	2643.	2696.
TOTAL	8529.	8700.	8874.	9051.	9232.	9417.	9605.	9797.	9993.	10193.	10397.

WITHOUT THE ROAD PROJECT

1000 Les.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
RICE (PADDY)	36253.	36918.	37593.	38278.	38975.	39684.	40403.	41134.	41877.	42632.	43399.
MAIZE	2207.	2241.	2277.	2313.	2349.	2387.	2424.	2462.	2501.	2540.	2580.
GUINEA CORN	1082.	1086.	1091.	1095.	1100.	1104.	1108.	1112.	1116.	1121.	1125.
MILLET	2474.	2504.	2535.	2565.	2597.	2628.	2660.	2692.	2725.	2758.	2791.
CASSAVA	7348.	7411.	7475.	7540.	7604.	7670.	7736.	7802.	7869.	7936.	8003.
SWEET POTATO	3128.	3158.	3189.	3220.	3251.	3283.	3314.	3347.	3379.	3412.	3445.
GROUNDNUTS	2356.	2385.	2413.	2442.	2472.	2501.	2531.	2562.	2592.	2623.	2655.
TOBACCO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ORANGE	2941.	2974.	3006.	3039.	3072.	3133.	3223.	6908.	6948.	6985.	7018.
MANGO	1336.	1343.	1349.	1356.	1362.	1369.	1380.	1397.	2028.	2027.	2025.
BANANA	851.	860.	871.	886.	1325.	1332.	1339.	1345.	1351.	1357.	1362.
TOTAL	59976.	60880.	61799.	62734.	64107.	65089.	66119.	70761.	72387.	73390.	74403.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
RICE (PADDY)	44178.	44969.	45773.	46590.	47420.	48264.	49120.	49991.	50875.	51773.	52685.
MAIZE	2621.	2662.	2704.	2746.	2789.	2833.	2877.	2922.	2967.	3013.	3060.
GUINEA CORN	1129.	1132.	1136.	1140.	1144.	1147.	1151.	1154.	1158.	1161.	1164.
MILLET	2825.	2860.	2894.	2929.	2965.	3001.	3037.	3074.	3112.	3149.	3188.
CASSAVA	8072.	8140.	8209.	8279.	8349.	8420.	8491.	8562.	8635.	8707.	8780.
SWEET POTATO	3478.	3512.	3546.	3580.	3614.	3649.	3684.	3720.	3756.	3792.	3828.
GROUNDNUTS	2687.	2719.	2752.	2785.	2818.	2852.	2886.	2921.	2956.	2991.	3027.
TOBACCO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ORANGE	7049.	7075.	7098.	7117.	7132.	7143.	7149.	7151.	7147.	7139.	7125.
MANGO	2023.	2020.	2017.	2014.	2010.	2006.	2001.	1995.	1990.	1983.	1976.
BANANA	1367.	1372.	1376.	1380.	1383.	1386.	1389.	1391.	1393.	1394.	1395.
TOTAL	75427.	76461.	77505.	78560.	79625.	80700.	81785.	82881.	83986.	85103.	86229.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
RICE (PADDY)	53612.	54553.	55509.	56481.	57467.	58470.	59488.	60522.	61572.	62639.	63722.
MAIZE	3108.	3156.	3205.	3255.	3305.	3357.	3409.	3461.	3515.	3569.	3624.
GUINEA CORN	1167.	1170.	1173.	1176.	1178.	1181.	1184.	1186.	1188.	1190.	1192.
MILLET	3226.	3265.	3305.	3345.	3386.	3427.	3468.	3511.	3553.	3596.	3640.
CASSAVA	8854.	8928.	9002.	9078.	9153.	9229.	9306.	9383.	9461.	9539.	9617.
SWEET POTATO	3865.	3902.	3940.	3977.	4016.	4054.	4093.	4132.	4172.	4212.	4252.
GROUNDNUTS	3064.	3100.	3137.	3175.	3213.	3252.	3291.	3330.	3370.	3411.	3452.
TOBACCO	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ORANGE	7106.	7081.	7050.	7014.	6970.	6920.	6863.	6799.	6728.	6649.	6561.
MANGO	1969.	1961.	1953.	1944.	1934.	1924.	1913.	1901.	1889.	1876.	1863.
BANANA	1396.	1396.	1395.	1394.	1392.	1390.	1388.	1385.	1381.	1376.	1371.
TOTAL	87366.	88513.	89670.	90838.	92015.	93204.	94401.	95610.	96828.	98056.	99295.

WITHOUT THE ROAD PROJECT

1000 Les.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
CATTLE	2892.	2927.	2962.	2997.	3033.	3070.	3107.	3144.	3182.	3220.	3258.
SHEEP	1392.	1409.	1426.	1443.	1461.	1478.	1496.	1514.	1532.	1550.	1569.
GOATS	1500.	1518.	1536.	1554.	1573.	1592.	1611.	1630.	1650.	1669.	1690.
TOTAL	5784.	5853.	5924.	5995.	6067.	6139.	6213.	6288.	6363.	6439.	6517.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CATTLE	3297.	3337.	3377.	3418.	3459.	3500.	3542.	3585.	3628.	3671.	3715.
SHEEP	1588.	1607.	1626.	1646.	1665.	1685.	1705.	1726.	1747.	1768.	1789.
GOATS	1710.	1730.	1751.	1772.	1793.	1815.	1837.	1859.	1881.	1904.	1926.
TOTAL	6595.	6674.	6754.	6835.	6917.	7000.	7084.	7169.	7255.	7342.	7430.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CATTLE	3760.	3805.	3851.	3897.	3944.	3991.	4039.	4087.	4136.	4186.	4236.
SHEEP	1810.	1832.	1854.	1876.	1899.	1922.	1945.	1968.	1992.	2015.	2040.
GOATS	1950.	1973.	1997.	2021.	2045.	2069.	2094.	2119.	2145.	2170.	2196.
TOTAL	7520.	7610.	7701.	7794.	7887.	7982.	8077.	8174.	8272.	8372.	8472.

APPENDIX D-5 PRODUCERS SURPLUS

WITH THE ROAD PROJECT

1000 Les.

	1976	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
RICE (PADDY)	11702.	12848.	14168.	15739.	17343.	18979.	20648.	22177.	23902.	25896.	27963.
MAIZE	6.	115.	229.	348.	468.	589.	711.	823.	861.	909.	959.
GUINEA CORN	3.	8.	13.	15.	17.	19.	20.	15.	26.	39.	53.
MILLET	7.	18.	28.	37.	46.	53.	60.	51.	87.	132.	177.
CASSAVA	5.	7.	4.	-6.	-18.	-33.	-50.	-112.	-36.	63.	160.
SWEET POTATO	17.	50.	84.	120.	155.	190.	224.	239.	238.	248.	257.
GROUNDNUTS	11438.	11703.	12049.	12506.	12976.	13457.	13952.	14479.	15281.	16169.	17091.
TOBACCO	2227.	2235.	2259.	2303.	2348.	2393.	2439.	2491.	2595.	2710.	2830.
ORANGE	11764.	11895.	12026.	12157.	12287.	12531.	12893.	27632.	27929.	28211.	28479.
MANGO	1336.	1343.	1349.	1356.	1362.	1369.	1380.	1397.	2037.	2044.	2051.
BANANA	365.	368.	373.	380.	568.	571.	574.	577.	583.	590.	718.
TOTAL	38871.	40591.	42582.	44955.	47551.	50118.	52850.	69768.	73502.	77012.	80738.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
RICE (PADDY)	30105.	32326.	34626.	37009.	39477.	42033.	44679.	47417.	50251.	53184.	56217.
MAIZE	1010.	1061.	1112.	1165.	1218.	1272.	1326.	1381.	1437.	1493.	1550.
GUINEA CORN	66.	78.	90.	102.	113.	123.	133.	142.	151.	158.	165.
MILLET	221.	264.	306.	348.	388.	428.	467.	504.	540.	574.	607.
CASSAVA	255.	347.	435.	521.	603.	682.	756.	826.	891.	951.	1005.
SWEET POTATO	265.	273.	280.	286.	291.	295.	298.	301.	302.	302.	301.
GROUNDNUTS	18050.	19047.	20082.	21156.	22272.	23430.	24632.	25879.	27173.	28515.	29907.
TOBACCO	2955.	3083.	3217.	3356.	3499.	3648.	3803.	3963.	4128.	4300.	4478.
ORANGE	28772.	29091.	33590.	33996.	34379.	34739.	35071.	35375.	35648.	35888.	36093.
MANGO	2058.	2067.	2081.	2476.	2484.	2490.	2495.	2499.	2502.	2504.	2504.
BANANA	725.	732.	738.	744.	750.	755.	760.	765.	769.	773.	776.
TOTAL	84480.	88368.	96557.	101159.	105475.	109890.	114420.	119052.	123792.	128641.	133602.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
RICE (PADDY)	59355.	61671.	64047.	66485.	68987.	71553.	72540.	73539.	74548.	75568.	76600.
MAIZE	1607.	1665.	1724.	1782.	1842.	1901.	1879.	1855.	1830.	1802.	1773.
GUINEA CORN	171.	175.	179.	182.	183.	183.	159.	133.	106.	78.	49.
MILLET	638.	668.	695.	720.	742.	763.	691.	616.	538.	457.	372.
CASSAVA	1053.	1095.	1130.	1158.	1178.	1190.	992.	785.	570.	346.	113.
SWEET POTATO	298.	294.	289.	282.	273.	263.	206.	147.	86.	22.	-44.
GROUNDNUTS	31350.	32846.	34396.	36003.	37668.	39393.	40410.	41453.	42520.	43614.	44734.
TOBACCO	4662.	4797.	4936.	5079.	5225.	5375.	5529.	5687.	5849.	6015.	6186.
ORANGE	36262.	36387.	36469.	36507.	36493.	36428.	36306.	36125.	35881.	35569.	35187.
MANGO	2502.	2500.	2495.	2489.	2481.	2472.	2460.	2447.	2431.	2414.	2394.
BANANA	778.	780.	782.	783.	783.	783.	782.	780.	777.	774.	770.
TOTAL	138677.	142878.	147142.	151469.	155855.	160302.	161954.	163566.	165137.	166660.	168134.

