Table J-09 DISBURSEMENT SCHEDULE (FINANCIAL)
DAM AND POWER STATION

Items	1st Year (1985)		2nd Year (1986)		3rd Year (1987)		4th Year (1988)		5th Year (1989)	
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C
1. Preparatory Works	-	-	-	-	1,498	766	1,350	625	-	-
2. Access Road	-	-	630	450	1,890	1,350	-	-	-	-
3. River Diversion Works	-	-	-	-	2,230	702	1,490	468	-	-
4. Dam and Spillway	-	-	-	-	429	56	8,280	2,660	22,000	8,825
5. Intake, Penstock & Outlet	-	-	-	-	150	-	410	40	70	9
6. Powerhouse & Tailrace	-	-	-	-	-	-	142	68	1,779	850
7. Generating Equipment	-	-	-	-	1,854	147	-	-	5,564	442
8. Transmission Line and Sub-station	-	-	-	-	228	172	685	515	143	107
9. Highway Relocation	-	-	-	-	-	-	-	-	3,840	1,560
Total	-	-	630	450	8,279	3,193	12,357	4,376	33,396	11,793
			(788)	(428)	(10,349)	(3,033)	(15,446)	(4,157)	(41,745)	(11,203)

(Unit: Lp.103)

Items	6th year (1990)		Total		Total
	F.C	L.C	F.C	L.C	
1. Preparatory Works	-	-	2,848	1,391	4,239
2. Access Road	-	-	2,520	1,800	4,320
3. River Diversion Works	-	-	3,720	1,170	4,890
4. Dam and Spillway	19,660	6,700	50,369	18,241	68,610
5. Intake, Penstock & Outlet	70	9	700	58	758
6. Powerhouse & Tailrace	451	215	2,372	1,133	3,505
7. Generating Equipment	1,854	147	9,272	736	10,008
8. Transmission Line and Sub-station	74	56	1,130	850	1,980
9. Highway Relocation	1,280	520	5,120	2,080	7,200
Total	23,389	7,647	78,051	27,459	105,510
	(29,236)	(7,265)	(97,564)	(26,086)	(123,650)

Remarks: Figures between parentheses are present economic costs.

Table J-10(1) DISBURSEMENT SCHEDULE (FINANCIAL)
IRRIGATION SYSTEM (20,600 HA)

Items	3rd Year (1987)		4th Year (1988)		5th Year (1989)		6th Year (1990)		7th Year (1991)	
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C
1. Preparatory Works	813	678	682	570	-	-	-	-	221	110
2. Intake Weir	1,044	277	3,291	875	2,651	704	-	-	-	-
3. Main & Headrace Canal System	1,409	355	7,220	1,819	3,608	910	704	179	-	-
4. Branch Canal System	1,438	393	7,375	2,014	3,688	1,007	4,408	1,203	1,438	393
5. Secondary Canal System	213	83	1,092	422	546	211	651	253	212	83
6. Drainage Canal System	357	92	1,833	477	916	238	1,095	285	355	93
7. Farm Road System	418	123	2,142	628	1,071	314	1,280	376	419	123
8. On-farm Construction	263	98	1,347	502	673	251	803	300	262	98
9. Clearing and Reclamation	647	225	3,320	1,155	1,660	577	1,984	690	648	225
Total	6,602	2,324	28,302	8,462	14,813	4,213	10,925	3,286	3,555	1,125
	(8,252)	(2,208	(35,380)	(8,039)	(18,518)	(4,005)	(13,655)	(3,121)	(4,440)	(1,067)

(Unit: Lp.103)

Items	8th Year (1992)		9th Year (1993)		10th Year (1994)		Total	
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C
1. Preparatory Works	220	109	-	-	-	-	1,937	1,467
2. Intake Weir	3,492	929	3,493	929	-	-	13,974	3,716
3. Main & Headrace Canal System	-	-	1,272	331	1,273	331	15,486	3,925
4. Branch Canal System	-	-	4,609	1,275	4,609	1,275	27,565	7,560
5. Secondary Canal System	-	-	-	-	-	-	2,714	1,052
6. Drainage Canal System	-	-	299	93	299	93	5,154	1,371
7. Farm Road System	-	-	1,120	322	1,120	320	7,570	2,206
8. On-farm Construction	-	-	475	177	474	179	4,297	1,605
9. Clearing and Reclamation	-	-	958	272	958	272	10,175	3,416
Total	3,712	1,038	12,227	3,399	8,733	2,471	88,872	26,318
	(4,644)	(986)	(15,284)	(3,229)	(10,916)	(2,347)	(111,090)	(25,002)

Remarks: Figures between parentheses are present economic cost.

Table J-10(2) DISBURSEMENT SCHEDULE (FINANCIAL)
IRRIGATION SYSTEM (16,000 HA)

Items	1st Year (1985)		2nd Year (1986)		3rd Year (1987)		4th Year (1988)		5th Year (1989)	
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C
1. Preparatory Works	-	-	-	-	813	678	682	570	-	-
2. El Papalon Intake Weir	-	-	-	-	1,044	279	3,292	875	2,651	704
3. Main Canal System	-	-	-	-	1,409	355	7,219	1,818	3,610	910
4. Branch Canal System	-	-	-	-	1,438	393	7,376	2,014	3,688	1,007
5. Secondary Canal System	-	-	-	-	213	83	1,092	423	546	211
6. Drainage Canal System	-	-	-	-	357	97	1,833	477	916	238
7. Farm Road System	-	-	-	-	418	123	2,142	628	1,071	315
8. On-farm Construction	-	-	-	-	263	97	1,347	502	673	251
9. Clearing and Reclamation	-	-	-	-	647	226	3,320	1,155	1,660	577
Total	-	-	-	-	6,602	2,324	28,303	8,462	14,815	4,213
					(8,253)	(2,208)	(35,380)	(8,039)	(18,518)	(4,005)

(Unit: Lp.10^3)

Items	6th Year (1990)		7th Year (1991)		Total	
	F.C	L.C	F.C	L.C	F.C	L.C
1. Preparatory Works	-	-	-	-	1,495	1,248
2. El Papalon Intake Weir	-	-	-	-	6,987	1,858
3. Main Canal System	703	178	-	-	12,941	3,261
4. Branch Canal System	4,407	1,202	1,439	393	18,348	5,009
5. Secondary Canal System	652	252	211	83	2,714	1,052
6. Drainage Canal System	1,095	285	358	93	4,559	1,185
7. Farm Road System	1,280	376	417	123	5,328	1,563
8. On-farm Construction	805	300	262	98	3,350	1,248
9. Clearing and Reclamation	1,984	690	648	225	8,259	2,873
Total	10,926	3,283	3,335	1,015	63,981	19,297
	(13,655)	(3,121)	(4,171)	(963)	(79,977)	(18,336)

Remarks: Figures between parentheses are present economic cost.

Table J-10(3) DISBURSEMENT SCHEDULE (FINANCIAL)
IRRIGATION SYSTEM (12,400 HA)

Items	1st Year (1985)		2nd Year (1986)		3rd Year (1987)		4th Year (1988)		5th Year (1989)	
	F.C.	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C
1. Preparatory Works	-	-	-	-	813	678	682	570	-	-
2. El Papalon Intake Weir	-	-	-	-	1,044	278	3,293	875	2,651	704
3. Main Canal System	-	-	-	-	1,409	355	7,220	1,819	3,610	910
4. Branch Canal System	-	-	-	-	1,737	476	8,907	2,439	4,454	1,220
5. Secondary Canal System	-	-	-	-	200	73	1,027	376	513	188
6. Drainage Canal System	-	-	-	-	373	97	1,914	498	957	249
7. Farm Road System	-	-	-	-	380	111	1,950	567	975	284
8. On-farm Construction	-	-	-	-	255	95	1,308	488	654	244
9. Clearing and Reclamation	-	-	-	-	314	109	1,611	560	805	280
Total	-	-	-	-	6,525	2,272	27,912	8,192	14,619	4,079
					(8,156)	(2,159)	(34,890)	(7,781)	(18,275)	(3,875)

(Unit: Lp.10^3)

Items	6th Year (1990)		7th Year (1991)		Total	
	F.C	L.C	F.C	L.C	F.C	L.C
1. Preparatory Works	-	-	-	-	1,495	1,248
2. El Papalon Intake Weir	-	-	-	-	6,988	1,857
3. Main Canal System	704	178	-	-	12,943	3,262
4. Branch Canal System	870	238	-	-	15,968	4,373
5. Secondary Canal System	101	37	-	-	1,841	674
6. Drainage Canal System	188	49	-	-	3,432	893
7. Farm Road System	190	55	-	-	3,495	1,017
8. On-farm Construction	128	47	-	-	2,345	874
9. Clearing and Reclamation	158	55	-	-	2,888	1,004
Total	2,339	659	-	-	51,395	15,202
	(2,923)	(629)			(64,244)	(14,441)

Remarks: Figures between parentheses are present economic cost.

