# Table 2.13.3HARVESTED AREA, YIELD AND PRODUCTION OF MAJOR CROPS IN BWANJE<br/>RDP (1984/85 - 1992/93)

	L	ocal Maiz	7.0	Com	posite M	faize	Hy	brid Ma	ize	N	Aaize Tota	1
Year	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production
	(ha)	(kg/ha)	(ton)	. (ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)
1984/85	19,661	1,512	29,727	0		0	452	1,513	684	20,113	1,512	30,411
1985/86	17,337	923	16,002	204	653	133	408	2,103	858	17,949	947	16,993
1986/87	19,568	1,003	19,626	254	740	188	1,017	1,967	2,000	20,839	1,047	21,814
1987/88	19,329	1,268	24,509	840	1,862	1,564	1,121	1,914	2,146	21,290	1,325	28,219
1988/89	31,614	1,167	36,893	182	1,233	224	1,192	1,949	2,323	32,988	1,196	39,440
1989/90	28,500	838	23,870	2,410	1,344	3,240	2,550	3,300	8,415	33,460	1,062	35,525
1990/91	28,972	927	26,871	2,896	1,512	4,379	13,154	1,124	14,791	45,022	1,023	46,041
1991/92	30,015	116	3,481	1,590	135	214	4,969	582	2,891	36,574	180	6,586
1992/93	24,442	1,296	30,096	na	na	na	6,496	3,018	20,757	30,938	4,314	50,853
RDP Ave.	24,382	1,006	23,453	1,047	1,068	1,243	3,484	1,941	6,096	28,797	1,401	30,654
ADD Avc.	45,094	1,071	46,086	3,497	1,492	4,556	7,699	1,871	16,101	55,901	1,494	66,237
RDP/ADD (%)	54.1	-	50.9	29.9	· .	27.3	45.3	-	37.9	51.5	-	46.3

	Ric	e (unhus)	(ted)		Pulses		C	iroundnu	its		Sorghum	
Year	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production	Arca	Yield	Production
	(ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)
1984/85	1,130	1,100	1,243	226	-	0	1,808	335	606	226	-	. –
1985/86	. 0		0	612	-	0	1,836	458	841	204	•	-
1986/87	762	2,377	1,811	1,779	1,360	2,419	3,953	405	1,600	254	-	-
1987/88	840	1,970	1,655	280	306	86	6,723	347	2,332	200	-	-
1988/89	649	1,974	1,281	504	399	201	4,222	210	887	65	-	-
1989/90	1,085	951	1,032	1,742	547	953	446	482	215	300	530	159
1990/91	1,160	1,490	1,728	2,127	716	1,522	530	734	389	750	708	531
1991/92	2,610	512	1,336	1,138	160	179	598	- 48	29	735	56	41
1992/93	1,105	1,183	1,382	-1,824	2,270	1,022	1,120	521	587	-443	622	272
RDP Ave.	1,038	1,445	1,274	1,137	822	709	2,360	393	832	353	213	111
ADD Ave.	4,556	1,656	7,011	1,850	1,149	1,045	7,160	529	3,781	417	202	125
RDP/ADD (%)	22.8		18.2	61.5		67.9	33.0	-	22.0	84.7		89.2

		Millet			Cassava	1	Sw	eet Pota	loes	S	eed Cotto	n
Year	Arca	Yield	Production	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production
	(ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)	(ha)	(kg/ha)	(ton)
1984/85	612		· · -	678	2,200	1,491	452	2,200	994	5,647	800	4,518
1985/86	452	-		408	2,200	898	816	2,200	1,795	1,632	800	1,306
1986/87	1,017	1,360	1,383	508	2,200	1,117	762	2,200	1,676	1,779	800	1,424
1987/88	2,521			1,401	2,200	3,082	560	2,200	1,232	1,121	800	. 898
1988/89	2,233	420	938	1,114	2,200	2,450	1,015	2,200	2,233	4,129	800	3,303
1989/90	225	444	100	900	2,778	2,500	580	2,100	1,218	5,220	800	3,568
1990/91	940	577	542	1,330	3,528	4,692	1,145	3,180	3,641	5,502	800	6,533
1991/92	1,005		· · <u>-</u>	935	2,337	2,185	273	160	43	7,015	- 800	2,096
1992/93	258	598	154	218	2,370	519	584	2,029	1,196	5,052	1,153	5,860
RDP Ave.	1,029	378	346	832	2,446	2,104	687	2,052	1,559	4,122	839	3,279
ADD Ave.	1,030	377	347	7,971	2,687	23,639	1,215	2,276	2,909	12,141	768	9,001
RDP/ADD (%)	99.9	-	99.8	10.4	2	8.9	56.6	· .	53.6	34.0	· · ·	36.4

· _	Tob	acco (sun	-air)	С	ashewnu	ls	. 5	Sunflowe	r		Chillies	
Year	Area (ha)	Yield (kg/ha)	Production (ton)	Tree (nos.)	Yield (kg/tree)	Production (ton)	Area (ha)	Yield (kg/ha)	Production (ton)	Area (ha)	Yield (kg/ha)	Production (ton)
1988/89	157	-		na	па	па	na	na	na	na	na	na
1989/90	16	300	5	1,096	7.5	8.2	· <del>.</del>	-		210	640	134
1990/91	20	.400	8	1,096	2.0	2.2		•	·		•	-
1991/92	48	220	. 11	1,096	2.0	2.2	18.0	50	0.9	118	160	29
1992/93	43	800	27	1,096	2.0	3.0	20.0	500	10.0	- 114	497	74
RDP Ave.	57	430	10	1,096	3.4	3.9	19.0	275	5.5	147	432	79
ADD Ave.	68	430	10	4,164	2.3	9.3	40.6	309	14.2	164	519	90
RDP/ADD (%)	83.5		100.0	26.3		42.0	46.8	· · · .	38.4	89.8	-	87.8

TABLE 2.13.4 AVERAGE YIELD OF PADDY AND MAIZE IN THE PROJECT AREAS

odo v		Upper Nadzipulu project	Lower Namilokwe and Mtandamula projects	Upper Namikokwe Lower Livulezi project project	Lower Livulezi project	All project areas
Aaize	Maize sample size average vield (Kg/ha)	23	36	40	61	160
	whole	1,393	1,133	1,915	930	1,246
	Local variet	1,435	1,269	1,640	906	1,239
•	Hybrid	1,218	916	2,565	966	1,256
Rice	sample size	23	36	40	61	160
	average yield (Kg/ha)	1,113	1,319	1,545	624	1,154

Data source: the farmer's interview survey conducted by JICA team in 1992/93

Number	male or	Number	paddy	Amount of	Total income	Remaining	Kg/bag	Total	Unit
of farmers	female*				from ADMARC			production	Yield
		1		ADMARC(bag		home(bag)		(kg)	(Ton/ha)
	0	•	0.4	1	85	2	85	255	0.64
2	1		0.4	4	376	12	94	1,504	3.76
3	1	677	0.4	. 5	375	5	75	750	1.88
4 5	0 1	b2 b1	0.4 0.8	3.5 32	36 2,560	9 0	10 80	129 2,560	0.32 3.20
6	0	b63	0.4	0.5	40	6	80	520	1.30
Ť	ŏ	b14	0.4	0	0	18	80	1,440	3.60
8	0	b42	0.4	1.5	145	8	97	918	2.30
9	1	b43	0.4	2.5	263	13	105	1,631	4.08
10	1	b36	0.8	6	564	26	94 75	3,008	3.76
11 12	1 1	Ь72 Ь88	0.4 0.6	3 8	225 796	17 17	.100	1,500 2,488	3.75 4.15
13	1	635	0.4	10	1,000	7	100	1,700	4.25
13	1	b91	0.6	2	185	28	93	2,775	4.63
15	1	c64	0.6	2.5	230	8	92	966	1.61
16	1	d53	0.8	0	0	2	80	160	0.20
17	1	b28	0.8	3.5	230	20	66	1,544	1.93
- 18	0	c37	0.6	0 2	0 185	6 38	80 93	480 3,700	0.80 4.63
19 20	1 1	° c5 c134	0.8 0.8	0.5	41	3	93 82	287	0.36
21	i	c130	0.8	5	463	27	93	2,963	3.70
22	Ō	c85	0.4	5	465	5	93	930	2.33
23	0	c120	0.4	0	0	20	80	1,600	4.00
24	0	c23	0.4	7	614	13	88	1,754	4.39
25	1	c57	0.4	2	200 40	10	100 80	1,200 1,800	3.00 4.50
26 27	1	c30 c9	0.4 0.4	0.5	300	7	86	1,800	2.25
28	1	c78	0.4	19	1,600	18	84	3,116	3.89
29	1	c16	0.4	3	240	3	80	480	1.20
.30	1	c141	1.2	3	240	17	80	1,600	1.33
31	. <b>I</b>	c44	0.8	0	0	28	80	2,240	2.80
32	1	c71	0.4	5	465	15	93	1,860	4.65
33 34	1	c14 c99	0.4 0.6	1 6	66 510	17 20	66 85	1,188 2,210	2.97 3.68
35	0	c113	0.8	1.5	150	10	100	1,150	1.44
36	0	c127	0.4	4	360	5	90	810	2.03
37	0	d60	0.4	· <b>0</b> ·	0 ·	3	80	240	0.60
38	- 1	b56	0.4	4.5	420	9	93	1,213	3.03
39	0	d144	0.4	7	657 27	8 18	94 54	1,408	3.52 1.67
40 41	1 1	d32 d102	0.6 0.4	0.5 0	0	2	34 80	999 160	0.40
42	0	d116	0.4	Ő	ŏ	15	80	1,200	2.00
43	õ	698	0.4	Š	375	3	75	600	1.50
44	1 .	d4	0.4	2.5	250	6	100	850	2.13
45	- 1	d123	0.4	0	0	16	80	1,280	3.20
46	1	d67	0.4	0	0	20	80	1,600	4.00
47	1	d37	0.8	0	0	30	80	2,400	3.00
48 49	0	d109 d95	0.8 0.4	0 4	0 305	35 8	80 76	2,800 915	3.50 2.29
49 50	0	d18	0.4	4 0	0	12	80	960	2.40
51	ő	d137	0.4	ŏ	. Ŏ	6	80	480	1.20
52	0	d88	0.4	0.5	40	20	80	1,640	4.10
53	1	d130	0.4	2 2.5	168	16	84	1,512	3.78
54	1	c43	0.8	2.5	218	28	87	2,616	3.27
55 56	1	d120 c88	0.8 0.4	3 3.5	252 302	27 9	84 86	2,520	3.15 2.59
57	1	b48	0.4	10	838	15	84	2,095	2.62
58	1	d74	0.4	1	88	12	88	1,144	2.86
. 59	1	c74	0.8	7	525	33	75	3,000	3.75
60	0	b84	0.4	0	0	16	80	1,280	3.20
61	1	c2	0.4	2.5	183	17	73	1,391	3.48
62	· · 0	ь70	0.6	10	850	10	85	1,700	2.83
63	0	d25	0.4	2.5	215	14	86	1,376	3.44

### TABLE 2.13.5 PADDY YIELD SURVEY IN THE MTANDAMURAIRRIGRION SCHEME

																									-
Degree of	1001 BITIS ( 70 )					100	95					100								100					
Paddy yield	bei IIIz (Ng)	4,471	3,884	4,317	5,665	5,589	6,407	4,019	5,265	5,619	2,947	5,211	2,699	4,467	4,259	3,722	2,770	3,220	3,238	6,019	3,104	4.345	6.407	2,699	1,129
Weight of 1000 ripened	granus (gr)	29	- 26	29	30	29	29	30	. 30	30	29	30	29	29	29	30	29	30	29	30	28	29	30	26	1
 Percentage of ripened 1	(0/) SIITE	86	87	80	91	86	16	91	- 06	87	89	68	<u>93</u>	82	94	93	<u>6</u>	16	91	85	64	88	94	2	9
No.of spikelets		18,080	16,866	18,743	21,196	22,568	24,600	15,037	19,567	21,576	11,430	19,872	10,138	18,765	15,752	13,553	10,535	11,900	12,403	23,893	17,539	17.201	24,600	10,138	4,364
No.of spikelets	her partere	156	131	132	137	149	153	137	178	128	138	102	75	97	107	148	61	114	124	136	137	128	178	75	24
No.of panicles	7111 121	116	129	142	155	151	161	110	110	165	83	195	136	194	147	92	116	105	100	176	128	136	195	83	32
planting density per		13	15	12	18	13	17	21	14	19	. 14	21	16	26	20	16	20	11	15	22	14	17	26	11.	4
No. of	COLE	¥4	6	ςΩ	4	ŝ	9	L	00	6	10	11	12	13	14	15	16	17	18	19	20	Avg.	Max.	Min.	CILS

TABLE 2.13.6 YIELD AND YIELD COMPONENTS

<b>TABLE 2.13.7</b>	CORRELATION COEFFICIENT BETWEEN
	YIELD AND YIELD COMPONENTS

	Components		r
Number of panicles p	er unit area :	Yield	0.65**
Number of spikelets p	per panicle :	Yield	0.46*
Number of spikelets p	ber unit area :	Yield	0.94**
Percentage of ripened	grains :	Yield	0.07
Weight of 1000 ripen	ed grains :	Yield	0.31
Planting density	:	Spikelets/m2	-0.08
Number of panicles p	er unit area :	Spikelets/m2	0.69**
Number of spikelets	er panicle :	Spikelets/m2	0.48*

\*,\*\* : Significant at 5% and at 1% each

		Farmers in Mtandamula scheme area	0	ther farme	rs	For total farmer
	Type of farmer	Both***	MHH*	FHH**	Both	<sup>-</sup> respondent:
	Participated to farmer's club or not	yes	NOT	NOT	yes	
1.	Expansion of cultivated land					÷
	1.1 Expansion of paddy land	· .				
	present acreage (ha)	0.7	0.3	0.3	0.3	
	additional land that farmers	0.6	0.2	0.2	0.3	
	expect to expand (ha)	· .		•		
	1.2 Expansion of upland					
	present acreage (ha)	0.5	0.8	0.5	1.0	
	additional land that farmers	0.5	0.8	0.5	1.0	
	expect to expand (ha)			1. L		
2.	Desires that famers contribute their	100.0	40.0	33.3	47.8	
	labour services for construction of		:			
	expansion of paddy land (%)					
3.	Kinds of crops that famers desire					
	to cultivate on new additional land					
	to be expaned (%)					
	vegetables					74.0
	rice					21.0
	maize					15.0
	others****					34.0
	Sample size	17	61	52	26	156

### TABLE 2.14.1 FARMER'S VIEW ON INCREASE OF FARM INCOME

\*\*: female headed household \*\*\*\*: other crops are beans, groundnuts and cotton

\*\*\*: both of male and female headed household

TABLE 2.14.2 FARMER'S VIEW ON SHORTAGE OF LABOUR FORCE IN FARMING	ON SHORTAGE OF	LABOUR	FORCE IN FAF	SMING	
Item Group Farr	Farmers in Mtandamula		Other farmers		For all
	scheme are				farmer respondents
Type of farmer	Both***	WHH*	FHIH**	Both	
Participated to farmer's club or not	yes	not	not	yes	
			-	-	
(1) shortage of labour force for farming (%)	52.9	60.7	59.6	53.8	
			·		
(2) Countermeasure that farmers expect to solve shortage of lobour force (%)	ortage of lobour force (	( <i>d</i> <sub>0</sub> )			
(a) reducing a scale of the cultivated land	43.7	7.8	28.9	17.6	21.1
(b) employing casual labour	18.7	29.4	10.5	58.8	26.9
(c) introducing draft animals	18.7	23.6	23.8	0.0	18.6
(d) introducing small machinery	6.3	0.0	0.0	0.0	0.6
(e) alleviating female's houseworks	12.6	39.2	36.8	23.6	32.8
construction of water wells for drin	6.3	31.4	34.2	17.6	27.6
construction of rice/maize mills	6.3	7.8	2.6	9	5.2
Total	100.0	100.0	100.0	100.0	100.0
sample size	17	61	52	26	156
*: male headed household					

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\*\*\*: both of male and female headed households \*\*: female headed household

Item Group	Farmers in Mtandamula		Other farmers	s	For all farmers
	scheme area				
Type of farmer	Both***	*HHIM	FHH**	Both	
Participated to farmer's club or not	yes	ou	ou	yes	
1. % of the farmers who satisfy extension services from Salima	prod	51.6	40.4	100.0	60.0
2. Reasons why the farmers do not participate to farmers club	•••				
a. Farmer's conditions		23			
b. Fear on credit conditions		35			
c. Disapproval with SACA's thought		12			
d. Shortage of extension activities		30			
3. Farmer's view on Credit Package (%)				·	
troublesome the entrance formalities	58.8	58.1	44.2	40.0	
difficult receiving Credit	82.4	41.9	26.9	20.0	
difficult repayment of Credit	94.1	67.7	55.8	40.0	
no merits of Credit for farmer	94.1	64.5	51.9	64.0	
difficult repayment in unforeseen accident	94.1	67.7	59.6	56.0	
troublesome obligation of farmers club	35.3	27.4	25.0	12.0	
Sample size	17	61	52	26	156
*: male headed houselhold	**: female headed household	ehold			
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TABLE 2.14.3 FARMER'S VIEW ON AGRICULTURAL EXTENSION AND SACA'S SHORT TERM CREDIT

\*\*\*: both of male and female headed households

Data source: the interview survey conducted by JICA team in 1993

TABLE 2.14.4 FARMER'S VIEW ON ROAD CONDITIONS

Items	Lower Nadzinulu project Lower Namikokwe and Upper Namikokwe project Lower Livulezi project	Jzipulu	nroiect	Lower	Vamiko	we and	Upper N	Jamikok	we proje	x Lower I	ivulezi	project
	arca	L	ר ק	Mtamda	Mtamdamula project at	roject ar	area	:		area		
1. Distance from farmer's home (km)												
1) to market (ADMARC)		7.2		÷	4 8.			8.9			4.3	•
2) to school		3.6			2.3			3.7			2.3	
3) to shopping		3.2	·		3.2			9,4			4.7	
4) to hospital		69			11.3			1.0			6.0	
5) to drinking water well		0.8		•	0.9			1.2			0.6	
6) to field		1.6	·	•	1.5			1.4			1.6	•
2. Perception of farmers to present road condition	ditio very bad	bad	poog	very bac	bad	good	very bac	bad	good	very bac	bad	poog
in the rainy season (%)			ł								1	
1) to market (ADMARC)		77.3	0.0	47.1	38:2	14.7	72.5	17.5	10.0	8.6	56.9	32.8
2) to school	22.7	40.9	27.3	47.1	38.2	14.7	52.5	20.0	27.5	0.0	34.5	63.8
3) to shopping	. :	68.2	9.1	47.1	38.2	14.7	65.0	17.5	17.5	8.6	53.4	32.8
4) to hospital		72.7	4.5	47.1	50.0	2.9	52.5	22.5	22.5	10.3	34.5	53.4
5) to drinking water well		54.5	1.6	47.1	38.2	14.7	65.0	22.5	10.0	13.8	39.7	44.8
6) to field		50.0	0.0	47.1	52.9	0.0	60.0	30.0	5.0	51.7	31.0	17.2
3. Farmer's expectation for road repairing $(\%)^*$	*		÷						•	•		·
					1.6							
2) Secondary road					12.4							•
3) District road					9.2		÷					
4) Village road (tracks)					37.3							
5) Agricultural road (farm lane)					39.5							
Sample size		22			34			40			58	
*: for all the farmers												

1.72

# Table 3.21 FARM LABOUR BALANCE UNDER WITH- AND WITHOUT PROJECT CONDITIONS

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	VACUE SOLD	daya bayan bayan 1 2 / 3 / 4 / 5 / 6 / 1 / 2 / 3 / 4 / 5 / 6 / 1	5 6	1 2 3	4 5	7	2 3 4 5	6 1 2	1 2 3 4 5	6 1	2 3 4 5	5 6 1	2 3 4	5 6 1	2 3 4	4 5 6	1 2 3	2 3 4 5 6	1 2 3	4 5	6 1 2	2 3 4 5	5 6 1 2	3 4 5	2 1 2	3 4 5 6 1 2 3 4 5	v
1. IRRIGATED PADDY (0.4 by)	3																										Γ
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TABLE 3.2.2	REQUIRED	CAPACITY	AND	NUMBERS	0F	RICE MILLS	

	Item	Unit	Lower Nadzipulu Irrigation Project	Namikokwe Integrated Irrigation Project	Lower Livulezi Irrigation Project
1	Irrigation Area	(ha)	250	800	520
2	Production (4.0/ha)	(tons)	1,000	3,200	2,080
3	Numbers of Farmers		625	2,000	1,300
4	Self Consumption Rice				
	(1) Annual				
	(320 kg/Year/household))	(tons)	200	640	416
	(2) Required cap[acity of rice mill				
	-10 months x 20 days	(ton/day)	1.0	3.2	2.1
	-6 hours/day	(ton/hr)	0.17	0.54	0.35
5	Marketing Rice				
	(1) Max. possible amount	(tons)	800	2,560	1,664
	(2) Milling amount (50 % of (1)	) (tons)	400	1,280	832
	(3) Required capacity og rice mill	•			
	-3 months x 20 days	(ton/day)	6.7	21.4	13.9
	−6 hours∕day	(ton/hr)	1.12	3.57	2.32
6	Required Capacity and Numbers of	of Rice Mil	1		
	(1) Required Capacity (4 + 5)	(ton/hr)	1.29	4.11	2.67
	(2) Required Nos. (1.0 ton/hr)	(set)	2	5	3

