

APPENDIX J

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Appendix J-1 Economic Prices (1980 Constant Price)

Paddy

1. 1990 Export Price (Milled Rice) ^{1/} Thai 5% broken f.o.b. Bangkok	US\$ 551/ton
2. Export Price(milled rice) f.o.b. Alexandria (grade differential: less 10%) L.E. equivalent (US\$1.00 = L.E.0.70)	US\$ 495.9/ton L.E. 347.1/ton
3. Port Handling and Transport Cost from San El Hagar to Alexandria (L.E. 22.5 x 0.835 ^{2/})	L.E. 18.9/ton
4. Ex-mill Price (milled rice) at San El Hagar	L.E. 328.2/ton
5. Paddy equivalent Price (65% milling recovery)	L.E. 213.3/ton
6. Transport Cost from Farm Gate to Mill (L.E. 1.0 x 0.335 ^{2/})	L.E. 0.8/ton
7. Farm Gate Price	L.E. 212.5/ton

Note: ^{1/} IBRD Commodity Price Forecast, Jan. 1980
^{2/} Standard Conversion Factor

Cotton (Raw)

1. 1990 Import Price, Mexican SM 1-1/16" ^{1/} c.i.f., North Europe	US\$ 2,460/ton
2. Freight and Insurance	US\$ 30/ton
3. Export Price, f.o.b. Mexico	US\$ 2,430/ton
4. Export Price, f.o.b., Alexandria Converted to raw cotton ^{2/} L.E. equivalent (US\$1.00 = L.E.0.70)	US\$ 2,430/ton US\$ 877.2/ton L.E. 614.0/ton
5. Port Handling and Transport Cost from San El Haqar to Alexandria (L.E. 22.5 x 0.835 ^{3/})	L.E. 18.8/ton
6. Value at Cooperative Store	L.E. 595.2/ton
7. Transport Cost from Farm Gate to Cooperative Store (L.E. 5 x 0.835 ^{3/})	L.E. 4.2/ton
8. Farm Gate Price	L.E. 591.0/ton

Note: ^{1/} IBRD Commodity Price Forecast, Jan. 1980

^{2/} Refer to Table

^{3/} Standard Conversion Factor

Maize

1. 1990 Export Price, U.S. No.2 Yellow ^{1/} f.o.b., Gulf Ports	US\$ 196/ton
2. Freight and Insurance	US\$ 30/ton
3. Import Price c.i.f., Alexandria L.E. equivalent (US\$1.00 = L.E.0.70)	US\$ 226/ton L.E. 158.2/ton
4. Port Handling and Transport Cost from Alexandria to San El Hagar (L.E. 22.5 x 0.835 ^{2/})	L.E. 18.8/ton
5. Wholesale Price, San El Hagar	L.E. 177.0/ton
6. Transport Cost from Farm Gate to Wholesale Market (L.E. 1.0 x 0.835 ^{2/})	L.E. 0.8/ton
7. Farm Gate Price	L.E. 176.2/ton

Note: ^{1/} IBRD Commodity Price Forecast, Jan. 1980

^{2/} Standard Conversion Factor

Wheat

1. 1990 Export Price, Canadian No.1 ^{1/} f.o.b., Thunder Bay	US\$ 236/ton
2. Freight and Insurance	US\$ 30/ton
3. Import Price c.i.f., Alexandria L.E. equivalent (US\$1.00 = L.E.0.70)	US\$ 266/ton L.E. 186.2/ton
4. Port Handling and Transport Cost from Alexandria to San El Hagar (L.E. 22.5 x 0.835 ^{2/})	L.E. 18.8/ton
5. Wholesale Price, San El Hagar	L.E. 205.0/ton
6. Transport Cost from Farm Gate to Wholesale Market (L.E. 1.0 x 0.835 ^{2/})	L.E. 0.8/ton
7. Farm Gate Price	L.E. 204.2/ton