Table J-11(1) DISBURSEMENT SCHEDULE (ECONOMIC)
IRRIGATION SYSTEM (23,960 HA)

Dam, Power and Irrigation 20,600 ha

Items	1st (1985)		2nd (1986)		3rd (1987)		4th (1988)		5th (1989)		6th (1990)		7th (1991)		8th (1992)	
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C
1. Dam Works	-	-	788	428	7,749	2,729	14,446	3,597	32,360	9,845	26,286	6,855	-	-	-	-
2. Power Station	-	-	-	-	2,600	304	1,000	560	9,385	1,359	2,950	409	-	-	-	-
3. Irriation Systems	-	-	-	-	8,253	2,208	35,380	8,039	18,518	4,005	13,655	3,121	4,440	1,067	4,644	986
Sub-total	-	-	788	428	18,602	5,241	50,826	12,196	60,263	15,209	42,891	10,385	4,440	1,067	4,644	986
4. Land Acquisition	-	-	-	-	-	370	-	370	-	670	-	740	-	-	-	-
5. Engineering and Administ.	6,050	1,740	3,050	1,160	1,075	800	3,375	1,540	3,125	1,080	2,125	680	1,325	900	625	300
6. Physical Contingency	605	174	384	159	1,968	641	5,420	1,411	6,339	1,696	4,502	1,181	577	197	527	129
Grand Total	6,655	1,914	4,222	1,747	21,645	7,052	59,621	15,517	69,727	18,655	49,518	12,986	6,342	2,164	5,796	1,415

(Unit: Lp.10^3)

Items	9th (1993)		10th (1994)		Total		Total
	F.C	L.C	F.C	L.C	F.C	L.C	
1. Dam Works	-	-	-	-	81,629	23,454	105,083
2. Power Station	-	-	-	-	15,935	2,632	18,567
3. Irrigation Systems	15,284	3,229	10,916	2,347	111,090	25,002	136,092
Sub-total	15,284	3,229	10,916	2,347	208,654	51,088	259,742
4. Land Acquisition	-	-	-	-	-	2,150	2,150
5. Engineering and Administ.	550	260	390	190	21,690	8,650	30,340
6. Physical Contingency	1,583	349	1,131	254	23,036	6,191	29,227
Grand Total	17,417	3,838	12,437	2,791	263,380	68,079	321,459

Middle Reach 3,360 ha

(Unit: Lp.10^3)

Items	1st (1985)		2nd (1986)		3rd (1987)		4th (1988)		5th (1989)		6th (1990)		7th (1991)		Total		Total
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	
1. Dam Works	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Power Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Irrigation Systems	-	-	-	-	-	-	1,325	292	2,400	358	2,400	358	-	-	6,125	1,008	7,133
Sub-total	-	-	-	-	-	-	1,325	292	2,400	358	2,400	358	-	-	6,125	1,008	-
4. Land Acquisition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Engineering and Administ.	-	-	-	-	-	-	133	29	240	36	240	36	-	-	613	101	714
6. Physical Contingency	-	-	-	-	-	-	146	32	264	39	264	39	-	-	674	110	784
Grand Total	-	-	-	-	-	-	1,604	353	2,094	433	2,904	433	-	-	7,412	1,219	8,631

Table J-11(2) DISBURSEMENT SCHEDULE (ECONOMIC)
IRRIGATION SYSTEM (19,360 HA)

Dam, Power and Irrigation 16,000 ha

(Unit: Lp.10³)

Items	1st (1985)		2nd (1986)		3rd (1987)		4th (1988)		5th (1989)		6th (1990)		7th (1991)		Total		Total
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	
1. Dam Works	-	-	788	428	7,749	2,729	14,446	3,597	32,360	9,845	26,286	6,855	-	-	81,629	23,454	105,083
2. Power Station	-	-	-	-	2,600	304	1,000	560	9,385	1,359	2,950	409	-	-	15,935	2,632	18,567
3. Irrigation Systems	-	-	-	-	8,253	2,208	35,380	8,039	18,518	4,005	13,655	3,121	4,171	963	79,977	18,336	98,313
Sub-total	-	-	788	428	18,602	5,241	50,826	12,196	60,263	15,209	42,891	10,385	4,171	963	177,541	44,422	221,963
4. Land Acquisition	-	-	-	-	-	370	-	370	-	180	-	-	-	-	-	920	920
5. Engineering and Administ.	6,050	1,740	3,050	1,160	1,075	800	3,375	1,540	3,125	1,080	2,125	680	700	600	19,500	7,600	27,100
6. Physical Contingency	605	174	384	159	1,968	641	5,420	1,411	6,339	1,647	4,502	1,107	487	156	19,705	5,295	25,000
Grand Total	6,655	1,917	4,222	1,747	21,645	7,052	59,621	15,517	69,727	18,116	49,518	12,172	5,358	1,719	216,746	58,237	274,983

Middle Reach 3,360 ha

(Unit: Lp.10³)

Items	1st (1985)		2nd (1986)		3rd (1987)		4th (1988)		5th (1989)		6th (1990)		7th (1991)		Total		Total
	F.C.	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	
1. Dam Works	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Power Station	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Irrigation Systems	-	-	-	-	-	-	1,325	292	2,400	358	2,400	358	-	-	6,125	1,008	7,133
Sub-total	-	-	-	-	-	-	1,325	292	2,400	358	2,400	358	-	-	6,125	1,008	7,133
4. Land Acquisition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Engineering and Administ.	-	-	-	-	-	-	133	29	240	36	240	36	-	-	613	101	714
6. Physical Contingency	-	-	-	-	-	-	146	32	264	39	264	39	-	-	674	110	784
Grand Total	-	-	-	-	-	-	1,604	353	2,904	433	2,904	433	-	-	7,412	1,219	8,631

Table J-11(3) DISBURSEMENT SCHEDULE (ECONOMIC)

Dam, Power and Irrigation 16,000 ha

(Unit: Lp.10³)

Items	1st (1985)		2nd (1986)		3rd (1987)		4th (1988)		5th (1989)		6th (1990)		7th (1991)		Total		Total
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	
1. Dam Works	-	-	788	428	7,749	2,729	14,446	3,597	32,360	9,845	26,286	6,855	-	-	81,629	23,454	105,083
2. Power Station	-	-	-	-	2,600	304	1,000	560	9,385	1,359	2,950	409	-	-	15,935	2,632	18,567
3. Irrigation Systems	-	-	-	-	8,253	2,208	35,380	8,039	18,518	4,005	13,655	3,121	4,171	963	79,977	18,336	98,313
Sub-total	-	-	788	428	18,602	5,241	50,826	12,196	60,263	15,209	42,891	10,385	4,171	963	177,541	44,422	221,963
4. Land Acquisition	-	-	-	-	-	370	-	370	-	180	-	-	-	-	-	920	920
5. Engineering and Administ.	6,050	1,740	3,050	1,160	1,075	800	3,375	1,540	3,125	1,080	2,125	680	700	600	19,500	7,600	27,100
6. Physical Contingency	605	174	384	159	1,968	641	5,420	1,411	6,339	1,647	4,502	1,107	487	156	19,705	5,295	25,000
Grand Total	6,655	1,914	4,222	1,747	21,645	7,052	59,621	15,517	69,727	18,116	49,518	12,172	5,358	1,719	216,746	58,237	274,983

Dam, Power and Irrigation 12,400 ha

(Unit: Lp.10³)

Items	1st (1985)		2nd (1986)		3rd (1987)		4th (1988)		5th (1989)		6th (1990)		7th (1991)		Total		Total
	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	F.C	L.C	
1. Dam Works	-	-	788	428	7,749	2,729	14,446	3,597	32,360	9,845	26,286	6,855	-	-	81,629	23,454	105,083
2. Power Station	-	-	-	-	2,600	304	1,000	560	9,385	1,359	2,950	409	-	-	15,935	2,632	18,567
3. Irrigation Systems	-	-	-	-	8,156	2,159	34,890	7,781	18,275	3,875	2,293	626	-	-	64,244	14,441	78,685
Sub-total	-	-	788	428	18,505	5,192	50,336	11,938	60,020	15,079	32,159	7,890	-	-	161,808	40,527	202,335
4. Land Acquisition	-	-	-	-	-	300	-	300	-	150	-	-	-	-	-	750	750
5. Engineering and Administ.	6,050	1,740	3,050	1,160	1,075	800	3,075	1,340	2,825	930	1,825	580	-	-	17,900	6,550	24,450
6. Physical Contingency	605	174	384	159	1,958	629	5,341	1,358	6,285	1,616	3,398	847	-	-	17,971	4,783	22,754
Grand Total	6,655	1,914	4,222	1,747	21,538	6,921	58,752	14,936	69,130	17,775	37,382	9,317	-	-	197,679	52,610	250,289

Table J-12 ECONOMIC FARM-GATE PRICE ESTIMATE

		Sugar/ Sugar Cane	Cotton		Maize	Sorghum	Rice/ Paddy	Beef	Urea
			Lint	Seed					
Projected 1995 World Market Price	(US$/ton)/1	365	2,060	-	139	134	410	2,550	270
Adjustment for Quality Differentials	(%)	100	100	-	100	100	85	90	100
Projected Price Adjusted for Quality	(US$/ton)	365	2,060	-	139	134	349	2,295	270
International Shipping and Handling	(US$/ton)/2	-	-95	-	20	20	20	-120	60
FOB/CIF Price at San Lorenzo or	(US$/ton)	365	1,965	-	159	154	369	2,175	330
Puerto Cortes	(Lps./ton)/3	913	4,910	440/5	398	385	923	5,440	825
Local Port Charges	(Lps./ton)	-20	-20	-20	20	20	20	-20	20
Transport and Handling Cost (Choluteca or Mill-gate - Port)	(Lps./ton)	-130	-40	-40	80	80	80	-80	80
Ex-mill Value/Market Value	(Lps./ton)	763	4,850	380	498	485	1,023	5,340	925
Processing Rate	(%)	8	40	55	-	-	65	34.5	-
Processing Cost	(Lps./ton)	-200	-320		-	-	-110	-600	-
By-products Sale		5	-		-	-	65	-	-
Mill-gate Value	(Lps./ton)	50/4	1,830/6		-	-	620	1,630/7	-
Local Transportation Cost	(Lps./ton)	-3	-10		-7	-7	-7	-	-7
Farm-gate Price	(Lps./ton)	47	1,820		490	480	613	1,630	918

Source: /1: IBRD price forecasts dated Dec. 1983.
These forecasts are expressed in 1984 constant prices.