Oracle Mattering Variable Water Topical Constant of Mark Topical Constant (mail) Mark Topical Constant (mail) Mark Topical Constant (mail) Mark Topical Mark Topical Constant (mail) Mark Topical Mark Topi			(1)	3	(2)	(†)	(5)	9	e	(8)		(01)	(11)	(12)	(13)	(14)	(15)
Alternetistic for all character of a charac			River		Irrigation		Water re-	Imigat-	Gross	Effective	Puddling	Gross puddling	Gross	Calculated		Area	
(mode)         (mode)<			discharge		days		quirement	٠.	Water require	rainfall	Water require		Water require	Imigable		intencity of	
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113.57.8         0.0         0.720         0.00		10	0.270	0.179	'n	23,587	0.3	0.720	0.39	0.0		0.0	4	6,027	0.000	0.000	0
113/37         0.0         0.720         0.00         2000         0.	Nov Nov	2	0.325	0.179	0	126,058	0.0	0.720	0.00	0.0		0.0	0		0.000	0.000	0
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1,237,446         0.0         0.720         0.00         210.6         0.0         0.00		10	3.485	0.179	0	1,128,578	0.0	0.720	0.00	48.3		0.0	0	•	0:000	0.000	0
223-330         0.0         0.720         0.00         38.9         4.71         65.5         3.413         0.314         0.000         1.0	ដ្ឋី	10	1.669	0.179	0	1.287,446	0.0	0.720	0.00	210.6		0.0	0	,	0.000	0.000	e
5560360         146         0.720         52.35         64.1         4.29         55.55         0.167         0.117         0.125         0.127         0.126         0			2.530	0.179	11	2,234,380	0.0	0.720	0.00	38.9		65.5	655	3,413	0.314	0.000	521
5.403,566         43.8         0.700         0.013         71.6         4.2.9         9.5.7         9.078         0.236         0.500         1.0000			6.696	0.179	10	5,630,990	14.6	0.720	20.26	68.1		59.5	595	9.460	0.286	0.167	250
6:338,387         8:17         0.770         113.45         117.3         77.3         0.00         11.00         <	Ian	1	6.433	0.179	10	5,403,866	43.8	0.720	60.78	71.6		5.05	\$95	6 M 8	0.286	Sec.	200
13.053.850         86.2 $0.720$ 119.75 $77.5$ 0.00         0.00 $4.23$ $36.877$ 0.000         1.000			1.050	0.179		6 538 847	81.7	0.720	113.45	112.3		23.8	250	26 163	0 114	0 248	X.
6,618,110         86.2         0.720         119.75         3.3         0.0         0.1164         5.635         0.000         1.000           3,456,068         6.4         0.720         133.11         0.0         0.0         0.000         1.0		9	15.288	0.179	ļ	13.053.830	86.2	0.720	119.75	71.5		0.0	423	30.877	0.000	1,000	1 658
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	5	a.	7.839	0.179		6.618.110	86.2	0.720	119.75	3.3		0.0	1.164	5.683	0.000	1,000	1 658
3,462,398         87.4         0,720         121.4         0.0         0.0         1.214         2,852         0.000         1.000 <th< td=""><th>-</th><td></td><td>5.324</td><td>0.179</td><td></td><td>3,556,063</td><td>69.0</td><td>0.720</td><td>95.80</td><td>6.8</td><td></td><td>0.0</td><td>698</td><td>4.092</td><td>0000</td><td>1.000</td><td>1.658</td></th<>	-		5.324	0.179		3,556,063	69.0	0.720	95.80	6.8		0.0	698	4.092	0000	1.000	1.658
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1,395/706         34.1         0.720         47.40         0.0         0.0         4.74         2.945         0.000         0.500         1.17           1,074.91         0.0         0.720         16.44         0.0         0.0         0.0         0.0         0.00	•		2.179	0.179	10	1.728.302	62.9	0.720	91.56	0.0		0.0	916	1.888	00000	0.833	1.382
1218.672         11.8         0.720         16.44         0.0         0.0         1.41         0.000         0.167           1.074.911         0.0         0.720         0.00         0.0         0.0         0.0         0.000         0.167           1.074.911         0.0         0.720         0.00         0.0         0.0         0.0         0.000         0.000           873.901         2.0         0.720         3.07         0.0         0.0         0.0         0.000 </td <th></th> <td>- 10 M</td> <td>1.794</td> <td>0.179</td> <td>10</td> <td>1,395,706</td> <td>34.1</td> <td>0.720</td> <td>47.40</td> <td>0.0</td> <td></td> <td>0.0</td> <td>474</td> <td>2,945</td> <td>0:000</td> <td>0.500</td> <td>829</td>		- 10 M	1.794	0.179	10	1,395,706	34.1	0.720	47.40	0.0		0.0	474	2,945	0:000	0.500	829
I.(7/4.911         0.0         0.720         0.00	May	10	1.589	0.179	10	1,218,672	11.8	0.720	16.44	0.0		0.0	164	7,411	0.000	0.167	276
788.486         0.0         0.720         0.00         0.0         0.0         0.0         0.00 <th< td=""><th></th><td>11</td><td>1.310</td><td>0.179</td><td>¢</td><td>1,074,911</td><td>0.0</td><td>0.720</td><td>0.00</td><td>0.0</td><td></td><td>0.0</td><td>¢</td><td>•</td><td>0.000</td><td>0.000</td><td>0</td></th<>		11	1.310	0.179	¢	1,074,911	0.0	0.720	0.00	0.0		0.0	¢	•	0.000	0.000	0
811.901         2.2         0.720         3.07         0.0         0.0         31 $25,441$ 0.000 $\frac{592,2772}{555}$ 6.6         0.720         9.21         0.0         0.0         92         6,429         0.000 $\frac{592,2772}{555}$ 11.6         0.720         35.14         0.0         0.0         28.64         0.000 $\frac{402,797}{515}$ 17.0         0.720         35.14         0.0         0.0         26.6         1.707         0.000 $\frac{402,797}{512}$ 35.6         0.720         35.14         0.0         0.0         0.0         26.6         1.707         0.000 $\frac{312,854}{512}$ 36.6         0.720         35.14         0.0         0.0         0.0         0.0         0.0         0.0         0.00		10	1.092	0.179	0	788,486	0.0	0.720	0.00	0.0		0.0	0		0.000	0.000	0
S92.272         6.6         0.720         9.21         0.00         0.00         9.2         6.429         0.000           434,550         11.5         0.720         16.04         9.0         0.0         0.0         2.834         0.000           434,550         11.5         0.720         16.04         9.0         0.0         0.0         2.834         0.000           432,551         0.720         35.14         0.0         0.0         0.0         356         1.707         0.000           382,65         0.720         35.14         0.0         0.0         0.0         351         1.087         0.000           310,522         43.5         0.720         58.231         0.0         0.0         0.0         0.0         0.00         351         1.087         0.000           310,522         43.5         0.720         94.23         0.0         0.0         0.0         0.0         0.00         0.000         10.000         10.00         10.00         0.00         0.000         10.00         0.00         0.000         10.00         0.00         0.000         10.00         0.00         10.00         11.00         10.00         10.00         10.00         10	۲Щ.	20	1.119	0.179	10	811,901	22	0.720	3.07	0.0		0.0	31 .	26,441	0.000	0.167	¢
454,550     11.5     0.720     16.04     0.0     0.0     160     2.834     0.000       402,771     17.0     0.720     23.560     0.0     0.0     0.0     236     1,707     0.000       312,554     36.5     0.720     53.514     0.0     0.0     0.0     536     0.700       312,552     43.5     0.720     50.82     0.0     0.0     0.0     0.0     0.00       310,522     43.5     0.720     52.31     0.0     0.0     0.0     0.0     0.0       242,447     59.3     0.720     92.31     0.0     0.0     0.0     922     166     0.000       242,447     59.3     0.720     92.19     0.0     0.0     0.0     922     166     0.000       10,584     66.1     0.720     93.71     0.0     0.0     0.0     922     166     0.000       10,038     67.0     0.720     93.61     67.1     0.00     923     166     0.000       10,038     67.0     0.720     93.74     0.0     0.0     0.0     0.0     1.055     97     0.000       10,032     67.0     0.720     35.44     0.0     0.0     0.0     0.0 <th></th> <td>10</td> <td>0.864</td> <td>0.179</td> <td>10</td> <td>592,272</td> <td>6.6</td> <td>0.720</td> <td>9.21</td> <td>0.0</td> <td></td> <td>0.0</td> <td>8</td> <td>6,429</td> <td>0.000</td> <td>0.500</td> <td>0</td>		10	0.864	0.179	10	592,272	6.6	0.720	9.21	0.0		0.0	8	6,429	0.000	0.500	0
402,77     17.0     0.720     23.60     0.0     0.0     236     1,707     0.000       382,674     25.3     0.720     35.14     0.0     0.0     0.0     351     1089     0.000       312,854     35.6     0.720     35.14     0.0     0.0     0.0     351     1089     0.000       312,854     35.6     0.720     50.82     0.0     0.0     0.0     508     616     0.000       312,854     59.3     0.720     80.42     0.0     0.0     0.0     90     923     166     0.000       242,470     67.8     0.720     95.19     0.0     0.0     0.0     92     166     0.000       25,610     67.18     0.7720     95.19     0.0     0.0     92     166     0.000       10,1088     68.5     0.7200     93.07     0.0     0.0     0.0     92     166     0.000       10,102.288     76.0     0.7720     93.07     0.0     0.0     0.0     1.055     97     0.000       10,032.25     0.7720     35.41     0.0     0.0     0.0     1.055     97     0.000       10,032.25     0.7720     35.41     0.0     0.0 <t< td=""><th></th><td>2</td><td>0.705</td><td>0.179</td><td>10</td><td>454,550</td><td>11.5</td><td>0.720</td><td>16.04</td><td>0.0</td><td></td><td>0.0</td><td>160</td><td>2,834</td><td>0.000</td><td>0.833</td><td>0</td></t<>		2	0.705	0.179	10	454,550	11.5	0.720	16.04	0.0		0.0	160	2,834	0.000	0.833	0
382.674         25.3         0.720         35.14         0.0         0.0         0.0         351         1,089         0.000         331         1,089         0.000         331         1,089         0.000         331         1,089         0.000         331         1,089         0.000         331         332.67         335         0.770         53.82         0.0         0.0         0.0         0.0         0.00         333         1,089         0.000         333         314         0.0         0.00         333         0.00         0.00         333         0.00         0.00         333         0.00         0.00         333         334         0.00         0.00         333         0.00         0.00         334         0.00         0.0	Jul	91 0	0.645	0.179	10	402,797	17.0	0.720	23.60	0.0		0.0	236	1 707	0.000	1.000	0
312,854     36.6     0.720     50.82     0.0     0.0     506     616     0.000       242,447     59.3     0.720     60.42     0.0     0.0     0.0     604     514     0.000       242,447     59.3     0.720     60.42     0.0     0.0     0.0     823     295     0.000       156,66     0.720     95.19     0.0     0.0     0.0     922     166     0.000       156,66     0.720     93.07     0.0     0.0     0.0     931     62     0.000       101,088     68.5     0.720     93.07     0.0     0.0     0.0     931     62     0.000       101,088     68.5     0.720     93.07     0.0     0.0     0.0     931     62     0.000       101,088     68.5     0.720     93.07     0.0     0.0     0.0     931     62     0.000       0     53.44     0.0     0.0     0.0     0.0     0.0     741     0     0.000       105,558     76.0     0.720     35.44     0.0     0.0     741     0     0.000       10     61.080     0.0     0.0     0.0     0.0     0.0     741     9     0.00		11	0.582	0.179	11	382,674	25.3	0.720	35.14	0.0		0.0	351	1,089	0.000	1.000	0
310,522         43.5         0.720         60.42         0.0         0.0         604         514         0.000           242,447         59.3         0.720         82.31         0.0         0.0         90         823         235         0.000           10,108         65.5         0.720         94.23         0.0         0.0         90         922         166         0.000           10,108         65.5         0.720         93.07         0.0         0.0         931         62         0.000           10,108         65.1         0.720         93.07         0.0         0.0         931         62         0.000           10,238         76.0         0.720         93.07         0.0         0.0         0.0         0.0         0.00		10	0.541	0.179	10	312,854	36.6	0.720	50.82	0.0		0.0	508	616	0.000	1.000	0
222,447         59.3         0.7720         82.31         0.0         0.0         823         235         0.000           156,470         67.18         0.720         95.19         0.0         0.0         922         166         0.000           156,470         67.18         0.720         95.19         0.0         0.0         922         166         0.000           105,618         68.5         0.720         93.71         0.0         0.0         931         62         0.000           107,298         76.0         0.720         93.53         0.0         0.0         0.0         931         62         0.000           0         53.46         0.0         0.0         0.0         0.0         0.0         741         0         0.000           107,298         76.0         0.720         35.44         0.0         0.0         0.0         0.0         741         0         0.000           107,298         76.0         0.720         35.44         0.0         0.0         0.0         0.0         0.0         0.000           16.5         0.720         35.44         0.0         0.0         0.0         0.0         0.0         0.000	Aug	10	0.538	0.179	10	310,522	43.5	0.720	60.42	0.0		0.0	<u>Ş</u>	514	0.000	0.998	0
156,470         67.8         0.720         94.23         0.0         0.0         0.0         9.0         0.0 <t< td=""><th></th><td>=</td><td>0.434</td><td>0.179</td><td>11</td><td>242,447</td><td>59.3</td><td>0.720</td><td>82.31</td><td>- 0'0</td><td></td><td>0.0</td><td>823</td><td>295</td><td>0.000</td><td>0.954</td><td>0</td></t<>		=	0.434	0.179	11	242,447	59.3	0.720	82.31	- 0'0		0.0	823	295	0.000	0.954	0
101,088         68.5         0.7720         95.19         0.0         0.0         952         106         0.000           58,061         67.0         0.7720         105.53         93.07         0.0         0.0         931         62         0.000           101,088         68.5         0.7720         105.53         0.0         0.0         0.0         931         62         0.000           102,298         76.0         0.720         105.53         0.0         0.0         0.0         741         0         0.000           0         53.4         0.720         35.44         0.0         0.0         0.0         741         0         0.000           1,653         (ha)         1         6.0         0.0         0.0         0.0         0.00         1.055         97         0.000           15.080         25.5         0.720         35.44         0.0         0.0         0.0         0.000         1.055         97         0.000           16         (ha)         1         0         0.0         0.0         0.0         0.000         178         0.000           16         (ha)         5         5         5         5 </td <th></th> <td>2</td> <td>0.360</td> <td>0.179</td> <td>10</td> <td>156,470</td> <td>67.8</td> <td>0.720</td> <td>£7,53</td> <td>0.0</td> <td></td> <td>0.0</td> <td>545 745</td> <td>166</td> <td>0.000</td> <td>0.767</td> <td>0</td>		2	0.360	0.179	10	156,470	67.8	0.720	£7,53	0.0		0.0	545 745	166	0.000	0.767	0
58,061         67.0         0.7220         93.07         0.0         0.0         0.0         931         62         0.000         102.298         76.0         0.7220         135.44         0.0         0.0         0.0         1.055         97         0.000	Nep Nep	9	0.296	0.179	10	101,088	68.5	0.720	95.19	0.0		0.0	952	18	0.000	0.433	0
107.258         76.0         0.720         105.53         0.0         0.0         0.0         1.055         97         0.000           0         53.4         0.720         74.11         0.0         0.0         741         0         0.000           63.080         25.3         0.720         35.44         0.0         0.0         0.0         741         0         0.000           63.080         25.5         0.720         35.44         0.0         0.0         0.0         35.4         178         0.000           fs considered is the river maintenance discharge         0         (ha)         1         6.0         0.00         178         0.000           fs considered is the river maintenance discharge         e during the inigation period         1         1         0         0.000           followings :         -Pandding for main field         150         mm         2         0.000		2	0.246	0.179	10	58,061	67.0	0.720	93.07	0.0		0.0	931	62	0.000	0.107	0
0         53.4         0.720         74.11         0.0         0.0         74.1         0         0.000         6           63.080         25.5         0.720         35.44         0.0         0.0         0.0         74.1         0         0.000         6           1.4658         (ha)         35.44         0.0         0.0         0.0         354         178         0.000         6           1.4658         (ha)         35.44         0.0         0.0         0.0         354         178         0.000         6           fs considered as the river maintenance discharge         6         (ha)         6         (ha)         6         (ha)         0         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         0.000         6         6         0.000         6         0.000         6         6         0.000         6         6         0.000         6         0.000         6         0.000         6         0.		2	0.297	0.179	10	102,298	76.0	0.720	105.53	0.0	0.0	0.0	1,055	66	0.000	0.000	0
1,65% (ha) 1,65% (ha) 0 (ha) is considered as the river maintenance discharge e during the impation period followings : -Pudding for main field 150 mm -Durrul triver becar is 2 mm/m	ŏ	2=	0.179	0.179	0	080 63	53.4	0,120	74,11	000	0.0	0.0	741	0 2	0.00	800	0
for the second s			Imostice an	res in mirv's	L S S O		1 65%	(Pa)			20	2.2	t		200	3	,
U         (na)           is considered as the river maintenance discharge         e during the imigation period           followings :         Pudding for main field         150           followings :         Domolofic for main field         20																	
is considered as the river maintenance discharge e during the imigation period followings :		Ē	MULTINGALONC BU	ara in ary sea		:	. د	( <b>80</b> )									
Puddling for main field 150	Note)	The nu	knimum river ble dieskanse	r discharge in th	be year is co in-home du	Masidered as 1	the river the	aintenance '	dischange								
Percolotion breeze is 3		Water	the mount of the	is relationable to the	seed on follo	surg we mig	NUM DOLLO	u -Druddlino	for main field								
								Paraletic	a locar i								

Table 3.3.1 WATER BALANCE CALCULATION FOR NADZEPULU RIVER BASIN (PATTERN-1)

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1 WATER BALANCE CALCULATION FOR NAMIKOKWE RI	
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Answer         Fortune         Fortune <th< th=""><th></th><th></th><th>3</th><th>8.</th><th>(C) (C)</th><th>(<del>4</del>)</th><th>() ()</th><th>9</th><th>εį</th><th>(8)</th><th>(6)</th><th>(10)</th><th>E,</th><th>(12)</th><th>(13)</th><th>(14)</th><th>(32) (32)</th></th<>			3	8.	(C) (C)	( <del>4</del> )	() ()	9	εį	(8)	(6)	(10)	E,	(12)	(13)	(14)	(32) (32)
(Childer)         (Childer) <t< th=""><th></th><th></th><th>Alcohanna</th><th></th><th>nonsgint</th><th>Avauatio</th><th>-or mana</th><th>•</th><th>2010 1</th><th></th><th>ruoung</th><th>Cross pucuing</th><th>10000</th><th></th><th>Net 1</th><th></th><th></th></t<>			Alcohanna		nonsgint	Avauatio	-or mana	•	2010 1		ruoung	Cross pucuing	10000		Net 1		
10         0.231         0.066         0         0.13         0.067         0.13         0.060         0.0         0.0         0.0         0.00         0.0         0.00         0.0         0.00<	Month		(m3/sec)			(m3)	(uuu)		ment (mm)		ment (mm)	ment (mm)	ment (m3/ha)		puddling		
0         0.133         0.066         0         3.347         0.060         0.0         0.0         0         0.000		10	0.261	0.066	e)	50,629	0.3	0.720	0.39	0.0	0.0	0:0	4	12.936	000.0	0.015	0
10         0.237         0.066         0         13.644         0.0         0.00         0.0         0         0.00<	Nov	10	0.128	0.066	0	53,382	0.0	0.720	0.00	0.0	0.0	0.0	Ð	•	0.000	0.000	0
10         2.436         0.066         0         7.75,158         0.00         0.05         0.0         0.00 <t< th=""><th>1</th><th>10</th><th>0.203</th><th>0.066</th><th>0</th><th>118,044</th><th>0.0</th><th>0.720</th><th>0.00</th><th>0'0</th><th>0.0</th><th>0.0</th><th>0</th><th>•</th><th>0.000</th><th>0.000</th><th>0</th></t<>	1	10	0.203	0.066	0	118,044	0.0	0.720	0.00	0'0	0.0	0.0	0	•	0.000	0.000	0
		10	0.390	0.066	0	279,618	0.0	0.720	0.00	48.3	0'0	0.0	0	1	0.000	0.000	0
III         3.307         0.066         11         3.616.10         0.720         0.00         3.71         0.55         5.55         5.56         5.76         0.56         0.13         5.71         0.06         0.13         5.61.13         7.13         7.13         7.13         7.13         7.13         7.13         7.13         7.13         7.13         7.13         7.13         7.13         7.14         0.00	30	0		0.066	0	2,023,056	0.0	0.720	0.00	210.6	0.0	0.0	0	•	0.000	0.000	0
8         5:00         0:066         10         2:07:19         5:17:31         10:30         10:30         10:				0.066	11.	3,166,130	0.0	0.720	0.00	38.9	47.1	65.5	655	4,836	0.314	0.000	347
1         2.568         0.066         10         2.450/48         4.58         7.73         0.05         10         4.97         0.256         0.060         10         2.450/48         4.58         0.730         1051/13         0.060         10         2.450         0.060         10         2.56         0.000         1000		01		0.066	01	4,608,196	14.6	0.720	20.26	68.1	42.9	59.5	595	7,742	0.286	0,167	500
1         1,1;0         0.066         11         7,61;7;0         0,15;3         11:2;1         17:1         23:8         0,075         0;114         0,036         10         4,773;238         86:2         0,700         11;3;3         11:1         0,154         0,154         0,000         1000	Jan		2.868	0.066	10	2,420,748	43.8	0.720	60.78	71.6	42.9	59.5	595	4,067	0.286	0.500	868
0         10443         0066         10         \$5393         853         0700         11373         713         000         1000			8.149	0.066	11	7,681,789	81.7	0.720	113.45	112.3	17.1	23.8	250	30,736	0.114	0.848	1,063
0         5591         0066         1         4,712,012         650         0,700         11,64         4,995         0,000         1,000 </th <th></th> <th>04 00</th> <th>10.413</th> <th>0.066</th> <th>10</th> <th>8,939,931</th> <th>86.2</th> <th>0.720</th> <th>119.75</th> <th>77.5</th> <th>0.0</th> <th>0:0</th> <th>423</th> <th>21.146</th> <th>0.000</th> <th>1.000</th> <th>1.104</th>		04 00	10.413	0.066	10	8,939,931	86.2	0.720	119.75	77.5	0.0	0:0	423	21.146	0.000	1.000	1.104
3         2.556         0.066         8         1,721,012         6.90         0.700         1.106         0.000         1.106         0.000         1.00	£		5.591	0.066	10	4,773,228	86.2	0.720	119.75	3.3	0.0	0.0	1,164	4,099	0.000	1.000	1.104
00         2.552         0.066         10         2.763         87.4         0.720         12.141         0.00         1.00         <		R	2.556	0.066	80	1.721,012	69.0	0.720	95.80	8.9	0.0	0.0	698	1.980	0.000	1.000	1.104
10.         2.570         0.066         10         1.990257         88.1         0.720         12.32         1.627         0.000         1.		0 <b>4</b> 00	2.632	0,066	10	2,216,838	87.4	0.720	121.41	0'0	0.0	0.0	1,214	1,826	0.000	1.000	1,104
11         1.768         0.066         11         1.617.246         95.8         0.720         133.11         0.0         0.0         1.215         0.000         1.00	Mar		2.370	0.066	10	1,990,297	88.1	0.720	122.31	0.0	0.0	0.0	1,223	1.627	0.000	1.000	1,104
10         1.461         0.066         10         1.2552.1         78.5         0.720         11170         770         0.00         1.092         1.104         0.000         1.000		11	1.768	0.066	11	1,617,246	95.8	0.720	133.11	0.0	0.0	0.0	1,331	1,215	0.000	1.000	1,104
17.09         0.066         10         1.415/62         8.54         0.720         111.70         47.10         0.00         6.77         2.194         0.000         1.135         0.000         0		OI .	1.461	0.066	10	1,205,521	78.5	0.720	109.18	0.0	0.0	0.0	1,092	1,104	0.000	1.000	1,104
10         1.288         0.066         10         1.055.65         6.59         0.770         0.10         0.10         0.10         0.10         0.00	Apr	9	1.709	0.066	10	1,419,622	80.4	0.720	111.70	47.0	0.0	0.0	647	2,194	0.000	1.000	1.104
	•	C.	1.288	0.066	10	1,055,650	65.9	0.720	91.56	0.0	0.0	0.0	916	1,153	0.000	0.833	920
0.060         10         0.2500         0.060         10         0.2500         0.0		<b></b>	0.907	0.066	10	726,553	34.1	0.720	47.40	0.0	0.0	0.0	474	1,533	0.000	0.500	552
11         0.667         0 $570,773$ 0.0 $0.720$ 0.00         0.0         0	May		0.790	0.066	10	625,057	11.8	0.720	16.44	0.0	0.0	0.0	<u>15</u>	3,801	0.000	0.167	184
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		11	0.667	0.066	0	570,773	0.0	0.720	0.00	0.0	0.0	0'0		•	0.000	0.000	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		10	0.557	0.066	0	424,017	0.0	0.720	0.00	0.0	0.0	0.0	0	•	0.000	0.000	0
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Iun	2	0.529	0.066	10	169'662	2,2	0.720	3.07	0.0	0.0	0.0	31	13,017	0.000	0.167	o
	ļ	<u></u>	0.431	0.066	10	315,568	6.6	0.720	9.21	0.0	0.0	0.0	- 92	3,426	0.000	0.500	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		01	0.418	0.066	10	304,471	11.5	0.720	16.04	0.0	0.0	0.0	160	1,898	0000	0.833	0
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Jul	10	0.373	0.066	10	265,484	17.0	0.720	23.60	0.0	0.0	0.0	236	1,125	0.000	1.000	0
		H	0.337	0.066	11	257,042	25.3	0.720	35.14	0.0	0.0	0.0	351	731	0.000	1.000	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		10	0.296	0.066	10	199,053	36.6	0.720	50.82	0.0	0.0	0.0	508	392	0.00	1.000	0
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Aug	10	0.269	0.066	10	175,059	43.5	0.720	60.42	0.0	0.0	0.0	604	28 28	0.000	1.000	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		H	0.232	0.066	11	157,662	59.3	0.720	82.31	0.0	0.0	0.0	823	192	0.000	1.000	0
10         0.1122         0.066         10         57.365         68.5         0.720         95.19         0.0         0.0         952         60         0.000         1           10         0.107         0.006         10         35.717         67.0         0.720         10.0         10.0         931         38         0.000         1           10         0.107         0.006         10         45.70         75.0         10.553         46         0.000         1           11         0.006         10         15.674         55.4         0.720         74.11         0.0         0.0         0.0         741         22         0.000         1           11         0.006         10         15.674         55.4         0.720         35.44         0.0         0.0         0.0         0.0         0.0         0.00         0         0         0         0         0.00         0.0         0.00         0.00         0.00         0.00         0.000         0         0         0.000         0         0         0         0.000         0         0         0.000         0         0         0         0         0         0         0		01	0.166	0.066	10	\$6,003	67.8	0.720	94.23	0.0	0.0	0.0	942	16	0.000	1.000	0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sept	10	0.132	0.066	10	57,365	68.5	0.720	95.19	0.0	0.0	0.0	952	8	0.00	1.000	0
10         0.123         0.066         10         48,770         76.0         0.720         105.53         0.0         0.0         1,055         46         0.000           11         0.085         0.066         10         16,674         53.4         0.720         74.11         0.0         0.0         741         22         0.000           11         0.066         10         16,674         53.4         0.720         35.44         0.0         0.0         741         22         0.000           11         0.066         0.0         0         0.0         0.0         0.0         0.0         0.0         0.0         0.00         0.00         1.00         0         0.00		2	0.107	0.066	10	35,717	67.0	0.720	93.07	0.0	0.0	0.0	931	38	0.000	1.000	0
10         0.085         0.066         10         16.574         53.4         0.720         74.11         00         0.0         741         22         0.000           11         0.066         0.066         10         0         25.5         0.720         35.44         0.0         0.0         0.0         741         22         0.000           Inigable area in rainy season         1,104         (ha)         1,104         (ha)         0         0.00         0.0         0.0         0.0         0.00		9	0.123	0.066	10	48,770	76.0	0,720	105.53	0.0	0.0	0.0	1,055	<del>4</del> 5	0.000	0.973	0
11         0.000         0.000         10         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.000         1.000         1.000         1.000         1.000         0.0         0.00	ช o	2:	0.085	0.066	21	16,674	53.4	0.720	74.11	0.0	0.0	0.0	741	2	0.000	0.973	o
Irrigable area in rainy season 1,104 (ha) Irrigable area in dry season 0 (ha) : The minimum river discharge in the year is considered as the river maintenance discharge : Available discharge means river discharge during the irrigation period : Vatter requirement is calculated based on followings: -Percolation losses is 3		=	0.066	0:000	2	9	25.5	0.720	35.44	00	0.0	0.0	354	0	0.000	0.700	0
Irrigable area in dry season 0 (ha) The minimum river discharge in the year is considered as the river maintenance discharge : Available discharge means river discharge during the irrigation period : Water requirement is calculated based on followings : Percolation losses is 3			Imigable a	area in rainy	season		1,104	(ha)									
<ul> <li>The minimum river discharge in the year is considered as the river maintenance discharge</li> <li>Available discharge means river discharge during the irrigation period</li> <li>Water requirement is calculated based on followings:</li> <li>Percolation losses is</li> </ul>			Imigable :	area in dry se	rason		0	( <b>eq</b> )									
: Available discharge means river discharge during the irrigation period : Water requirement is calculated based on followings : -Percolation losses is 3	Note)	: The m	unimum rive	a discharge in	the year is c	onsidered as	the river m	aintenance	discharge								
followings : -Puddling for main field 150 -Percolation losses is 3		: Availe	able discharg	ge means river	discharge di	uring the irrig	vation perio	q	)								
ŝ		: Water	neguiremen.	t is calculated t		lowings :		-Pudding	for main field	50	JTHTT						
								-Percolati	on losses is		mm/day.						