WITH THE ROAD PROJECT

1000 Les.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
CATTLE	1349.	1359.	1369.	1379.	1389.	1400.	1410.	1432.	1455.	1478.	1502.
SHEEP	131.	130.	129.	129.	128.	127.	127.	127.	127.	128.	128.
GOATS	1197.	1208.	1218.	1229.	1239.	1250.	1262.	1283.	1305.	1327.	1350.
TOTAL	2677.	2696.	2716.	2736.	2757.	2777.	2799.	2842.	2887.	2933.	2979.
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CATTLE	1526.	1550.	1575.	1601.	1627.	1653.	1681.	1709.	1737.	1766.	1796.
SHEEP	128.	129.	129.	130.	130.	131.	131.	132.	132.	133.	134.
GOATS	1373.	1396.	1421.	1445.	1470.	1496.	1522.	1549.	1576.	1604.	1633.
TOTAL	3027.	3075.	3125.	3176.	3227.	3280.	3334.	3389.	3446.	3503.	3562.
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CATTLE	1826.	1857.	1889.	1921.	1955.	1989.	2023.	2059.	2095.	2133.	2171.
SHEEP	134.	135.	136.	137.	138.	138.	139.	140.	142.	143.	144.
GOATS	1662.	1692.	1722.	1753.	1785.	1817.	1851.	1884.	1919.	1954.	1991.
TOTAL	3622.	3684.	3747.	3811.	3877.	3945.	4013.	4084.	4156.	4230.	4305.

WITHOUT THE ROAD PROJECT

1000 Les.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
RICE (PADDY)	11702.	12848.	14168.	15739.	17343.	18979.	20648.	22350.	23522.	24723.	25952.
MAIZE	6.	115.	229.	348.	468.	589.	711.	834.	838.	841.	844.
GUINEA CORN	3.	8.	13.	15.	17.	19.	20.	21.	25.	28.	30.
MILLET	7.	18.	28.	37.	46.	53.	60.	66.	82.	97.	112.
CASSAVA	5.	7.	4.	-6.	-18.	-33.	-50.	-69.	-63.	-61.	-61.
SWEET POTATO	17.	50.	84.	120.	155.	190.	224.	257.	238.	219.	199.
GROUNDNUTS	11438.	11703.	12049.	12506.	12976.	13457.	13952.	14458.	15037.	15631.	16241.
TOBACCO	2227.	2235.	2259.	2303.	2348.	2393.	2439.	2485.	2561.	2638.	2717.
ORANGE	11764.	11895.	12026.	12157.	12287.	12531.	12893.	27632.	27792.	27939.	28074.
MANGO	1336.	1343.	1349.	1356.	1362.	1369.	1380.	1397.	2028.	2027.	2025.
BANANA	365.	368.	373.	380.	568.	571.	574.	577.	579.	581.	584.
TOTAL	38871.	40591.	42582.	44955.	47551.	50118.	52850.	70008.	72639.	74664.	76716.

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
RICE (PADDY)	27211.	28499.	29817.	31166.	32547.	33959.	35405.	36883.	38396.	39943.	41525.
MAIZE	846.	849.	850.	851.	852.	852.	852.	851.	850.	848.	846.
GUINEA CORN	32.	34.	35.	36.	36.	36.	35.	33.	31.	29.	25.
MILLET	125.	137.	148.	157.	166.	173.	178.	183.	185.	186.	186.
CASSAVA	-64.	-70.	-80.	-93.	-109.	-129.	-153.	-181.	-212.	-248.	-288.
SWEET POTATO	178.	156.	133.	110.	86.	61.	35.	8.	-20.	-49.	-79.
GROUNDNUTS	16867.	17509.	18168.	18844.	19538.	20249.	20978.	21726.	22493.	23279.	24085.
TOBACCO	2797.	2880.	2965.	3052.	3141.	3232.	3326.	3421.	3519.	3619.	3722.
ORANGE	28195.	28302.	28393.	28469.	28529.	28572.	28596.	28602.	28589.	28555.	28501.
MANGO	2023.	2020.	2017.	2014.	2010.	2006.	2001.	1995.	1990.	1983.	1976.
BANANA	586.	588.	590.	591.	593.	594.	595.	596.	597.	598.	598.
TOTAL	78796.	80903.	83037.	85198.	87387.	89604.	91847.	94119.	96417.	98743.	101097.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
RICE (PADDY)	43143.	44175.	45220.	46280.	47354.	48442.	48657.	48670.	49081.	49290.	49498.
MAIZE	843.	840.	836.	831.	825.	819.	785.	749.	713.	675.	637.
GUINEA CORN	21.	17.	11.	5.	-1.	-9.	-28.	-48.	-69.	-90.	-111.
MILLET	184.	180.	174.	167.	157.	146.	84.	20.	-46.	-113.	-181.
CASSAVA	-332.	-381.	-434.	-492.	-555.	-624.	-782.	-945.	-1111.	-1281.	-1455.
SWEET POTATO	-110.	-141.	-174.	-208.	-243.	-279.	-327.	-377.	-427.	-478.	-531.
GROUNDNUTS	24910.	25757.	26624.	27513.	28423.	29356.	29880.	30412.	30953.	31502.	32060.
TOBACCO	3826.	3907.	3988.	4071.	4156.	4241.	4329.	4417.	4508.	4599.	4693.
ORANGE	28424.	28325.	28202.	28054.	27881.	27681.	27454.	27197.	26912.	26594.	26246.
MANGO	1969.	1961.	1953.	1944.	1934.	1924.	1913.	1901.	1889.	1876.	1863.
BANANA	598.	598.	598.	597.	597.	596.	595.	593.	592.	590.	588.
TOTAL	103478.	105236.	106993.	108762.	110527.	112293.	112556.	112790.	112995.	113166.	113305.

WITHOUT THE ROAD PROJECT

	1000 Les.										
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
CATTLE	1349.	1359.	1369.	1379.	1389.	1400.	1410.	1421.	1432.	1444.	1455.
SHEEP	131.	130.	129.	129.	128.	127.	127.	126.	125.	125.	124.
GOATS	1197.	1208.	1218.	1229.	1239.	1250.	1262.	1273.	1284.	1296.	1308.
TOTAL	2677.	2696.	2716.	2736.	2757.	2777.	2799.	2820.	2842.	2864.	2887.
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
CATTLE	1467.	1478.	1491.	1503.	1515.	1528.	1541.	1554.	1568.	1582.	1596.
SHEEP	124.	123.	122.	122.	121.	121.	120.	120.	120.	119.	119.
GOATS	1320.	1332.	1344.	1357.	1370.	1383.	1396.	1409.	1423.	1437.	1451.
TOTAL	2910.	2933.	2957.	2982.	3007.	3032.	3058.	3084.	3110.	3138.	3165.
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CATTLE	1610.	1625.	1639.	1654.	1670.	1686.	1702.	1718.	1735.	1751.	1769.
SHEEP	118.	118.	118.	118.	118.	117.	117.	117.	117.	117.	117.
GOATS	1465.	1480.	1495.	1510.	1525.	1540.	1556.	1572.	1589.	1605.	1622.
TOTAL	3194.	3222.	3252.	3282.	3312.	3343.	3375.	3407.	3440.	3474.	3508.

APPENDIX E	ANNUAL ADT IN SIERRA LEONE
APPENDIX F	ADT BY MINISTRY OF WORKS IN 1978
APPENDIX G	ADT BY MINISTRY OF WORKS ON THE PROJECT ROAD
APPENDIX H	TRAFFIC COUNT BY JICA MISSION
APPENDIX I	O-D TRAFFIC BY TYPE OF VEHICLES
APPENDIX J	PROPOSED FEEDER ROAD PROJECTS IN NORTHERN AREA FOR 1978 - 81.
APPENDIX K	COMPETITIVE ROUTES FOR DIVERTED TRAFFIC
APPENDIX L	FORECAST OF FUTURE TRAFFIC

PART II TRAFFIC STUDY SECTOR

APPENDIX E ANNUAL ADT IN SIERRA LEONE

YEAR	WESTERN AREA	LUNGI AREA	PORT LOKO AREA	MAKENI AREA	BO AREA	KENEMA AREA	MILE 91	NATIONAL ANNUAL AVERAGE
1965	367	251	142	159	138	286	284	197
1966	567	278	181	132	174	309	291	151
1967	583	316	106	109	158	276	276	119
1968	567	286	176	91	182	200	208	190
1969	650	310	127	79	142	245	231	148
1970	717	306	125	86	92	237	258	135
1971	817	265	172	140	150	296	218	112
1972	1,013	348	220	183	216	348	239	367
1973	1,013	348	278	285	200	976	414	502
1974	246	299	177	120	105	514	112	225
1975	1,509	187	166	148	130	944	132	459
1976	1,737	200	164	245	125	304	134	417
1977	795	267	152	206	102	268	140	276
1978	1,131	278	174	176	118	396	121	342

NOTE : This data is average of ADT at all traffic count stations.