Note: Pricing basis:

Sugar cane: FOB and stowed at Greater Caribbean Ports
Cotton : CIF N. Europes, Mexican Middling 1-3/32"
Maize : FOB Gulf Ports, US No.2 yellow
Sorghum : FOB Gulf Ports, US No.2 Milo yellow
Rice : FOB Bangkok, Thai, milled 5% broken
Beef : FOB, port of entry, US, imported frozen boneless
Urea : FOB Europe, bagged

/2: Honduras is a net exporter of sugar, cotton and beef, net importer of food grain and fertilizer.

/3: Border prices are converted using shadow exchange rate of US$1.0 = Lps. 2.5.

/4: Ex-mill value - Processing cost x Processing rate + By-product = Lps. 50.00.

/5: In the ratio of current export price (1983/84) of lint (Lps. 3,425/ton): seed (Lps. 307/ton) is applied (307/3425 = 0.09).

/6: Ex-mill value of lint x Processing rate + Ex-mill value of seed x Processing rate - Processing cost = Lps. 1,830.00.

/7: (Market value - Processing cost) x Processing rate = Lps. 1,630.00 (live weight)

Table J-13 FARM-GATE PRICE OF FARM PRODUCT

(Unit: Lps.)

Products	Unit	Economic	Financial/3
Sugar cane	ton	47/1	28
Seed cotton	ton	1,820/1	1,197
Maize	ton	490/1	355
Sorghum	ton	480/1	324
Beans	ton	1,400/2	1,082
Sesame	ton	1,340/2	1,028
Paddy	ton	613/1	555
Melon	ton	870/2	668
Water melon	ton	272/2	209
Vegetables (tomatos)	ton	179/2	138
Milk	kl	480/2	370
Cattle (liveweight)	ton	1,630/1	1,100

Note: /1: These economic prices are estimated in Table J-12.

/2: These economic prices are derived by applying the long-term average ratio between the financial prices of seed cotton, maize and paddy, and the projected these economic prices.

Seed cotton:	1,820/1,197	= 1.5
Maize :	490/355	= 1.4
Paddy :	734/793	= 1.1
	Average	= 1.3

/3: These financial prices are estimated in Table E-17.

Table J-14 PRICE OF FARM INPUT

(Unit: Lps.)

Inputs	Unit	Economic	Financial
Seeds/Seedlings[6]			
Sugar cane	ton	32.50	25.00
Cotton seed	kg	1.14	0.88
Maize	kg	1.43	1.10
Sorghum	kg	2.21	1.70
Beans	kg	2.57	1.98
Sesame	kg	4.29	3.30
Paddy	kg	1.72	1.32
Melon	kg	63.05	48.50
Water melon	kg	50.05	38.50
Vegetables[1]	kg	98.80	76.00
Grasses	kg	3.58	2.75
Fertilizers[7]			
Urea	kg	0.92	0.65
12-24-12	kg	0.94	0.67
15-15-15	kg	0.95	0.68
Insecticides[2,7]	kg	49.00	35.00
Fungicides[3,7]	kg	47.66	34.04
Herbicides[4,7]	kg	21.18	15.13
Rodenticides[5,7]	kg	13.16	9.40
Farm machinery[8]			
Subsoiling	ha	90.00	75.00
Plowing	ha	64.00	53.00
Harrowing	ha	36.00	30.00
Ridging	ha	48.00	40.00
Seeding	ha	32.00	27.00
Cultivating	ha	32.00	27.00
Multing	ha	32.00	27.00
Fertilizer app.	ha	26.00	22.00
Chemical app.	ha	31.00	26.00
Ratooning	ha	48.00	40.00

(to be continued)

Table J-14

Inputs	Unit	Economic	Financial
Harvesting (combine)	ton	79.00	66.00
Threshing	ton	30.00	25.00
Irrigating	month/ha	42.00	35.00
Veterinary	head	3.36	2.40
Fences	ha	180.00	150.00
Labour/9	man-day	2.50	5.00

Note: /1: Tomatos assumed

/2: Orthene 95% assumed

/3: Daconil assumed

/4: Gesaprin 80 assumed

/5: Zinc phosphate assumed

/6: The economic prices of seed/seedlings are derived by applying the long-term average ratio of 1.3 estimated in Table J-13.

/7: For the estimation of economic prices of fertilizers and chemicals, the long-term ratio of 1.4 is applied.

Economic price of urea (see Table J-12)/
Financial price of urea = 1.4

/8: For the estimation of the economic costs of the machinery works, it is assumed that these works consist of 75% of imported component and 25% of domestic component. Then, the foreign exchange factor (1.25) is applied only to the imported component. The calculation is made as follows:

$0.75 \times 1.25 + 0.25 \times 1.0 = 1.2$

The estimated ratio of 1.2 is applied to all the financial costs of machinery works.

/9: The shadow rate of 50% is applied.

Table J-15 SUMMARY OF ECONOMIC BALANCE OF CROP PRODUCTION WITH PROJECT

(Unit: Lps./ha)

Crop	Gross/1 Income	Production/1 Cost	Net/1 Return
Sugar cane (average)	5,875	1,493/2	4,382
(Plant cane)		(2,409)	
(Ratoon cane)		(1,264)	
Cotton	6,370	2,938	3,432
Paddy	3,065	1,520	1,545
Maize	2,205	1,179	1,026
Beans	2,800	1,017	1,783
Sesame	2,010	722	1,288
Melon	6,960	3,276	3,684
Water melon	3,264	1,997	1,267
Vegetables	5,370	3,807	1,563
Pasture	455	133	322

Note: /1: Refer to Table J-17

/2: Weighted average of 1-Plant cane and 4-Ratoon cane

Table J-16 SUMMARY OF ECONOMIC BALANCE OF CROP PRODUCTION WITHOUT PROJECT

(Unit: Lps./ha)

Crop	Gross/1 Income	Production/1 Cost	Net/1 Return
Sugar cane (average)			
- Estate farm	3,431	1,053/2	2,378
(Plant cane)		(2,318)	
(Ratoon cane)		(1,010)	
- Out growers' farm	3,807	918/2	2,889
(Plant cane)		(2,134)	
(Ratoon cane)		(858)	
Maize	980	610	370
Sorghum	912	595	317
Paddy	2,759	1,517	1,242
Cotton	4,186	2,058	2,128
Sesame	938	393	545
Melon	4,524	3,074	1,450
Water melon	2,176	1,149	1,027
Pasture/Forest	303	90	213

Note: /1: Refer to Table J-18

/2: Weighted average of 1-Plant cane, 5-Ratoon cane and 1-Fallow

Table J-17(1) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(1) SUGAR CANE UNDER ALL YEAR ROUND IRRIGATION ESTATE AND OUT GROWERS' FARM (PLANT CANE))

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	125.00	47.00	5875
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	6.00	32.50	195
-UREA	(KG)	220.00	0.92	202
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	330.00	0.95	314
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	12.00	47.00	564
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	3.00	13.16	39
2) LABOR				
-LABOR IN TOTAL	(M/D)	200.00	2.50	500
3) MACHINERY				
-SUBSOILING	(TIMES)	1	90.00	90
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			115
TOTAL				2409
C) NET RETURN (A-B)				3466

Table J-17(2) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(2) SUGAR CANE UNDER ALL YEAR ROUND IRRIGATION
ESTATE AND OUT GROWERS' FARM (RATOON CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	125.00	47.00	5875
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	-	32.50	0
-UREA	(KG)	220.00	0.92	202
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	330.00	0.95	314
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	3.00	13.16	39
2) LABOR				
-LABOR IN TOTAL	(M/D)	158.00	2.50	395
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	-	64.00	0
-HARROWING	(TIMES)	-	36.00	0
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	2	32.00	64
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	1	48.00	48
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			60
TOTAL				1264
C) NET RETURN (A-B)				4611

Table J-17(3) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(3) COTTON

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	3.50	1820.00	6370
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	25.00	1.14	29
-UREA	(KG)	200.00	0.92	184
-12-24-12	(KG)	210.00	0.94	197
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	24.00	49.00	1176
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	1.80	21.18	38
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	69.00	2.50	173
-HIRED LABOR	(M/D)	53.00	2.50	133
3) MACHINERY				
-SUBSOILING	(TIMES)	1	90.00	90
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	3	36.00	108
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	3	32.00	96
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	12	31.00	372
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			140
TOTAL				2938
C) NET RETURN (A-B)				3432

Table J-17(4) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(4) MAIZE

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	4.50	490.00	2205
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	16.00	1.43	23
-UREA	(KG)	170.00	0.92	156
-12-24-12	(KG)	210.00	0.94	197
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	2.40	49.00	118
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	1.40	21.18	30
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	26.00	2.50	65
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	3	31.00	93
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	4.5	30.00	135
4) MISCELLANEOUS	(5%)			56
TOTAL				1179
C) NET RETURN (A-B)				1026

Table J-17(5) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(5) PADDY

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	5.00	613.00	3065
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	70.00	1.72	120
-UREA	(KG)	200.00	0.92	184
-12-24-12	(KG)	160.00	0.94	150
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	2.00	49.00	98
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	37.00	2.50	93
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	3	36.00	108
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	3	31.00	93
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	5	79.00	395
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			72
TOTAL				1520
C) NET RETURN (A-B)				1545

Table J-17(6) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(6) BEAN

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	2.00	1400.00	2800
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	45.00	2.57	116
-UREA	(KG)	40.00	0.92	37
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	200.00	0.95	190
-INSECTICIDES	(KG)	2.00	49.00	98
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	1.00	21.18	21
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	32.00	2.50	80
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	3	31.00	93
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	2	30.00	60
4) MISCELLANEOUS	(5%)			48
TOTAL				1017
C) NET RETURN (A-B)				1783