		(1)	3	(3)	(4) A 12 Mi	(2) More	(9) 1	e	(8) Effection	(9) 2014 inc	(10) 	(11) 1967	(12) Calculated	(13)	(14)	(15) Doctrine
1-17		discharge	臣	days		quirement		i fé	rainfall			Water require	Irrigable	5	intencity of	irrigation
HICOM	ļ	(pas/cm)	(III:1/sec)		(cm)		~	ment (mm)		IDCDI (DDD)	(su/cm) juou	()B/CUI JUOU	Area (ne)	gunpond	e B	Area (na)
N	2	0.165	0.102	in c	16,433	0.3 0.0		0.39	0.0	0.0	0.0	4 0	4,199	0.000	0.015	0
	202	0.102	0.102	00	00	00	0.720	0.0	0.0	0.0	0.0	0		0000	0000	0
	10	1.214	0.102	0	961,092	0.0	1_	0.00	48.3	0'0	0.0	0	,	0.000	0.000	0
å	10	0.287	0.102	0	160,164	0.0		0.0	210.6	0.0	0.0	0		0.000	0.000	٥
		0.753	0.102	11	619,502	0.0		0.00	38.9	47.1	654.8	655	946	0.314	0.000	262
		1.451	0.102	10	1,165,968	14.6		20.26	68.1	42.9	595.2	595	1,959	0.286	0.167	428
Jan J	0	1.343	0.102		1,072,980	43.8		50.78	71.6	42.9	595.2	595	1,803	0.286	0.500	743
	R.	5.417	0.102	11	5,051,851	81.7		113.45	112.3	17.1	238.1	250	20,213	0.114	0.848	116
	101	8.686	0.102		7,417,224	86.2		119.75	71.5	0.0	0.0	423	17,544	0.000	1.000	326
<b>1</b> 2	52	10.506	0.102	10	8,989,704	86.2		119.75	3.3	0.0	0.0	1,164	7,720	0.000	1.000	346
		17.083	0.102	1	11,737,843	69.0		95.80	8.9	0.0	0.0	869	13,506	0.000	1.000	946
	30 E C	11.265	0.102		9,645,264	87.4		121.41	0.0	0.0	0.0	1,214	7,944	0:000	1.000	346
Mar	A	4.800	0.102		4,059,504	88.1		122.31	0.0	0.0	0.0	1,223	3,319	0.000	1.000	£
		3.634	0.102		3,357,710	95.8		133.11	0.0	0.0	0.0	1.331	2,522	0.000	1.000	<b>3</b> 46
	10 <b>1</b>	2.690	0.102		2,236,464	78.6		109.18	0.0	0.0	6.0	1,092	2,048	0.000	1.000	88
Apr	Ħ	2,129	0.102		1,751,544	80.4		111.70	47.0	0.0	0.0	647	2,707	0.000	1.00	£
	<b>10</b>	1.596	0.102		1,291,464	65.9	1	91.56	0.0	0.0	0.0	916	1.411	0.000	0.833	788
	10	1.294	0.102	10	1,030,320	34.1		47.40	0.0	0.0	0.0	474	2,174	0.000	0.500	473
May		1.214	0.102		961,200	11.8		16.44	0.0	0.0	0.0	2	5,846	0.000	0.167	158
	11	1.159	0.102	0	1.005,134	0.0		0.00	0.0	0.0	0.0	0	•	0.000	0.000	0
	2	0.924	0.102	0	710,986	0.0		0.00	0.0	0.0	0.0	0		0.000	0.000	0
Ĩ	01	0.841	0.102	01	638,842	2.2		3.07	0.0	0.0	0.0	31	20,805	0.000	0.167	10
	2	0.753	0.102	10	563,155	6.6		9.21	0.0	0.0	0.0	<u>5</u> 2	6,113	0.000	0.500	0°
	2	0.604	0.102	10	434,160	11.5		16.04	0.0	0.0	0.0	160	2,706	0.000	0.833	8
Jul	0	0.512	0.102	10	354,672	17.0		23.60	0.0	0.0	0.0	236	1,503	0.000	1.000	જ
	11	0.392	0.102	11	276,350	25.3		35.14	0.0	0.0	0.0	351	786	0.000	1.000	8
	10	0.501	0.102	10	345,427	36.6		50.82	0.0	0.0	0.0	508	680	0.000	1 000	8
Aug	10	0.382	0.102	10	242,438	43.5		60.42	0.0	0.0	0.0	56	401	0.000	1.000	8
	=	0.309	0.102	11	197.294	59.3	- 1	82.31	0.0	0.0	0.0	823	240	0.000	1.000	60
	10	0.447	0.102	10	298,080	67.8		94.23	0.0	0.0	0.0	942	316	0.000	1.000	જ
Sej.	9	0.233	0.102	10	113,184	68.5		95.19	0.0	0.0	0.0	952	119	0.000	1.000	8
	<u>ء</u>	0.171	0.102	10	59,962	67.0	- 1	93.07	0.0	0.0	0.0	931	2	0.000	1.000	8
	0	0.180	0.102	2	68,170	76.0		105.53	0.0	0.0	0.0	1,055	65	0.000	0.973	58
ಸ ೦	2:	0.153	0.102	01;	44,323	53.4	0.720	74.11	0.0	0.0	0.0	741	8	0.000	0.973	28 28
	1	0.305	0.102	10	886,671	25.5	0.720	35.44	0.0	0.0	0.0	ж Х	495	0.000	91 <u>0</u>	42
		Imgable a	lirrigable area in rainy season	icason		9 <del>4</del> 6	(eq)									
		Imigable a	Irrigable area in dry season	rson		8	(ba)									
Note)	: The mi	inimum river	: The minimum river discharge in the year is considered as the river maintenance discharge	he year is con	nsidered as ti	be river ma	intenance	discharge								
	: Availat	ble discharge	: Available discharge means river discharge during the irrigation period	ischarge dur.	ing the irriga	tion period		9								
	Water	requirement	is calculated be	sed on follo	wings :			Pudding for main field	~	mon						
							-Percolati	Percolation losses is	'n	mmu/day.						

Table 3.3.3 WATER BALANCE CALCULATION FOR LIVULEZI RIVER BASIN (PATTERN-1)