SOURCE : Ministry of Works' Data

APPENDIX F ADT BY MINISTRY OF WORKS IN 1978

WESTERN AREA

STATION No.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
WA- 1	Waterloo - Grafton	407	526	288	91	1311
WA- 2	Waterloo - Masiaka	466	526	319	52	1363
WA- 3	Waterloo - Benguema	65	99	52	9	225
WA- 4	York - Freetown	101	64	48	13	226
WA- 5	York - Kent Jct.	30	24	16	2	72
WA- 6	Grafton - Waterloo	692	730	465	278	2165
WA- 7	Grafton - Regent	150	45	20	4	219
WA- 8	Grafton - Freetown	524	724	455	125	1828
WA- 9	Mile 38 - Ribbi Fy	71	64	34	1	170
WA-10	Mamana - Gbabai	45	34	20	3	102
WA-11	Lumley Jct - Freetown	6034	1876	915	29	8854
WA-12	Lumley - York	1702	1185	531	20	3438
WA-13	Lumley - Cape Sierra	3508	1650	334	26	5518
WA-14	Kissy Police Stn-Grafton	1677	1445	228	4	3354
WA-15	Regent - Hillcut Road	220	37	25	1	283
WA-16	Kent Jct. - Waterloo	1	2	1	1	5
WA-17	Kent Jct. - York	7	7	4	2	20
WA-18	Kent Jct. - Kent	8	4	5	1	19
WA-19	Makolo Jct. - Maswiri	7	6	8	1	22
WA-20	Newton Jct. - Fogbo	12	9	3	1	25
WA-21	Newton Jct. - Madonkia	26	8	5	2	41
WA-22	Mile 28 1/2 - Royeima	9	13	7	-	29
WA-23	Mile 30 Jct. - Songo	21	23	6	-	50
WA-24	Magbeni Jct. - Magbeni	4	8	13	-	25
WA-25	Mile 16 Jct. - Mapaira	7	-	-	-	7
WA-26	Waterloo Jct. - Campbell Town	16	11	5	1	33

LUNGI - AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
LA- 1	Rotifunk Jct. - Tagrin Fy.	373	174	81	20	648
LA- 2	Rotifunk Jct. - Port Loko	44	116	45	5	210
LA- 3	Rotifunk Jct. - Konakridee	355	184	58	27	624
LA- 4	Hospital Rd. Jct.-Konakridee	320	196	78	53	647
LA- 5	Hospital Rd. Jct.-Rotifunk	383	79	83	24	569
LA- 6	Hospital Rd. Jct.-Aku Town	157	86	78	71	392
LA- 7	Rotifunk Jct. - Mahera	17	14	108	5	144
LA- 8	Rotifunk Jct. - Kasongba	7	11	11	-	29
LA- 9	Aku Town - Mape	14	15	23	-	49
LA-10	Mamanki Jct. - Mamanki	10	13	28	-	51
LA-11	Mahun - Gbonkowili	12	21	23	-	56
LA-12	Mahera - Rulon	140	118	24	-	282
LA-13	Kambia - Mahera	72	41	17	-	130
LA-14	Mayaia - Kowala	13	17	12	-	42

PORT LOKO AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
PA- 1	Masiaka - Waterloo	297	294	125	199	915
PA- 2	Masiaka - Mile 91	140	140	90	120	490
PA- 3	Masiaka - Mile 66	182	228	89	86	585
PA- 4	Mile 66 - Masiaka	183	202	134	93	612
PA- 5	Mile 66 - Lunsar	260	168	88	50	566
PA- 6	Mile 66 - Port Loko	190	128	55	34	407
PA- 7	Batkanu Jct. - Port Loko	71	100	66	10	247
PA- 8	Batkanu Jct. - Mange Ferry	64	65	62	9	200
PA- 9	Batkanu Jct. - Batkanu	14	43	20	2	79
PA-10	Port Loko - Batkanu	86	168	41	5	300
PA-11	Port Loko - Mile 66	542	115	45	24	726
PA-12	Port Loko - Lungi	29	53	25	3	110
PA-13	Petifu Jct. - Lungi	23	77	22	5	127
PA-14	Petifu Jct. - Port Loko	23	35	16	5	79
PA-15	Petifu Jct. - Gbinti Wala	14	58	12	5	89
PA-16	Petifu Jct. - Petifu	16	21	4	1	42
PA-17	Mange - Mange Ferry	56	60	41	19	176
PA-18	Mange - Manbolo	31	48	20	9	108
PA-19	Mange - Kambia	25	66	31	13	135
PA-20	Mambolo Jct. - Mange	7	26	12	8	53
PA-21	Mambolo Jct. - Rokupr	2	5	3	6	16
PA-22	Mambolo Jct. - Mambolo	6	29	14	9	58
PA-23	Kambia Jct. - Kambia	34	64	37	21	156
PA-24	Kambia Jct. - Mange	31	60	45	22	158
PA-25	Kambia Jct. - Rokupr	31	78	40	20	169
PA-26	Kambia - Kambia	67	103	84	17	271
PA-27	Kambia - Madina	33	35	32	8	108
PA-28	Kambia - Kambia Ferry	26	32	30	9	97
PA-29	Madina - Kambia	3	6	6	6	21
PA-30	Madina - Tompari Ferry	4	7	11	17	34
PA-31	Madina - Kukuna	2	10	15	8	35

PORT LOKO AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
PA-32	Foredugu - Lunsay	272	120	109	36	537
PA-33	Foredugu - Makeni	253	82	93	32	460
PA-34	Foredugu - Kotolon	34	54	17	6	111
PA-35	Kawula Jct. - Barmoi	5	10	3	1	19
PA-36	Barmoi Jct. - Barmoi	5	17	15	5	42
PA-37	Rosinor Jct. - Kambia Ferry	35	48	28	21	132
PA-38	Rosinor Jct. - Mafunfuneh	20	30	21	12	83
PA-39	Rosinor Jct. - Rokon	18	37	25	12	93
PA-40	Yumkeleia jct. - Kychom Wharf	7	26	10	6	49
PA-41	Yumkeleia Jct. - Mapotolon	4	23	17	3	47
PA-42	Cusom's Post - Fudaya	10	13	9	1	32
PA-43	Custom's Post - Rosinor Jct.	45	43	21	1	110
PA-44	Barlor Jct. - Petifu Jct.	13	69	7	7	96
PA-45	Barlor Jct. - Barlor	2	14	6	3	25
PA-46	Barlor Jct. - Kalangba	4	24	4	2	34
PA-47	Barlor Jct. - Gbinti Walla	8	54	5	10	77
PA-48	Lungi Lol - Rosengbeh	7	25	14	3	49
PA-49	Bundulai - Katanga	15	26	9	7	57
PA-50	Gbinti Jct. - Karene	1	12	15	1	29
PA-51	Barmoi - Kantia	12	26	17	8	63
PA-52	Port Loko - Gberi Bana	15	41	11	1	68
PA-53	Port Loko - Melekure	1	27	8	1	37
PA-54	Lunsar - Mamansu	139	144	26	5	314
PA-55	Ghom Samba - Woremapoteh	13	13	5	1	31
PA-56	Bumba Jct. - Bumba	-	10	9	1	20

MAKENI AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
MA- 1	Makeni - Makoth Jct.	445	191	144	83	863
MA- 2	Makeni - Panlap Jct.	43	137	139	11	329
MA- 3	Makeni - Magburaka	483	149	180	28	840
MA- 4	Matotoka - Robol Jct.	238	89	101	26	452
MA- 5	Matotoka - Makali	196	74	87	26	381
MA- 6	Matotoka - Yele	39	38	44	7	127
MA- 7	Panlap Jct. - Fadugu	38	38	99	25	200
MA- 8	Panlap Jct. - Makeni	48	75	115	20	258
MA- 9	Panlap Jct. - Sendugu Jct.	52	56	102	25	235
MA-10	Sendugu Jct. - Kamakwie	7	14	32	2	55
MA-11	Sendugu Jct. - Panlap Jct.	9	13	30	3	55
MA-12	Sendugu Jct. - Bantoro Fy.	7	8	15	1	31
MA-13	Kamakwie - Sendugu Jct.	65	80	98	11	254
MA-14	Kamakwie - Tompari Fy.	74	90	1925	14	303
MA-15	Kamakwie O Fintonia	5	78	63	-	146
MA-16	Fadugu - Panlap Jct.	3	10	7	2	22
MA-17	Fadugu - Kabala	3	10	8	2	23
MA-18	Fadugu - Kasasi	6	3	1	-	10
MA-19	Musaia Jct. - Falaba	4	18	25	2	49
MA-20	Musaia Jct. - Kabala	7	24	36	2	69
MA-21	Musaia Jct. - Musaia	3	10	12	-	25
MA-22	Magburaka Jct. - Magburaka	358	124	114	55	651
MA-23	Magburaka Jct. - Robol Jct.	294	122	148	27	591
MA-24	Magburaka Jct. - Bumbuna	151	152	83	28	414
MA-25	Magburaka Jct. - Makeni	421	106	132	48	707
MA-26	Robol Jct. - Magburaka	244	100	99	48	491
MA-27	Robol Jct. - Matotoka	239	129	114	49	531
MA-28	Robol Jct. - Kumrabai	199	149	117	53	518
MA-29	Yele - Matotoka Jct.	22	27	36	2	87
MA-30	Yele - Bo	22	28	38	2	90
MA-31	Yele - Magbolo Fy.	8	17	12	2	39
MA-32	Masingbie - Makali	73	57	34	32	196
MA-33	Masingbie - Sefadu	184	68	75	25	352

MAKENI AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
MA-34	Masingbie - Mayola	178	79	28	12	297
MA-35	Makoth Jct. - Eatkanu	10	13	9	2	34
MA-36	Pendembu Jct. - Karene	29	40	18	13	100
MA-37	Makakura Jct. - Kondembaia	11	14	15	-	40
MA-38	Bafodia Jct. - Bafodia	2	1	1	1	5
MA-39	Limbanya - Falaba	2	19	17	2	40
MA-40	Limbanya - Gberia Fatombo	2	18	16	2	38
MA-41	Limbanya - Bendugu	1	15	13	2	31
MA-42	Falaba - Ganya	1	4	5	1	11
MA-43	Mamurthe Jct. - Kagbere	7	10	7	3	27
MA-44	Matham Jct. - Magburaka	61	24	25	3	113
MA-45	Matham Jct. - Bumbuna	28	18	18	2	66
MA-46	Matham Jct. - Kalmaro	9	10	6	1	26
MA-47	Matham Jct. - Masanga	34	11	10	2	57
MA-48	Mabole - Mara	21	31	28	5	85
MA-49	Mapaki Jct. - Mapaki	31	28	11	3	73
MA-50	Mayopo - Matamp	17	17	11	9	54
MA-51	Masaktaba - Kanipo	3	11	6	1	21
MA-52	Kamalo - Laia	3	3	6	1	13
MA-53	Kamatoga - Katta	4	11	13	4	32
MA-54	Kabala - Yataia	27	31	18	9	85
MA-55	Sinkunia - Fulamansa	5	25	28	2	60
MA-56	Bendugu - Serekolia	8	11	14	1	34
MA-57	Kamaron - Masadugu	11	16	25	1	53
MA-58	Kamaron - Bendugu	14	14	25	2	55
MA-59	Kamaron - Kurubonla	8	13	17	2	40
MA-60	Kalangba - Madina	5	4	2	5	16
MA-61	Kenenday - Madina	5	8	8	2	23
MA-62	Binkolo - Mapaki	7	7	8	-	22
MA-63	Magburaka - Mabum	117	92	90	35	234
MA-64	Makoni - Mamansu	25	23	8	4	60
MA-65	Matotoka - Mangebana	30	16	13	3	62