Table J-17(7) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(7) SESAME

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	1.50	1340.00	2010
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	3.00	4.29	13
-UREA	(KG)	70.00	0.92	64
-12-24-12	(KG)	80.00	0.94	75
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	2.00	49.00	98
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	1.00	21.18	21
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	20.00	2.50	50
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	3	31.00	93
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			34
TOTAL				722
C) NET RETURN (A-B)				1288

Table J-17(8) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(8) MELON

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	8.00	870.00	6960
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	1.50	63.05	95
-UREA	(KG)	180.00	0.92	166
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	250.00	0.95	238
-INSECTICIDES	(KG)	12.00	49.00	588
-FUNGICIDES	(KG)	22.70	47.00	1067
-HERBICIDES	(KG)	3.00	21.18	64
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	149.00	2.50	373
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	3	36.00	108
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	3	32.00	96
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	5	31.00	155
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			156
TOTAL				3276
C) NET RETURN (A-B)				3684

Table J-17(9) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(9) WATER MELON

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	12.00	272.00	3264
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	1.50	50.05	75
-UREA	(KG)	120.00	0.92	110
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	200.00	0.95	190
-INSECTICIDES	(KG)	11.00	49.00	539
-FUNGICIDES	(KG)	2.80	47.00	132
-HERBICIDES	(KG)	3.00	21.18	64
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	130.00	2.50	325
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	3	36.00	108
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	3	32.00	96
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	3	31.00	93
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			95
TOTAL				1997
C) NET RETURN (A-B)				1267

Table J-17(10) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(10) VEGETABLE (TOMATOES ASSUMED)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	30.00	179.00	5370
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	1.00	98.80	99
-UREA	(KG)	220.00	0.92	202
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	450.00	0.95	428
-INSECTICIDES	(KG)	15.00	49.00	735
-FUNGICIDES	(KG)	24.00	47.00	1128
-HERBICIDES	(KG)	3.00	21.18	64
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	124.00	2.50	310
-HIRED LABOR	(M/D)	65.00	2.50	163
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	3	36.00	108
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	2	32.00	64
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	5	31.00	155
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			181
TOTAL				3807
C) NET RETURN (A-B)				1563

Table J-17(11) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(11) PASTURE/FOREST (CATTLE RAISING)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-BEEF	(KG)	195.00	1.63	318
-MILK	(LT.)	285.00	0.48	137
TOTAL				455
B) PRODUCTION COST				
1) RECOVERY OF INITIAL INVESTMENT	*			50
2) RAISING COST				
-LOBOUR COST (A*B*C)	**			65
A	(HEAD/HA)	3.50		
B	(MAN/HEAD)	0.01		
C	(LPS/MAN/YEAR)	1850.00		
-VETERINARY COST (A*B)				12
A	(HEAD)	3.5		
B	(LPS/HEAD)	3.36		
4) MISCELLANEOUS	(5%)			6
TOTAL				133
C) NET RETURN (A-B)				322

NOTE * : -LAND PREPARATION BY MACHINERY LPS. 136.00
-SEEDING BY MACHINERY LPS. 32.00
-SEED LPS. 72.00
-FENCES LPS. 180.00
-MISCELLANEOUS (INCLUDING MAINTENANCE) LPS. 84.00
TOTAL LPS. 504.00
-USEFUL LIFE YEARS. 10
RECOVERY OF INITIAL INVESTMENT LPS/YEAR 50.4

** : OPPORTUNITY COST IS NOT APPLIED FOR COWBOYS

Table J-18(1) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(1) SUGAR CANE ESTATE FARM (PLANT CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	73.00	47.00	3431
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	10.00	32.50	325
-UREA	(KG)	170.00	0.92	156
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	110.00	0.95	105
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	12.00	47.00	564
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	2.00	13.16	26
2) LABOR				
-FAMILY LABOR	(M/D)	-	2.50	0
-HIRED LABOR	(M/D)	164.00	2.50	410
3) MACHINERY				
-SUBSOILING	(TIMES)	1	90.00	90
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	4	42.00	168
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			110
TOTAL				2318
C) NET RETURN (A-B)				1113

Table J-18(2) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(2) SUGAR CANE ESTATE FARM (RATOON CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	73.00	47.00	3431
PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	-	32.50	0
-UREA	(KG)	170.00	0.92	156
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	110.00	0.95	105
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	2.00	13.16	26
2) LABOR				
-FAMILY LABOR	(M/D)	-	2.50	0
-HIRED LABOR	(M/D)	124.00	2.50	310
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	-	64.00	0
-HARROWING	(TIMES)	-	36.00	0
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	2	32.00	64
-IRRIGATING	(MONTHS)	4	42.00	168
-CHEMICAL APP	(TIMES)	1	31.00	0
-RATOONING	(TIMES)	1	48.00	48
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			48
TOTAL				1010
C) NET RETURN (A-B)				2421

Table J-18(3) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(3) SUGAR CANE OUT GROWERS' FARM (PLANT CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	81.00	47.00	3807
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	10.00	32.50	325
-UREA	(KG)	170.00	0.92	156
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	110.00	0.95	105
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	12.00	47.00	564
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	2.00	13.16	26
2) LABOR				
-FAMILY LABOR	(M/D)	137.00	2.50	343
-HIRED LABOR	(M/D)	36.00	2.50	90
3) MACHINERY				
-SUBSOILING	(TIMES)	1	90.00	90
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	0
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			102
TOTAL				2134
C) NET RETURN (A-B)				1673

Table J-18(4) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(4) SUGAR CANE OUT GROWERS' FARM (RATOON CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	81.00	47.00	3807
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	0.00	32.50	0
-UREA	(KG)	170.00	0.92	156
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	110.00	0.95	105
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	2.00	13.16	26
2) LABOR				
-FAMILY LABOR	(M/D)	106.00	2.50	265
-HIRED LABOR	(M/D)	27.00	2.50	68
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	-	64.00	0
-HARROWING	(TIMES)	-	36.00	0
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	2	32.00	64
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	0
-RATOONING	(TIMES)	1	48.00	48
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			41
TOTAL				858
C) NET RETURN (A-B)				2949

Table J-18(5) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(5) MAIZE SEMI-MECHANIZED FARMING

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	2.00	490.00	980
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	16.00	1.43	23
-UREA	(KG)	80.00	0.92	74
-12-24-12	(KG)	90.00	0.94	85
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	1.00	49.00	49
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	-	21.18	0
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	39.00	2.50	98
-HIRED LABOR	(M/D)	10.00	2.50	25
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	2	30.00	60
4) MISCELLANEOUS	(5%)			29
TOTAL				610
C) NET RETURN (A-B)				370

Table J-18(6) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(6) MAIZE TRADITIONAL FARMING

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	1.30	490.00	637
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	16.00	1.43	23
-UREA	(KG)	100.00	0.92	92
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	1.00	49.00	49
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	-	21.18	0
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	51.00	2.50	128
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	.8	64.00	51
-HARROWING	(TIMES)	1.6	36.00	58
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	.8	32.00	26
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	-	31.00	0
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	1.3	30.00	39
4) MISCELLANEOUS	(5%)			23
TOTAL				489
C) NET RETURN (A-B)				148

Table J-18(7) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(7) SORGHUM SEMI-MECHANIZED FARMING

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	1.90	480.00	912
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	10.00	2.21	22
-UREA	(KG)	80.00	0.92	74
-12-24-12	(KG)	80.00	0.94	75
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	1.00	49.00	49
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	-	21.18	0
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	39.00	2.50	98
-HIRED LABOR	(M/D)	10.00	2.50	25
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	1.9	30.00	57
4) MISCELLANEOUS	(5%)			28
TOTAL				595
C) NET RR -B)				317

Table J-18(8) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(8) SORGHUM TRADITIONAL FARMING

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	1.00	480.00	480
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	16.00	2.21	35
-UREA	(KG)	90.00	0.92	83
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	-	21.18	0
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	51.00	2.50	128
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	.8	64.00	51
-HARROWING	(TIMES)	1.6	36.00	58
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	.8	32.00	26
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	-	31.00	0
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	1	30.00	30
4) MISCELLANEOUS	(5%)			21
TOTAL				432
C) NET RETURN (A-B)				48

Table J-18(9) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(9) PADDY

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	4.50	613.00	2759
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	70.00	1.72	120
-UREA	(KG)	190.00	0.92	175
-12-24-12	(KG)	130.00	0.94	122
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	1.00	49.00	49
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	-	2.50	0
-HIRED LABOR	(M/D)	54.00	2.50	135
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	3	36.00	108
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	4	42.00	168
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	4.5	79.00	356
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			72
TOTAL				1517
C) NET RETURN (A-B)				1242

Table J-18(10) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(10) COTTON

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	2.30	1820.00	4186
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	25.00	1.14	29
-UREA	(KG)	130.00	0.92	120
-12-24-12	(KG)	160.00	0.94	150
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	16.00	49.00	784
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	3.80	21.18	80
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	-	2.50	0
-HIRED LABOR	(M/D)	93.00	2.50	233
3) MACHINERY				
-SUBSOILING	(TIMES)	1	90.00	90
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	8	31.00	248
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			98
TOTAL				2058
C) NET RETURN (A-B)				2128

Table J-18(11) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(11) SESAME

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	0.70	1340.00	938
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	3.20	4.29	14
-UREA	(KG)	80.00	0.92	74
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	1.00	49.00	0
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	-	21.18	0
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	37.00	2.50	93
-HIRED LABOR	(M/D)	10.00	2.50	25
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	1	32.00	32
-CULTIVATING	(TIMES)	2	32.00	0
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	-	31.00	0
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			19
TOTAL				393
C) NET RETURN (A-B)				545