		(I) Biver	(2) A	(3) (mication	(4) Avoilahle	(C)		6	(8) Effective	(y) Puddling	(10) Gross widdling	(TI)	(12) Calculated	(13)	(14)	(LJ) Porential
		discharge	maintenance		discharge	quinement		Water require	rainfall	Water require		Water require	Irrigable	intencity of	intencity of	
MOBIL		(Jas/cm)	(mo/sec)		(c田)		Ictency	ment (mm)	(uuu)	ment (mm)	במקבער (נתנת)	(MI/CIII) 1000E	ATCH (DR)	buttophd	don	a l
1	21	0.270	0.179	ומי	130,52	0.0	0.720	0.0	0.0	0.0	0.0			0.000	0.000	5
Nov	21	0.32	0.179	<b>a</b> (	126,058	0.0	0.720	00.0	0.0	0.0	0,0		•	0.000	0.000	0.
	2	0.200	0.179	0	18,317	0.0	0.720	0.00	0.0	0.0	0.0	0	.•	0.000	000 0	0
	01	1.485	0.179	0	1,128,578	0.0	0.720	0.00	48.3	0'0	0.0	0	1	0.000	0000	0
ខ្ពុំ	10	1.669	0.179	٥	1,287,446	0.0	0.720	0.00	210.6	0.0	0.0	0	•	0.000	0.000	0
		2.530	0.179	11	2,234,380	0.0	0.720	0.00	38.9	47.1	65.5	655	3,413	0.314	0.000	521
	04	6.696	0.179	10	5,630,990	14.6	0.720	20.26	68.1	42.9	59.5	595	9,460	0.286	0.167	750
5		6.433	0.179	10	5,403,866		0.720	60.78	71.6	42.9	59.5	595	9,078	0.286	0.500	1,303
****		7.059	0.179	11	6,538,847		0.720	113.45	112.3	17.1	23.8	250	26,163	0.114	0.848	1,59
	10	15.288	0.179	10	13,053,830		0.720	119.75	77.5	0.0	0.0	423	30,877	0.000	1.000	1,658
3. 2.		7.839	0.179	01	6,618,110		0.720	119.75	0.0	0.0	0.0	1,164	5,683	0.000	1.000	1,658
		5.324	0.179	8	3,556,063		0.720	95.80	8.9	0.0	0.0	<b>6</b> 98	4,092	0.000	1,000	1,658
		4.187	0.179	10	3,462,998		0.720	121.41	0.0	0.0	0.0	1,214	2,852	0.000	1.000	1,658
Mar	10	3.740	0.179	10	3,076,358		0.720	122.31	0.0	0.0	0.0	1,223	2,515	0.000	0001	1,658
		2.890	0.179	11	2,576,946	95.8	0.720	133.11	0.0	0.0	0.0	1,331	1,936	0.000	1.000	1,658
~~~~	00	2.274	0.179	10	1,810,166	78.6	0.720	109.18	0.0	0.0	0.0	1,092	1,658	0.000	1.000	1,658
e v		3.112	0.179	0	2,534,198	80.4	0.720	111.70	47.0	0.0	0.0	647	3,916	0.000	1.000	1,658
	64	2.179	0.179	10	1,728,302	65.9	0.720	91.56	0.0	0.0	0.0	916	1,888	0.000	0.833	1.382
		1.794	0.179	10	1,395,706	34.1	0.720	47.40	0.0	0.0	0'0	474	2,945	0.000	0.500	829
May	£	1.589	0.179	0	1,218,672	11.3	0.720	16.44	0,0	0.0	0.0	164	7,411	0.000	0.167	276
	11	1.310	0.179	0	1.074,911	0.0	0.720	0.0	0.0	0.0	0.0	0	•	0.000	0.000	0
	ន្ត	1.092	0.179	¢	788,486	0.0	0.720	0.0 0	0.0	0.0	0.0	0	•	0.000	0.000	0
lim	10	1.119	0.179	01	811,901	2.2	0.720	3.07	0.0	0.0	0'0	31	26,441	0.000	0.167	37
	2	0.864	0.179	10	592,272	6.4	0.720	8.92	0.0	0.0	0.0	89	6,643	0.000	0.500	112
	2	0.705	0.179	10	454,550	14.4	0.720	20.05	0.0	0.0	0.0	201	2,267	0.000	0.833	186
Jul	10	0.645	0.179	01	402,797	23.4	0.720	32.52	0.0	0.0	0.0	325	1,239	0.000	1.000	84
	1	0.582	0.179	11	382,674	33.7	0.720	46.75	0.0	0.0	0.0	467	819	0.000	1.000	224
	10	0.541	0.179	ğ	312,854	48.3	0.720	67.11	0.0	0,0	0.0	1/9	466	0.000	1.000	224
Aug	10	0.538	0.179	10	310,522	53.8	0.720	74.66	0.0	0.0	0.0	747	416	0.000	0.998	223
	1	0.434	0.179	11	242,447	59.5	0.720	82.62	0'0	0.0	0,0	826	293.	0.000	0.994	222
,	2	0.360	0.179	10	156,470	50.4	0.720	69.95	0.0	0.0	0.0	669	57	0.000	0.767	172
Sept.	93	0.296	0.179	23	101,058	26.1 2	0.720	36.25	0.0	0.0	0.0	362	516	0.000	0.433	8
	2	0.246	0.179	01	58,061	5.3	0.720	7.35	0.0	0.0	0.0	73	790	0.000	0.107	8
	9 9	0.297	0.179	8	102,298	0.0	0.720	0.00	0.0	0.0	0.0	0	i	0.000	0.000	0
ช ว	9 5	0.179	0.179	22	0 63 080	0.0	0.720	88	0.0	0.0	0.0	00	•	0000	0.00	00
	ľ			2	20100	110	1-1	35	~~~	212	22	×		0000	20010	>
		ungaose a	ungable area in rainy season	scason		9 <b>50</b> ,1	(02)									
	Ţ	mgable s	Irrigable area in dry season			224	(ad)									
Nole)	: The min	mum rive	: The minimum river discharge in the year		is considered as the river maintenance discharge	the river m	sintenano	e discharge								
	Availabl	e discharg	Available discharge means river discharge during the imigation period	discharge di	tring the imi	gation peric	d d									
	al Talk W	agurement.	IS CALCULATED .	Dased on IOL	: sgutwo		unoon	-rudding for main field								
							5			12						

Table 3.3.4 WATER BALANCE CALCULATION FOR NADZIPULU RIVER BASIN (PATTERN-2)

ІІ - Т - 63

		Ξ,	0 (3) (3)	(3) Irricoticon	(4) Availahin	(5) Weiter m	(6) Inicel	(L)	(8) Effactive	(9) Diddling	(10) Grove ruddhing	لینڈ (11)	(12) Calculated	(I3) Ame	(14) Area	(15) Potentiat
Month		discharge	maintenance (m3/cac)	days	discharge	quirement	ion Eff-	Water require	rainfell			Water require	Irrigable Area (ha)	intencity of	intencity of	Irrigation Area (he)
THINKY		( and ( may	(analoga)	ľ		(mini)	2000		(mm)		1000 (mm)			Purunda A	3	
Nov	2 5	0.126	0.066	n <b>c</b>	53,382	0.0	0.720	88	200	0.0	0.0			0.000	0000	
	9	0.203	0.066	0	118,044	0.0	0.720	0.00	0.0	0.0	0.0	0	٠	0.000	0.000	• •
	10	0.390	0.066	0	279,618	0.0	0.720	0.00	48.3	0.0	0.0	0	.	0.000	0.000	0
Å	10	2.408	0.066	0	2,023,056	0.0	0.720	0.00	210.6	0.0	0.0	0	•	0.000	0.000	0
		3.397	0.066		3,166,130	0.0	0.720	0.00	38.9	47.1	65.5	655	4,836	0.314	0.000	347
	03	5.400	0.066		4,608,196	14.6	0.720	20.26	68.1	42.9	59.5	595	7,742	0.286	0.167	500
18	A	2.868	0.066		2,420,748	43.8	0.720	60.78	71.6	42.9	59.5	595	4,067	0.286	0.500	868
		8.149	0.066		7,681,789	81.7	0.720	113.45	112.3	17.1	23.8	250	30,736	0.114	0.848	1,063
	0	10.413	0.066		8,939,931	86.2	0.720	119.75	71.5	0.0	0.0	423	21,146	0.000	1.000	1,104
fe Lef	9	5.591	0.066	_	4,773,228	86.2	0.720	119.75	3.3	0.0	0.0	1,164	4,099	0.000	1.000	1,104
		2.556	0.066		1.721,012	69.0	0.720	95.80	8.9	0.0	0.0	869	1.980	0.000	1.000	1,104
	A	2.632	0.066		2,216,838	87.4	0.720	121.41	0.0	0.0	0.0	1,214	1,826	0.000	1.000	1,104
MR		2.370	0.066		1,990,297	88.1	0.720	122.51	0.0	0.0	0.0	1,223	1.627	0.000	1.000	1,104
		1.768	0.066	11	1,617,246	95.8	0.720	133.11	0.0	0.0	0.0	1,331	1,215	0.000	1.000	1,104
	96	1.461	0.066	10	1,205,521	78.6	0.720	109.18	0.0	0.0	0.0	1,092	1,104	0.000	1,000	1,104
Apr		1.709	0.066	10	1,419,622	80.4	0.720	111.70	47.0	0.0	0,0	647	2,194	0.000	1.000	1,104
		1.288	0.066	10	1,055,650	65.9	0.720	91.56	0.0	0.0	0.0	916	1,153	0.000	0.833	920
		0.907	0.066	10	726,553	¥.1	0.720	47.40	0:0	0.0	0.0	474	1,533	0.000	0.500	552
May		0.790	0.066	10	625,057	11.8	0.720	16.44	0.0	0.0	0.0	164	3,801	0.000	0.167	184
	11	0.667	0.066	•	570,773	0.0	0.720	0.00	0.0	0.0	0.0	0	÷	0.000	0.000	0
	10	0.557	0.066	0	424,017	0.0	0.720	0.00	0.0	0.0	0.0	¢	•.	0.000	0.000	0
Iun	2	0.529	0.066	10	399,697	2.2	0.720	3.07	0.0	0.0	0.0	31	13,017	0.000	0.167	8
	2	0.431	0.066	10	315,568	6.4	0.720	8.92	0.0	0.0	0.0	89	3.539	0.000	0.500	61
	10	0.418	0.066	10	304,471	14.4	0.720	20.05	0.0	0.0	0.0	201	1.518	0.000.0	0.833	102
Jul	2	0.373	0.066	10	265,484	23.4	0.720	32.52	0.0	0.0	0.0	325	816	0.00	1.000	123
	11	0.337	0.066	11	257,042	33.7	0.720	46.75	0.0	0'0	0.0	467	550	0.000	1.000	123
	9	0.296	0.066	10	199,053	48.3	0.720	67.11	0.0	0.0	0.0	671	162	0,000	1.000	123
Aug	20	0.269	0.066	10	175,059	53.8	0.720	74.66	0.0	0.0	0.0	747	734	0.000	866.0	53 153
	=	0.232	0.066	11	157,662	59.5	0.720	82.62	0.0	0.0	0.0	826	161	0.000	0.994	122
	D D	0.166	0.066	10	86,003	S0.4	0.720	69.95	0.0	0.0	0.0	669	123	0.000	0.767	\$
Sept	2	0.132	0.066	10	57,365	26.1	0.720	36.25	0.0	0.0	0.0	362	158	0000	0.433	ß
	5	0.107	0.066	10	35,717	5.3	0.720	7.35	9; 0;	0.0	0.0	73	486	0.000	0.107	13
1	20	0.123	0.066	10	48,770	0.0	0.720	0.00	0.0	0.0	0.0	0	•	0000	0.000	0
ទី	2:	0.085	0.066	23	16,674	0.0	0.720	0.0	0.0	0.0	0.0	0	•	0.000	0.000	0
	Ţ	0000	8000	10	, ,	0.0	N' 'N	80	0.0	0'0	0.0	P		0.000	0.000	9
		Imigable a	Imigable area in rainy season	cason		1,104	(ha)									:
		Irrigable a	Irrigable area in dry season			123	(Faa)									
Note)		inimum rive	: The minimum river discharge in the year		is considered as the river maintenance discharge	the river mu	nintenance	discharge								
	: Availa	ble discharg	: Available discharge means river discharge during the irrigation period	ischarge dur	ing the imig	ation perior	17									
	: Water	requirement	t is calculated by	ased on follo	: sguiw		-Puddling	Pudding for main field	150	Linear Linear Linear						
							-Percolati	-Percolation losses is		mm/day.						

Tabe 3.3.5 WATER BALANCE CALCULATION FOR NAMIKOKWE RIVER BASIN (PATTERN-2)

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	ļ	(I) (1)	(2)	6	(4) (4)	(5)	(9)	εį	(8) 	(6)	(10)	(11)	(12)	(13)	(14)	(51)
Month		discharge (m3/sec)	maintenance (m3/sec)	days	discharge (m3)	quirement (mm)	ion Eff-	Water require ment (mm)	rainfall (mm)	r occurs Water require ment (mm)	Water require ment (mm)	Water require ment (m3/ha)	Irrigable	intencity of muddline	intencity of	r occurul irrigation Arrea (ha)
	01	0.165	0.102	6	16,433	0.0	0.720	000	0.0	0.0	0.0	0		0000	0000	
Nov	10	0.120	0.102	0	15,638	0.0	0.720	0.00	0.0	0.0	0.0	0	•	0.000	0.000	0
	10	0.102	0.102	0.	0	0.0	0.720	0.00	0.0	0.0	0.0	0	•	0.000	0.000	0
	10	1.214	0.102	0	961,092	0.0	0.720	0.00	48.3	0.0	0.0	0		0.000.0	0.000	0
å	10	0.287	0.102	0	160,164	0.0	0.720	0,00	210.6	0.0	0.0	0	•	0.000	0.000	0
		0.753	0.102	11	619.502	0.0	0.720	0.00	38.9	47.1	65.5	655	986 9	0.314	0.000	297
Į.	24	1.451	0.18	2	1,165,968	14.6	0.720	20.26	68.1 7: 5	42.9	59,5 20,5	595 606	1.959	0.286	0.167	83 f
		5.417	0102	នដ	5.051.851	0. 18	0.720	113.45	112.3	17.1	23.8	250	20.213	0.114	0.848	116
	a	8.686	0.102	R	7,417,224	86.2	0.720	119.75	71.5	0.0	0.0	423	17.542	0.000	1.000	S.
Feb	92	10.506	0.102	임 (	8,989,704	86.2	0.720	119.75	3.3	0.0	0.0	1,164	7,720	0.000	1.000	z
		17.083	0.102	»	11,757,843	0.66	0.720	95.80	8.9	0.0	0.0	698	13,506	0000	1000	ž
Mar		4 800	0.102	2 9	9,040,204 A 050 504	81.4	0.720	121.41	0.0	0.0	000	1,214	446 1	00000	1,000	8
		3.634	0.102	3 5	3.357 710	95.8	0.720	11 221	000		0.0	122 L	CTC'C	0000	1 000	23
	0	2.690	0.102	10	2,236,464	78.6	0.720	109.18	0.0	0.0	0.0	1.092	2,048	0.000	1.000	ŧ
Apr	2	2.129	0.102	01	1,751,544	80.4	0.720	111.70	47.0	0.0	0.0	647	2,707	0.000	1.000	35
		1.596	0.102	10	1,291,464	65.9	0.720	91.56	0.0	0.0	0.0	916	1,411	0.000	0.833	788
		1.294	0.102	2	1,030,320	2.1	0.720	47.40	0.0	0.0	0.0	474	2,174	0.000	0.500	473
May		1.214	0.102	2 4	961,200	11.8	0.720	16.4	0.0	0.0	0.0	164	5,846	0.00	0.167	158
	101	0.924	201.0		710 986		0.720	200			00	5	•	000		
Ĩ	10	0.841	0.102	10	638,842	2.2	0.720	3.07	0.0	0.0	0.0	31	20,805	0.000	0.167	94
	10	0.753	0.102	10	563.155	6.4	0.720	8.92	0.0	0.0	0.0	89	6,316	0.000	0.500	119
	9	0.604	0.102	10	434,160	14,4	0.720	20.05	0.0	0.0	0.0	201	2,165	0.000	0.833	661
Inf	2:	0.512	0.102	91	354,672	7 F. 5	0.720	32.52	0.0	0.0	0.0	325	1.091	0.00	1.000	539
		0.501	0100	10	245 277	48.3	0.720	67 11			0.00	40/	140	0.000	1 000	407 022
Aug	2 2	0.382	0.102	10	242,438	53.8	0.720	74 64	000	000		747	202	0000	200	200
3	11	0.309	0.102	11	197,294	59.5	0.720	82.62	0.0	0.0	0.0	826	239	0.000	46.0	ន៍ន
	10	0.447	0.102	10	298,080	50.4	0.720	69.95	0.0	0.0	0.0	669	426	0.000	0.767	183
Sept	2	0.233	0.102	10	113,184	26.1	0.720	36.25	0.0	0.0	0.0	362	312	0.000	0.433	103
	2	0.171	0.102	10	59,962	5.3	0.720	7.35	0.0	0.0	0.0	73	816	0.000	0.107	ห
¢	2 ;	0.180	0.102	91	68,170	0.0	0.720	0.00	0.0	0.0	0.0	Ċ)		0.000	c.000	ø
8 2	31	0.305	0.102	22	175,588	0.0	0.720	88	0.0	0.0	0.0	00		0.000	000	00
		Imgable a	lmgable area in rainy season	season		946	(pa)									
		Imgable a	Imgable area in dry season	ason		239	( <b>ha</b> )									
Note)		nimum rive	: The minimum river discharge in the year	the year is c	is considered as the river maintenance discharge	the river m	aintenance	discharge								
	: Aveilal	ble discharg	Available discharge means river discharge	discharge a	e during the irrigation period	gation perso	7									
	TY BLUE	Country of the	: Wale requrrences is calculated based on	based on fol	lowings :		-Puddling	Puddling for main field	150	2012						

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### Table 5.2.1 CONSTRUCTION COST FOR THE LOWER NADZIPULU IRRIGATION PROJECT

	ni i premi zapremi na primova na končini di nime na koncepto premi na koncepto premi na premi na premi na premi	Local Portion	Foreign Portion	Total
	Work Item	(M.Kwacha)	(J.Yen)	(J.Yen)
	an a			(01101)
1	PREPARATORY WORKS	623,000	19,141,000	34,093,000
2	HEAD WORKS	1,610,000	37,970,000	76,610,000
	2.1 Earth Works	406,000	27,982,000	37,726,000
	2.2 Concrete Works	985,000	4,571,000	28,211,000
	2.3 Metal Works	3,000	5,416,000	5,488,000
	2.4 Others	216,000	1,000	5,185,000
			00.000.000	
3.1	MAIN CANAL (ND-MC-1)	1,525,000	32,903,000	69,503,000
	3.1 Earth Works	516,000	24,292,000	36,676,000
	3.2 Lining Works	839,000	6,820,000	26,956,000
·	3.3 Structural Works	157,000	1,714,000	5,482,000
	3.4 Others	13,000	77,000	389,000
3.2	MAIN CANAL (ND-MC-2)	721,000	11,798,000	29,102,000
<u> </u>	3.5 Earth Works	218,000	8,397,000	13,629,000
	3.6 Lining Works	381,000	2,977,000	12,121,000
	3.7 Structural Works	118,000	395,000	· · · · · · · · · · · · · · · · · · ·
[	3.8 Others	4,000	29,000	125,000
4	BRANCH CANALS	160,000	2,568,000	6,408,000
	4.1 Earth Works	49,000	1,875,000	3,051,000
	4.2 Lining Works	70,000	549,000	2,229,000
	4.3 Structural Works	39,000	131,000	1,067,000
<b></b>	4.4 Others	2,000	13,000	61,000
<u> </u>				
5	INSPECTION ROADS	744.000	40.000.000	
	5.1 Earth Works	741,000	43,650,000	61,434,000
<u>-</u>	FLOOD DIKES/ROADS			······
<u> </u>	6.1 Earth Works	845,000	AG 652 000	66.022.000
		645,000	46,653,000	66,933,000
7	CONNECTING ROADS	873,000	46,583,000	67,535,000
· · · ·	7.1 Earth Works	811,000	46,1,88,000	65,652,000
	7.2 Structural Works	46,000	288,000	1,392,000
	7.3 Others	16.000	107.000	
				<u> </u>
8	TERTIARY DEVELOPMENT	1,544,000	71,714,000	108,770,000
	8.1 Earth Works	922,000	34,919,000	57,047,000
	8.2 Land Reclamation	622,000	36,795,000	51,723,000
9	DRAINAGE CANALS	106,000	3,649,000	6,193,000
L	9.1 Earth Works	38,000	3,199,000	4,111,000
	9.2 Structural Works	32,000	201,000	969,000
	9.3 Others	36,000	249,000	1,113,000
			10 505 202	
10	RICE MILL	356,000	18,566,000	27,110,000
	10.1 Milling Machine	5,000	13,723,000	13,843,000
	10.2 Drying Yard	156,000	943,000	4,687,000
	10.3 Storage & Mill House	195,000	3,900,000	8,580,000
	Total Direct Cost	9,104,000	335,195,000	553,691,000
		5,104,000	555,155,000	333,031,000
L		L		

### (1) Direct Construction Cost

### Table 5.2.1 CONSTRUCTION COST FOR THE LOWER NADZIPULU IRRIGATION PROJECT

				والمتحدية والمتكاف والتركين والمراقب والمراجع والمراجع والمراجع
		Local Portion	Foreign Portion	Total
-	Work Item	(M.Kwacha)	(J.Yen)	(J.Yen)
		÷		
l	ENGINEERING SERVICES COS	<u> </u>		
-1	( DESIGN STAGE )	556,000	55,600,000	68,944,000
1-1	( DESIGN STAGE )	550,000	33,000,000	00,544,000
1	REMMUNERATION	48,000	44,400,000	45,552,000
	1.1 Foreign Consultants	0	44,400,000	44,400,000
	1,2 Local Consultants	48,000	0	1,152,000
				······
2	DIRECT COST	508,000	11,200,000	23,392,000
	2.1 International Air	0	11,200,000	11,200,000
	2.2 Communication	10,000	0	240,000
	2.3 Perdiem	270,000	. 0	6,480,000
	2.4 Accommodation	18,000	0	.432,000
	2.5 Fuel	10,000	0	240,000
	2.6 Sub-contracts	150,000	0	3,600,000
	2.7 Others	50,000	0	1,200,000
	( CONSTRUCTION CTACE )	C24 400	50 000 000	CC 025 C00
1-2	(CONSTRUCTION STAGE)	634,400	50,800,000	66,025,600
1	REMMUNERATION	84,000	48,000,000	50,016,000
	1.1 Foreign Consultants	04,000	48,000,000	48,000,000
·	1.2 Local Consultants	84,000		2,016,000
		01,000	<b>`</b>	210101000
2	DIRECT COST	550,400	2,800,000	16,009,600
	2.1 International Air	0	2,800,000	2,800,000
	2.2 Communication	40,000	0	960,000
	2.3 Perdiem	360,000	0	8,640,000
	2.4 Accommodation	28,800	0	691,200
	2.5 Fuel	21,600	0	518,400
	2.6 Others	100,000	0	2,400,000
E LO		1 100 100	100 400 000	124.000.000
ENG	NEERING SERVICES TOTAL	1,190,400	106,400,000	134,969,600
				ن <del>منصلة (عسام من عليه مراجع عسريور)</del>
١.	ADMINISTRATION COST			····
	Administreetien cost			
II-1	( DESIGN STAGE )	353,000	0	8,472,000
<u></u>				
1	Staff Salary	180,000	0	4,320,000
2	Labour Charge	15,000	0	360,000
	Office Expenses	84,000	· 0	2,016,000
4	Fuel	24,000	0	576,000
	Office Equipment	18,000	0	432,000
6	Miscellaneous	32,000	0	768,000
	· · · · · · · · · · · · · · · · · · ·			
11-2	( CONSTRUCTION STAGE )	1,274,000	0	30,576,000
	Ch. (6.0.1)	520,000		12.004.000
	Staff Salary	536,000 120,000	0	12,864,000 2,880,000
	Labour Charge Office Expenses	360,000	0	8,640,000
	Fuel	96,000	0	2,304,000
	Office Equipment	50,000	0	1,200,000
	Miscellaneous	112,000	0	2,688,000
ADM	INISTRATION COST TOTAL	1,627,000	0	39,048,000
				· · ·

### (2) Engineering Services and Administration Costs

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### Table 5.2.2 CONSTRUCTION COST FOR THE NAMIKOKWE INTEGRATED IRRIGATION PROJECT

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		Local Portion	Foreign Portion	Total
	Work Item	(M.Kwacha)	(J.Yen)	(J.Yen)
1	PREPARATORY WORKS	1,120,000	33,036,000	59,916,000
2	HEAD WORKS	1,606,000	38,311,000	76,855,000
	2.1 Earth Works	341,000	23,360,000	31,544,000
	2.2 Concrete Works	1,053,000	5,998,000	31,270,000
	2.3 Metal Works	4,000	8,952,000	9,048,000
	2.4 Others	208,000	1,000	4,993,000
		·		
3	MAIN CANAL (NM-MC-1)	2,644,000	65,401,000	128,857,000
	3.1 Earth Works	869,000	49,100,000	69,956,000
	3.2 Lining Works	1,489,000	12,083,000	47,819,000
	3.3 Structural Works	269,000	4,113,000	10,569,000
	3.4 Others	17,000	105,000	513,000
4	BRANCH CANALS	2,614,000	40,191,000	102,927,000
	4.1 Earth Works	705,000	27,421,000	44,341,000
	4.2 Lining Works	1,412,000	11,035,000	44,923,000
	4.3 Structural Works	468,000	1,555,000	12,787,000
	4.4 Others	29,000	180,000	876,000
5	INSPECTION ROADS			
	5.1 Earth Works	1,198,000	70,603,000	99,355,000
6	FLOOD DIKES/ROADS			
	6.1 Earth Works	1,075,000	61,927,000	87,727,000
7	CONNECTING ROADS	249.000	12 210 000	10 262 000
·	7.1 Earth Works	248,000	13,310,000	19,262,000
		224,000	13,155,000	18,531,000
	7.2 Structural Works	19,000	117,000	573,000
	7.3 Others	5,000	38,000	158,000
0		4 505 000	216,938,000	227 402 000
0	TERTIARY DEVELOPMENT 8.1 Earth Works	4,606,000		327,482,000
	8.2 Land Reclamation	2,794,000	105,793,000 111,145,000	172,849,000 154,633,000
•··· • ·		1,012,000	111,145,000	1,010,000
a	DRAINAGE CANALS	441,000	13,689,000	24,273,000
	9.1 Earth Works	175,000	12,224,000	16,424,000
	9.2 Structural Works	28,000	141,000	813,000
	9.3 Others	238,000	1,324,000	7,036,000
		£.30,000	1,327,000	1,030,000
10	RICE MILL	891,000	46,416,000	67,800,000
	10.1 Milling Machine	12,000	34,320,000	34,608,000
	10.2 Drying Yard	391,000	2,346,000	11,730,000
	10.3 Storage & Mill House	488,000	9,750,000	21,462,000
	tere ocorrage a trim riouse	100,000		21,704,000
	TOTAL DIRECT COST	16,444,000	599,822,000	994,478,000
			and the second secon	

### (1). DIRECT CONSTRUCTION COST

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### Table 5.2.2 CONSTRUCTION COST FOR THE NAMIKOKWE INTEGRATED IRRIGATION PROJECT

		Local Portion	Foreign Portion	Total
	Work Item	(M.Kwacha)	(J.Yen)	(J.Yen)
			* <b>.</b>	
l. –	ENGINEERING SERVICES COS	Τ	·····	
		:		· · · · · · · · · · · · · · · · · · ·
I-1	( DESIGN STAGE )	762,150	74,800,000	93,091,600
1		66,000	63,600,000	65,184,000
	1.1 Foreign Consultants	0	63,600,000	63,600,000
	1.2 Local Consultants	66,000	0	1,584,000
<u>.</u>				
2	DIRECT COST	696,150	11,200,000	27,907,600
	2.1 International Air	0	11,200,000	11,200,000
<u>.</u>	2.2 Communication	10,000	0	240,000
	2.3 Perdiem	396,000	0	9,504,000
	2.4 Accommodation	26,400	0	633,600
·	2.5 Fuel	13,750	0	330,000
	2.6 Sub-contracts	200,000	0	4,800,000
	2.7 Others	50,000	U	1,200,000
1-2	( CONSTRUCTION STAGE )	634,850	50,800,000	66,036,400
1-2	(CONSTRUCTION STAGE)	034,030	50,800,000	00,030,400
1	REMMUNERATION	84,000	48,000,000	50,016,000
	1.1 Foreign Consultants	04,000	48,000,000	48,000,000
	1.2 Local Consultants	84,000	40,000,000	2,016,000
		04,000		2,010,000
. 2	DIRECT COST	550,850	2,800,000	16,020,400
	2.1 International Air	0	2,800,000	2,800,000
	2.2 Communication	40,000	2,000,000	960,000
	2.3 Perdiem	360,000	0	8,640,000
	2.4 Accommodation	28,800	0	691,200
<b></b> ÷-	2.5 Fuel	21,600	0	518,400
	2.6 Others	100,450	0	2,410,800
		100,100		2,110,000
ENG	NEERING SERVICES TOTAL	1,398,000	125,600,000	159,128,000
			والمحافظة فالمعاملة ويرجع وبريهم الأفاعات	an ya mini da da ya mana ya mana ya mana ya mina da da
И.	ADMINISTRATION COST			
	······································			
11-1	( DESIGN STAGE )	472,000	0	11,328,000
	·			
1	Staff Salary	261,000	0	6,264,000
2	Labour Charge	22,500	0	540,000
3	Office Expenses	84,000	0	2,016,000
4	Fuel	36,000	0	864,000
5	Office Equipment	26,000	0	624,000
6	Miscellaneous	42,500	0	1,020,000
II-2	( CONSTRUCTION STAGE )	1,362,000	0	32,688,000
1	Staff Salary	624,000	0	14,976,000
2	Labour Charge	120,000	0	2,880,000
	Office Expenses	360,000	0	8,640,000
	Fuel	96,000	0	2,304,000
	Office Equipment	50,000	0	1,200,000
6	Miscellaneous	112,000	0	2,688,000
		<u> </u>		
ADM	INISTRATION COST TOTAL	1,834,000	0	44,016,000
			···	

### (2) Engineering Services and Administration Costs

### Table 5.2.3 CONSTRUCTION COST FOR THE LOWER LIVULEZI IRRIGATION PROJECT

	Work Item	Local Portion (M.Kwacha)	Foreign Portion (J.Yen)	Total (J.Yen)
· · · · T	PREPARATORY WORKS	1,203,000	35,146,000	64,018,000
2	CULVERT ON M-18	971,000	14,206,000	37,510,000
	2.1 Earth Works	112,000	9,152,000	11,840,000
	2.2 Concrete Works	794,000	5,054,000	24,110,000
	2.3 Other Works	65,000	0	1,560,000
	RIVER DREDGING		···· ··· ··· ··· ··· ··· ··· ···	
	3.1 Excavation	46,000	3,995,000	5,099,000
	HEAD WORKS	3,802,000	135,333,000	226,581,000
	4.1 Earth Works			7 020 000
• • • • • • • • • • • • • • • • • • • •		87,000	5,850,000	7,938,000
	4.2 Concrete Works	1,376,000	7,897,000	
	4.3 Metal Works	4,000	8,337,000	8,433,000
	4.4 Other Works	367,000	. 0	8,808,000
	4.5 Intake Dike	1,968,000	113,249,000	160,481,000
5-1	MAIN CANAL (LV-MC-1)	2,207,000	46,206,000	99,174,000
<u> </u>	5.1 Earth Works	891,000	34,092,000	55,476,000
	5.2 Lining Works	1,031,000	8,058,000	32,802,000
	5.3 Structural Works	1,031,0001		
	5.3 Structural works	262,000	3,922,000	10,210,000
	5.4 Others	23,000	134,000	686,000
5-2	MAIN CANAL (LV-MC-2)	1,615,000	27,206,000	65,966,000
	5.5 Earth Works	504,000	19,436,000	31,532,000
	5.6 Lining Works	900,000	7,032,000	28,632,000
	5.7 Structural Works	196,000	647,000	5,351,000
	5.8 Others	15,000	91,000	451,000
6	BRANCH CANALS	393,000	5,879,000	15,311,000
	6.1 Earth Works	151,000	4,643,000	8,267,000
	6.2 Lining Works	161,000	1,022,000	4,886,000
	6.3 Structural Works	77,000	192,000	2,040,000
	6.4 Others	4,000	22,000	118,000
7	INSPECTION ROADS			
	7.1 Earth Works	795,000	38,066,000	57,146,000
<u> </u>	FLOOD DIKES/ROADS	1.170.000		
	8.1 Earth Works	1,478,000	84,022,000	119,494,000
9	CONNECTING ROADS	273,000	14,208,000	20,760,000
	9.1 Earth Works	238,000	13,981,000	19,693,000
	9.2 Structural Works	27,000	171,000	819,000
	9.3 Others	8,000	56,000	248,000
17	TERTIARY DEVELOPMENT	2 21 9 222	140 300 000	
10		3,217,000	149,269,000	226,477,000
	10.1 Earth Works 10.2 Land Reclamation	1,921,000	72,737,000 76,532,000	118,841,000
		1,230,000	10,332,000	107,030,000
11	DRAINAGE CANALS	846,000	33,812,000	54,116,000
	11.1 Earth Works	355,000	30,481,000	39,001,000
	11.2 Structural Works	48,000	301,000	1,453,000
	11.3 Others	443,000	3,030,000	13,662,000
19	RICEMILL	E34 000	77 054 004	10 000 000
12		534,000	27,850,000	40,666,000
	12.1 Milling Machine	7,000	20,592,000	20,760,000