BO AREA

SECTION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLE	TOTAL
BA- 1	Bo - Baiima	296	162	155	16	629
BA- 2	Bo - Bumpe	234	128	73	7	442
BA- 3	Bo - Sewa Bridge	213	146	43	5	407
BA- 4	Bo - Gerihun	428	243	113	29	813
BA- 5	Bo - Yele	188	109	45	1	343
BA- 6	Taiama - Moyamba Jct.	132	88	86	3	309
BA- 7	Taiama - Baiima	186	99	89	3	377
BA- 8	Taiama - Njala Jct.	211	43	23	3	280
BA- 9	Sembehun Jct. - Mano	21	38	8	-	67
BA-10	Sembehun Jct. - Bo	33	68	17	2	122
BA-11	Sembehun Jct. - Sumbuya	26	42	12	-	80
BA-12	Sumbuya Jct. - Sembehun Jct	6	37	5	-	48
BA-13	Sumbuya Jct. - Sumbuya	6	64	7	-	77
BA-14	Sumbuya Jct. - Mattru	6	40	5	-	51
BA-15	Koribundo Jct. - Sumbuya	20	53	10	-	83
BA-16	Koribundo Jct. - Sewa Bdg	36	110	19	1	166
BA-17	Koribundo Jct. - Blama	11	40	5	-	56
BA-18	Koribundo Jct. - Bandajuma	17	65	19	-	101
BA-19	Pujehun - Koribundo	30	71	18	-	119
BA-20	Pujehun - Potoru	27	103	18	-	148
BA-21	Pujehun - Benga	8	55	4	-	67
BA-22	Potoru - Bandajuma	11	52	11	-	74
BA-23	Potoru - Bandasuma Fy.	7	40	4	3	54
BA-24	Potoru - Pujehun	9	70	3	1	83
BA-25	Potoru - Kundowahun	1	12	7	-	20
BA-26	Tellu - Sembehun	4	2	8	-	14
BA-27	Tellu - Gbaama	7	7	6	-	20
BA-28	Tellu - Gbangema	2	2	2	-	6
BA-29	Tellu - Gondama	10	15	6	-	31
BA-30	Serabu - Moyoru	76	66	19	-	161

BO AREA

SECTION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
BA-31	Serabu - Mokele	61	103	19	-	183
BA-32	Serabu - Taninahun	42	73	10	-	25
BA-33	Baoma Jct. - Bumpe	12	59	16	9	96
BA-34	Jimi-Niagorehun	13	42	14	3	72
BA-35	Jimi - Benga	14	43	13	3	73
BA-36	Jimi - Senehun	11	37	22	3	74
BA-37	Dambara - Ngalu	17	23	12	3	55
BA-38	Bontiwo Jct.-Yengesa	13	20	2	-	35
BA-39	Upper Saama - Hiima	13	41	5	-	59
BA-40	Benga Jct. - Jimi	4	30	2	-	36
BA-41	Benga Jct. - Gbundapi	6	75	3	-	85
BA-42	Benga Jct. - Vaama	-	35	1	-	36
BA-43	Lago Jct. - Felegoma	3	11	6	-	20
BA-44	Periwahun - Senehun	2	2	-	-	4
BA-45	Mano - Njama	4	9	3	-	16
BA-46	Mano - Bajia	21	25	-	-	46
BA-47	Mangeri - Baomahun	16	34	1	4	55
BA-48	Bauya - Gbonge	2	7	5	1	15
BA-49	Luawa - Gambia	25	65	23	20	133
BA-50	Bathurst - Jolime	2	5	1	-	8
BA-51	Tikonko - Sami	11	7	1	-	19
BA-52	Tikonko - Gbalehun	7	9	1	-	17
BA-53	Sumbuya - Tormabum	9	66	5	1	79
BA-54	Tikonko - Dodo	12	6	4	-	22
BA-55	Tikonko - Tikonko Jct.	105	31	11	-	147
BA-56	Bumpe - Baiima	8	9	5	-	22
BA-57	Yoni - Sawula	15	15	9	-	39
BA-58	Dandabu - Pehala	9	15	9	6	39

KENEMA/KONO AREA

STATION NO.	ROAD	CARS	VANE AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
KA- 1	Kenema - Blama	578	267	211	146	1203
KA- 2	Kenema - Joru	105	71	152	20	350
KA- 3	Kenema - Mano Jct.	696	568	217	142	1655
KA- 4	Mano Jct. - Segbwema Jct.	62	85	115	21	287
KA- 5	Manowa Jct. - Manowa Fy.	42	62	83	16	252
KA- 6	Mano Jct. - Sefadu	78	127	102	20	268
KA- 7	Sefadu - Manowa Jct.	202	84	42	10	338
KA- 8	Sefadu - Jagbwema	430	284	259	159	979
KA- 9	Sefadu - Tumbudu	852	111	63	25	1052
KA-10	Sefadu - Masingbi	7324	5069	431	267	13091
KA-11	Blama - Boajibu	115	109	71	16	311
KA-12	Blama - Koribundu	320	86	17	2	425
KA-13	Blama - Koribundu	21	17	22	3	63
KA-14	Blama - Sendumei	21	17	31	9	78
KA-15	Zimmi - Joru	42	61	92	49	244
KA-16	Zimmi - Fairo	50	58	91	35	234
KA-17	Zimii - Bandasuma Fy.	27	30	48	28	133
KA-18	Joru - Zimmi	21	28	75	14	138
KA-19	Joru - Kenema	23	27	86	14	150
KA-20	Joru - Nyandehun Jct.	19	19	88	20	146
KA-21	Mano Jct. - Kenema	416	212	236	86	950
KA-22	Mano Jct. - Segbwema Jct.	69	36	77	41	223
KA-23	Mano Jct. - Panguma	312	211	218	79	820
KA-24	Segbwema Jct. - Manowa Jct.	18	45	3	-	71
KA-25	Segbwema Jct. - Segbwema	56	38	34	1	129
KA-26	Segbwema Jct. - Mano Jct.	15	16	17	-	48
KA-27	Kailahun - Buedu	55	133	295	45	528
KA-28	Kailahun - Pendehun	34	42	115	40	231
KA-29	Kailahun - Sambalu	31	36	64	41	172
KA-30	Kailahun - Mano	17	15	24	9	65
KA-31	Kailahun - Nyandehun	-	-	-	-	-
KA-32	Kailahun - Giema	1	10	26	6	43

KENEMA/KONO AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
KA-33	Kailahun - Niahun	12	10	14	5	41
KA-34	Panguma - Dodo	52	72	37	20	181
KA-35	Panguma - Largo	63	118	50	23	254
KA-36	Panguma - Goral	15	17	22	9	73
KA-37	Pendembu Jct. - Kailahun	47	75	41	32	189
KA-38	Pendembu Jct. - Pendembu	24	66	77	17	184
KA-39	Pendembu Jct. - Manowa Fy.	17	22	31	17	87
KA-40	Nyandehun Jct. - Daru	20	26	30	16	92
KA-41	Nyandehun Jct. - Joru	17	19	43	12	91
KA-42	Nyandehun Jct. - Pendembu	18	19	45	12	94
KA-43	Nyandehun Jct. - Pendembu Fy.	4	3	1	6	14
KA-44	Segbwema - Daru Jct.	156	389	39	3	587
KA-45	Segbwema - Hegbwema	9	12	3	4	28
KA-46	Segbwema - Pendembu Fy.	11	13	2	2	28
KA-47	Jagbwema - Kainkordu	144	16	159	93	392
KA-48	Jagbwema - Saiama	254	294	294	346	1188
KA-49	Jagbwema - Koindu	140	149	153	101	543
KA-50	Boajibu - Blama	57	38	17	2	124
KA-51	Boajibu - Ngogbebu	8	1	2	-	11
KA-52	Boajibu - Konta	35	54	25	2	116
KA-53	Boajibu - Dodo	-	-	-	-	-
KA-54	Waida - Wundu	80	52	19	3	151
KA-55	Waida - Yengema	176	60	45	16	296
KA-56	N'jaima - Kangama	154	39	24	63	287
KA-57	Njaima - Koindu	169	24	10	17	229
KA-58	Bumpe Jct. - Bumpe	614	57	49	68	788
KA-59	Buedu - Foya (Dawa)	81	89	84	65	319
KA-60	Buedu - Kailahun	93	91	88	60	332
KA-61	Buedu - Koindu	90	84	88	63	325
KA-62	Sandaru Jct. - Sandaru	18	50	30	4	102
KA-63	Mende Jct. - Mende	17	28	28	9	82

KENEMA/KONO AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
KA-64	Mamboma - Jokibu	8	7	13	6	34
KA-65	Mamboma - Daru	23	11	21	8	52
KA-66	Mamboma - Foindu	10	7	9	3	29
KA-67	Mamboma - Mobai	6	7	13	3	29
KA-68	Yawiema - Saarma	17	16	21	6	63
KA-69	Yawiema - Senehun	25	21	31	11	89
KA-70	Nyandehun - Senehun	22	22	46	14	104
KA-71	Blama - Jembe	152	113	108	69	440
KA-72	Gofor - Baoma Koya	56	64	48	16	178
KA-73	Giema - Tikonko	22	23	38	12	96
KA-74	Giema - Konia	12	13	31	6	64
KA-75	Kamboma - Foindu	9	5	2	-	17
KA-76	Gendema - Langu	-	-	-	-	-
KA-77	Dodo - Banda	9	14	8	4	36
KA-78	Dodo - Gbado	12	26	17	6	61
KA-79	Gbangoma - Levuma	142	99	46	26	305
KA-80	Lime - Gandohun	111	108	70	58	347
KA-81	Victoria - Nyagbebo	138	106	94	67	405
KA-82	Woama - Baiama	38	26	21	14	99
KA-83	Semabu - Wilima	15	15	9	1	40
KA-84	Jojoima Jct. - Jojoima	95	72	90	51	308
KA-85	Laoma - Baiwala	65	43	38	15	162
KA-86	Koardu - Komindu	398	433	450	340	1621
KA-87	Malema - Liberia Border	66	50	14	2	132
KA-88	Malema - Fairo	59	45	12	-	116
KA-89	Zimmi - Dar-Es-Salam	11	10	15	11	47
KA-90	Kenema - Luyama	7	12	3	1	23
KA-91	Kpuwabu - Nomo	21	54	13	16	104
KA-92	Wai - Kpende	5	5	3	-	13
KA-93	Kouma - Fanima	1	1	6	-	8
KA-94	Njaiama - Bumpe	328	46	27	62	463
KA-95	New Daru Bridge - Nyandehun Jct.	63	118	131	48	360
KA-96	Nyandehun Jct. - New Daru Bridge	53	93	119	49	314