Table J-18(12) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(12) MELON

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	5.20	870.00	4524
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	1.60	63.05	101
-UREA	(KG)	130.00	0.92	120
-12-24-12	(KG)	190.00	0.94	179
-15-15-15	(KG)	-	0.95	0
-INSECTICIDES	(KG)	12.00	49.00	588
-FUNGICIDES	(KG)	22.70	47.00	1067
-HERBICIDES	(KG)	3.00	21.18	64
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	136.00	2.50	340
-HIRED LABOR	(M/D)	31.00	2.50	78
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	3	36.00	108
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	2	32.00	64
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	5	31.00	155
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			146
TOTAL				3074
C) NET RETURN (A-B)				1450

Table J-18(13) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(13) WATER MELON

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	8.00	272.00	2176
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(KG)	1.00	50.05	50
-UREA	(KG)	65.00	0.92	60
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	65.00	0.95	62
-INSECTICIDES	(KG)	5.50	49.00	270
-FUNGICIDES	(KG)	1.40	47.00	66
-HERBICIDES	(KG)	-	21.18	0
-RODENTICIDES	(KG)	-	13.16	0
2) LABOR				
-FAMILY LABOR	(M/D)	113.00	2.50	283
-HIRED LABOR	(M/D)	29.00	2.50	73
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	-	32.00	0
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	2	31.00	62
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			55
TOTAL				1149
C) NET RETURN (A-B)				1027

Table J-18(14) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(14) PASTURE/FOREST (CATTLE RAISING)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-BEEF	(KG)	130.00	1.63	212
-MILK	(LT.)	190.00	0.48	91
TOTAL				303
B) PRODUCTION COST				
1) RECOVERY OF INITIAL INVESTMENT	*			
-CULTIVATED PASTURE	(70%)			35**
-NATURAL PASTURE	(30%)			7***
2) RAISING COST				
-LOBOUR COST	****			37
(A*B*C)				
A	(HEAD/HA)	2.00		
B	(MAN/HEAD)	0.01		
C	(LPS/MAN/YEAR)	1850.00		
-VETERINARY COST				7
(A*B)				
A	(HEAD)	2.00		
B	(LPS/HEAD)	3.36		
4) MISCELLANEOUS	(5%)			4
TOTAL				90
C) NET RETURN (A-B)				213

NOTE * :ABOUT 70% OF PASTURE LAND IS CULTIVATED BY IMPROVED PASTURE GRASSES AND REMAINING 30% IS NATURAL PASTURE.

** :CULTIVATED PASTURE

-LAND PREPARATION BY MACHINERY	LPS/HA	136.00
-SEEDING BY MACHINERY	LPS/HA	32.00
-SEED	LPS/HA	72.00
-FENCES	LPS/HA	180.00
-MISCELLANEOUS (INCLUDING MAINTENANCE)	LPS/HA	84.00
TOTAL	LPS/HA	504.00
-USEFUL LIFE	YEARS.	10
ANNUAL RECOVERY OF INITIAL INVESTMENT	LPS/HA	50.4

*** :NATURAL PASTURE ESTIMATED AT ABOUT LPS.24.00/HA

**** :OPPORTUNITY COST IS NOT APPLIED FOR COWBOYS.

Table J-19 AGRICULTURAL BENEFIT (WESTERN PLAIN)

Crop	Without Project			With Project			Incremental
	Area (ha)	Net Return (Lp./ha)	Total Return (10^3Lp.)	Area (ha)	Net Return (Lp./ha)	Total Return (10^3Lp.)	(10^3Lp.)
Sugar cane							
Estate	3,180	2,378	7,562	3,180	4,382	13,935	
Outgrowers	6,070	2,889	17,536	3,670	4,382	16,082	
Cotton	740	2,128	1,575	4,830	3,432	16,577	
Paddy	80	1,242	99	4,050	1,545	6,257	
Maize	1,050	370	389	2,000	1,026	2,052	
Sorghum	120	317	38	-	-	-	
Beans	-	-	-	2,830	1,783	5,046	
Sesame	150	545	82	250	1,288	322	
Melon	1,200	1,450	1,740	2,000	3,684	7,368	
Water melon	70	1,027	72	200	1,267	253	
Vegetables	-	-	-	1,600	1,563	2,501	
Pasture/Forest	6,830	213	1,455	140	322	45	
Total			30,548			70,438	39,890

Table J-20 AGRICULTURAL BENEFIT (EASTERN PLAIN - A)

Crop	Without Project			With Project			Incremental
	Area (ha)	Net Return (Lp./ha)	Total Return (10^3Lp.)	Area (ha)	Net Return (Lp./ha)	Total Return (10^3Lp.)	(10^3Lp.)
Sugar cane							
Estate	-	-	-	-	-	-	
Outgrowers	190	2,889	549	-	-	-	
Cotton	-	-	-	2,300	3,432	7,894	
Maize	20	370	7	2,300	1,026	2,360	
Paddy	1,400	1,242	1,739	2,300	1,545	3,554	
Beans	-	-	-	2,300	1,783	4,101	
Pasture/Forest	4,530	213	965	-	-	-	
Total			3,260			17,909	14,649

Table J-21 SUMMARY OF ECONOMIC BALANCE OF CROP PRODUCTION IN MIDDLE REACH VALLEYS (PROPOSED CONDITION)

(Unit: Lps./ha)

Crop	Gross Income	Production Cost	Net Return
Sugar cane/1	4,700	1,202/3	3,498
(Plant cane)		(2,344)	
(Ratoon cane)		(1,217)	
Paddy/2	3,065	1,520	1,545
Maize/2	2,205	1,179	1,026
Beans/2	2,800	1,017	1,783
Vegetables/2	5,370	3,807	1,563

Note: /1: Refer to Table J-23

/2: Refer to Table J-17

/3: Weighted average of 1-Plant cane, 4-Ratoon cane and 1-Fallow

Table J-22 SUMMARY OF ECONOMIC BALANCE OF CROP PRODUCTION IN MIDDLE REACH VALLEYS (PRESENT CONDITION)

(Unit: Lps./ha)

Crop	Gross Income	Production Cost	Net Return
Sugar cane/1	2,726	915/3	1,811
(Plant cane)		(2,255)	
(Ratoon cane)		(830)	
Paddy/2	2,759	1,517	1,242
Maize/2	637	489	148
Sorghum/2	912	595	317
Sesame/2	938	393	545
Melon/2	4,524	3,074	1,450
Pasture/2	303	90	213

Note: /1: Refer to Table J-24

/2: Refer to Table J-18

/3: Weighted average of 1-Plant cane, 5-Ratoon cane and 1-Fallow

Table J-23(1) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(1) SUGAR CANE IN THE SAN JUAN DE FLORES AREA
(PLANT CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	100.00	47.00	4700
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	6.00	32.50	195
-UREA	(KG)	220.00	0.92	202
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	330.00	0.95	314
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	12.00	47.00	564
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	3.00	13.16	39
2) LABOR				
-LABOR IN TOTAL	(M/D)	175.00	2.50	438
3) MACHINERY				
-SUBSOILING	(TIMES)	1	90.00	90
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			112
TOTAL				2344
C) NET RETURN (A-B)				2356

Table J-23(2) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITH PROJECT

(2) SUGAR CANE IN THE SAN JUAN DE FLORES AREA
(RATOON CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	100.00	47.00	4700
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	-	32.50	0
-UREA	(KG)	220.00	0.92	202
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	330.00	0.95	314
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	3.00	13.16	39
2) LABOR				
-LABOR IN TOTAL	(M/D)	140.00	2.50	350
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	-	64.00	0
-HARROWING	(TIMES)	-	36.00	0
-FERTILIZING	(TIMES)	1	26.00	26
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	2	32.00	64
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	1	48.00	48
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			58
TOTAL				1217
C) NET RETURN (A-B)				3483

Table J-24(1) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(1) SUGAR CANE IN THE SAN JUAN DE FLORES AREA
(PLANT CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	58.00	47.00	2726
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	10.00	32.50	325
-UREA	(KG)	170.00	0.92	156
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	110.00	0.95	105
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	12.00	47.00	564
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	2.00	13.16	26
2) LABOR				
-FAMILY LABOR	(M/D)	130.00	2.50	325
-HIRED LABOR	(M/D)	10.00	2.50	25
3) MACHINERY				
-SUBSOILING	(TIMES)	1	90.00	90
-PLOWING	(TIMES)	1	64.00	64
-HARROWING	(TIMES)	2	36.00	72
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	1	48.00	48
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	1	32.00	32
-MULTING	(TIMES)	1	32.00	32
-IRRIGATING	(MONTHS)	4	42.00	168
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	-	48.00	0
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			107
TOTAL				2255
C) NET RETURN (A-B)				471

Table J-24(2) ECONOMIC BALANCE OF CROP PRODUCTION PER HECTARE WITHOUT PROJECT AND PRESENT CONDITION

(2) SUGAR CANE IN THE SAN JUAN DE FLORES AREA
(RATOON CANE)

DESCRIPTION	UNIT	Q'TY	UNIT PRICE (LPS)	AMOUNT (LPS)
A) GROSS INCOME				
-AVERAGE YIELD	(T/HA)	58.00	47.00	2726
B) PRODUCTION COST				
1) FARM INPUT				
-SEED	(TON)	-	32.50	0
-UREA	(KG)	170.00	0.92	156
-12-24-12	(KG)	-	0.94	0
-15-15-15	(KG)	110.00	0.95	105
-INSECTICIDES	(KG)	-	49.00	0
-FUNGICIDES	(KG)	-	47.00	0
-HERBICIDES	(KG)	4.00	21.18	85
-RODENTICIDES	(KG)	2.00	13.16	26
2) LABOR				
-FAMILY LABOR	(M/D)	110.00	2.50	275
-HIRED LABOR	(M/D)	-	2.50	0
3) MACHINERY				
-SUBSOILING	(TIMES)	-	90.00	0
-PLOWING	(TIMES)	-	64.00	0
-HARROWING	(TIMES)	-	36.00	0
-FERTILIZING	(TIMES)	-	26.00	0
-RIDGING	(TIMES)	-	48.00	0
-SEEDING	(TIMES)	-	32.00	0
-CULTIVATING	(TIMES)	-	32.00	0
-MULTING	(TIMES)	2	32.00	64
-IRRIGATING	(MONTHS)	-	42.00	0
-CHEMICAL APP	(TIMES)	1	31.00	31
-RATOONING	(TIMES)	1	48.00	48
-HARVESTING	(TONS)	-	79.00	0
-THRESHING	(TONS)	-	30.00	0
4) MISCELLANEOUS	(5%)			40
TOTAL				830
C) NET RETURN (A-B)				1896