	12.2 Drying Yard	234,000	1,408,000	7,024,000
	12.3 Storage & Mill House	293,000	5,850,000	12,882,000
	TOTAL	17,380,000	615,198,000	1,032,318,000
		1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		

### (1). Direct Construction Cost

### Table 5.2.3 CONSTRUCTION COST FOR THE LOWER LIVULEZI IRRIGATION PROJECT

		Local Portion	Foreign Portion	Tota
-	Work Item	(M.Kwacha)	(J.Yen)	(J.Yen)
		·		
<u>  .</u>	ENGINEERING SERVICES COS	r	· · · · · · · · · · · · · · · · · · ·	
1-1	( DESIGN STAGE )	716,500	68,800,000	85,996,000
<u> </u>				
1	REMMUNERATION	60,000	57,600,000	59,040,000
	1.1 Foreign Consultants	0	57,600,000	57,600,000
	1.2 Local Consultants	60,000	0	1,440,000
	i			
2	DIRECT COST	656,500	11,200,000	26,956,000
i	2.1 International Air	0	11,200,000	11,200,000
	2.2 Communication	10,000	0	240,000
	2.3 Perdiem	360,000	·0	8,640,000
	2.4 Accommodation	24,000	0	576,000
	2.5 Fuel	12,500	0	300,000
	2.6 Sub-contracts	200,000	0	4,800,000
	2.7 Others	50,000	0	1,200,000
1-2	( CONSTRUCTION STAGE )	634,400	50,800,000	66,025,600
	· · · · · · · · · · · · · · · · · · ·			ii
1	REMMUNERATION	84,000	48,000,000	50,016,000
	1.1 Foreign Consultants	0	48,000,000	48,000,000
	1.2 Local Consultants	84,000	0	2,016,000
		01,000		
	DIRECT COST	550,400	2,800,000	16,009,600
<u> </u>	2.1 International Air		2,800,000	2,800,000
<u> </u>	2.2 Communication	40,000	2,000,000	960,000
	2.3 Perdiem	360,000	0	8,640,000
	2.4 Accommodation	28,800	0	691,200
<u>`</u>	2.5 Fuel	21,600	0	518,400
	2.6 Others	100,000	0	2,400,000
		100,000	V	2,400,000
ENG	NEERING SERVICES TOTAL	1,350,900	119,600,000	152,024,000
1.113	LERING SERVICES TOTAL	1,000,000	113,000,000	132,02-7,000
h				والمتحاك والمتحد والمتكنينية ومشاهدتهم والمعتوي و
	ADMINISTRATION COST			
H	ADVENTION COST		·	
11-1		472.000		11 339 000
11-1	( DESIGN STAGE )	472,000	0	11,328,000
		0.01.000		0.004.000
		261,000	0	6,264,000
	Labour Charge	22,500	0	540,000
	Office Expenses	84,000	0	2,016,000
<b>.</b>	Fuel	36,000	0	864,000
	Office Equipment	26,000	0	624,000
6	Miscellaneous	42,500	0	1,020,000
I				
11-2	(CONSTRUCTION STAGE)	1,362,000	0	32,688,000
L.				
	Staff Salary	624,000	0	14,976,000
	Labour Charge	120,000	0	2,880,000
a service and the service of the ser	Office Expenses	360,000	0	8,640,000
	Fuel	96,000	0	2,304,000
	Office Equipment	50,000	0	1,200,000
. 6	Miscellaneous	112,000	0	2,688,000
ADM	INISTRATION COST TOTAL	1,834,000	0	44,016,000

### (2) Engineering Services and Administration Costs

Table 5.2.4 (1) DISBURSEMENT SCHEDULE OF THE PROJECT COST THE LOWER NADZIPULU IRRIGATION PROJECT

(Unit : 1000 Kwacha, 1000 J.Yen)

L/C         F/C         Total         L/C         F/C         Total         L/C         F/C         Total         L/C           ristruction Cost         623         19,141         34,093         L/C         F/C         7141         27,265         125           arretory Works         623         19,141         34,093         R         1,609         37,970         76,586         125           d Works         1,609         37,970         76,586         R         2,246         44,701         36,605         135           nch Canalis         2,246         44,701         38,605         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         160         2,565         6,407         2,656         6,407         2,656         6,407         2,656         1,644         2,1,514         2,565         1,644         2,151         2,265         1,668         2,712         2,246<			Total			1994	-		1995	,		1996	Ì
623         19,141         34,093         7         498         15,313         27,265         125           1         1609         37,970         76,566         125         125         125           1         1609         37,970         76,566         125         125         125           7         1609         37,970         76,566         6,407         6,407         6,407           7         741         43,650         6,1434         845         4           7         741         43,650         6,1434         845         4           843         46,653         6,407         741         43,650         61,434         845           873         46,653         6,193         741         43,650         61,434         845           873         46,653         6,193         741         43,650         61,434         873         4           873         46,665         6,193         741         45,650         61,434         873         4           1,543         71,14         108,794         741         45,650         61,434         873         4         106           1,190         106,400 <td< th=""><th></th><th></th><th>F/C</th><th>Total</th><th>L/C</th><th>F/C</th><th>Total</th><th>L/C</th><th>F/C</th><th>Total</th><th>L/C</th><th>F/C</th><th>Total</th></td<>			F/C	Total	L/C	F/C	Total	L/C	F/C	Total	L/C	F/C	Total
623         19,141         34,093         498         15,313         27,265         125           1,609         37,970         76,586         1407         76,586         125         125           1,609         37,970         76,586         1407         76,586         125         125           160         2,567         6,407         741         43,650         61,434         845         4           741         43,650         61,434         741         43,650         61,434         845         4           873         46,653         66,933         69,944         741         43,650         61,434         845         4           1,545         71,714         108,794         67         464         21,514         32,650         1081         5           8,746         356         56,913         8,472         637         3030         15         2         3030         15         2         3030         15         2         3030         15         2         3030         15         2         3030         15         2         3030         15         2         3030         15         2         3030         15         2													
623         19,141         34,093          498         15,313         27,265         125           1,609         37,970         76,586         77         98,605         741         98,605         75,567         64,470         98,605         75,567         64,470         98,656         7           1,609         37,970         76,586         77         98,656         7         98,656         7         98,656         7         98,656         7         845         4           741         43,650         61,434         741         43,650         61,434         845         4           873         46,653         66,033         66,933         61,434         845         4           873         46,653         66,133         61,434         845         4           873         46,584         67,536         61,434         873         4           873         46,584         67,536         61,434         845         4           873         46,584         67,516         32,650         1,081         5           8,749         16,672         51,610         55,600         68,443         317         25,400         317	Direct Construction Cost												
1,609         37,970         76,586         1,609         37,970         76,586         1           2,246         44,701         98,605         2,246         44,701         98,605         1           160         2,567         6,407         86,65         6,407         845         44,701         98,605         1           741         43,650         61,434         741         43,650         61,434         845         445           873         4         741         43,650         61,434         845         445           873         4         741         43,650         61,434         845         445           873         4         741         43,650         61,434         873         873         4           1         1,545         71,714         108,794         71         873         4         873         4           87.48         6,193         7         2         741         43,650         61,081         5         7         2           11,627         71,714         108,794         717         3         3         7         2           1,1627         314,356         55,600         68,944	1. Preparatory Works	623	-	34,093				498			125	3,828	6,828
2,246         44,701         98,605         6407         845         4           160         2,567         6,407         96,605         6,407         845         4           741         43,650         61,434         845         6,407         845         6,407         845         6,407         845         6,407         845         6,407         845         6,407         845         6,407         845         6,407         845         6,407         845         6,407         845         6,407         873         4         845         6,407         873         843         875         873         873         873         875         873         875         875         874         873         873         873         873         873         873	1. Head Works	1,609	•	76,586				1,609	37,970	[			
160         2,567         6,407         1         160         2,567         6,407         1           741         43,650         61,434         845         61,434         845         845         4           845         46,653         66,933         8         845         8,455         8,455         8,455         8,455         8,455         8,455         8,45         8,455         8,73         8,74         8,73         8,74         8,74         108,794         8,73         8,73         8,74         8,745         8,71         108,794         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,73         8,75         1,06         1,5         302,947         3,03         15         2         1,05         17         2         2,650         1,7         16         17         2         17         2         2         17         2         2         10         10         10         10         10         10         10         10         10         10         10         10 <td>2. Main Canals</td> <td>2,246</td> <td></td> <td>98,605</td> <td></td> <td></td> <td></td> <td>2,246</td> <td>ļ</td> <td></td> <td></td> <td></td> <td></td>	2. Main Canals	2,246		98,605				2,246	ļ				
741         43,650         61,434         741         43,650         61,434         845         4           845         46,653         66,933         66,933         66,933         845         845         4           873         46,653         66,933         67,536         7         873         4           873         46,5584         67,536         7         7         7         873         4           106         3,649         6,193         7         7         3030         15           8,748         316,629         526,581         5,600         68,944         317         25,400         3,030         17           11,90         106,400         13,496         556         55,600         68,944         317         25,400         3,030         17         2           1,627         0         30,000         375         9,472         637         106         377         2         3,300         317         2           1,627         0         39,048         353         8,472         637         15,288         637         2         12         2         12,288         637         2         12,2288         637	3. Branch Canal	160		6.407				160	2,567	6,407			
845         46,653         66,933         845         485         645         32,550         873         485           873         46,584         67,536         71,714         108,794         873         873         873         3           106         3,649         6,193         71,714         108,794         3,030         15           8,748         106         3,649         6,193         71,714         108,794         3,030         15           8,748         316,629         526,581         55,600         68,944         317         25,400         3,030         15           1,190         106,400         134,960         556         55,600         68,944         317         25,400         3,030         17           1,627         0         39,048         353         8,472         637         3,030         19           1,627         0         3,000         377         25,400         3,370         3,17         2           1,627         0         3,004         55         5,560         8,472         637         3,17         2           1,627         0         3,000         37         2,140         3,17         2,1	4. Inspection Roads	741		61,434				741	43,650	61,434			
873         46,584         67,536         67,536         67,536         873         4           1,545         71,714         108,794         6,193         6,193         1,081         5           8,748         5,193         5,718         165,715         302,947         3,030         156           8,748         316,629         526,581         55,600         68,944         317         25,400         3,030         317         2           11,190         106,400         134,960         556         55,600         68,944         317         25,400         317         2           11,190         106,400         134,960         556         55,600         68,944         317         25,400         317         2           11,190         106,400         134,960         556         55,600         68,944         317         25,400         317         2           1,627         0         9,000         375         9,472         637         15,238         637         2           1,627         0         30,048         375         25,400         31,70         35,124         4340         17           1,627         1,521         637 <t< td=""><td>5. Flood Dike/Road</td><td>845</td><td></td><td>66,933</td><td></td><td></td><td></td><td></td><td></td><td></td><td>845</td><td>46,653</td><td>66,933</td></t<>	5. Flood Dike/Road	845		66,933							845	46,653	66,933
nt         11,545         71,714         108,734         6,193         106         106           8,748         8,193         6,193         71,714         108,734         5,718         155,715         32,650         1,081         5           8,748         316,629         526,581         5,718         165,715         302,947         3,030         15           1,190         106,400         134,960         556         55,600         68,944         317         25,400         33,008         317         2           1,190         106,400         134,960         555         55,600         68,944         317         25,400         33,008         317         2           1,627         0         39,048         353         9,000         68,416         6,672         191,115         351,248         637         2           375         0         9,000         375         9,000         8,472         667         191,115         351,243         4,340         17           1,627         0         39,008         317         2         191,115         351,243         4,340         17           1,220         44,160         736,601         1,668         4,750	6. Connecting Road	873		2			*~~~~				873	46,584	67,536
106         3,649         6,193         106           8,748         316,629         526,581         5,718         165,715         302,947         3,030         15           356         18,566         27,110         5         5,718         165,715         302,947         3,030         15           11,190         106,400         134,960         556         55,600         68,944         317         25,400         33,008         317         2           375         0         9,000         375         5         9,000         68,944         317         25,400         33,008         317         2           376         1         9,000         375         9,000         68,946         6672         19,115         351,243         4,340         19           12,296         44,1595         736,699         1,284         55,600         86,416         6,672         19,115         351,243         4,340         19           12,296         31,378         12,284         55,600         8,6416         6,672         19,115         351,243         4,340         19           12,230         44,160         736,603         12,260         8,642         667 <t< td=""><td>7. Tertiary Development</td><td>1,545</td><td>2</td><td>-</td><td></td><td></td><td></td><td>464</td><td>21,514</td><td>32,650</td><td>1,081</td><td>50,200</td><td>76,144</td></t<>	7. Tertiary Development	1,545	2	-				464	21,514	32,650	1,081	50,200	76,144
8,748         316,629         52,5181         5,718         165,715         302,947         3,030         15           356         18,566         27,110         55,716         15,715         302,947         3,030         15           1,190         106,400         134,960         556         55,600         68,944         317         25,400         33,008         317         2           375         0         9,000         375         9,000         37         15,288         637         37         37         2           1,627         0         9,000         375         9,000         8742         637         15,288         637         37         2           375         0         9,000         375         9,000         86,416         6,672         191,115         351,243         4,340         19           12,296         31,378         122,89         1,284         55,600         8,642         667         19,1115         351,243         4,340         19           12,296         31,378         102,563         122,815         6,672         191,1115         351,243         4,340         12           2,966         31,653         1,263	8. Drainage Canals	106	 	6,193							106		6,193
356       18,566       27,110       556       55,600       68,944       317       25,400       33,008       317       2         1,190       106,400       134,960       556       55,600       68,944       317       25,400       33,008       317       2         1,627       0       39,048       353       8,472       637       15,288       637         375       0       9,000       375       9,000       86,416       6,672       191,115       351,243       4,340       19         12,296       441,595       736,699       1,284       55,600       86,416       6,672       191,115       351,243       4,340       19         12,230       44,160       73,670       128       55,600       8,642       667       19,115       351,243       4,340       17         1,230       44,160       73,670       128       5,560       8,642       667       19,112       351,243       4,340       17         1,230       44,160       73,670       128       5,560       8,642       667       19,112       351,243       4,340       17         2,966       31,378       102,563       1,668       4,750 <td>Sub-Total</td> <td>8,748</td> <td>3.1</td> <td>526,581</td> <td></td> <td></td> <td>-</td> <td>12</td> <td>7</td> <td>302,947</td> <td>3,030</td> <td>150,914</td> <td>223,634</td>	Sub-Total	8,748	3.1	526,581			-	12	7	302,947	3,030	150,914	223,634
356         18,566         27,110         556         55,600         68,944         317         25,400         33,008         317         2           1,190         106,400         134,960         556         55,600         68,944         317         25,400         33,008         317         2           375         0         39,048         353         8,472         637         15,288         637         2           1,120         375         0         3,000         375         9,000         375         4,340         17           12,296         441,595         736,699         1,284         55,600         86,416         6,672         191,115         351,243         4,340         17           12,296         44,160         73,670         128         5,560         8,642         667         191,115         351,243         4,340         17           1,230         44,160         73,670         128         5,560         8,642         667         191,115         351,243         4,340         1           2,966         31,378         102,563         128         1,668         4,750         1,401         11,639         45,266         1,437         1													
1,190         106,400         134,960         556         55,600         68,944         317         25,400         33,008         317         2           375         0         39,048         353         8,472         637         15,288         637         7           375         0         39,048         353         9,000         375         637         7         15,288         637           1         12,296         441,595         736,699         1,284         55,600         86,416         6,672         191,115         351,243         4,340         1           1         12,296         44,160         73,670         1284         55,600         86,416         6,672         191,115         351,243         4,340         1           1         12,330         44,160         73,670         128         5,560         8,642         667         19,112         351,243         4,340         1           1         1,230         44,160         73,670         128         5,560         8,642         667         19,112         351,243         4,340         1           2,966         31,378         102,563         12683         1,668         4,750         <	. Rice Mill	356	18	27,110							356	18,566	27,110
1,627         0         39,048         353         8,472         637         15,288         637           375         0         9,000         375         9,000         7         15,288         637           12,296         441,595         736,699         1,284         55,600         86,416         6,672         191,115         351,243         4,340         19           12,296         44,160         73,670         128         5,560         8,6416         6,672         191,115         351,243         4,340         19           1,230         44,160         73,670         128         5,560         8,642         667         19,112         351,243         4,340         19           2,966         31,378         102,563         128         1,668         4,750         1,401         11,639         45,266         1,437         1           16,492         517,132         912,932         1,541         62,828         99,807         8,740         21,1855         431,633         6,211         25	I. Engineering Service	1,190	2	134,960	556	55,600	68,944	317	25,400	33,008	317	25,400	33,008