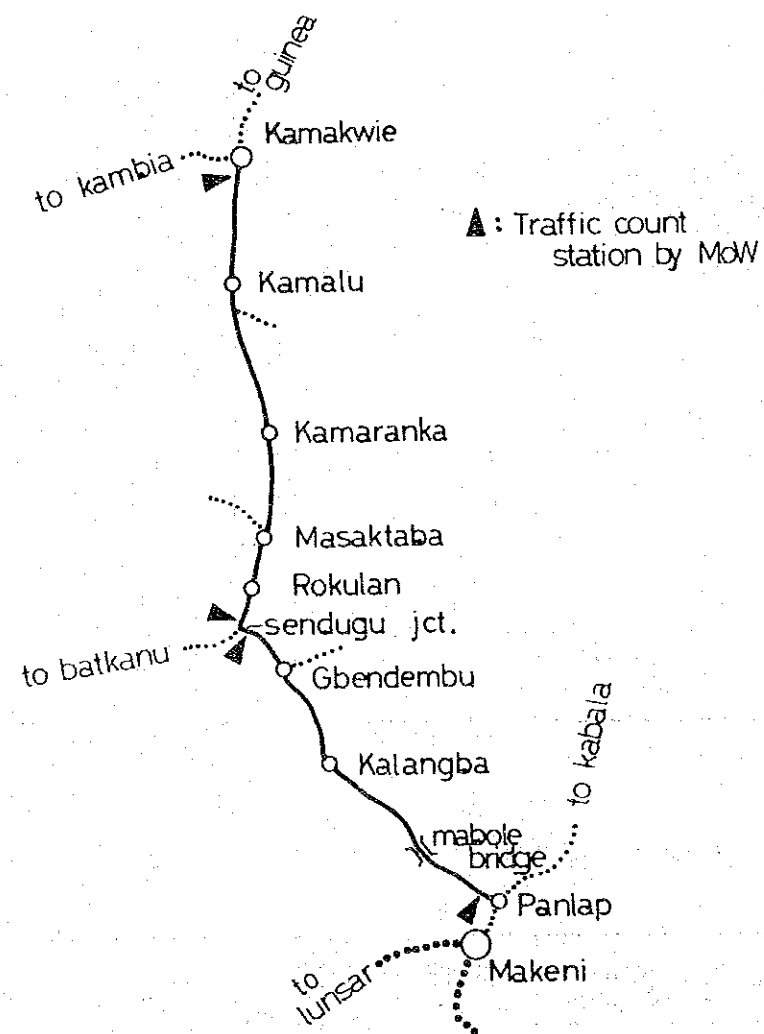
MILE 91 AREA

STATION NO.	ROAD	CARS	VANS AND PICKUPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
NA- 1	Mile 91 - Magbosi	207	189	166	34	596
NA- 2	Mile 91 - Moyamba Jct.	184	146	170	37	537
NA- 3	Mile 91-Kumrabai Jct.	100	127	74	26	327
NA- 4	Moyamba Jct. - Mile 91	133	118	100	50	401
NA- 5	Moyamba Jct. - Taiama	139	118	99	42	398
NA- 6	Moyamba Jct.-Njabgahun	53	62	42	20	177
NA- 7	Yonibana - Yonibana Jct.	94	45	18	11	168
NA- 8	Yonibana - Roruks	80	39	17	9	145
NA- 9	Njabgahun Jct.-Moyamba	26	42	16	7	91
NA-10	Njabgahun Jct.-Moyamba Jct.	6	49	29	7	91
NA-11	Njabgahun Jct.-Kangahun	9	20	20	3	52
NA-12	Moyamba - Mokure Jct.	42	50	15	7	114
NA-13	Moyamba - Njabgahun Jct.	67	109	30	5	211
NA-14	Moyama - Sembehun Jct.	15	12	16	5	48
NA-15	Mategema Jct.-Mogbomo Jct.	58	71	61	104	294
NA-16	Mategema Jct.-Mokaba Jct.	67	93	48	37	225
NA-17	Mategema Jct.-Mokanji	64	78	67	183	392
NA-18	Mokaba Jct. - Mategema Jct.	12	15	14	9	50
NA-19	Mokaba Jct. - Momaligie	9	10	11	3	33
NA-20	Mokaba Jct. - Mattru Fy.	15	15	14	9	53
NA-21	Bauya - Moyamba	23	39	23	12	97
NA-22	Bauya - Bradford	31	48	25	14	118
NA-23	Bauya - Roruks	18	37	26	16	97
NA-24	Kumrabai Jct.-Magbolo Fy.	24	33	10	9	76
NA-25	Kumrabai Jct.-Mile 91	24	53	10	11	98
NA-26	Kumrabai Jct.-Robol Jct.	31	57	17	14	119
NA-27	Kumrabai - Mabang	5	7	2	3	17
NA-28	Malanchor - Makundu	5	11	35	6	57
NA-29	Makite - Makarankay	5	9	6	8	28
NA-30	Bradford Jct. - Ribby Fy	26	20	17	17	80
NA-31	Bradford Jct.-Rotifunk	32	22	18	16	88

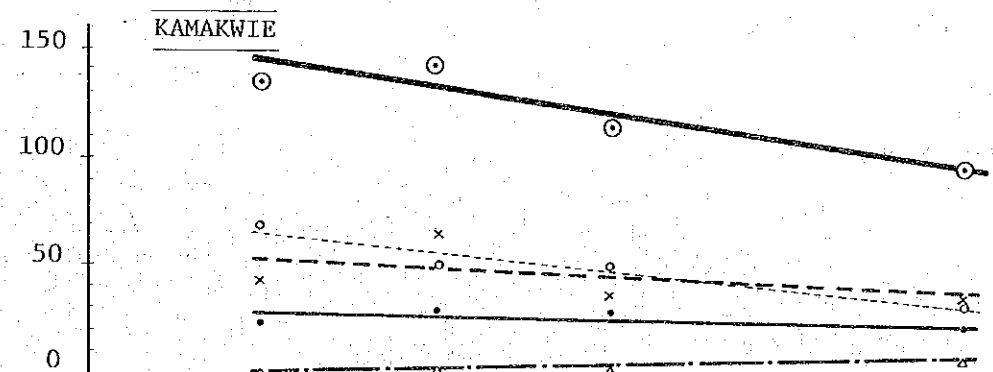
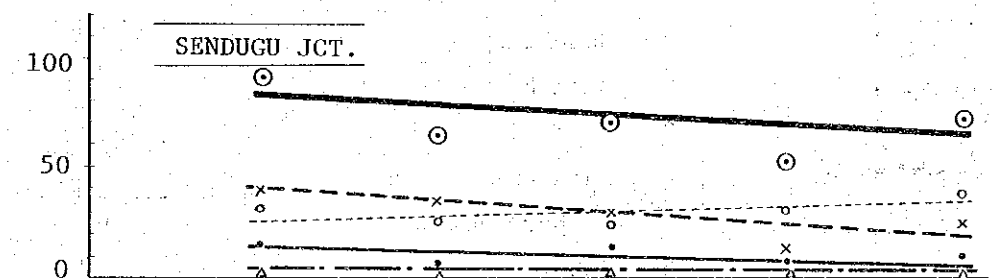
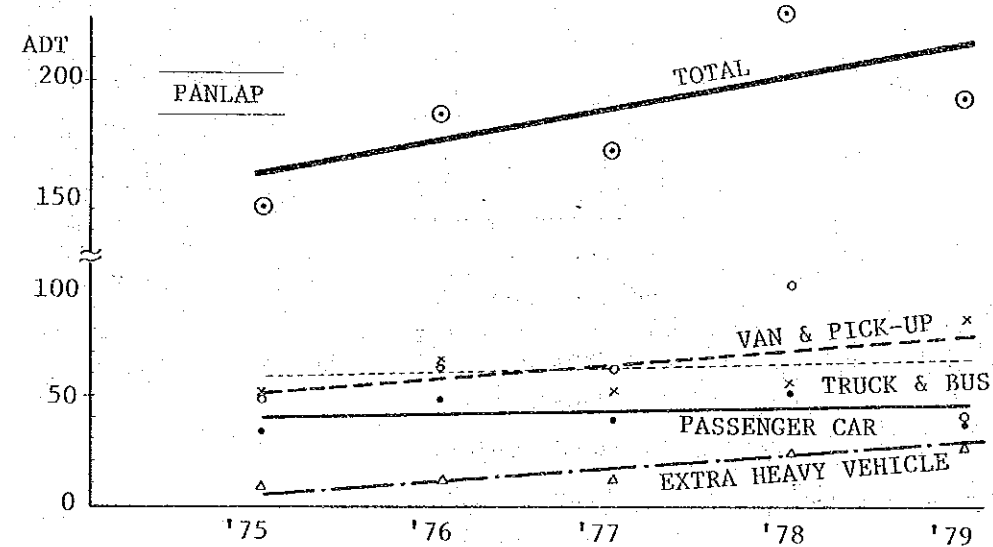
MILE 91 AREA