Table J-25 ESTIMATED ECONOMIC RETURN FROM AGRICULTURAL PRODUCTION IN MIDDLE REACH

	Present			Proposed			Incremental
	Area (ha)	Net/1 Return (Lp./ha)	Total Return (10^3Lp.)	Area (ha)	Net/2 Return (Lp./ha)	Total Return (10^3Lp.)	(10^3Lp.)
1) San Juan de Flores:							
Sugar cane							
Irrigated	1,630	1,811	2,952	2,680	3,498	9,375	
Non-irrigated	1,020	1,811	1,847	-		-	
Maize	30	148	4	-		-	
Sub-total			4,803			9,375	4,572
2) Orocuina:							
(Irrigated)							
Paddy							
Wet season	-		-	160	1,545	247	
Dry season	-		-	160	1,545	247	
Maize	-		-	150	1,026	154	
Beans	-		-	150	1,783	267	
Vegetables	-		-	20	1,563	31	
Sorghum	15	317	5	-		-	
Sesame	10	545	5	-		-	
Melon	10	1,450	15	-		-	
(Non-irrigated)							
Maize	120	148	18	-		-	
Livestock	175	213	37	-		-	
Sub-total			80			946	866
3) Orocuina - Choluteca							
Paddy							
Wet season	350	1,242	435	350	1,545	541	
Dry season	350	1,242	435	350	1,545	541	
Sub-total			870			1,082	212
Total			5,753			11,403	5,650

Note: /1: Refer to Table J-22

/2: Refer to Table J-21

Table J-26 ANNUAL AGRICULTURAL BENEFIT

(Unit: Lp.10^6)

Year in Order	Year	Western Plain			Eastern Plan-A	Total	Middle Reach
		Phase 1-1 (12,400 ha)	Phase 1-2 (3,600 ha)	Sub-total (16,000 ha)	(4,600 ha)	(20,600 ha)	(3,360 ha)
1	1985	-	-	-	-	-	-
2	1986	-	-	-	-	-	-
3	1987	-	-	-	-	-	-
4	1988	-	-	-	-	-	-
5	1989	-	-	-	-	-	-
6	1990	0.88/1	-	0.88	-	0.88	-
7	1991	12.36	-	12.36	-	12.36	2.26
8	1992	17.00	3.59	20.59	-	20.59	3.11
9	1993	21.64	4.94	26.58	-	26.58	3.96
10	1994	26.28	6.28	32.56	-	32.56	4.81
11	1995	30.91/2	7.63	38.54	5.86	44.40	5.65/5
12	1996	.	8.98/2	39.89/3	8.06	47.95	.
13	1997	.	.	.	10.26	50.15	.
14	1998	.	.	.	12.45	52.34	.
15	1999	.	.	.	14.65/4	54.54	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
50	2034	30.91	8.98	39.89	14.65	54.54	5.65

Note: /1: The agricultural benefit under irrigation during rainy season (Annex F.6) will accrue, since the reservoir will not be completed by the beginning of 1990.

/2: Benefit of the Western plain in proportion to the Phase 1-1 and 1-2 areas (39.89 x 12,400/16,000)

/3: Refer to Table J-19

/4: Refer to Table J-20

/5: Refer to Table J-25

Table J-27 CAPACITY VALUE OF ALTERNATIVE POWER

			Oil-Fired (50 MW Units)
(1)	Installation Cost:		$ 920/kW
	Foreign portion /1	(80%)	Lp. 1,840
	Local portion	(29%)	Lp. 368
	Total		Lp. 2,208/kW
(2)	Adjustment Factor:	(Hydro)	(Oil-fired)
	T/L loss	2.0%	2.0%
	Auxiliary use	0.3%	6.0%
	Forced outage	0.5%	3.5%
	Overhaul	2.0%	10.0%
	Factor:		1,191
(3)	Capacity Value:		Lp. 2,630/kW
(4)	Total Capacity Value:		
	(11.1 MW)		Lp. $29,193 \times 10^3$
(5)	Fixed O & M (2%)		Lp. 52.6/kW
(6)	Annual Fixed O & M (11.1 MW)		Lp. 584×10^3

Note: /1 At shadow exchange rate of $1 = Lp. 2.5

Table J-28 ENERGY VALUE OF ALTERNATIVE POWER

			Oil-Fired (50 MW Units)
1)	Fuel Type:		Bunker C
2)	Fuel Cost:		
	Financial		$ 27.18/bbl
	Economic /1		Lp. 65.95/bbl
3)	Estimated Efficiency:		31%
4)	Heat Value:		2,774 Kcal (11,000 Btu)
5)	Gravity of Fuel:		0.905
6)	Calorific Value:		10,600 Kcal/kg
7)	Fuel Consumption=(4)/(5)/(6)		0.2892 l/kWh
8)	Fuel Cost = (2)x(7)/159 l		Lp.1,236/kWh
9)	Adjustment Factor:		
		(Hydro)	(Oil-fired)
	T/L loss	2.0%	2.0%
	Auxiliary use	0.3%	6.0%
	Factor		1,061
10)	Energy Value = (8)-(9)		Lp. 0.1311/kWh
11)	Annual Energy Value (53.6 GWh)		Lp. $7,023 \times 10^3$
12)	Variable O & M		Lp. 0.0100/kWh
13)	Annual Valuable O & M (53.6 GWh)		Lp. 536×10^3

Note: /1: At shadow exchange rate of $1 = Lp. 2.5

Table J-29 FLOW OF ECONOMIC POWER BENEFIT

(Lp. 10^3)

	Year	Capacity Value /1	Energy Value /2	Fixed O&M /3	Variable O&M /4	Total
1	1987	1,433				1,433
2	1988	8,600				8,600
3	1989	12,900				12,900
4	1990	5,734				5,734
5	1991		7,023	584	536	8,143
6	1992		7,023	584	536	8,143
:			:	:	:	:
25	2011		7,023	584	536	8,143
26	2012	1,290	.	.	.	1,290
			.	.	.	
27	2013	7,740	.	.	.	7,740
			.	.	.	
28	2014	11,610	.	.	.	11,610
			.	.	.	
29	2015	5,160	.	.	.	5,160
30	2016		7,023	584	536	8,143
31	2017		:	:	:	:
:			:	:	:	:
50			7,023	584	536	8,143

Note: /1: Refer to Table J-27, para (4)

/2: Refer to Table J-28, para (11)

/3: Refer to Table J-27, para (6)

/4: Refer to Table J-28, para (13)

Table J-30 PRODUCTION FOREGONE IN RESERVOIR AREA

	Area or Number (ha) or (No.)	Net Return (Lp./ha)	Amount (Lp.10^3)
Upland field			
Maize	220	148	33
Sorghum	60	48	3
Pasture	330	213	70
Forest	1,590	110	175
Others/1	250	-	-
Sub-total	2,450	-	281
Houses	100	1,000	100
Total	-	-	381

Note: /1: Water surface, river beach, etc.

Table J-31(1) ECONOMIC COST AND BENEFIT FLOW
(FIRST AND SECOND DEVELOPMENT: 20,600 HA)

(Unit: Lp.106)

Year in Order	Year	Economic Cost						Economic Benefit				
		Investment & Replacement Cost		O & M Cost			Total	Irrigation Benefit	Power Benefit	Middle Reach Area	Negative Benefit	Total
		Dam & Power Station and Irrigation System	Middle Reach Area	Dam & Power Station	Irrigation System	Middle Reach Area						
		/1	/2					/3	/4	/3	/5	
1	1985	8.57	-	-	-	-	8.57	-	-	-	-	-
2	1986	5.97	-	-	-	-	5.97	-	-	-	-	-
3	1987	28.70	-	-	-	-	28.70	-	1.43	-	-	1.43
4	1988	75.14	1.96	-	-	-	77.10	-	8.60	-	-0.04	8.56
5	1989	88.38	3.34	-	-	-	91.72	-	12.90	-	-0.04	12.86
6	1990	62.50	3.34	-	0.40	-	66.24	0.88	5.73	-	-0.38	6.23
7	1991	8.51	-	0.20	1.52	0.14	10.37	12.36	8.14	2.26	-0.38	22.38
8	1992	7.21	-	0.20	1.97	0.14	9.52	20.59	8.14	3.11	-0.38	31.46
9	1993	21.26	-	0.20	1.97	0.14	23.57	26.58	8.14	3.96	-0.38	38.30
10	1994	15.23	-	0.20	1.97	0.14	17.54	32.56	8.14	4.81	-0.38	45.13
11	1995	-	-	0.20	2.72	0.14	3.06	44.40	8.14	5.65	-0.38	57.81
12	1996	-	-	0.20	2.72	0.14	3.06	47.95	8.14	5.65	-0.38	61.36
13	1997	-	-	0.20	2.72	0.14	3.06	50.15	8.14	5.65	-0.38	63.56
14	1998	-	-	0.20	2.72	0.14	3.06	52.34	8.14	5.65	-0.38	65.75
15	1999	-	-	0.20	2.72	0.14	3.06	54.54	8.14	5.65	-0.38	67.95
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27	2011	-	-	0.20	2.72	0.14	3.06	54.54	8.14	5.65	-0.38	67.95
28	2012	-	-	0.20	2.72	0.14	3.06	54.54	1.29	5.65	-0.38	61.10
29	2013	10.29	2.07	0.20	2.72	0.14	15.42	54.54	7.74	5.65	-0.38	67.55
30	2014	-	-	0.20	2.72	0.14	3.06	54.54	11.61	5.65	-0.38	71.42
31	2015	-	-	0.20	2.72	0.14	3.06	54.54	5.16	5.65	-0.38	64.97
32	2016	-	-	0.20	2.72	0.14	3.06	54.54	8.14	5.65	-0.38	67.95
33	2017	-	-	0.20	2.72	0.14	3.06	54.54	8.14	5.65	-0.38	67.95
34	2018	1.19	-	0.20	2.72	0.14	4.25	54.54	8.14	5.65	-0.38	67.95
35	2019	-	-	0.20	2.72	0.14	3.06	54.54	8.14	5.65	-0.38	67.95
:	:	:	:	:	:	:	:	:	:	:	:	:
50	2034	-	-	0.20	2.72	0.14	3.06	54.54	8.14	5.65	-0.38	67.95