375       0       9,000       375       9,000       375       9,000       375       9,000       375       373       4,340       15         12,296       441,595       736,699       1,284       55,600       86,416       6,672       191,115       351,243       4,340       15         1,230       44,160       73,670       128       5,560       8,642       667       19,112       35,124       434       1         2,966       31,378       102,563       128       1,668       4,750       1,401       11,639       45,266       1,437       1         16,492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       25         16,492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       25	V. Administration Expenses	1,627	0	39,048	353		8,472	637		15,288	637		15,288
12,296       441,595       736,699       1,284       55,600       86,416       6,672       191,115       351,243       4,340       15         1,230       44,160       73,670       128       5,560       8,642       667       19,112       35,124       434       1         2,966       31,378       102,563       128       1,668       4,750       1,401       11,639       45,266       1,437       1         16,492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       26	/. Land Acquisition	375		9,000	375		9,000						
12,296       441,595       736,699       1,284       55,600       86,416       6,672       191,115       351,243       4,340       15         1,230       44,160       73,670       128       5,560       8,642       667       19,112       35,124       434       1         2,966       31,378       102,563       128       5,560       8,642       667       19,112       35,124       434       1         1,6492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       26         16,492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       26													
1,230       44,160       73,670       128       5,560       8,642       667       19,112       35,124       434       1         2,966       31,378       102,563       128       5,560       8,642       667       19,112       35,124       434       1         2,966       31,378       102,563       128       1,668       4,750       1,401       11,639       45,266       1,437       1         16,492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       25	Total	12,296	441,595	736,699	1,284	55,600	86,416	6,672	191,11	351,243	4,340	194,880	299,040
1,230       44,160       73,670       128       5,560       8,642       667       19,112       35,124       434       1         2,966       31,378       102,563       128       1,668       4,750       1,401       11,639       45,266       1,437       1         16,492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       25													
1,230       44,160       73,670       128       5,560       8,642       667       19,112       35,124       434       1         2,966       31,378       102,563       128       1,668       4,750       1,401       11,639       45,266       1,437       1         16,492       517,132       912,932       1,541       62,828       99,807       8,740       221,865       431,633       6,211       25	/l. Contingencies	:											
2,966     31,378     102,563     128     1,668     4,750     1,401     11,639     45,266     1,437       16,492     517,132     912,932     1,541     62,828     99,807     8,740     221,865     431,633     6,211	1. Physical	1,230	44,	73,670	128	5,560	8,642	667	-		434	19,488	29,904
16,492         517,132         912,932         1,541         62,828         99,807         8,740         221,865         431,633         6,211	2. Price	2,966	3	102,563	128	1,668	4,750	1,401	11,639	45,266	1,437	18,071	52,548
16,492 517,132 912,932 1,541 62,828 99,807 8,740 221,865 431,633 6,211													
lote : L/C; Local Currency Portion	Grand Total	16,492	517,132	912,932	1,541	62,828	99,807	8,740		431,633	6,211	232,439	381,492
Vote : L/C; Local Currency Portion											: · ·		
	Vote : L/C; Local Currency Portior	Ē											

F/C; Foreign Currency Portion

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Table 5.2.4 (2) DISBURSEMENT SCHEDULE OF THE PROJECT COST THE NAMIKOKWE INTEGRATED IRRIGATION PEOJECT

.		<b>—</b>	<b> </b>	β			<b></b>		5	Ŋ	ŝ	ξ	ω		Q	ß	Z		<b>[</b>	0	*****		က္က	୭	<b>144-11</b> 3	2	
J.Yen)		Total		11,983					87,727	19,262	229,233	24,273	372,478		67,800	33,008	16,344			489,630			48,963	86,009		624,602	 
cha, 1000	1996	F/C		6,607					61,927	13,310	151,857	13,689	247,390		46,416	25,400				319,206			31,921	29,599		380,726	
(Unit: 1000 Kwacha, 1000 J.Yen)		LC LC		224					1,075	248	3,224	441	5,212		891	317	681			7,101			710	2,350		10,162	
(Unit: 1		Total		47,933	76,879	128,857	102,927	99,355			98,249		554,200			33,008	16,344			603,552			60,355	77,332		741,239	
	1995	F/C		26,429	38,311	<u></u>	40,191	70,603			65,081		306,016	-		25,400				331,416			33,142	20,183		384,741	
				968	1,607	2,644	2,614	1,198			1,382		10,341			317	- 681			11,339		   	1,134	2,381		14,854	
		Total							:							93,068	11,328	20,520		124,936			12,494	7,258		144,687	
-	1994	F/C			·											74,800				74,800	•		7,480	2,244		84,524	
		L/C				-		 -								762	472	855		2,089			209	209		2,507	
		Total		59,916	76,879	128,857	102,927	99,355	87,727	19,262	327,482	24,273	926,678		67,800	159,128	44,016	20,520		1,218,142			121,812	170,599		1,510,553	
	Total	F/C		33,036	38,311	65,401	40,191	70,603	61,927	13,310	216,938	13,689	553,406		46,416	125,600	0	0		725,422 1,			72,542	52,026		849,990 1,	
. •				1,120	1,607	2,644	2,614	1,158	1,075	248	4,606	441	15,553 5		168	1,397	1,834	855		20,530 7			2,053	4,941		27,523 8	
			on Cost	Works				oads	Road	Road	elopment	nals				9	cpenses										; ;; .
			Direct Construction Cost	1. Preparatory Works	1. Head Works	2. Main Canals	3. Branch Canal	4. Inspection Roads	5. Flood Dike/F	6. Connecting Road	7. Tertiary Development	8. Drainage Canals	Sub-Total		II. Rice Mill	II. Engineering Service	IV. Administration Expenses	V. Land Acquisition		Total		VI. Contingencies	1. Physical	2. Price		Grand Total	

Note : L/C; Local Currency Portion F/C; Foreign Currency Portion

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 Table 5.2.4 (3)
 DISBURSEMENT SCHEDULE OF THE PROJECT COST

 THE LOWER LIVULEZI IRRIGATION PROJECT

(Unit: 1000 Kwacha, 1000 J.Yen)

UC         FUC         Total         L/C         FUC         Total         L/C         FUC         Total         L/C           971         14.206         37.510         37.510         241         246         3.995         5.099         241           971         14.206         37.510         971         14.206         37.510         241           971         14.206         37.510         971         14.206         37.510         241           3.822         73.412         165.140         3.822         73.412         165.140         265.631           3.822         73.412         165.140         3.822         73.412         165.140         273         1           3.93         5.879         15.311         773         38.066         57.146         1,478         8           775         38.066         57.146         775         38.066         57.146         1,478         8         273         1           773         14.209         226.477         38.20         15.311         1,478         8         273         1         1,478         8         273         1         273         1         273         1         273         1	UC         F/G         Total         UC         F/G <thuc< th="">         F/G         Total         <th< th=""><th></th><th></th><th></th><th></th><th></th><th>1004</th><th></th><th></th><th>1005</th><th></th><th>1000 KWa</th><th>: TUUU KWacna, TUUU J. Yen</th><th>J.Yen)</th></th<></thuc<>						1004			1005		1000 KWa	: TUUU KWacna, TUUU J. Yen	J.Yen)
UC         F/C         Total         L/C         F/C         F/C         Total         L/C         F/C	UC         F/C         Total         L/C         F/C         F/C         F/C         Total         L/C         F/C	:		IOLAI			-934			1330			1220	·
Direct Construction Cost         Interact Cost         Interact Construction Cost         Interact Cost         <	Direct Construction Cost         Index         State         64,018         State         64,018         State         51,008         24,1         7,029           1         Present Construction Cost         1,203         35,146         64,018         971         14,206         37,510         241         7,029           2         Culverton Mirds         971         14,206         37,510         46         3,955         5,099         241         7,029           3         Rote Threedging         3822         15,311         14,206         57,146         1478         84,022         1         1,478         84,022         1           5         Main Canals         333         25,613         26,74         27,04         14,768         84,022         1         1,478         84,022         1         1,478         84,022         1         1,478         84,022         1         1,478         84,022         1         1,478         84,022         1         1         273         14,206         7         1         1,478         84,022         1         1         1,478         84,022         1         1         1         1         1         1         1,1,756         343,769         57,148 </th <th></th> <th>ר ר ר</th> <th>F/C</th> <th>Total</th> <th></th> <th>F/C</th> <th>Total</th> <th>L/C</th> <th>F/C</th> <th>Total</th> <th></th> <th>F/C</th> <th>Totai</th>		ר ר ר	F/C	Total		F/C	Total	L/C	F/C	Total		F/C	Totai
1         Preparatory Works         1,203         55,146         64,018         971         1,4206         37,510         7,023           3         Nore Diredging         971         14,206         37,510         37,510         7,03           3         River Diredging         971         14,206         37,510         7,03         7,03           3         River Diredging         3,802         155,333         226,581         7,412         165,140         7,03           4         Head Works         3,802         155,133         226,581         7,418         84,022         17,03           5         Fload Dise/Reads         3,822         73,416         84,022         11,478         84,022         14,208           5         Fload Dise/Read         1,478         84,022         14,208         57,146         7,738         84,022         17,478         84,022         14,208           5         Fload Dise/Read         1,478         84,022         14,208         57,146         7,738         84,022         14,208           6         Fload Dise/Read         1,478         84,028         14,508         7,347         8,422         14,208           6         Fload Dise/Read	1.         Preparatory Works         1,203         35,146         64,018         7,029         7,020         7,020           2.         Unvertionedic         971         14,206         37,510         971         14,206         37,510         7           3.         Neer Dredging         3,802         15,333         226,581         14,206         57,146         14,206         7         14,206         14,206         14,206         14,206         14,206         14,206         14,206         14,206         14,206         14,206         14,206         14,206         14,206         14,206	I. Direct Construction Cost												
2. Culvert on M-16         971         14.206         37,510         7           4. Hard Works         3,802         3,393         5,099         7         7           5. Main Carnals         3,802         15,331         5,099         7         7           5. Main Carnals         3,802         15,331         5,099         7         7           5. Main Carnal         3,802         15,331         165,140         7         7         3         8         7         14/78         84,022         1           5. Main Carnals         3,933         5,014         7         3         8         7         14/5         7         14/28         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1         1/478         84,022         1 <td< td=""><td>2. Culvert on M-16         971         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,76         84,022         13,533         25,5591         14,76         84,022         11,756         38,026         57,140         14,76         84,022         11,276         38,026         57,140         14,76         84,022         11,276         34,781         67,941         74,76         84,022         11,276         34,781         67,941         74,76         84,022         11,276         34,781         67,941         74,76         84,022         11,276         34,781         67,941         74,76         84,623         36,102         14,476         84,022         14,476         84,022         14,476         84,022         14,476         84,022         14,476         84,022         14,726         84,623         14,206         14,726         84,623         13,626         14,726         84,62</td><td>1. Preparatory Works</td><td>1,203</td><td>35,146</td><td>64,018</td><td></td><td></td><td></td><td>962</td><td>·</td><td>51,205</td><td>241</td><td>7,029</td><td>12,813</td></td<>	2. Culvert on M-16         971         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,206         37,510         14,76         84,022         13,533         25,5591         14,76         84,022         11,756         38,026         57,140         14,76         84,022         11,276         38,026         57,140         14,76         84,022         11,276         34,781         67,941         74,76         84,022         11,276         34,781         67,941         74,76         84,022         11,276         34,781         67,941         74,76         84,022         11,276         34,781         67,941         74,76         84,623         36,102         14,476         84,022         14,476         84,022         14,476         84,022         14,476         84,022         14,476         84,022         14,726         84,623         14,206         14,726         84,623         13,626         14,726         84,62	1. Preparatory Works	1,203	35,146	64,018				962	·	51,205	241	7,029	12,813
3. River Dredging         46         3,905         5,099         7           5. More Dredging         46         3,902         135,133         226,581         7           5. Mario Dredging         3,802         135,133         226,581         7         146           5. Mario Dredging         3,802         15,511         7         146         7,915         15,511           5. Mario Dredging         3,82         27,146         75         3,806         57,146         7         1,478         8,4022         1           4. Inspection Roads         753         85,006         57,146         7         75         84,022         1         4,202           5. Flood Direc Roads         1,77         84,022         19,494         7         75         84,022         1         7,478         84,022         1         7,478         84,022         1         7,478         84,022         1         7,47         84,6         3,812         2,4116         7         7         7         7         84,6         3,812         2,4116         7         7         7         7         7         84,6         3,812         2,4126         1         7         7         7         7 <td< td=""><td>3. River Dredging         46         3.995         5.099         4           5. Mint Canals         3.822         73.312         226.561         3.822         73.412         165.140         7           5. Maint Canals         3.822         73.412         165.140         3.822         73.412         165.140         7           6. Maint Canals         3.832         75.31         165.140         3.822         73.412         165.140         7           7. Inspection Roads         7.95         38.066         57.146         7         3.822         73.412         1.476         8.4022         1.478         8.4022         1.4.208         1.4.268         2.25.104.488         1.4.268         2.25.417         2.7.3412         1.4.268         2.7.341         2.7.3412         2.7.3412         2.7.3412         2.7.3412         2.7.461         2.7.341         2.7.252         10.4.4.288         1.4.208         1.4.208         2.7.341         2.7.252         10.4.4.881         2.7.341         2.7.341         2.7.341         2.7.351         2.7.4.61         2.7.341         2.7.352         10.4.4.881         1.4.208         2.7.341         2.7.341         2.7.352         10.4.4.83         1.4.208         2.7.341         2.7.342         2.7.342         2</td><td>2. Culvert on M-18</td><td>126</td><td>14,206</td><td>37,510</td><td></td><td></td><td></td><td>126</td><td>14,206</td><td>37,510</td><td></td><td></td><td></td></td<>	3. River Dredging         46         3.995         5.099         4           5. Mint Canals         3.822         73.312         226.561         3.822         73.412         165.140         7           5. Maint Canals         3.822         73.412         165.140         3.822         73.412         165.140         7           6. Maint Canals         3.832         75.31         165.140         3.822         73.412         165.140         7           7. Inspection Roads         7.95         38.066         57.146         7         3.822         73.412         1.476         8.4022         1.478         8.4022         1.4.208         1.4.268         2.25.104.488         1.4.268         2.25.417         2.7.3412         1.4.268         2.7.341         2.7.3412         2.7.3412         2.7.3412         2.7.3412         2.7.461         2.7.341         2.7.252         10.4.4.288         1.4.208         1.4.208         2.7.341         2.7.252         10.4.4.881         2.7.341         2.7.341         2.7.341         2.7.351         2.7.4.61         2.7.341         2.7.352         10.4.4.881         1.4.208         2.7.341         2.7.341         2.7.352         10.4.4.83         1.4.208         2.7.341         2.7.342         2.7.342         2	2. Culvert on M-18	126	14,206	37,510				126	14,206	37,510			
4. Head Works         3.802         13.533         226,581         7         7         7           5. Sim Canals         3.822         73,412         165,140         7         1478         84,022           3. Barch Canals         3.822         73,412         165,140         7         1478         84,022           4. Inspection Roads         793         3.605         57,146         7         273         14,708         84,022         1478         84,022         1478         84,022         14,708         84,022         14,478         84,022         14,478         84,022         14,478         84,022         14,468         57,146         7         273         14,508         7         273         14,508         26,106         7         273         14,708         84,62         33,612         273         14,708         273         14,708         273         14,708         273         14,708         273         14,708         273         14,468         33,612         275         14,468         33,612         273         14,508         273         14,468         273         273         14,408         273         273         14,428         273         273,618         273,618         273,610 <t< td=""><td>4. Head Works         3,802         15,533         226,581         5         165,140         5           5. Main Canals         3,822         73,412         165,140         33         366         57,146         1,478         94,022         1           5. Flood Dike Roads         795         36,065         57,146         79         38,066         57,146         79         36,06         57,146         70         273         14,208           6. Flood Dike Roads         795         38,066         57,146         79         79         38,066         57,146         70         273         14,208           6. Connecting Road         273         14,208         20,760         20,760         79         79         86,51         47,78         64,61         70         273         14,208           7. Tetrainery Conscience         1,478         84,022         119,720         1         11,756         343,712         255,400         273         14,208         27,850         24,656         27,850         24,656         27,850         24,576         27,85         26,540         27,85         25,400         27,85,400         27,85,400         27,85,400         27,85,400         27,85,400         27,85,415         28,45,4</td><td>3. River Dredging</td><td>46</td><td>3,995</td><td>5,099</td><td></td><td></td><td></td><td>46</td><td>3,995</td><td>5.099</td><td></td><td></td><td></td></t<>	4. Head Works         3,802         15,533         226,581         5         165,140         5           5. Main Canals         3,822         73,412         165,140         33         366         57,146         1,478         94,022         1           5. Flood Dike Roads         795         36,065         57,146         79         38,066         57,146         79         36,06         57,146         70         273         14,208           6. Flood Dike Roads         795         38,066         57,146         79         79         38,066         57,146         70         273         14,208           6. Connecting Road         273         14,208         20,760         20,760         79         79         86,51         47,78         64,61         70         273         14,208           7. Tetrainery Conscience         1,478         84,022         119,720         1         11,756         343,712         255,400         273         14,208         27,850         24,656         27,850         24,656         27,850         24,576         27,85         26,540         27,85         25,400         27,85,400         27,85,400         27,85,400         27,85,400         27,85,400         27,85,415         28,45,4	3. River Dredging	46	3,995	5,099				46	3,995	5.099			