STATION NO.	ROAD	CARS	VANS AND PICK-UPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL
NA-32	Bradford Jct. - Mofengere	22	18	19	16	75
NA-33	Foya - Mabang	25	14	11	8	58
NA-34	Rotifunk - Motobong	22	100	25	21	168
NA-35	Sembehuwo Jct.-Moyamba	21	26	36	12	95
NA-36	Sembehuwo Jct.-Sembehuu	15	26	30	10	81
NA-37	Sembehuwo Jct.-Moselolo	10	14	15	5	44
NA-38	Mogbomo Jct.-Gbangbaia	24	25	22	2	73
NA-39	Mogbomo Jct.-Gbangbatoke	42	45	35	4	126
NA-40	Romagbut Jct.-Roruks	24	36	8	2	70
NA-41	Romagbut Jct. - Rauya	36	45	16	13	110
NA-42	Romagbut Jct. - Magbosie	25	33	9	5	72
NA-43	Roruks - Mafokoya	5	7	7	1	20
NA-44	Yoyeima - Gondama	11	9	8	7	35
NA-45	Mosari - Bantamokele	-	-	4	-	4
NA-46	Rochen Jct. - Rochen Malal	10	11	10	6	37
NA-47	Mathoir - Makonkary	13	16	12	6	47
NA-48	Makabanda - Bomotoke	-	5	1	-	6
NA-49	Mathoir - Rokel Fy.	42	45	24	17	138
NA-50	Rochen Jct.-Rochen Kamanda	111	5	12	-	28
NA-51	Konta Kuma - Rokon	4	11	16	7	38
NA-52	mosepkendeh - Levuma	12	14	11	9	46
NA-53	Mokorewo Jct. - Mogbenka	11	13	9	3	36
NA-54	Masorie - Berimbeh	4	7	16	-	27
NA-55	Kangahun - Manjehun Jct.	7	8	7	3	25
NA-56	Bongoya - Kawaya Jct.	7	4	4	2	17

APPENDIX G ADT BY MINISTRY OF WORKS ON THE PROJECT ROAD



Traffic Count Station by MoW on the Project Road



(PANLAP)

YEAR	CARS	VANS & PICKUPS	TRUCKS & BUSES	EXTRA HEAVY VEHICLES	TOTAL
1975	34	51	51	4	142
1976	48	64	62	12	186
1977	40	53	63	13	169
1978	52	56	102	25	235
1979	38	85	40	28	191

(SENDUGU JUNCTION)

YEAR	CARS	VANS & PICKUPS	TRUCKS & BUSES	EXTRA HEAVY VEHICLES	TOTAL
1975	17/15	37/43	30/32	3/3	87/95
1976	7/6	38/34	19/26	1/1	65/67
1977	15/12	32/28	29/22	3/5	79/67
1978	9/7	13/14	30/32	2/2	54/55
1979	10/9	27/23	36/41	0/0	73/73

NOTE: UP ...a, DOWN ...b

YEAR	CARS	VANS & PICKUPS	TRUCKS & BUSES	EXTRA HEAVY VEHICLES	TOTAL
1975	24	44	68	2	135
1976	28	63	51	4	146
1977	27	37	51	2	117
1978	65	80	98	11	254
1979	20	34	32	7	93

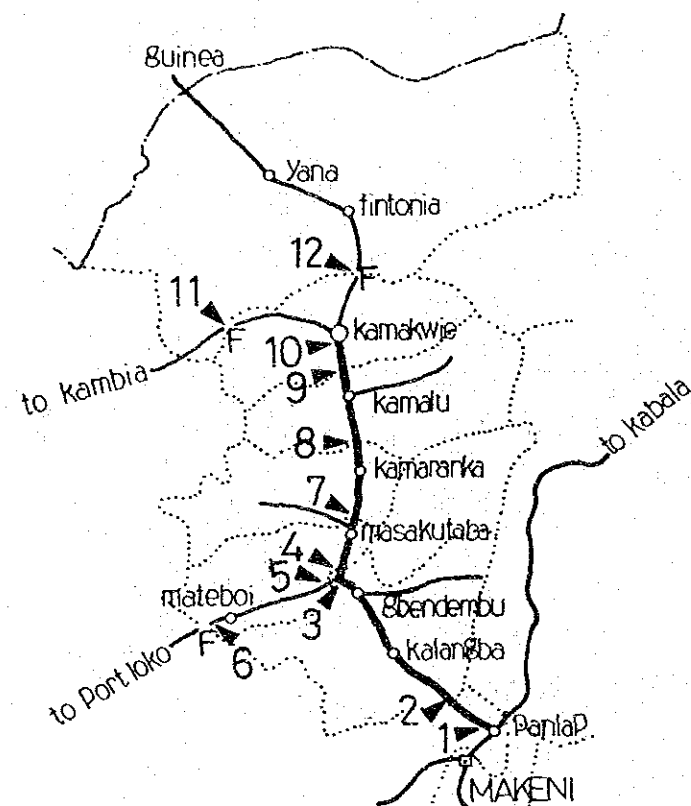
Source : Ministry of Works

APPENDIX H TRAFFIC COUNT BY JICA MISSION

(St.-1) PANLAP

12 hours Traffic

Day	CARS	VANS AND PICK-UPS	TRUCKS AND BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	9	34	25	11	79	
26/9/'79	15	33	28	9	85	
27/9/'79	(14) 13	(52) 43	(35) 33	(15) 11	(116) 100	() is 24 hrs Traffics
28/9/'79	5	43	31	5	84	
29/9/'79	18	30	34	13	95	
30/9/'79	53	44	24	10	131	
1/10/'79	16	31	41	22	110	
TOTAL	129	258	216	81	684	
AVERAGE	19	37	31	12	99	



Station No. And Location
1. Panlap
2. Mabole
3. Sendugu-jct.
4. Sendugu-jct.
5. Sendugu-jct.
6. Batkanu-Ferry
7. Masaktaba
8. Bankabi
9. Kenendi
10. Kamakwie
11. Tompany-Ferry
12. Kabba-Ferry

Key
 — Road under study
 - - - Border line
 Chiefdom limit
 F Ferry
 ▲ Traffic survey station

(St.-2) MABOLE

12 hours Traffic

	CARS	VANS PICK-UPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	9	33	25	10	77	

(St. - 3) SENDUGU JUNCTION

12 hours Traffic						
Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	4	31	16	10	61	
26/9/'79	0	21	22	11	54	
27/9/'79	5	29	20	9	63	
28/9/'79	1	34	20	2	57	
29/9/'79	5	15	23	3	46	
30/9/'79	16	33	22	9	80	
1/10/'79	2	21	20	10	53	
TOTAL	33	184	143	54	413	
AVERAGE	5	27	21	8	61	

(St. - 4) SENDUGU JUNCTION

12 hours Traffic						
Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	3	29	14	10	56	
26/9/'79	0	17	23	13	53	
27/9/'79	5	24	24	10	63	
28/9/'79	1	32	16	0	49	
29/9/'79	4	17	19	2	42	
30/9/'79	10	23	22	7	62	
1/10/'79	2	21	20	8	51	
TOTAL	25	163	138	50	376	
AVERAGE	4	24	20	8	56	

(St. 5) SENDUGU JUNCTION

12 hours traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	2	3	6	0	11	
26/9/'79	5	11	10	2	28	
27/9/'79	2	8	7	0	17	
28/9/'79	0	8	4	1	13	
29/9/'79	2	4	7	2	15	
30/9/'79	7	14	3	0	24	
1/10/'80	1	8	9	3	21	
TOTAL	19	56	46	8	129	
AVERAGE	3	8	7	2	20	

(St. 6) BATKANU FERRY

12 hours traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	0	1	3	0	4	

(St. 7) MASAKTABA

12 hours traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	2	22	15	11	50	

(St. 9) KENENDI

12 hours traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	2	27	8	0	37	

(St. 8) BANKABI

12 hours traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	2	23	15	3	43	

(St. 10) KAMAKWIE

12 hours traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
25/9/'79	2	30	8	0	40	
26/9/'79	0	29	10	0	39	
27/9/'79	(8) 4	(34) 23	(28) 11	(4) 2	(74) 40	() is 24 hrs. Traffics
28/9/'79	8	22	8	0	38	
29/9/'79	5	14	14	0	33	
30/9/'79	3	18	21	5	47	
1/10/'79	2	26	11	4	43	
TOTAL	24	162	83	11	280	
AVERAGE	4	24	12	2	42	

(St. 11) TOMPARI FERRY

12 hours traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
2/10/'79	2	16	2	6	26	

(St. 12) KABBA FERRY

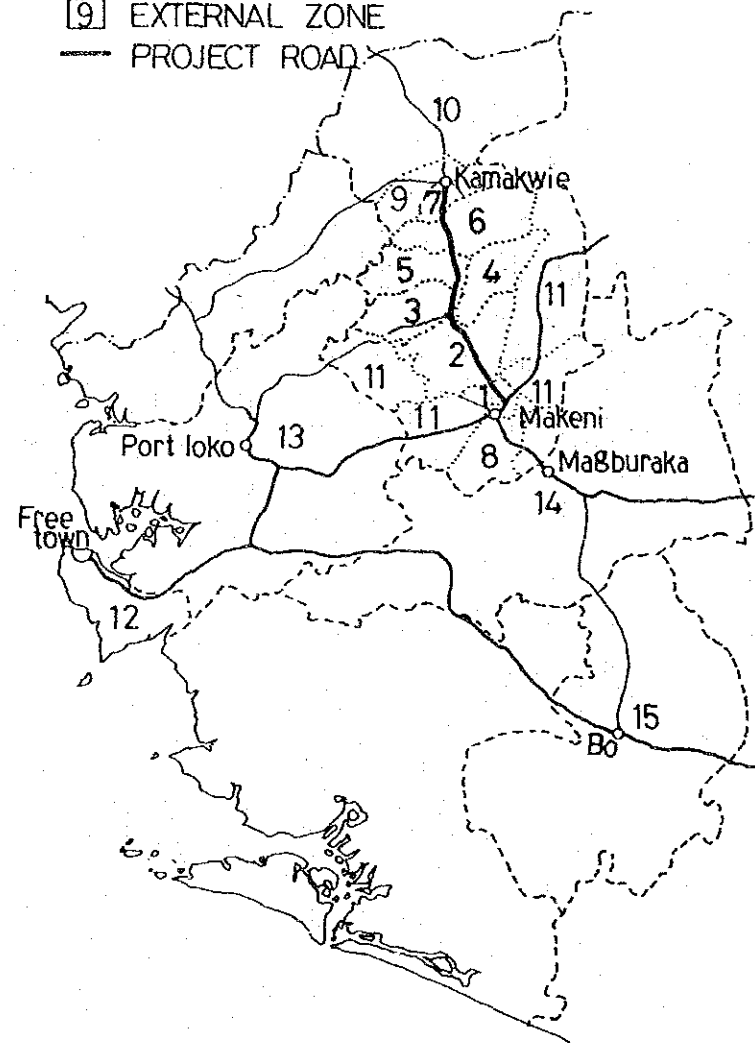
12 hrs Traffic

Day	CARS	VANS PICKUPS	TRUCKS BUSES	EXTRA HEAVY VEHICLES	TOTAL	REMARKS
4/10/'79	1	11	0	4	16	

APPENDIX I O-D TRAFFIC BY TYPE OF VEHICLES

KEY

- 9 ZONE NO.
- 9 INTERNAL ZONE
- 9 EXTERNAL ZONE
- PROJECT ROAD



- | | |
|-------------------------------|--|
| 1. Makari Gbanti Chiefdom | 9. Sela - Limba Chiefdom (except Kamakwie) |
| 2. Gbendembu Gowahun Chiefdom | 10. Tambaka Chiefdom |
| 3. Sanda Tenraran Chiefdom | 11. Bombali District Except above Zones. |
| 4. Magbaiamba Chiefdom | 12. Western Area (Freetown) |
| 5. Gbanti Kamaranka Chiefdom | 13. Port Loko District |
| 6. Sanda Loko Chiefdom | 14. Tonkolili District |
| 7. Sela Limba Chiefdom | 15. Bo District. |
| 8. Bombali Seborra Chiefdom | |