EIRR: 14.2%

Note: /1: Refer to Table J-11(1) /2: Refer to Table J-11(2) /3: Refer to Table J-26
/4: Refer to Table J-29 /5: Refer to Table J-30

Table J-31(2) ECONOMIC COST AND BENEFIT FLOW
(FIRST STAGE DEVELOPMENT: 16,000 HA)

(Unit: Lp.106)

Year in Order	Year	Economic Cost						Economic Benefit				
		Investment & Replacement Cost		O & M Cost			Total					
		Dam & Power Station and Irrigation System	Middle Reach Area	Dam & Power Station	Irrigation System	Middle Reach Area		Irrigation Benefit	Power Benefit	Middle Reach Area	Negative Benefit	Total
		/1	/1					/2	/3	/2	/4	
1	1985	8.57	-	-	-	-	8.57	-	-	-	-	-
2	1986	5.97	-	-	-	-	5.97	-	-	-	-	-
3	1987	28.70	-	-	-	-	28.70	-	1.43	-	-	1.43
4	1988	75.14	1.96	-	-	-	77.10	-	8.60	-	-0.04	8.56
5	1989	87.74	3.34	-	-	-	91.18	-	12.90	-	-0.04	12.86
6	1990	61.69	3.34	-	0.40	-	65.43	0.88	5.73	-	-0.38	6.23
7	1991	7.08	-	0.20	1.52	0.14	8.94	12.36	8.14	2.26	-0.38	22.38
8	1992	-	-	0.20	1.97	0.14	2.31	20.59	8.14	3.11	-0.38	31.46
9	1993	-	-	0.20	1.97	0.14	2.31	26.58	8.14	3.96	-0.38	38.30
10	1994	-	-	0.20	1.97	0.14	2.31	32.56	8.14	4.81	-0.38	45.13
11	1995	-	-	0.20	1.97	0.14	2.31	38.54	8.14	5.65	-0.38	51.95
12	1996	-	-	0.20	1.97	0.14	2.31	39.89	8.14	5.65	-0.38	53.30
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27	2011	-	-	0.20	1.97	0.14	2.31	39.89	8.14	5.65	-0.38	53.30
28	2012	-	-	0.20	1.97	0.14	2.31	39.89	1.29	5.65	-0.38	46.45
29	2013	10.29	2.07	0.20	1.97	0.14	14.67	39.89	7.74	5.65	-0.38	52.90
30	2014	-	-	0.20	1.97	0.14	2.31	39.89	11.61	5.65	-0.38	56.77
31	2015	-	-	0.20	1.97	0.14	2.31	39.89	5.16	5.65	-0.38	50.32
32	2016	-	-	0.20	1.97	0.14	2.31	39.89	8.14	5.65	-0.38	53.30
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50	2034	-	-	0.20	1.97	0.14	2.31	39.89	8.14	5.65	-0.38	53.30

EIRR: 13.7%

Nore: /1: Refer to Table J-11(2) /2: Refer to Table J-26 /3: Refer to Table J-29
/4: Refer to Table J-30

Table J-31(3) ECONOMIC COST AND BENEFIT FLOW
(FIRST STAGE DEVELOPMENT, PHASE 1-1: 12,400 HA)

(Unit: Lp.106)

Year in Order	Year	Economic Cost						Economic Benefit				
		Investment & Replacement Cost		O & M Cost			Total					
		Dam & Power Station and Irrigation System	Middle Reach Area	Dam & Power Station	Irrigation System	Middle Reach Area		Irrigation Benefit	Power Benefit	Middle Reach Area	Negative Benefit	Total
		/1	/2					/3	/4	/3	/5	
1	1985	8.57	-	-	-	-	8.57	-	-	-	-	-
2	1986	5.97	-	-	-	-	5.97	-	-	-	-	-
3	1987	28.46	-	-	-	-	28.46	-	1.43	-	-	1.43
4	1988	73.69	1.96	-	-	-	75.65	-	8.60	-	-0.04	8.56
5	1989	86.91	3.34	-	-	-	90.25	-	12.90	-	-0.04	12.86
6	1990	46.70	3.34	-	-	-	50.04	0.88	5.73	-	-0.38	6.23
7	1991	-	-	0.20	1.57	0.14	1.91	12.36	8.14	2.26	-0.38	22.38
8	1992	-	-	0.20	1.57	0.14	1.91	17.00	8.14	3.11	-0.38	27.87
9	1993	-	-	0.20	1.57	0.14	1.91	21.64	8.14	3.96	-0.38	33.36
10	1994	-	-	0.20	1.57	0.14	1.91	26.28	8.14	4.81	-0.38	38.85
11	1995	-	-	0.20	1.57	0.14	1.91	30.91	8.14	5.65	-0.38	44.32
12	1996	-	-	0.20	1.57	0.14	1.91	30.91	8.14	5.65	-0.38	44.32
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27	2011	-	-	0.20	1.57	0.14	1.91	30.91	8.14	5.65	-0.38	44.32
28	2012	-	-	0.20	1.57	0.14	1.91	30.91	1.29	5.65	-0.38	37.47
29	2013	10.23	2.07	0.20	1.57	0.14	3.98	30.91	7.74	5.65	-0.38	43.92
30	2014	-	-	0.20	1.57	0.14	1.91	30.91	11.61	5.65	-0.38	47.79
31	2015	-	-	0.20	1.57	0.14	1.91	30.91	5.16	5.65	-0.38	41.34
32	2016	-	-	0.20	1.57	0.14	1.91	30.91	8.14	5.65	-0.38	44.32
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50	2034	-	-	0.20	1.57	0.14	1.91	30.91	8.14	5.65	-0.38	44.32

EIRR: 12.9%

Note: /1: Refer to Table J-11(3) /2: Refer to Table J-11(2) /3: Refer to Table J-26
/4: Refer to Table J-29 /5: Refer to Table J-30

Table J-32(1) FINANCIAL COST AND BENEFIT FLOW
(IRRIGATION PLAN: 20,600 HA)

(Unit: Lp.10^6)

Year in Order	Year	Financial Cost			Financial Benefit		
		Investment and Replace. Cost /1	O & M Cost /2	Total	Net Return /3	Domestic Consumption	Total
1	1985	7.62	-	7.62	-		-
2	1986	5.72	-	5.72	-		-
3	1987	27.62	-	27.62	-		-
4	1988	78.56	-	78.56	-		-
5	1989	86.27	-	86.27	-		-
6	1990	71.41	0.46	71.87	1.07		1.07
7	1991	10.27	1.82	12.09	15.79	-4.92	10.87
8	1992	9.20	2.59	11.79	27.61	-5.17	22.44
9	1993	28.41	2.71	31.12	37.43	-5.43	32.00
10	1994	21.45	2.85	24.30	48.15	-5.70	42.45
11	1995	-	3.89	3.89	65.66	-5.70	59.96
12	1996	-	3.89	3.89	70.92	-5.70	65.22
13	1997	-	3.89	3.89	74.16	-5.70	68.46
14	1998	-	3.89	3.89	77.40	-5.70	71.70
15	1999	-	3.89	3.89	80.66	-5.70	74.96
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28	2012	-	3.89	3.89	80.66	-5.70	74.96
29	2013	3.52	3.89	7.41	80.66	-5.70	74.96
30	2014	-	3.89	3.89	80.66	-5.70	74.96
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33	2017	-	3.89	3.89	80.66	-5.70	74.96
34	2018	1.94	3.89	5.83	80.66	-5.70	74.96
35	2019	-	3.89	3.89	80.66	-5.70	74.96
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50	2034	-	3.89	3.89	80.66	-5.70	74.96

FIRR: 13.1%

Note: /1: Refer to Table J-08(1)
/2: 0.1% of dam costs and 2% of irrigation costs
/3: Estimated on the basis of Annex F, Table F-11

Table J-32(2) FINANCIAL COST AND BENEFIT FLOW
(IRRIGATION PLAN: 16,000 HA)

(Unit: Lp.10^6)