S. Main Canals         3,822         73,412         165,140         No           3. Branch Canal         393         5,879         15,311         No         13,478         84,022         13,418         No         13,478         84,022         13,478         84,022         13,478         84,022         13,478         84,022         13,478         84,022         13,478         84,022         14,208         20,760         779         38,066         57,146         1,478         84,022         14,208         20,760         14,278         84,022         14,208         20,760         273         14,208         217         14,208         273         14,208         273         14,208         20,760         273         14,208         273         14,208         273         14,208         273         14,208         273         14,208         273         17         84,625         33,412         273         14,208         273         12,213         14,208         273         12,212         14,208         273         14,208         273         12,213         14,208         11,252         14,208         273         12,212         14,208         11,254         214         214         214         214         214         214	5. Main Canals         3:822         73,412         165,140         3:822         73,412         165,140         1           3. Brench Canals         393         5,879         15,311         3933         5,879         15,311         1           4. Brench Canal         393         5,879         15,311         3933         5,879         15,311         1           5. Hood Dike/Road         1,478         84,022         19,476         84,022         19,478         84,022         1           5. Hood Dike/Road         273         14,208         20,760         7         965         44,781         67,941         273         14,208           6. Connecting Road         273         14,208         20,407         965         44,781         67,941         275         14,208           8. Delinope Canals         95,11         19,505         217         66,60         71,175         84,025         14,788         84,025         14,281         74,031         255,400         255,400         256,400         264,050         27,450         256,400         266,60         27,412         66,175         26,401         26,402         26,403         25,403         25,403         25,403         25,403         25,400 <t< td=""><td>4. Head Works</td><td>3,802</td><td>1.3</td><td>226,581</td><td></td><td></td><td></td><td>3,802</td><td>135,333</td><td>226,581</td><td></td><td></td><td></td></t<>	4. Head Works	3,802	1.3	226,581				3,802	135,333	226,581			
3. Branch Canal       393       5,879       15,311       1	3. Brainch Camal         393         5,879         15,311         1         1,476         8,402         1           4. Inspection Roads         795         38,066         57,146         795         38,066         57,146         7,176         8,402           5. Connecting Road         1,718         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,476         84,022         11,470         84,022         11,470         84,022         11,470         84,022         11,470         84,022         11,470         84,022         11,470         84,022         11,726         11,756<	5. Main Canals	3,822	-	165,140				3,822	73,412	165,140			
4. Inspection Roads         795         38,066         57,146         1 </td <td>4. Inspection Roads         795         38,066         57,146         1,478         8,022         1           5. Flood Dike/Road         1,478         8,022         119,494          965         4,781         6,7941         2,723         14,208           7. Toromecting Roads         2,17         19,269         26,477          965         4,781         6,7941         2,723         14,208           7. Toromecting Roads         3,512         54,116          965         4,781         67,941         2,723         14,208           8. Drainage Canals         846         33,512         54,116          965         4,781         67,941         2,75         846         33,612           8. Drainage Canals         846         33,512         54,116          11,756         343,789         67,943         5,793         2,400           8. Drainage Canals         15,84         91,652         40,666         717         68,800         86,10         3,4789         67,543         5,930         27,400           Roe Mill         534         71,568         817         717         68,800         86,10         8,6708         8,740         27,400         27,400</td> <td>3. Branch Canal</td> <td>393</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>393</td> <td>5,879</td> <td>15,311</td> <td></td> <td></td> <td></td>	4. Inspection Roads         795         38,066         57,146         1,478         8,022         1           5. Flood Dike/Road         1,478         8,022         119,494          965         4,781         6,7941         2,723         14,208           7. Toromecting Roads         2,17         19,269         26,477          965         4,781         6,7941         2,723         14,208           7. Toromecting Roads         3,512         54,116          965         4,781         67,941         2,723         14,208           8. Drainage Canals         846         33,512         54,116          965         4,781         67,941         2,75         846         33,612           8. Drainage Canals         846         33,512         54,116          11,756         343,789         67,943         5,793         2,400           8. Drainage Canals         15,84         91,652         40,666         717         68,800         86,10         3,4789         67,543         5,930         27,400           Roe Mill         534         71,568         817         717         68,800         86,10         8,6708         8,740         27,400         27,400	3. Branch Canal	393						393	5,879	15,311			
5. Flood Dike/Road         1,478         84,022         119,494         1         1,478         84,023         13,478         84,023         14,208         273         14,208         273         14,208         84,021         14,208         84,023         14,208         84,023         14,208         84,023         14,208         273         14,208         273         14,208         273         14,208         14,218         66,21         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317	5. Flood Dike/Road         1,478         84,022         119,494         1         1,478         84,022         11,478         84,022         11,478         84,022         11,478         84,022         11,478         84,022         11,478         84,022         11,478         84,022         10,4788         1         273         1,478         84,022         10,4788         1         273         1,478         84,022         10,4788         1         273         1,478         84,022         10,4288         10,4288         10,4288         10,4288         10,4288         10,4288         10,4288         10,4288         10,4288         10,4288         10,4288         11,756         343,789         625,933         5,030         23,3181         25,400         23,3181         23,400         23,3181         23,400         23,3181         23,400         23,3181         23,400         23,3181         23,400         23,3181         23,400         23,3181         23,400         23,3181         23,400         23,3181         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,400         23,	4. Inspection Roads	262						795	38,066	57,146			
6. Connecting Road         273         14,208         20,760         273         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         10,49         256         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         14,208         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         12,252         104,438         11,756         11,756         11,756         11,756         11,756         11,756         11,726         15,424         10         11         12,427         12,427         12,427         12,427         12,427         12,427         12,427         12,427         12,427          12,426         12	6. Connecting Road         273         14,208         20,700         273         14,208         11,276         34,3,789         6,25,333         5,090         24,3,559         25,400         27,41         27,400         27,41         27,400         27,41         27,400         27,41         27,400         27,41         27,400         27,41         27,400         27,400         27,400         27,41         27,400         27,41         27,400         27,41         27,400         27,41         27,400         27,41         27,41         27,400 </td <td>5. Flood Dike/Road</td> <td>1,478</td> <td>84,022</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1,478</td> <td>84,022</td> <td>119,494</td>	5. Flood Dike/Road	1,478	84,022	-							1,478	84,022	119,494
7. Tertiary Development         3.217         149.266         226,477         965         44,781         67,941         2.252         104,486         3.3.812           8. Drainage Canals         946         33.312         54,116         7	7. Tertiary Development         3,217         149,269         226,477         965         44,781         67,941         2,252         104,486         11           8. Drainage Canals         846         33,612         54,116           846         33,612         54,116          846         33,612         54,116          846         33,612         54,116          846         33,612         846         33,72         26,800         86,008         811         6,61         16,726         661         16,726         661         16,726         661         16,726         661         1	6. Connecting Road	273	14,208								273	14,208	20,760
8. Drainage Canals         846         33,812         54,116         94,6         33,812         54,116         846         33,812         54,116         846         33,812         54,116         846         33,812         5,090         243,559         3           Sub-Total         16,846         587,348         991,652         40,666         717         68,900         86,008         317         25,400         33,008         317         25,400           Rice Mill         534         27,850         40,666         717         68,900         86,008         317         25,400         317         25,400           Administration Expenses         1,351         119,600         152,024         717         68,900         86,008         317         25,400         317         25,400           Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         77           Land Acquisition         780         18,720         780         116,056         12,754         369,189         675,285         6,622         296,809         7           Lotal         21,345         734,798         13,720         18,720         78,809,189	8. Drainage Canals         846         33,812         54,116         94         33,812         54,116         94         33,812         54,116         74         75         343,739         625,933         5,030         243,550         7           Rice Mill         534         27,850         40,666         717         68,000         86,008         31,7         25,400         35,000         243,550         7,4550           Rice Mill         534         27,850         44,066         717         68,00         86,008         31,7         25,400         35,008         31,7         25,400           Administration Expenses         1,351         119,600         15,720         780         11,328         681         16,74         71         25,400         33,008         31,7         25,400           Administration Expenses         1,331         11,320         68,00         86,008         817         27,400         33,008         31,7         25,400         31,7         25,400         31,7         25,400         31,7         25,400         31,7         25,400         31,7         25,400         31,7         25,400         31,7         25,400         31,7         25,400         35,401         4,75         21,47	7. Tertiary Development	3,217	149,269					965	44,781	67,941	2,252	104,488	158,536
Sub-Total         16,346         587,348         991,652         11,756         343,789         625,933         5,090         243,559         3           Rice Mill         534         27,850         40,666         7         7         68,800         86,008         317         25,400         534         27,850           Administration         534         735         119,600         152,024         717         68,800         86,008         317         25,400         35,008         317         25,400           Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         7         25,400           Administration Expenses         1,834         0         18,720         780         18,720         7         26,918         675,285         6,622         296,809         4           I otal         21,345         1,956         68,800         116,056         12,754         369,189         675,285         6,622         296,809         4         7         29,400         7         29,400         7         29,400         7         29,400         7         20,610         4         681         7         26,400	Sub-Total         16,846         587,348         991,652         11,756         343,789         625,933         5,090         243,559         3           Rice Mill         534         27,850         40,666         717         68,800         817         25,400         35,008         317         25,400           Administration Expenses         1,331         119,600         152,024         717         68,800         861         72,400         35,008         317         25,400           Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         77         25,400           Administration Expenses         1,834         0         18,720         78         681         16,756         52,400         37         25,400           Administration Expenses         1,834         0         18,720         78         681         682         296,809         4           Administration Expenses         21,345         1,969         68,800         16,750         65,22         296,809         4         27,529           Cotal         21,Physical         2,134         19,7         68,800         116,056         12,775         369,19 </td <td>8. Drainage Canals</td> <td>846</td> <td>33,812</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>846</td> <td>33,812</td> <td>54,116</td>	8. Drainage Canals	846	33,812								846	33,812	54,116
Rice Mill         534         27,850         40,666         717         68,800         85,008         317         25,400         33,008         317         25,400           Engineering Service         1,351         119,600         152,024         717         68,800         817         25,400         33,008         317         25,400           Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         27,400           Administration Expenses         1,834         0         18,720         780         11,328         681         16,344         681         26,340           Land Acquisition         780         0         18,720         780         11,328         6810         16,344         681         26,340         26,6919         472         26,340         26,340         26,622         296,809         4         4         4         4         4         4         4         6         4         4         6         4         5         26,340         56,5185         6,622         296,809         4         2         4         6         4         5         5         5         5         5         5 <td>Rice Mill         534         27,850         40,666         7         7         68,800         86,008         317         25,400         33,008         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         31,01         16,344         681         12,400         317         25,400         31,01         16,344         681         1         24,000         317         25,400         31,01         16,344         681         1         25,400         31,01         20,01         20,01         20,01         20,01         20,01         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02<!--</td--><td>Sub-Total</td><td>16,846</td><td>587,348</td><td>.  </td><td></td><td></td><td></td><td>11,756</td><td>343,789</td><td>625,933</td><td>5,090</td><td>243,559</td><td>365,719</td></td>	Rice Mill         534         27,850         40,666         7         7         68,800         86,008         317         25,400         33,008         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         317         25,400         31,01         16,344         681         12,400         317         25,400         31,01         16,344         681         1         24,000         317         25,400         31,01         16,344         681         1         25,400         31,01         20,01         20,01         20,01         20,01         20,01         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02         21,02 </td <td>Sub-Total</td> <td>16,846</td> <td>587,348</td> <td>.  </td> <td></td> <td></td> <td></td> <td>11,756</td> <td>343,789</td> <td>625,933</td> <td>5,090</td> <td>243,559</td> <td>365,719</td>	Sub-Total	16,846	587,348	.				11,756	343,789	625,933	5,090	243,559	365,719
Rice Mill         534         27,850         40,666         717         68,800         86,008         317         25,400         33,003         317         25,400           Engineering Service         1,351         119,600         152,024         717         68,800         86,008         317         25,400         33,003         317         25,400           Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         25,400           Administration         780         0         18,720         780         18,720         780         36,918         681         681         681         681         16,544         681         7         7         7         7         400         7         7         7         7         7         400         7         7         7         7         400         7         7         7         400         817         2         400         81         7         5         400         8         7         8         7         2         400         8         7         7         400         8         7         4         681         7         6 <td< td=""><td>Rice Mill         534         27,850         40,666         717         68,800         85,008         317         25,400         33,7         25,400           Engineering Service         1,351         119,600         152,024         717         68,800         86,107         25,400         33,77         25,400           Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         25,400           Administration Expenses         1,834         0         18,720         780         18,720         78         681         66,344         681         7         7         7         68,800         7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Rice Mill         534         27,850         40,666         717         68,800         85,008         317         25,400         33,7         25,400           Engineering Service         1,351         119,600         152,024         717         68,800         86,107         25,400         33,77         25,400           Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         25,400           Administration Expenses         1,834         0         18,720         780         18,720         78         681         66,344         681         7         7         7         68,800         7													
Engineering Service         1,351         119,600         152,024         717         68,800         86,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         35,008         317         25,400         36,712         26,800         16,346         681         16,346         681         17         26,40         21,247         26,40         36,712         36,919         675,285         6,622         29,6809         31           Contingencies         2,1752         3,773         1,2775 <t< td=""><td>Engineering Service         1,351         119,600         152,024         717         68,000         86,008         317         25,400         33,008         317         25,400           Administration         780         0         44,016         472         11,328         681         16,344         681         56,22         29,6809         4           Land Acquisition         780         0         18,720         780         11,328         681         16,344         681         56,22         296,809         4           Land Acquisition         21,345         734,798         1,369         68,800         11,6056         12,754         369,189         675,285         6,622         296,809         4           Contingencies         2,135         734,800         1397         6,8800         11,6056         12,754         36,919         67,528         6,622         296,809         4         6         764         2,192         27,522         2</td><td>I. Rice Mill</td><td>534</td><td>27,850</td><td>40,666</td><td></td><td></td><td></td><td></td><td></td><td></td><td>534</td><td>27,850</td><td>40,666</td></t<>	Engineering Service         1,351         119,600         152,024         717         68,000         86,008         317         25,400         33,008         317         25,400           Administration         780         0         44,016         472         11,328         681         16,344         681         56,22         29,6809         4           Land Acquisition         780         0         18,720         780         11,328         681         16,344         681         56,22         296,809         4           Land Acquisition         21,345         734,798         1,369         68,800         11,6056         12,754         369,189         675,285         6,622         296,809         4           Contingencies         2,135         734,800         1397         6,8800         11,6056         12,754         36,919         67,528         6,622         296,809         4         6         764         2,192         27,522         2	I. Rice Mill	534	27,850	40,666							534	27,850	40,666
Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         6           Land Acquisition         780         0         18,720         780         18,720         780         6622         296,809         4           Total         21,345         734,798         1,247,078         1,969         68,800         116,056         12,754         369,189         675,285         6,622         296,809         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         6         4         4         4         6         4         4         4         6         4	Administration Expenses         1,834         0         44,016         472         11,328         681         16,344         681         681           Land Acquisition         780         0         18,720         780         18,720         780         681         7         7           Total         21,345         734,798         1,247,078         1,969         68,800         116,056         12,754         369,189         675,285         6,622         296,809         4           Total         2,1345         73,4798         1,247,078         197         6,880         11,6056         12,754         369,189         675,285         6,622         296,809         4           Contingencies         2,135         73,480         1724,708         197         2,064         6,750         2,753         6,622         29,681         7         21,922         27,522           Contingencies         2,195         57,070         173,681         197         2,064         6,750         2,678         6,622         29,681         7         21,922         27,522         27,522         27,522         27,522         27,522         27,522         27,522         27,522         2,64,64         2,192         27,522	II. Engineering Service	1,351	119,600	152,024	212	68,800	86,008	317	25,400	33,008	317	25,400	33,008