CARS O-D MATRIX (O-D SURVEY as of September, 25)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
1								1							1
2								2				1			3
3								1							1
4															
5															
6															
7															
8	1	2	1						1						5
9														1	1
10															
11															
12															
13															
14															
Total	1	2	1					4	1			1		1	11

VANS O-D MATRIX (O-D SURVEY as of September, 25)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
1		1													1
2	1							1							2
3															
4															
5													1		1
6							1		2						3
7									2						2
8		1	2						8						11
9						2	2	7					1		12
10															
11															
12															
13															
14															
Total	1	2	2			2	3	8	12				2		32

BUSES O - D MATRIX (O - D SURVEY as of September,25)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
1																
2	2								1			2				5
3					1			1	1							3
4																
5						1		1				2				4
6					2			2								4
7																
8			1						1							2
9																
10																
11																
12		2							1							3
13									1							1
14																
15									2							2
Total	2	2	1		3	1		4	7			4				24

TRUCKS O - D MATRIX (O - D SURVEY as of September, 25)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
1		1														1
2	1							3								4
3									1							1
4																
5								1								1
6					1		1		1							3
7						1										1
8	1	3			1				1							6
9			1			1		1								3
10																
11																
12																
13																
14																
15																
Total	2	4	1		2	2	1	5	3							20

PICK UPS O - D MATRIX (O - D SURVEY as of September,25)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
1																
2	1	2						1	1							5
3								1								1
4																
5								1								1
6									1							1
7																
8		1	1		1				4							7
9		1			2	1		1				1				6
10																
11																
12																
13																
14																
15																
Total	1	4	1		3	1		4	6			1				21

EXTRA HEAVY VEHICLES O - D MATRIX (O - D SURVEY as of Sept.,25)

Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
1		1									1					2
2																
3					1											1
4																
5						1		2				3				6
6												1				1
7																
8					3											3
9																
10																
11	1															1
12		1				1										2
13																
14																
15																
Total	1	2			4	2		2			1	4				16

APPENDIX J PROPOSED FEEDER ROAD PROJECTS IN NORTHERN AREA FOR 1978~'81

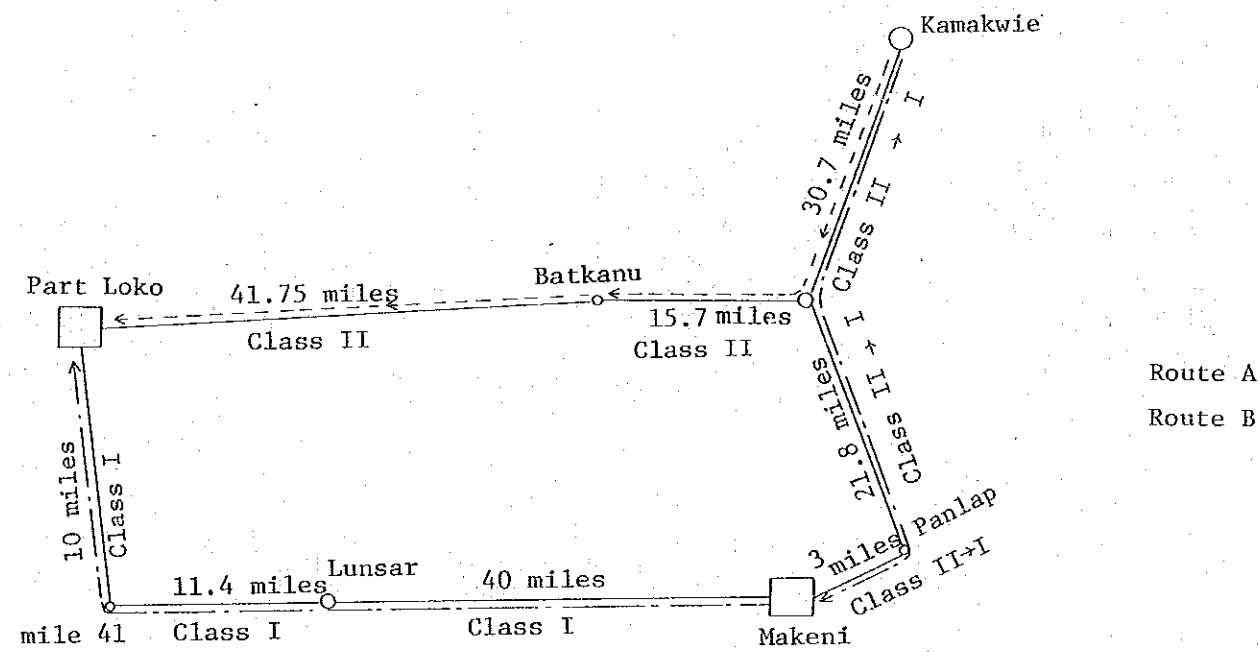
Sl.No.	Road From - To	Chiefdom	Length in Miles	Maps & Co-ordinates	Comments	Justification
N1	Matotoka-Mabis-Mapaki-Masint- Mabobo-Makent-Sengbe-Mangi	Tane Gbonkolenken	9.6	Sheet 55,50/60 by 75/86		Village-9 Houses-304, Population-3,774, Swamp-1,864 acres Upland-3,703 acres, Groundnuts-325 acres, High Agricultural development potential.
N2	Mapaki-Makeni-Matinke Masaful-Makona-Mafari	Tane	8.25	55 50/55 by 83/89		Village-6, Houses-122, Population-1,193, Swamp-593 acres, Upland-989 acres, Groundnut-125 acres, High Agricultural development potential.
N3	Tane-Manuke-Makne Konta-Masuba-Fotani	Bombali Sebora	7.25	44,55 65/73 by 64/68	Already approved Tane- Manuko(4 mls) extended upto Fotani	Village-6, Houses-319, Population-3,020, Swamp-60 acres Upland-150 acres, Groundnut-90 acres, High Agricultural development potential.
N4	Myan junction (Abu Road) Myan-Mamara	Tane	4.0	55 80/83 by 58/60		Village-3, Houses-29, Population 294, Swamp-265 acres, Upland-110 acres, Groundnut-84 acres. High Agricultural development potential.
N5	Mapaki-Yima-Makanbri Mabai-Mawria-Mankore- Binkolo	Paki Masabong Safroko Limba	14.0	44 73/91 by 80/88	Already approved.	
N6	Binkolo-Kotela-Bunka Matinka-Bombali bana-Panlap	Safroko Limba Makari Gbanti	10.0	43, 44 81/94 by 87/94	Already approved.	
N7	Matotoka-Polo-Mabamp-Mafuri- Malako-Matunkara-Mafori- Mabai-Makufri-Mabene-Makkele	Tane	14.0	44, 55, 56 86/98 by 58/70		Village-11, Houses-295, Population-3,890, Swamp- 1,828 acres, Upland-4,240 acres, Groundnut-812 acres. Very high agricultural development potential.
N8	Matura-Lumgba-Madibi-Masint- Mamila-Mayata-Mayemberi	Kholifa	7.75	55 80/86 by 53/67		Village-7, Houses-109, Population-1,260, Swamp- 3,705 acres, Upland-230 acres, Groundnut-650 acres. Very high agricultural development potential.
N9	Abu-Road-Mabai-Masabong-Masati- Madina-Masabangpil	Paki Masabong	4.5	54, 55 63/68 by 70/74		Village-5, Houses-181, Population-1,752, Swamp-100 acres, Upland-300 acres, Groundnut-180 acres. Very high agricultural development potential.
N10	Mapaki junction (Abu Road) - Konto-Rosanda-Buma-Masongbo	Paki Masabong	4.5	44 70/75 by 73/76		Village-4, Houses-227, Population-2,175, Swamp-90 acres, Upland-180 acres, Groundnut-95 acres. High agricultural development potential.
N11	Mabai-Tanta-Katribana-Takeye	Paki Masabong Safroko Limba	4.0	44 82/86 by 75/81		Village-4, Houses-119, Population-3,325, Swamp-60 acres, Upland-150 acres, Groundnut-95 acres. High agricultural development potential.
N12	Mapaki-Masima-Mafina-Sint- Makota-Manria Sebana- Mayanlew-Mabala	Paki Masabong	5.0	44,55 66/73 by 75/80	Already approved.	