Year in Order	Year	Financial Cost			Financial Benefit		
		Investment and Replace. Cost /1	O & M Cost /2	Total	Net Return /3	Domestic Consumption	Total
1	1985	7.62	-	7.62	-		-
2	1986	5.72	-	5.72	-		-
3	1987	27.62	-	27.62	-		-
4	1988	78.56	-	78.56	-		-
5	1989	84.15	-	84.15	-		-
6	1990	67.32	0.46	67.78	1.13		1.13
7	1991	8.73	1.82	10.55	16.65	-3.80	12.85
8	1992	-	2.48	2.48	27.73	-3.80	23.93
9	1993	-	2.48	2.48	35.81	-3.80	32.01
10	1994	-	2.48	2.48	43.86	-3.80	40.06
11	1995	-	2.48	2.48	51.92	-3.80	48.12
12	1996	-	2.48	2.48	53.74	-3.80	49.94
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28	2012	-	2.48	2.48	53.74	-3.80	49.94
29	2013	3.04	2.48	2.48	53.74	-3.80	49.94
30	2014	-	2.48	2.48	53.74	-3.80	49.94
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50	2034	-	2.48	2.48	53.74	-3.80	49.94

FIRR: 11.7%

Note: /1: Refer to Table J-08(2)
/2: 0.1% of dam costs and 2% of irrigation costs
/3: Estimated on the basis of Annex F, Table F-11

Table J-33 FINANCIAL COST AND BENEFIT FLOW
(POWER GENERATION PLAN)

(Unit: Lp.10^6)

Year in Order	Year	Financial Cost			Financial Benefit
		Capital Investment and Replacement Cost /1	O & M Cost /2	Total	Power Revenue /2
1	1985	-	-	-	-
2	1986	-	-	-	-
3	1987	3.29	-	3.29	-
4	1988	2.07	-	2.07	-
5	1989	13.35	-	13.35	-
6	1990	4.41	-	4.41	-
7	1991	-	0.63	0.63	12.24
8	1992	-	0.63	0.63	12.24
9	1993	-	0.63	0.63	12.24
10	1994	-	0.63	0.63	12.24
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28	2012	-	0.63	0.63	12.24
29	2013	18.91	0.63	19.54	12.24
30	2014	-	0.63	0.63	12.24
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50	2034	-	0.63	0.63	12.24

FIRR: 34.0%

Note: /1: Refer to Table J-08
/2: Estimated in accordance with Annex J.3.2, Para (2)

Table J-34 FINANCIAL COST AND BENEFIT FLOW
(IRRIGATION OF 16,000 HA AND POWER GENERATION)

(Unit: Lp.10^6)

Year in Order	Year	Financial Cost					Financial Benefit		
		Investment and Replace. Cost		O & M Cost		Total	Marketable Production	Power Revenue	Total
		Dam & Irri.	Power Generat.	Dam & Irri.	Power Generat.				
1	1985	7.62	-	-	-	7.62	-	-	-
2	1986	5.72	-	-	-	5.72	-	-	-
3	1987	27.62	3.29	-	-	30.91	-	-	-
4	1988	78.56	2.07	-	-	80.63	-	-	-
5	1989	84.15	13.35	-	-	97.50	-	-	-
6	1990	67.32	4.41	0.46	-	72.19	1.13	-	1.13
7	1991	8.73	-	1.82	0.63	11.18	12.85	12.24	25.09
8	1992	-	-	2.48	0.63	3.11	23.93	12.24	36.17
9	1993	-	-	2.48	0.63	3.11	32.01	12.24	44.25
10	1994	-	-	2.48	0.63	3.11	40.06	12.24	52.30
11	1995	-	-	2.48	0.63	3.11	48.12	12.24	60.36
12	1996	-	-	2.48	0.63	3.11	49.94	12.24	62.18
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28	2012	-	-	2.48	0.63	3.11	49.94	12.24	62.18
29	2013	3.04	18.91	2.48	0.63	25.06	49.94	12.24	62.18
30	2014	-	-	2.48	0.63	3.11	49.94	12.24	62.18
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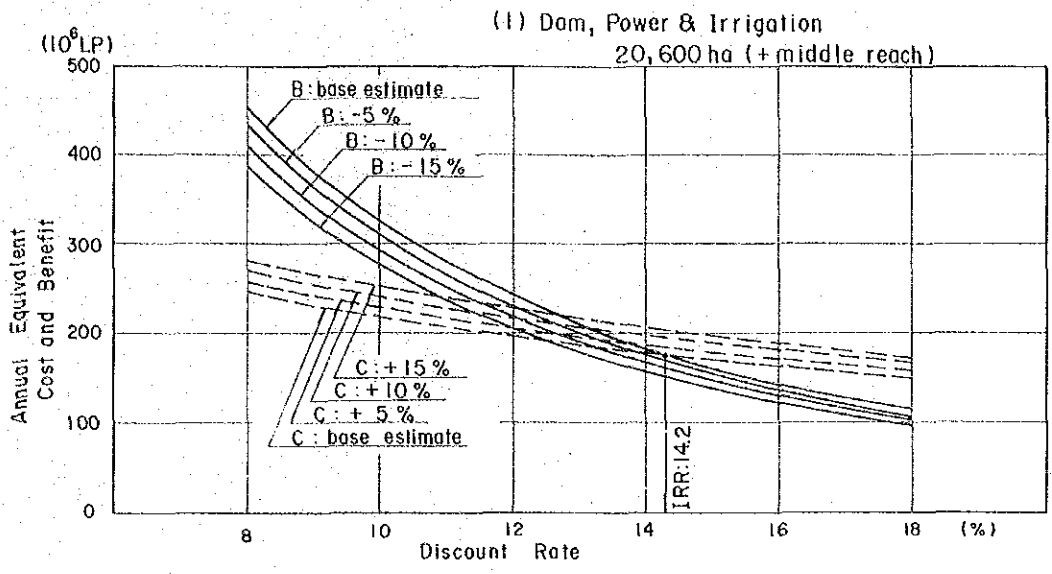
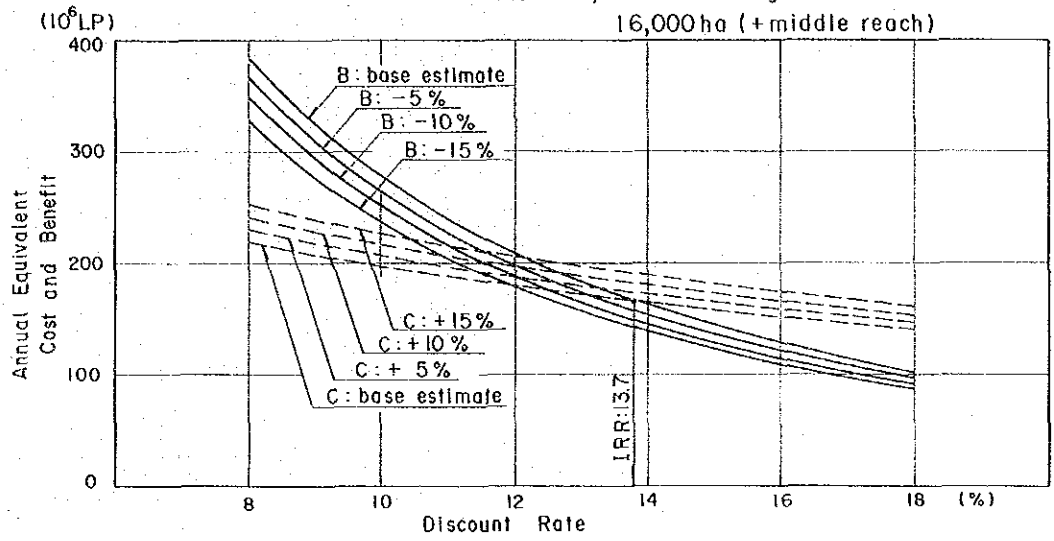
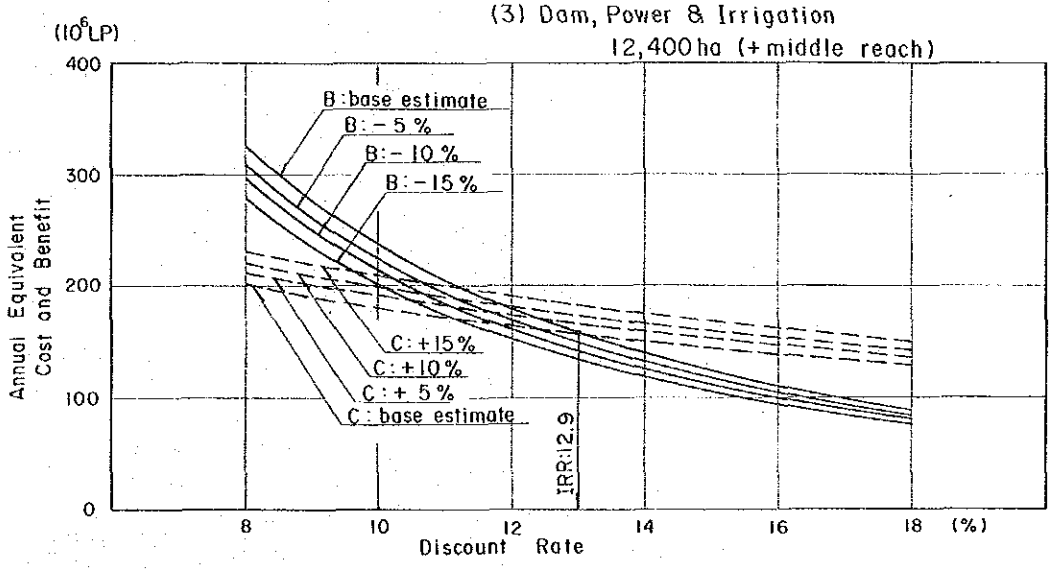
50	2034	-	-	2.48	0.63	3.11	49.94	12.24	62.18

FIRR: 13.5%

FIGURES







GOVERNMENT OF THE REPUBLIC OF HONDURAS MINISTRY OF NATURAL RESOURCES CHOLUTECA RIVER BASIN AGRICULTURAL DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	Fig. J-01	SENSITIVITY ANALYSIS OF EIRR