Land Acquisition       780       18,720       780       18,720       780       18,720       78       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       78,700       71,600       12,754       369,189       675,285       6,622       296,809       4         Contingencies       2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681       1         Contingencies       2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681       1	Land Acquisition         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         780         18,720         18,6,764         2,192         27,522         17,522         11,500         1,5753         16,702         2,752         27,523         54,5451         16,708	V. Administration Expenses	1,834		44,016	472		11,328	681		16,344	681		16,344
21,345       734,798       1,247,078       1,969       68,800       116,056       12,754       369,189       675,285       6,622       296,809         2       2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         2       5,067       52,070       173,681       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,750       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	21,345       734,798       1.247,078       1,969       68,800       116,056       12,754       369,189       675,285       6,622       296,809         21,345       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         2,135       73,480       173,681       197       2,064       6,790       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	V. Land Acquisition	780		18,720	780		18,720						
21,345       734,798       1,247,078       1,969       68,800       116,056       12,754       369,189       675,285       6,622       296,809         2       2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,790       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	21,345       734,798       1.247,078       1,969       68,800       116,056       12,754       369,189       675,285       6,622       296,809         2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,790       2,678       22,484       86,764       27,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012													
2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,790       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,790       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012         Durrency Portion       28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	Total	21,345	734,798	1 247,078	1,969	68,800	116,056	12,754	369,189	675,285	6,622	296,809	455,737
2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,790       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,790       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012         Durrency Portion       28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012         Durrency Portion       20       20       2,744       134,451       16,708       428,592       829,577       9,476       354,012													
2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,750       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	2,135       73,480       124,708       197       6,880       11,606       1,275       36,919       67,529       662       29,681         5,067       52,070       173,681       197       2,064       6,790       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012	/l. Contingencies						-						
5,067     52,070     173,681     197     2,064     6,790     2,678     22,484     86,764     2,192     27,522       28,547     860,348     1,545,467     2,363     77,744     134,451     16,708     428,592     829,577     9,476     354,012	5,067       52,070       173,681       197       2,064       6,750       2,678       22,484       86,764       2,192       27,522         28,547       860,348       1,545,467       2,363       77,744       134,451       16,708       428,592       829,577       9,476       354,012         n       1 <t< td=""><td>1. Physical</td><td>2,135</td><td></td><td>124,708</td><td>197</td><td>6,880</td><td>11,606</td><td>1,275</td><td>36,919</td><td>67,529</td><td>662</td><td>29,681</td><td>45,574</td></t<>	1. Physical	2,135		124,708	197	6,880	11,606	1,275	36,919	67,529	662	29,681	45,574
28,547     860,348     1,545,467     2,363     77,744     134,451     16,708     428,592     829,577     9,476     354,012	28,547     860,348     1,545,467     2,363     77,744     134,451     16,708     428,592     829,577     9,476     354,012	2. Price	5,067	52,070	173,681	197	2,064	06,790	2,678	22,484	86,764	2,192	27,522	80,127
28,547 860,348 1,545,467 2,363 77,744 134,451 16,708 428,592 829,577 9,476 354,012	28,547     860,348     1,545,467     2,363     77,744     134,451     16,708     428,592     829,577     9,476     354,012													
		Grand Total	28,547	860,348	1,545,467	2,363	77,744	134,451	1.6,708	428,592	829,577	9,476	354,012	581,438
Vote: L/C; Local Currency Portion	Vote: L/C; Local Currency Portion F/C; Foreign Currency Portion							::				-		
	F/C; Foreign Currency Portion	Vote: L/C; Local Currency Portion												

Table 5.2.5 ANNUAL OPERATION AND MAINTENANCE COST

			(Unit : M.Kwacha)
	Lower Nadzipulu	Namikokwe Integrated	Lower Livulezi
1 ADMINISTRATION COST	300,000	310,000	307,000
1.1 Staff Salary	126,000	135,000	132,000
1.2 Labour Charge	28,000	29,000	29,000
1.3 Office Expense	85,000	85,000	85,000
1.4 Fyel	23,000	23,000	23,000
1.5 Office Equipment	12,000	12,000	12,000
1.6 Micellaneous	26,000	26,000	26,000
2 O/M Equipment	168,000	204,000	183,000
2.1 Depreciation	69,000	81,000	76,000
2.2 Fuel	99,000	123,000	107,000
3 Maintenance of Facilities	72,000	126,000	134,000
3.1 Head Works	13,000	12,000	39,000
3.2 Canal System	32,000	85,000	66,000
3.3 Farm Roads	27,000	29,000	29,000
TOTAL O/M COST	540,000	640,000	624,000
			-

Table 5.2.6 REPLACEMENT COST AND ECONOMIC LIFE OF FACILITIES

() Init • M Kwacha)

	بالمستقادية ومعالية والمعالية والمعالية			
Items to be replaced	Economic Life (Year)	Lower Nadzipulu (M.Kwacha)	Namikokwe Integrated (M.Kwacha)	Lower Livulezi (M.Kwacha)
1 METAL WOORKS		337,000	719,000	578,000
1.1 Gates	20	334,000	717,000	576,000
1.2 Screens	20	3,000	2,000	2,000
2 RICE MILL				
2.1 Milling Machine	20	577,000	1,442,000	865,000
TOTAL REPLACEMENT COST		914,000	2,161,000	1,443,000

		· · ·	•	
	underne den nienen gegeneren er en einen der er der gegenen er einen die stellte stellte einen andere einen	Local Portion	Foreign Portion	Total
	Work Item	(M.Kwacha)	(J.Yen)	(J.Yen)
r ·	PREPARATORY WORKS	412,000	8,390,000	18,278,000
		-112,000	0,550,000	10,270,000
<u>11. </u>	BUILDING WORKS	5,193,000	95,918,000	220,550,000
1	Housing	4,934,000	53,782,000	172,198,000
	1.1 O/M Office	469,000	4,125,000	15,381,000
	1.2 Training Room	313,000	2,750,000	10,262,000
	1.3 Laboratory	313,000	2,750,000	10,262,000
	1.4 Guest House	1,935,000	22,290,000	68,730,000
	1.5 Staff Quater	1,044,000	12,002,000	37,058,000
	1.6 Storage/Repair	295,000	3,395,000	10,475,000
	1.7 Storage	469,000	5,401,000	16,657,000
	1.7 Guard House	80,000	926,000	2,846,000
	1.8 Generator house	16,000	143,000	527,000
2	Electricity	148,000	26,891,000	30,443,000
3	Water supply	49,000	13,445,000	14,621,000
4	Outside Works	62,000	1,800,000	3,288,000
<u>-</u> -	4.1 Earth works	37,000	1,655,000	2,543,000
	4.2 Structural Works	25,000	145,000	745,000
n r	ARM PREPARATION WORKS	582,000	21,541,000	35,509,000
	5.1 Earth Works	574,000	21,074,000	34,850,000
	5.2 Land Reclamation Works	8,000	467,000	659,000
co	NSTRUCTION WORKS TOTAL	6,187,000	125,849,000	274,337,000
			A1 772 000	41,772,000
	PROCUREMENT WORKS.		41,772,000	30,992,000
<b></b>	Purchasing 1. Back-hoe		30,992,000 10340000	10,340,000
	2. Moter Grader			11,385,000
	3. Jeep		11385000 2415000	2,415,000
	4. Pickup		1562000	1,562,000
	5. Bike		1150000	1,150,000
	6. Meteo Equip		2415000	2,415,000
	7. Office Equip		1725000	1,725,000
2	Transportation	· · · · · · · · · · · · · · · · · · ·	10780000	10,780,000
то	TAL DIRECT COST	6,187,000	167,621,000	316,109,000

### Table 5.4.1 CONSTRUCTION COST OF BWANJE DEVELOPMENT CENTER

# TABLE 7.2.1 PRIMARY PROFIT FROM CROPS

### (1) Paddy

		Without Project-1 (paddy)			Without Project-2 (paddy)			With Project (Milled Rice)		
kems	Unit	Unit Yield	Unit Price	Amount	Unit Yield	Unit Price	Amount	Unit Yield	Unit Price	Amount
		(a) (kg)	(b) (MK)	(a x b) (MK)	(a) (kg)	(b) (MK) (	a x b) (MK)	(a) (kg)	(b) (MK) (	a x b) (MK)
Gross Revenue	kg	2,700.0	1.5	4,050.0 (c)	1,000.0	1.5	1,500.0 (c)	2,925.0	4.0	11,700.0 (c
Farm Inputs										
1) Seeds	kg	90.0	1.5	135.0	90.0	1.5	135.0	40.0	1.5	60.0
2) Femilizers	-			·						
- Urca	kg	0.0	1.2	0.0	0.0	1.2	0.0	190.0	1.2	231.0
- TSP	kg	0.0	1.3	0.0	0.0	1.3	0.0	54.0	1.3	71.4
Sub-total				0.0			0.0			302.5
Misœllancous										
( 5 % of product	. cost)	5%		6.8	5%		6.8	5%		18.1
Total Production C	lost			141.8 (d)			<u>141.8</u> (d)			380.6 (d)
								$(1,\ldots,n_{n+1})$		
Net Return per Ha	·									
$(\mathbf{c} = \mathbf{c} - \mathbf{d})$	1. A.			3,908.3			1,358.3			11,319.4
(e/c %)				97%			91%	•		97%

Remarks: \* "Without project-1" indicates crop budget for irrigated rice in the existing Mtandamula scheme, while "Without project-2" for rainfed paddy in Upper Namikokwe area and Livulezi area.

### (2) Maize

	•	W	ithout Proj	ect			With Pr	roject	
Items	Unit	Unit Yield	Unit Price	Amount		Unit Yield	Unit Price	Amount	
		(a) (kg) ·	(b) (MK)	(a x	b) (MK)	(a) (kg)	(b) (MK) (	a x b) (MK)	
Gross Revenue	kg	1,000.0	0.43		430.0 (c)	2,000.0	0.43	860.0 (c)	
Farm Inputs								1	
1) Seeds	kg	60.0	1.0		58.8	25.0	3.3	82.8	
Miscellaneous	•								
(5% of produc	t, cost)	5%			2.9	5%		4.1	
Total Production C	lost				61.7 (d)			86.9 (d)	
Net Return per Ha				•					
(c - d)		1 ( ) 1 ( )			368 (e)			773 (c)	
(e/c %)					86%			90%	

### (3) Vegetable

		With Project					
Items	Unit	Unit Yield	Unit Price	Amount			
		(a) (kg)	(b) (MK)	(a x b) (MK)			
Gross Revenue*	kg	-	•	<u>13,902.0</u> (c)			
Færn Inputs				н 1			
1) Seeds	kg		•	381.0			
2) Fertil /chemi	kg	÷ ·	-	1,960.0			
Miscellaneous							
(5% of product.	cost)	5%		117.1			
Total Production Co	st			(d)			
Net Return per Ha							
(c - d)				11,444 (c)			
(c/c %)				82.3%			

Remark: \* Estimated at 70% of the farm budget in Ngolowind Irrigation Scheme

	Area (ha)	Unit Benefit (MK/ha)	Amount (MK)
A. Without Project	<u></u>	• .	
1.Rainfed paddy	0	1,358	0
2 Irrigated packly	0	3,908	0
3.Maize	80	368	29,440
Total-A			29,440
B. With Project			
1.Irrigated paddy	250	11,319	2,829,850
2.Irrigated maize	205	773	158,465
3.Irrigated vegetable	19	11,444	217,436
Total-B			3,205,751
C. Increment			3,176,311
(1,000 J¥)			(76,231)

## (1) The Lower Nadzipulu Irrigation Project

(2) The Namikokwe Integrated Irrigation Project

· · · ·	Area (ha)	Unit Benefit (MK/ha)	Amount (MK)
A. Without Project			
1.Rainfed paddy	150	1,358	203,745
2.Irrigated paddy	230	3,908	898,909
3.Maize	150	368	55,200
Total-A			1,157,854
B. With Project			
1 Irrigated paddy	800	11,319	9,055,520
2.Irrigated maize	63	773	48,699
3.Irrigated vegetable	60	11,444	686,640
Total-B	•		9,790,859
C. Increment			8,633,005
(1,000 J¥)			(207,192)

(3) The Lower Livulezi Irrigation Project

		and the second	
	Area (ha)	Unit Benefit (MK/ha)	Amount (MK)
A. Without Project			
1.Rainfed paddy	190	1,358	258,077
2.Irrigated paddy	0	3,908	0
3.Maize	0	368	. 0
Total-A			258,077
B. With Project			·
1.Irrigated paddy	520	11,319	5,886,088
2.Irrigated maize	200	773	154,600
3.Irrigated vegetable	39	11,444	446,316
Total-B		<b>,</b>	6,487,004
C. Increment			6,487,004
(1,000 J¥)	•		(149,494)

### TABLE 7.2.3 FINANCIAL INTERNAL RATE OF RETURN

1. Lower Nadzipulu Irrr. Project

2. Namikokwe Integrated Irri. Project-1

3. Lower Livulezi Irr. Project

Year in	250 ha			250 ha Year in 800 ha				ĩ	ear in		520 ha		
Order	Cost	Benefit	Balance		Order	Cost	Benefit	Balance		Order	Cost	Benefit	Balance
1	95		-95		1	137		-137		1	128		-12
2	386		-386		2	664		-664		2	743		-74
3	329		-329		3	539		-539		3	501		-50
4	13	2	5 12		4	15	103	88		4	15	49	3
5	13	7	6 63		5	15	207	192		5	15	149	13
6	13	7	6 63		6	15	207	192		6	15	149	13
7	13	7	6 63		7	15	207	192		7	- 15	149	13
8	13	7	6 63		8	15	207	192		8	15	149	13
9	13	7	6 63		9	15	207	192		9	15	149	13
10	13	7	6 63		10	15	207	192		10	15	149	13
11 .	13	7	6 63		11	15	207	192		11	15	149	13
12	13	7	6 63		12	15	207	192		12	15	149	13
13	13	7	6 63		13	15	207	192		13	15	149	13
14	13	7	6 63		14	15	207	192	e de la composition de	14	15	149	13
15	13	7	6 63		15	15	207	192		15	15	149	13
16	13	7	6 63		16	15	207	192		16	15	149	13
17	13	7	6 63		17	15	207	192		17	15	145	• 13
18	13	7	6 63		18	15	207	192		18	15	149	13
19	13	7	6 63		19	15	207	192		19	15	149	13
20	13	7	6 63		20	15	207	192		20	15	149	13
21	35	7	6 41		21	68	207	139		21	50	149	9
22	13	7	6 63		22	15	207	192		22	- 15	149	13
23	13	7	6 63		23	15	207	192		23	15	149	13
24	13	7	6 63		24	15	2.07	192		24	15	149	13
25	13	7	6 63		25	15	207	192		25	15	149	13
26	13	7	6 63		26	15	207	192		26	15	149	13
27	13	7	6 63		27	15	207	192		27	15	149	13
28	13	7	6 63		28	15	207	192		28	15	149	. 13
29	13	. 7	6 63		29	15	207	192		29	15	149	13
30	13	7	6 63		30	15	207	192		30	15	149	13
31	13	7	6 63		31	15	207	192		31	15	149	13
32	13	7	6 63		32	15	207	192		32	15	149	13

IRR: 5.54%

IRR: 11.88%

IRR: 7.61%

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Items	Unit	Mtandan	nula scheme	Rainfed condition		
		Without project condition	With Project condition	Without Project condition	With project condition	
(a) Family size (person)		4.00	4.00	4.30	4.30	
(b) Cultivated area						
Irrigated paddy	ha		0.40		0.36	
Irrigated maze	ha		0.03		0.03	
Irrigated vegetables	ha		0.03		0.03	
Rainfed maize	ha	1.00	1.00	0.83	0.83	
Rainfed paddy	ha	0.40		0.36		
(c) Sale of crops	÷					
Rice	MK		3744(1)		3370(1)	
Maize	MK		0(2)		0(2)	
Vegetables	MK		309(3)		309(3)	
Total crop income	MK	2,240	4,053	395	3,679	
(d) Sale of livestock	MK	41	41	126	126	
(e) Non-farm income	MK	0	0	184	0	
(f) Total income	MK	2,281	4,094	705	3,805	
(g) Production cost						
Paddy	MK		152		137	
Maize	MK		65		54	
Vegetables	MK		74		74	
Millig cost			180		162	
Total productio cost	MK	294	471	40	427	
(h) Non-farm cost	MK	. 0	0	27	0	
(i) Living expense(4)	MK	1,685	2,022	689	827	
(j) Total expense	MK	1 <b>,9</b> 79	2,493	756	1,254	
(k) Balance (capacity to pay)	МК	302	1,601	-51	2,551	

### TABLE 7.3.1 FUTURE FARM BUDGET OF THE TYPICAL FARMERS IN THE PROJECT AREA

(1): 80 % of the total product of rice is for sale.

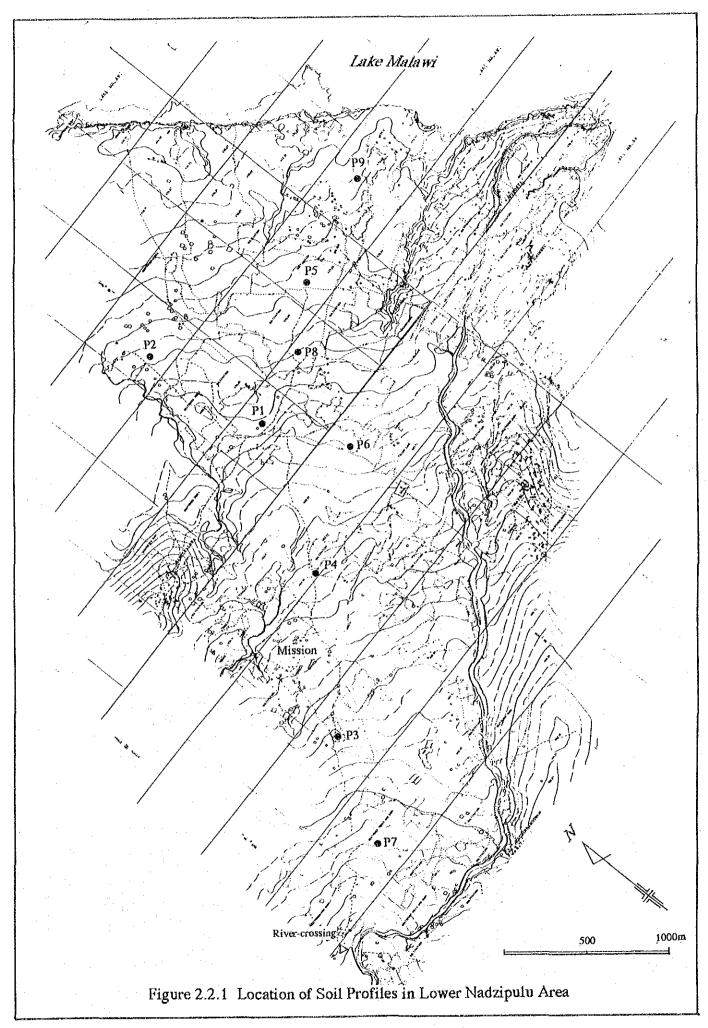
(2): All product of maize for home consumption

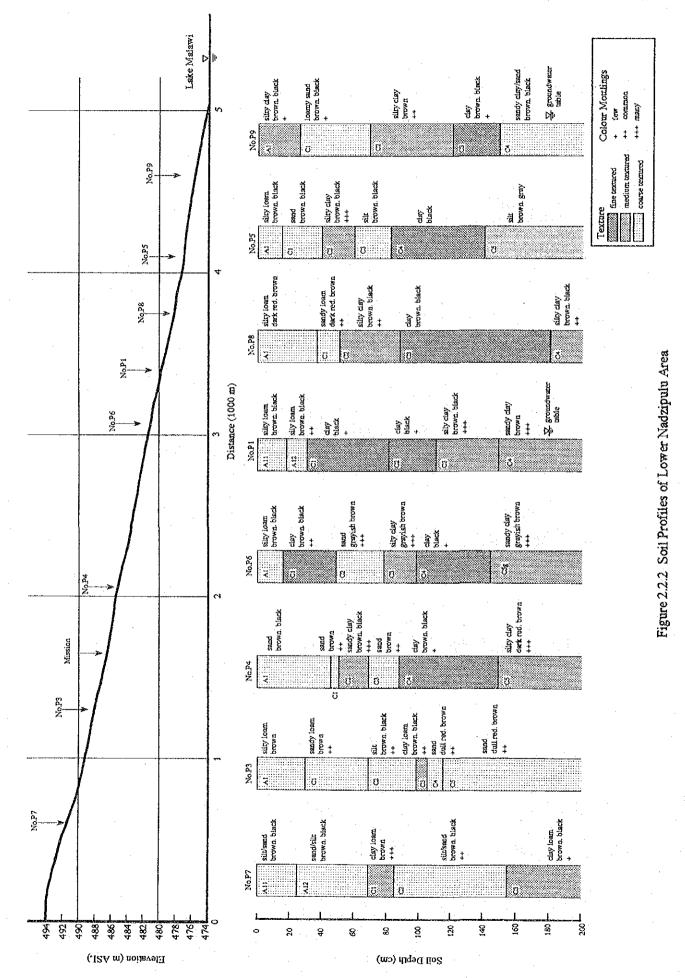
(3): 90 % of the total product of vegetables is for sale.

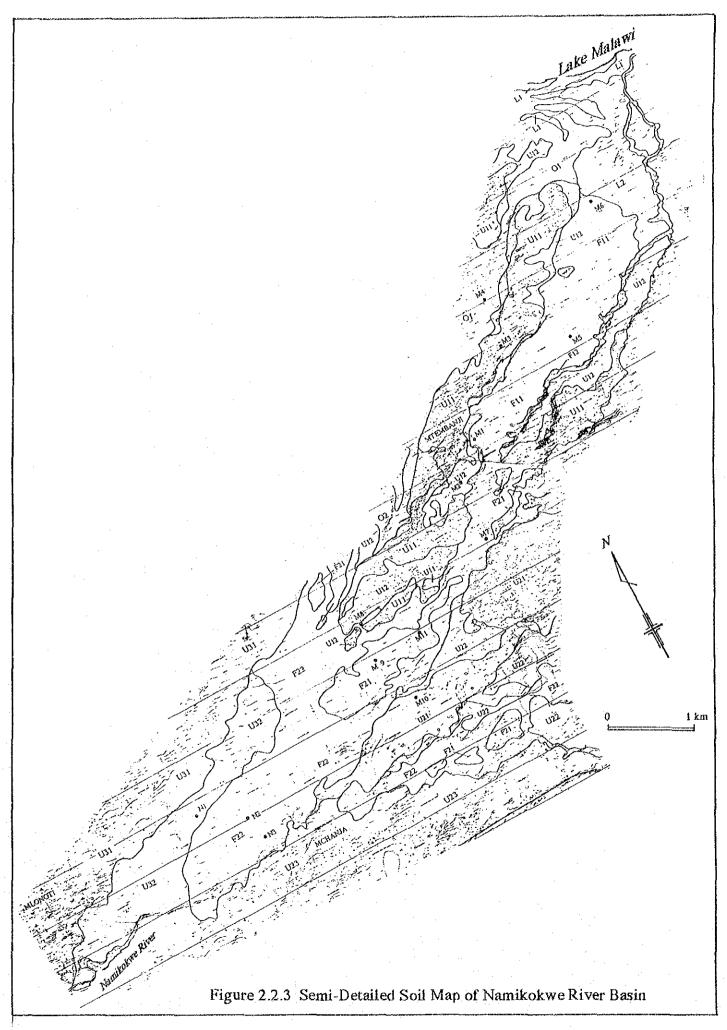
(4): Living expense with project conditions is assumed to be 120 % of the without project condition

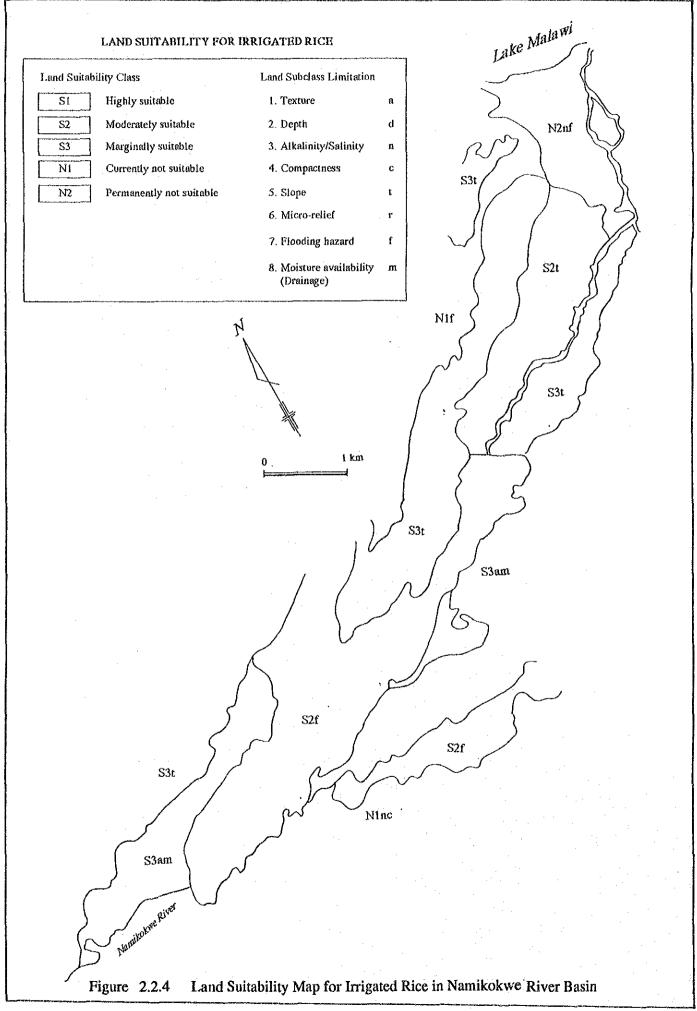
# ANNEX II FEASIBILITY STUDY FOR FIVE SELECTED PROJECTS

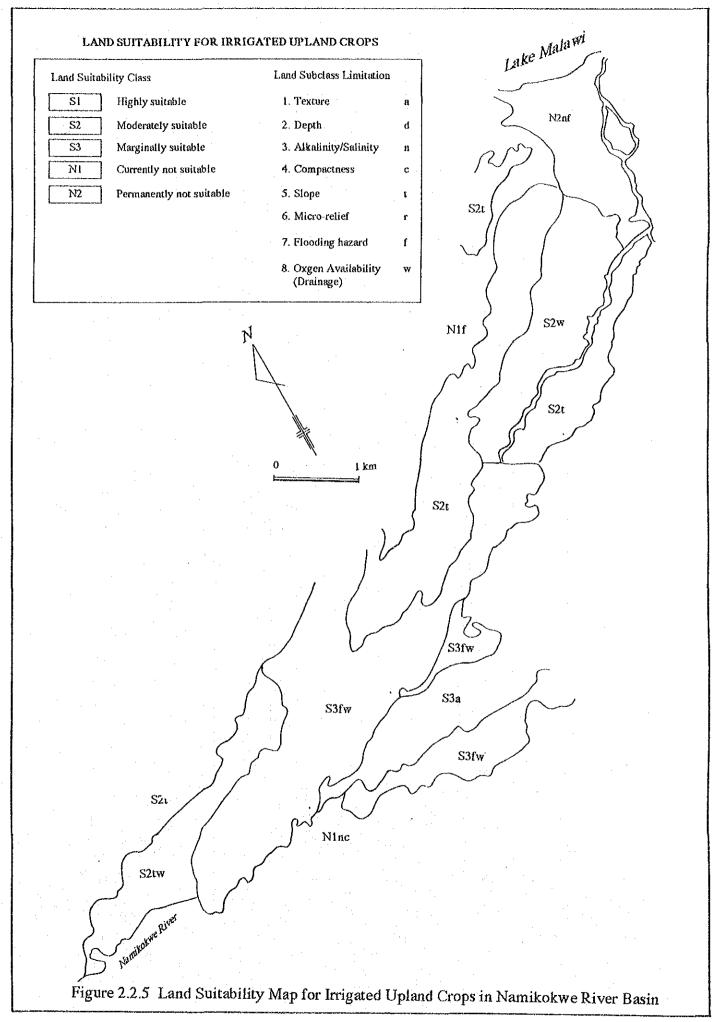
Figures











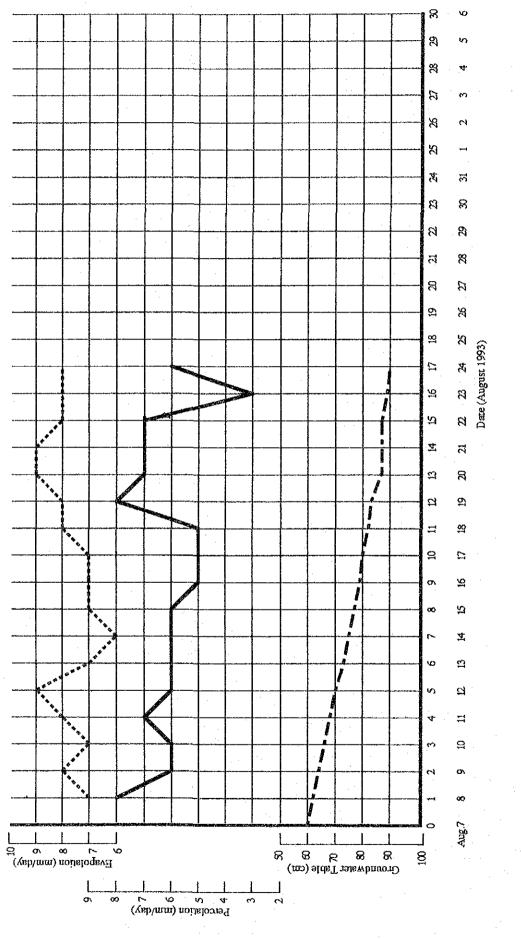
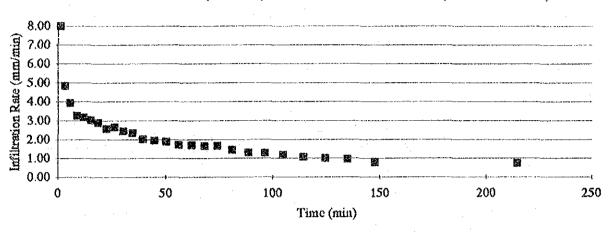
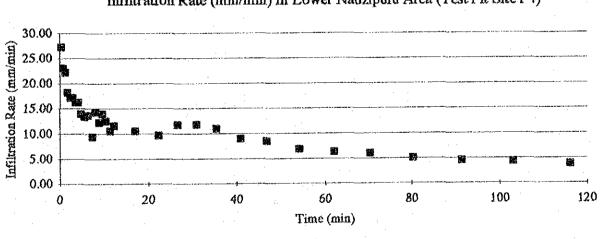


Figure 2.2.6 Test Results of Field Percolation Measurement



Infiltration Rate (mm/min) in Lower Namikokwe Area (Test Pit Site M3)



Infiltration Rate (mm/min) in Lower Nadzipulu Area (Test Pit Site P4)

Figure 2.2.7 Test Results of Infiltration Rates in the Project Area

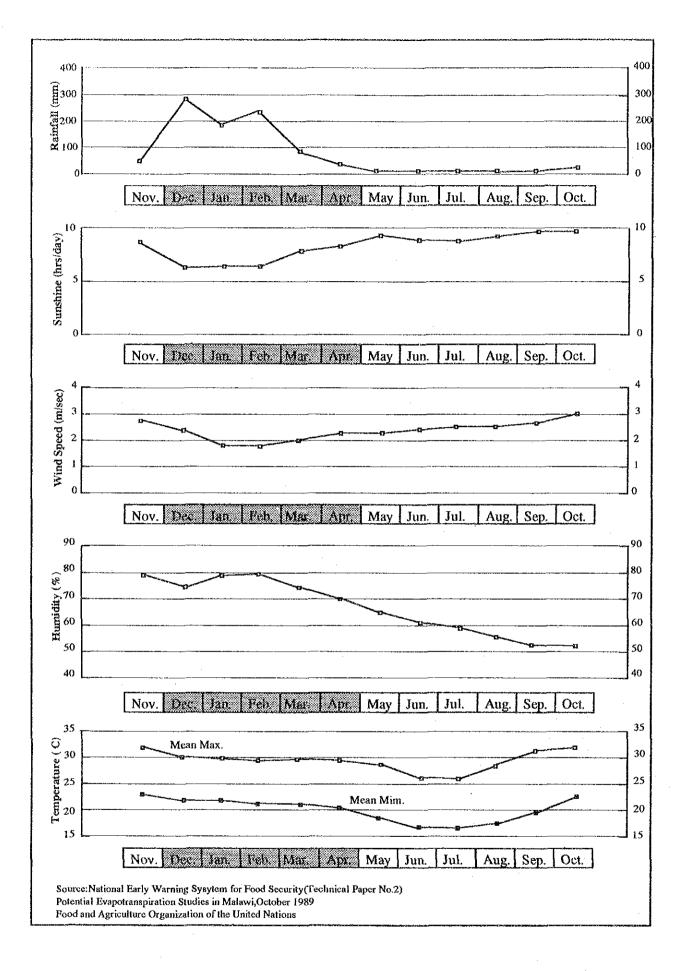
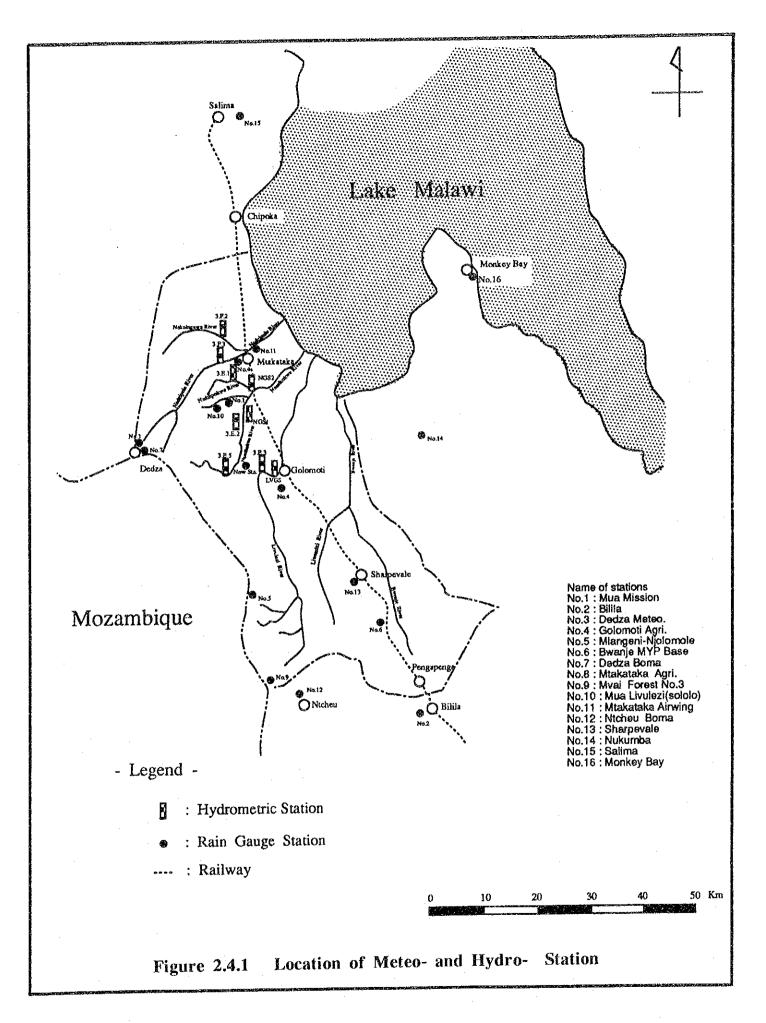
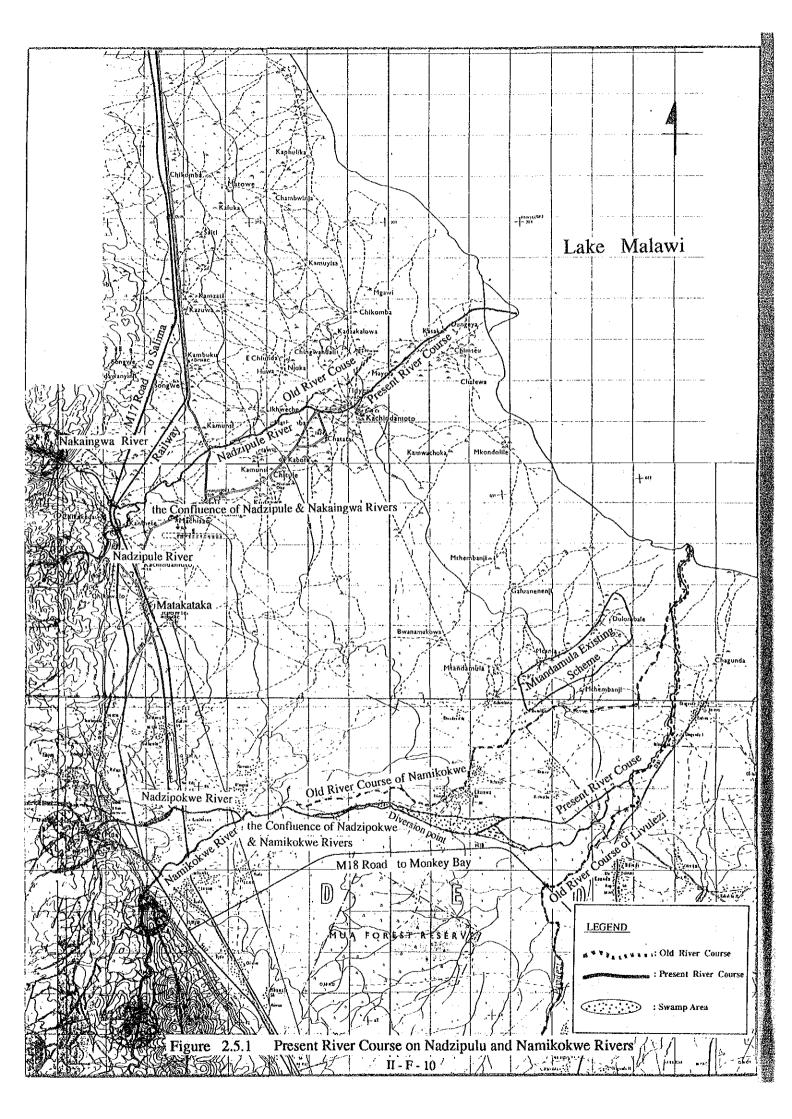
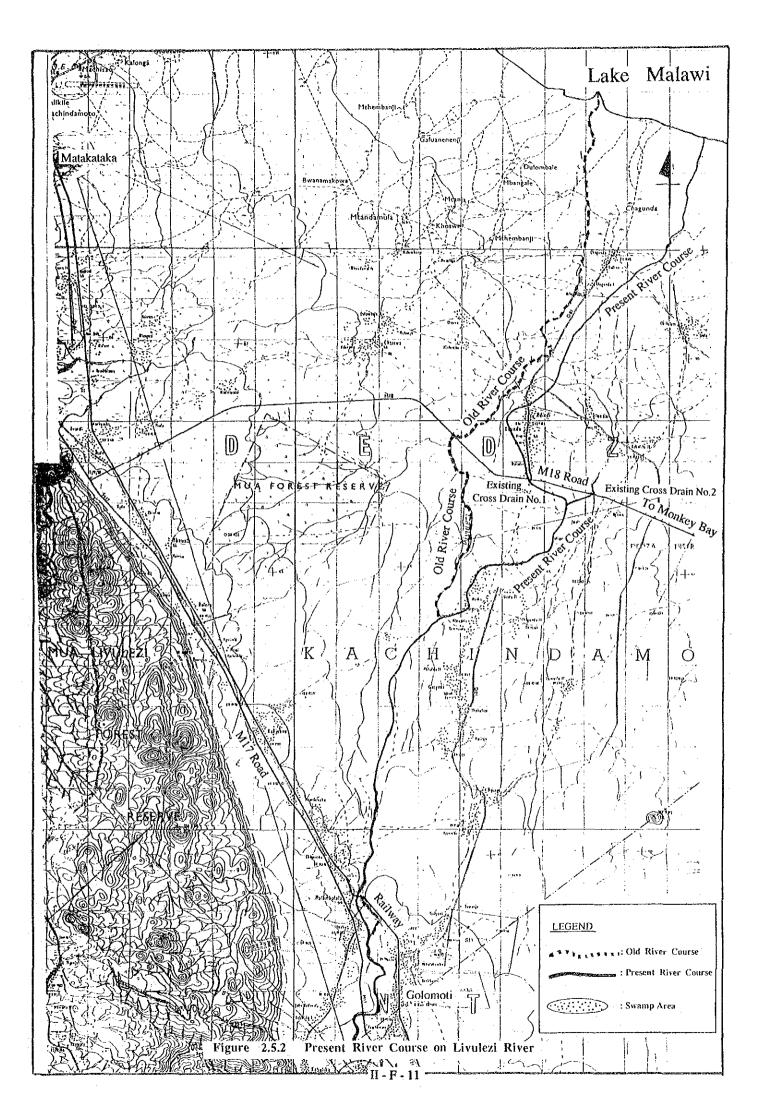
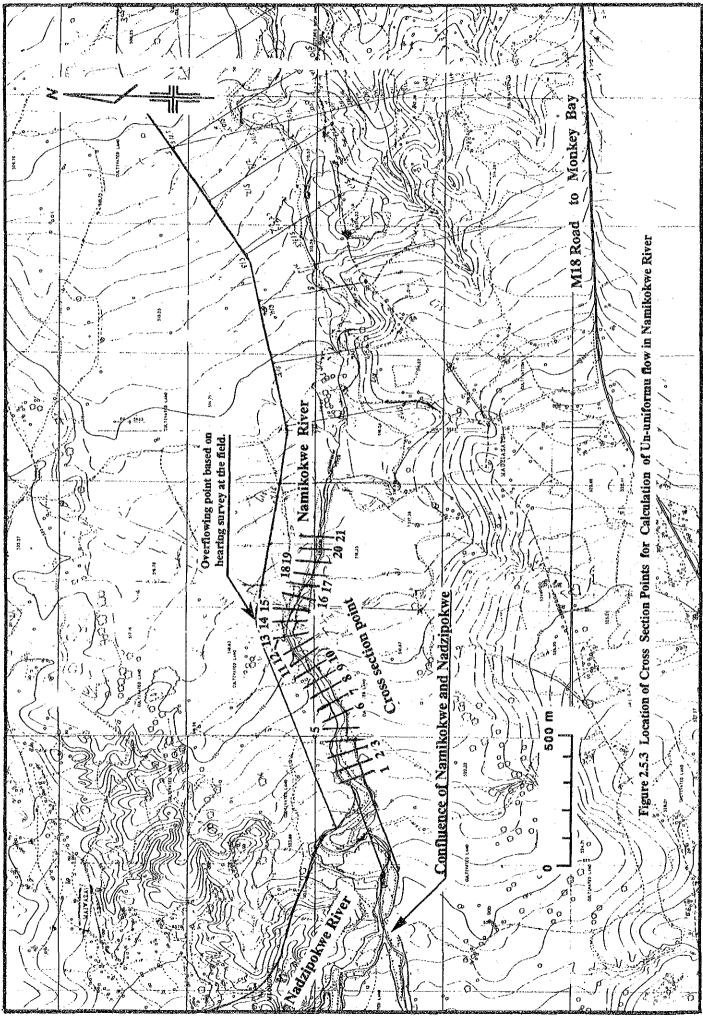


Figure 2.3.1 Monthly Meteorological Fluctuation in Monkey Bay

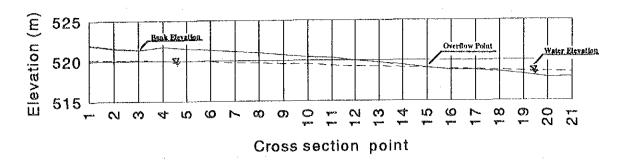




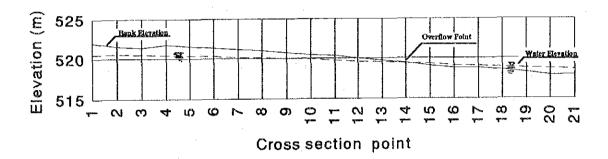


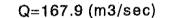


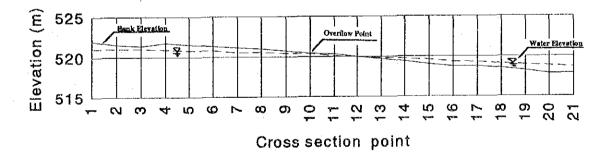
Q=93.5 (m3/sec)



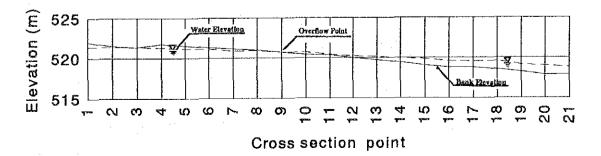
Q=123.9m3/sec

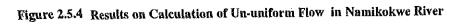




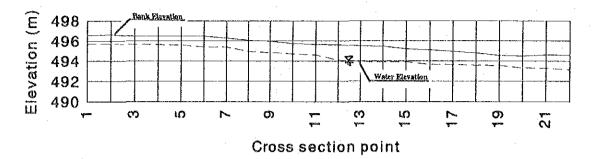


Q=205.4 (m3/sec)

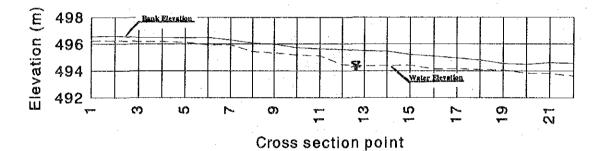


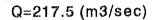


Q=121.6 (m3/sec)



Q=160.5 (m3/sec)





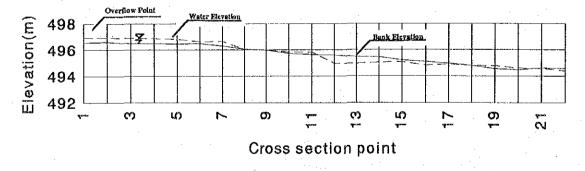
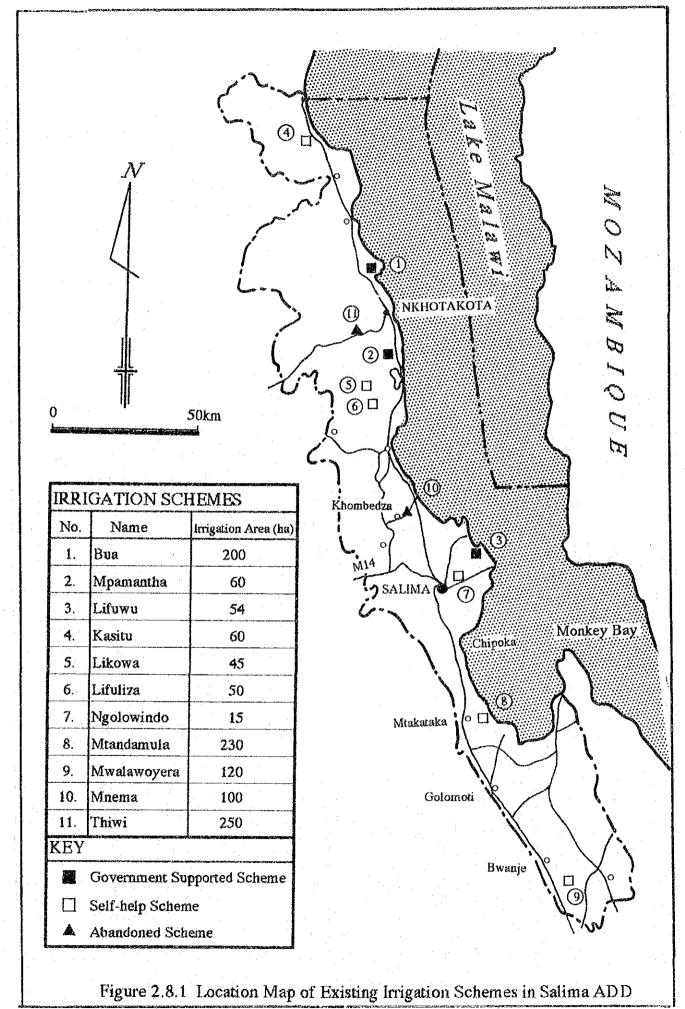
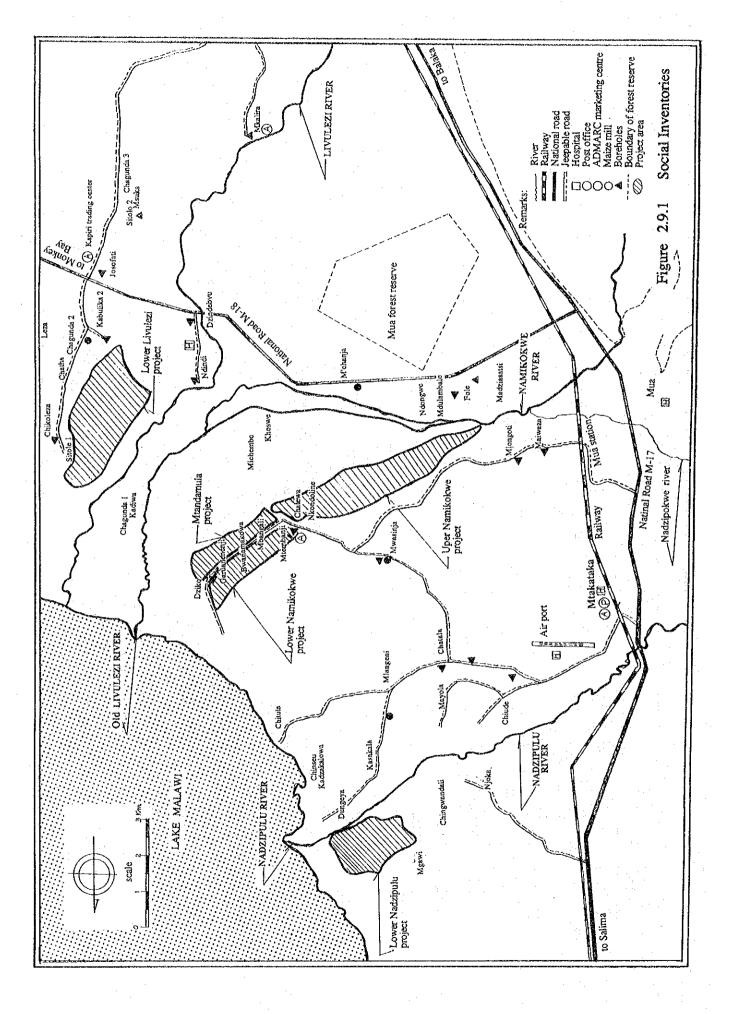
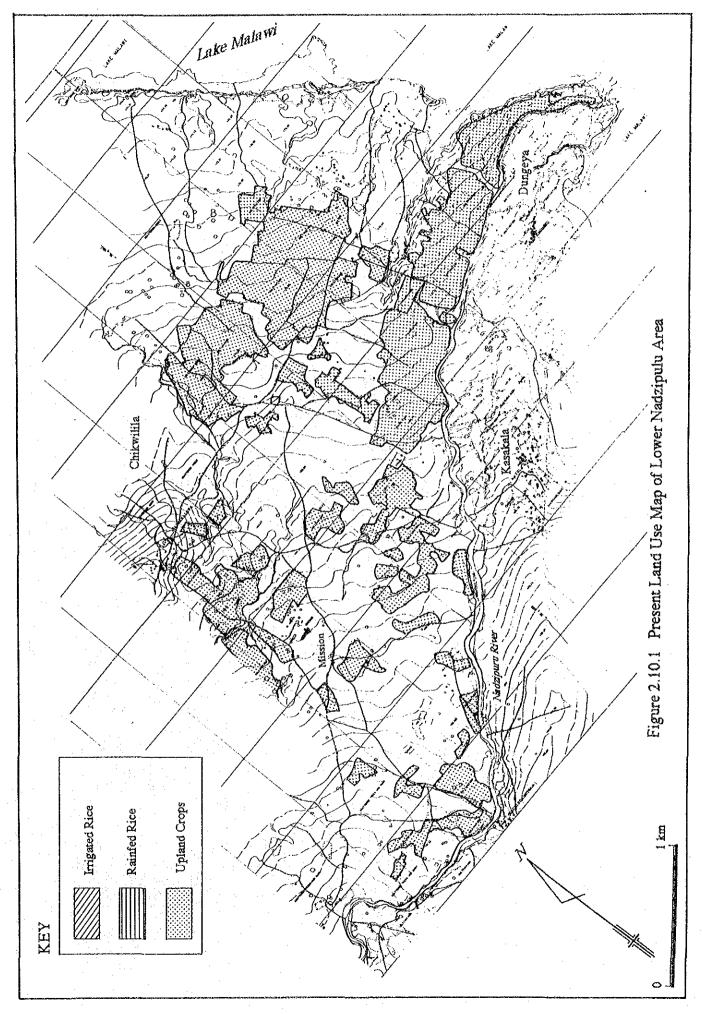
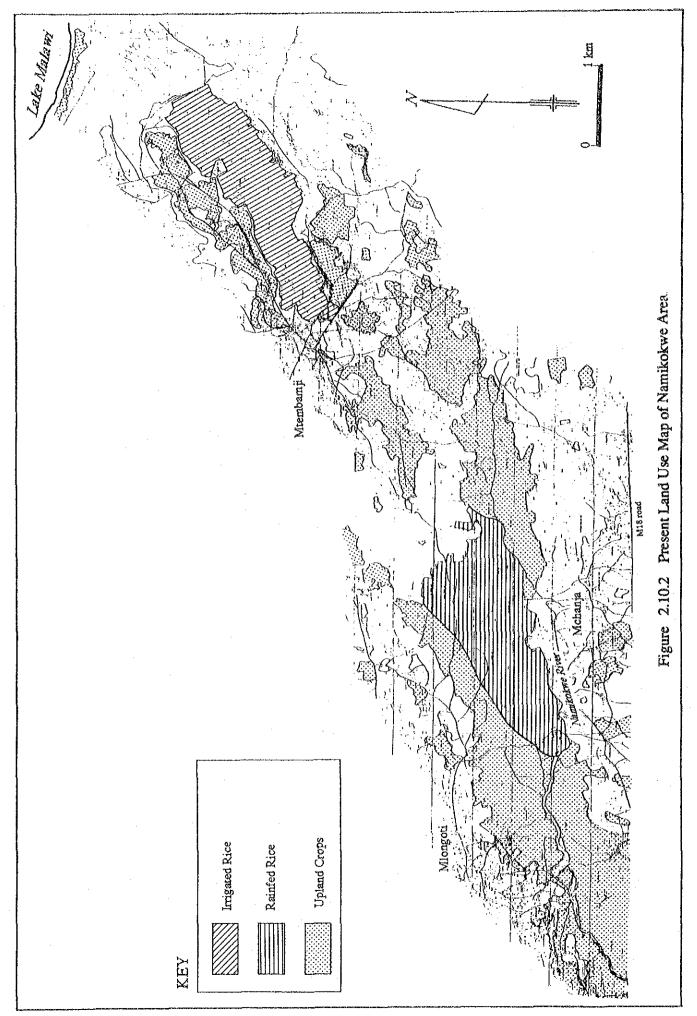


Figure 2.5.5 Results on Calculation of Un-uniform Flow in Nadzipulu River

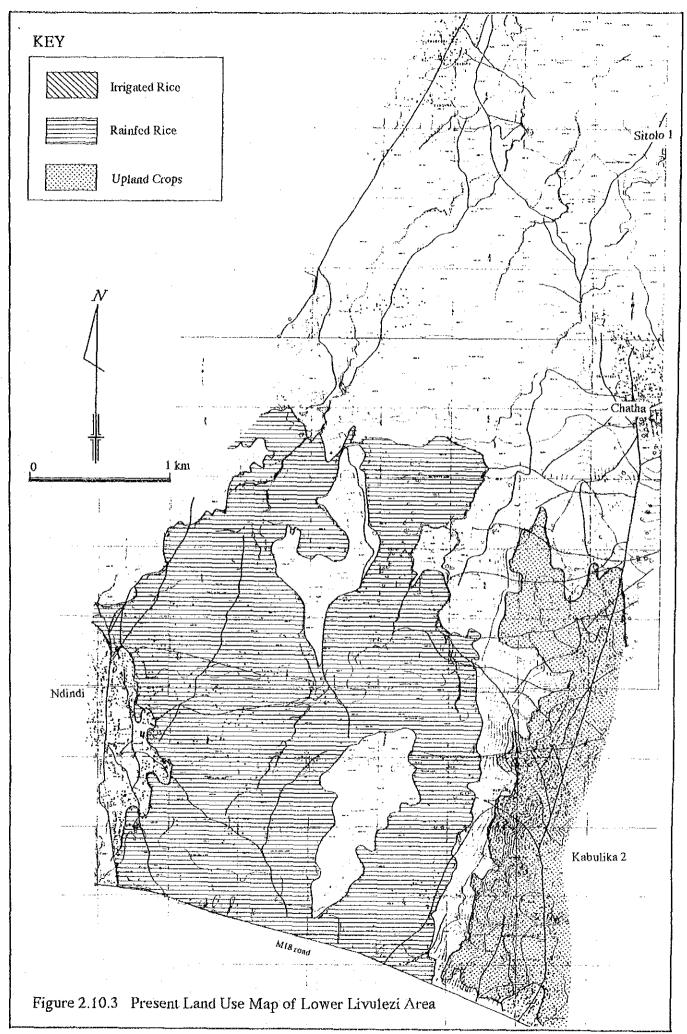








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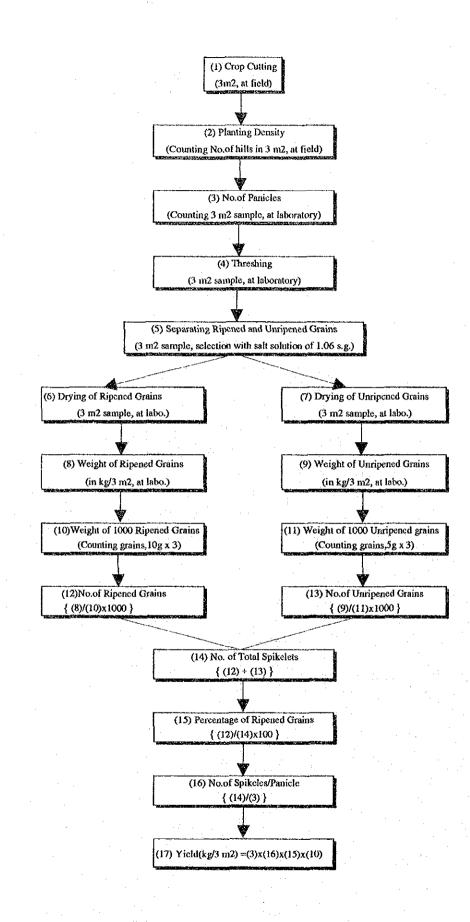


Figure 2.13.1 Method of Simplified Crop Cutting Survey

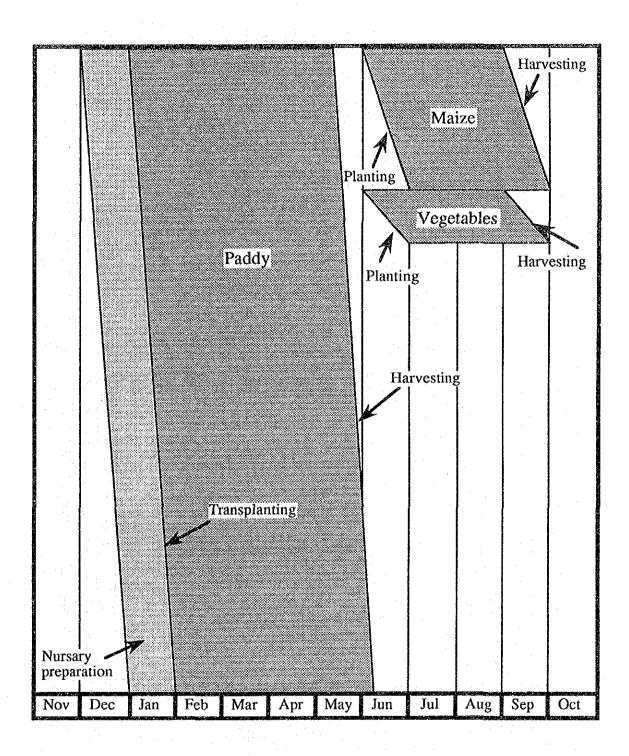


Figure 3.2.1 Proposed Cropping Pattern

Figure 3.3.1 Unit Water Requirement (pattern-1)

Manth         New.         Dec.         Jac.           ETO (at Membery bev)         65.9         65.9         55.9         55.9         52.3         37.3         37.3         37.3         37.3         37.3         37.3         37.5 <th>Dec. 13</th> <th>Jan. 523 523 57.5</th> <th>Fob.</th> <th>17</th> <th></th>	Dec. 13	Jan. 523 523 57.5	Fob.	17											
		2.12 523 57.5			-	¥4	MAY	ň	Jun	Ĵui.		_	Ser	8	ł
			51.1 51.1 4	40.9 53.5 53.5	58.9 49.6	£	43.2 43.2	47.5 37.9 37	37.9	403 403 463	48.1	5.0.5 1.52		701 701	i
50	= j	30 dave (start o		4	T								_		3
	= J														
Vegonstion period (1) (early stage) Vegenstein period (2) Vegenstein initiation) Ripering period		10 10 4						 							
Vegration period (?) (after penida initation) Ripaning period	   	10 10 11	10 10	5 10 10	=			   			 				i i
Ripening period				9. •	:	10 10 10	v.								1
					* *	o,	12 10 10								·
initial development Stage								10		10 10	4				
Crop development Strips									-i	10 11	10	11			
							· · · · ·		:		6	11	15 10	10	1
and the president						:							2 2	10 IO	12
Kc Vegetation period (1)		1.10 1.10 1.10	1.10 1.10 1	1.10 1.10 1.10	1.10	1.16								1 1 1	
Kc Vegetation period (2)		1	5	8	8	1.05 1.05 1.05	8								
c Kupenug parlod					5		0.95 0.95								
Ke Anturat coverspirate States									0.35 0.35 0	0.35 0.35 0.3	0.35 0.35				
										ţ	1	211511		F	
K.c.L.ste seeson													1001	1.03 1.03	1
Arca IDCODALTY OF PAGGUINE	0.211 (	0.29 0.29 0.11										_		-	
Area meaning of vegetation paraod (1) ET Vegetation period (1)		0.50	5622 5622 44		50	1.14						:			
Area immensity of Vegetation period (2) ET Vegetation period (2)				0.03 0.30	0.65	250 100 250 XIII	200 S								
Area internatiy of Ripening partod ET Ripening period	-										 			-	
Area intensity of Initial development ET Initial development Street									0.17 0.50 0	50	0.02 0.03				
Area internsity of Crop development ET Crop development Stage									3	0.04 0.33 0.68	0.68 0.97 0.87	70.052 0.17			1 -
Assa imensity of Mid seasons ET Mid season												14 E	1.00 0.95	0.67 0.33 53.80 26.94	88
Area internetity of Late season 0.02 ET Late season 0.28														0.04 0.31 0.37	10 2
Total Area interactor	-	0.17 0.50 0.85	1.00 1.00	1.00 1.00 1.00	8	8	1.1		0.17 0.50 0	100	1.00 1.00 1.00	001 001 0	8	0.07 0.70	l o
			56.2 56.2	57.9		¥.	40.9 19.3 6.8		22 666 1		36.6	59.3	07.0	25.0	253
Percolation losses (mm/day)			30.0 30.0 24.0	29.5		23.8 30.0 25.0 14.4	1							-	
Water requirement (mm)   0.3               446 43.8 81.7 86.2 86.2 69.0 87.4 88.1 95.8 78.6 80.4 65.9 3		14.6 43.8 81.7	862 862 6	9.0 87.4 88.1	1 95.8 75.	78.6 80.4 65.9	9 34.1 11.8		22 666 1	11.5 17.0 25	6.6 11.5 17.0 25.3 36.6 43.5 59	59.3 67.8	59.31 67.81 68.51 67.01 76.01 53.41	760 534	X

		Figure	3.3.2	Unit Water Requirement (pattern-2)	ement (pattern	1-2)			
Senson		Rainy S	Seraon				Dry Season		
Month	Nov. Dec.	. Tabl	Pob. Mar	с Арт.	May	Jun 7td		Sep.,	det Oct
ETo (at Monkey bey)	639 55.9	61.5 523 523 57.5	51.1 51.1 40.9 53.5 53.5	58.9 49.6	43.2 43.2 47.5 37.9	37.9 37.9 40.3 40.3	3 44.3 48.3 48.3	53.1 59.6 59.6 59.6	70.3 70.3 77.3
	Sine (Fave) + Mathe (90 days	arie(y)	(start of transplanting Ja						
intervention and Puddline		11 10 10 4							
for Main fields		1110000	- - - -						
Vegetation period (1)		=	10 10 5 10 10	10 11 5					
(cerily stage)	:		•	Ľ.					
Vegetation period (2) (after panicle initiation)			Mar. 4 10	11 10	~ <b>`</b> \				
Ripcuing pariod				2 10 10 2 2	10 10 10 10				
Initial development Stage						01	10 5		
Crop developendnt Stage						Jan. 35 10 10	0 11 10 9		
Mid serion					-12 - 12 		11 10 10	11 10 8	
Late season								11 10 10 8	
Ke Vegetation period (1)		1.10 1.10 1.10	1.10	1.10 1.10					
Vegetation period (2)			1.05 1.05 1.05	1.05 1.05 1.05 1.05 1.05	1.05				
Ke Ripening period						1	-		
Kc Inital development Stage						20 200	070 070 081 000	-	
Ke Mid seaton	-					2	1.15 1.15	1.15 1.15 1.15	
Ko Late season		~~					_1	1.04	
Ams intensity of padding		0.31 0.29 0.29 0.11					-		
Area intensity of Vegetation period (1) ET Venetation neriod (1)		0.17 0.50 0.35 1.00	1.00 1.00 0.97 56.22 44.97 57.30	0.70 0.35 0.04 41.21 22.66 1.14					
Area intensity of Vegetation period (2)			0.03	0.30 0.65 0.92 0.67 0.33	200				
Area intentity of Ripening period				0.04 0.33					
Area intensity of Initial development FT Initial development Steed						0.50 20.5			
Area intensity of Crop development						0.04 0.33	0.67 0.78 0.47 0.14 18.71 24.05 18.70 5.81	4	
Area intensity of Mid season					·		0.18	6 0.78 0.43 0.11 4 47.85 29.70 5.85	
Area incusity of Lata season FT Late season								0.21 0.33 11.63 20.66	0
otal Area intensity		28.0 020 171 0.85	1.00 1.00 1.00 1.00	1.00 1.00	0.50 0.17	0.17 0.50 0.83	001 001 001 001	65/ 0.77 0.43	2 1 1
Elterop		3	56.2 56.2 45.0 57.9	58.1 62.8 49.9 50.4 40.9 19.8	19.8 6.8	22 64 144 2	33.7 44.3	59.5 50.4 26.1	5.31
uddling (mm)		47.1 42.9 42.9 17.1	100 010 010	-					
Varier redition josses (mm/day)		Ìα	86.21 86.2 69.01 87.4	88.1 05.8 78.61 80.4 65.9 34.1 11.81	341 11.8	22 64 144 2	14.4 23.4 33.7 48.3 53.8	59.51 50.4 26.1	53
	Nore) -ETO : Republic of Malawi Meteorological Deper	ilawi Meteorological Departme	nt, Climatological Tables fo	ulawi Station at Monkey					
	-Pudding for main field -Purrolation issues in	-Puddling for main field including land preparation to be -Purcolation bases is assumed to be 3 mm/day.	15 15 15 15 15 15 15 15 15 15 15 15 15 1		anihing anihing	murany person pedding of main field	indumer entruge		maize harvesing
	-Irrigation water chring	-Irrigation water during nursery period is neglected due to anall amount	se to amall amount		rice cutriv		iplowing & sowin	g for maize	

П-F-23