Sl.No.	Road From - To	Chiefdom	Length in Miles	Maps & Co-ordinates	Comments	Justification
N13	Mayagba(Abu Road) Airfield - Makuna-Makeni-Mayendeh (second one to south) Makeni-Makinta Makankoi	Paki Masabong Bombali Sebor	9.6	44,54,55 62/69 by 64/74	Already approved but extended	Village-4, Houses-86, Population 840, Swamp-80 acres, Upland-350 acres, Groundnut-200 acres. Very high agricultural development potential.
N14	Main road-Mabunt-Rolunk- Waribana	Bombali Sebor	5.0	43, 54 14/21 by 68/70		Village-4, Houses-124, Population-1,230, Swamp-120 acres, Upland-150 acres, Groundnut-100 acres. High agricultural development potential.
N15	Makama-Mankane-Mabure-Mabaisor- Mafenka-Rogbore-Mabidungung	Bombali Sebor	4.75	43 74/81 by 20/24		Village-7, Houses-145, Population-1,408, Swamp-120 acres, Upland-250 acres, Groundnut-150 acres. High agricultural development potential
N16	Main road-Mabanta-Masimera- Maforke-Manke-Matumbu-Masantigi- Maranka-Mamara-Rokon	Bombali Sebor Makari Gbanti	8.5	43 84/91 by 17/24		Village-9, Houses-210, Population-2,117, Swamp-80 acres, Upland-250 acres, Groundnut-150 acres. High agricultural development potential.
N17	Masungbo-Masapri-Laia-Makene- Yenkin-Makeh.		5.5	43 82/75 by 15/18		Village-6, Houses-339, Population-2,925, Swamp-85 acres, Upland-200 acres, Groundnut-100 acres. High agricultural development potential.
N18	Masungbo-Makendaw-Magbingbi- Matekre-Matoko-Magbonde-Makerifi- Pundung-Mukundu.	Makari Gbanti	7.2	43 82/90 by 13/18		Village-8, Houses-447, Population-4,895, Swamp-70 acres, Upland-280 acres, Groundnut-200 acres. Very high agricultural development potential.
N19	Binkolo-Mafari-Kamanka-Masama- Madu-Masunbum-Mapari-Bare- Mankaw, Yasi-Kadala-Gbankaki- Masapi.	Safroko Limba	16.5	32,44 91/03 by 73/95		Village-13, Houses-383, Population-4,650, Swamp-600 acres, Upland (800) acres, Groundnut- (400)acres. The road is partly motorable. Agricultural develop- ment potential is very high.
N20	Kamanke-Bumba-Kabonka-Kambaya- Kitori-Kasengbe.	Safroko Limba	9.0	32,44 92/04 by 75/84		Village-6, Houses-191, Population-1,917, Swamp (300) acres Upland-(500) acres, Groundnut(200) acres. High agricultural development potential.
N21	Katankina-Kanobo-Makane- Mafuita-Maseli	Safroko Limba	6.5	31,32 96/00 by 25/74		Village-5, Houses-118, Population-940, Swamp-37 acres, Upland-34 acres, Groundnut-13 acres. High agricultural development potential.
N22	Kamabai-Mafure-Manlokoko- Mabunke-Mafunke-Kamaron- Bunbande-Makedi-Madantili- Kamakita-Kayele.	Biriwa	12.0	31,32 2/10 by 26/74		Village-11, Houses-279, Population-2,500, Swamp-200 acres, Upland-300 acres, Groundnut-200 acres. High agricultural development potential.
N23	Main road-Bonaia-Karina Wari- Mayanga-Mayobi-Manyoro-Main road.	Biriwa	13.5	20, 31, 32 16/26 by 29/74		Village-10, Houses-394, Population-2,503, Swamp-168 acres, Upland-103 acres, Groundnut-144 acres. High agricultural development potential.
N24	Kanike-Manani-Makaimaia- Kabake.	Biriwa	4.5	20 26/30 by 85/88		Village-5, Houses-161, Population-1,010, Swamp-78 acres, Upland-92 acres, Groundnut-21 acres. High agricultural development potential.

Sl. No.	Road From - To	Chiefdom	Length in Miles	Maps & Co-ordinates	Comments	Justification
N25	Main Road South Kabara-Kakia-Kamatugu-Kakayu	Biriwa	8.25	20 32/46 by 86/87		Village-8, Houses-243, Population-695, Swamp-28 acres, Upland-9 acres, Groundnut-9 acres. Very high agricultural development potential.
N26	Main road-Mamasiki-Maleni-Karakana-Kagbangona	Biriwa	8.25	20 31/45 by 80/81		Village-5, Houses-179, Population-935, Swamp-4 acres, Upland-13 acres, Groundnut-13 acres. Very high agricultural development potential.
N27	Kalangba-Sagorema-Nguhun-Suinya-Mangua-Makite-Mahumbu-Madina.	Gbendembu Gowahun	10.0	31 00/07 by 2/25		Village-8, Houses-93, Population-800, Swamp-none, Upland-35 acres, Groundnut-30 acres. High agricultural development potential.
N28	Tambianu-Makeribohun-Makawgo-Kaiange-N27	Gbendembu Gowahun	5.0	31 96/02 by 18/19		Village-4, Houses-68, Population-545, Swamp-6 acres, Upland-40 acres, Groundnut-10 acres. High agricultural development potential.
N28A	Mango-Matogo-Bekeum-Ngingilu-Maberi-Makump-Mafure-Makite	Gbendembu Gowahun	10.0	31 20/21 by 93/100		Village-8, Houses-120, Population-450, Swamp-nil, Upland-nil, Groundnut-nil, High agricultural potential.
N29	Manfaga-Masungbo-Matintinga-Kagbori-Mabana.	Gbendembu Gowahun	5.75	31,43 92/97 by 9/12		Village-5, Houses-61, Population-420, Swamp-9 acres, Upland-20 acres, Groundnut-9 acres. High agricultural potential.
N30	Kalangba-Gberi-Tanehun-Mabana-Mabombo-Mangowka.	Gbendembu Gowahun	7.5	31, 42, 43 92/00 by 2/12		Village-6, Houses-56, Population-500, Swamp-100 acres Upland-nil, Groundnut-nil. High agricultural potential.
N31	Makambi-Matogo-Maketi-Mameka-Mamuli-Mafe-Masuri-Mabulo.	Gbendembu Gowahun	10.00	30,31 00/11 by 95/00		Village-8, Houses-93, Population-1,200, Swamp-20 acres, Upland-60 acres, Groundnut-nil. High agricultural development potential.
N32	Pendembu-Makwi-Magbana-Lohindi-Kotohun-Makako-Mawanwa-Mayake-Mabala-Mabole river.	Gbendembu Gowahun	16.0	31 07/27 by 08/15	M.O.W.Road	
N33	Lohindi-Mange-Bangahun-Mamaia-Mahambola.	Gbendembu Gowahun	3.25	31 10/14 by 14/17		Village-5, Houses-41, Population-104, Swamp-nil, Upland-nil, Groundnut-nil. Agricultural potential high.
N34	Kalangba-Bumba-Makeha-Maharigo	Gbendembu Gowahun	8.0	31 00/10 by 12/14		Village-4, Houses-200, Population-930, Swamp-22 acres, Upland-30 acres, Groundnut-15 acres. High agricultural potential.
N35	Mahanwa-Guhan-Manangbe-Masaingbe-Maduri	Gbendembu Gowahun	4.75	31 11/17 by 20		Village-5, Houses-50, Population-150, Swamp-nil, Upland-nil, Groundnut-nil. High agricultural potential.
N36	Pendembu/Port Loko road at Matiti-Bom-Gbene-Sindugu-Manaipe	Sanda Tendaran	5.5	30, 31 00/03 by 10/16		Village-5, Houses-90, Population-740, Swamp-15 acres, Upland-10 acres, Groundnut-nil. Very high agricultural potential. (Cattle Problem).

Sl. No.	Road From - To	Chiefdom	Length in Miles	Maps & Co-ordinates	Comments	Justification
N37	Kamakwie road at Ribia Gbin-Masungbu-Sanao-Mabala	Sanda Rendaren	3.17	31 17/20 by 04/07		Village-4, Houses-120, Population-1,190, Swamp-25 acres, Upland-25 acres, Groundnut-30 acres. High agricultural development potential.
N38	Kamakwie road at Masaktaba- Kalangba-Makuri-Gbanti- Kuntai-Makumre-Mawanti-Rogbanti- Makalikiri-Makonya-Makaranki- Marata-Kanipo.	Sanda Tendaren Gbanti Kamaranka	13.25	30,31 22/23 by 86/07		Village-13, Houses-264, Population-4,447, Swamp-100 acres, Upland-250 acres, Groundnut-200 acres. Very high agricultural development potential.
N39	Makumre-Mafuri-Gbane-Manp-Aibe- Kalogbo-Marampa	Sanda Tendaren	7.0	30 16/23 by 91/98		Village-10, Houses-100, Population-1,000, Swamp-45 acres, Upland-6 acres, Groundnut-50 acres. Very high agricultural development potential.
N40	Kamakwie road at Kamaranka- Mawula-Petifu-Matefu-Makilon- Kambia-Mahera	Gbanti Kamaranka	7.5	18, 19 28/34 by 97/07		Village-9, Houses-370, Population-2,130, Swamp-58 acres, Upland-33 acres, Groundnut-111 acres. Very high agricultural development potential.
N41	Kamakwie road at Makaiba- Gblan-Mayanba-Yema.	Sanda Tendaren Gbanti Kamaranka	3.75	19, 31 28/34 by 07/12		Village-6, Houses-95, Population-1,394, Swamp-23 acres, Upland-24 acres, Groundnut-20 acres. High agricultural potential.
N42	Matham-Rogbosse-Masokoni- Marako-Kalmaro.	Kholifa	10.0	44 83/95 by 70/74		Village-5, Houses-150, Population-698, Swamp-600 acres, Upland-2,360 acres, Groundnut-960 acres. High agricultural development potential.
N43	Kunso-Magbankane-Barbana- Bantamu.	Makari Gbanti	3.75	43 22/25 by 90/94		Village-4, Houses-100, Population-910, Swamp-47 acres, Upland-49 acres, Groundnut-18 acres. High agricultural development potential.

APPENDIX K COMPETITIVE ROUTES FOR DIVERTED TRAFFIC



Route	Distance by hour		Kamakwie→Port Loko	Sandngn→Port Loko
	Present	Future		
			Miles	
A	3.53	2.77	88.15	57.45
B	3.17	1.80	116.90	86.20
	1.1	1.5	1.3	

Running Velocity Class I65 mile/hour
Class II25 mile/hour

Reduction of Running Cost					
Type of Vehicle	Running Cost Le/Vehicle			Reduction of Running Cost Fair	Le/No. Bad
	Laterite		Paved Good		
	Fair	Bad			
CAR	19.84	24.04	17.25	2.59	6.79
VAN PICKUP	24.05	28.84	21.61	2.44	8.23
BUS TRUCK	31.62	38.10	28.52	3.10	9.58
E.H.R.	49.31	62.02	44.34	4.97	17.68