Note: ^{1/} IBRD Commodity Price Forecast, Jan. 1980

^{2/} Standard Conversion Factor

Beef

1. 1990 Export Price ^{1/} Average of Argentinian boneless and Australian boned	US\$ 1,510/ton
2. Freight and Insurance	US\$ 130/ton
3. Import Price c.i.f., Alexandria L.E. equivalent	US\$ 1,640/ton L.E. 1,148/ton
4. Port Handling and Transport Cost from Alexandria to San El Hagar (L.E. 80.0 x 0.835 ^{2/})	L.E. 66.8/ton
5. Wholesale Price, San El Hagar	L.E. 1,214.8/ton
6. Transport Cost from Center to Wholesale Market (L.E. 15.0 x 0.835 ^{2/})	L.E. 12.5/ton
7. Producer Price	L.E. 1,202.3/ton

Note: ^{1/} IBRD Commodity Price Forecast, Jan. 1980

^{2/} Standard Conversion Factor

Urea

1. 1990 Export Price, Bagged (N: 46%) ^{1/} f.o.b., Europe	US\$ 270/ton
2. Freight and Insurance	US\$ 30/ton
3. Import Price c.i.f., Alexandria L.E. equivalent (US\$1.00 = L.E.0.70)	US\$ 300/ton L.E. 210.0/ton
4. Port Handling and Transport Cost from Alexandria to San El Hagar (L.E. 22.5 x 0.835 ^{2/})	L.E. 18.8/ton
5. Value at Cooperative Store, San El Hagar	L.E. 228.8/ton
6. Transport and Distribution Cost from Cooperative Store to Farm Gate (L.E. 5.0 x 0.835 ^{2/})	L.E. 4.2/ton
7. Farm Gate Price	L.E. 233.0/ton

Note: ^{1/} IBRD Commodity Price Forecast, Jan. 1980

^{2/} Standard Conversion Factor

T.S.P.

1. 1990 Export Price, Bulk (P ₂ O ₅ : 47%) ^{1/} f.o.b., U.S. Gulf	US\$ 221/ton
2. Freight and Insurance	US\$ 30/ton
3. Import Price c.i.f., Alexandria	US\$ 251/ton
L.E. equivalent (US\$1.00 = L.E.0.70)	L.E. 175.7/ton
4. Port Handling and Transport Cost from Alexandria to San El Hagar (L.E. 22.5 x 0.835 ^{2/})	L.E. 18.8/ton
5. Value at Cooperative Store, San El Hagar	L.E. 194.5/ton
6. Transport and Distribution Cost from Cooperative Store to Farm Gate (L.E. 5.0 x 0.835 ^{2/})	L.E. 4.2/ton
7. Farm Gate Price	L.E. 198.7/ton

Note: 1/ IBRD Commodity Price Forecast, Jan. 1980
2/ Standard Conversion Factor

Appendix J-2 Economic Cost of Crop Production (per ha)

Crop: Paddy

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.21	140	29.40
Urea	kg	0.23	265	60.95
S.P.	kg	0.07	230	16.10
Captan	kg	7.86	1.1	8.65
MEP	ℓ	8.60	1.9	16.34
Kasugamycin	kg	0.51	3.1	1.58
Topzin-M	kg	15.56	-	-
DCPA	ℓ	5.57	21.3	118.64
Corbex	ℓ	13.55	-	-
CAT	kg	10.68	-	-
Gezaprim	kg	10.15	-	-
Diesel Oil	ℓ	0.13	229.7	29.86
Kerosene	ℓ	0.13	12.5	1.63
Operator	hr	0.31	51.40	15.93
Common Labor	hr	0.16	799.20	127.87
Tractor	hr	1.66	51.40	85.32
Bottom Plow	hr	1.18	4.84	5.71
Disc Harrow	hr	1.26	-	-
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	5.96	7.81
Broadcaster	hr	0.48	0.65	0.31
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	21.20	43.67
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	18.75	24.94
Combine	hr	26.34	-	-
Thresher	hr	0.46	12.50	5.75
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	-	56.97
Total	-	-	-	657.43

Economic Cost of Crop Production (per ha)

Crop: Cotton

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.59	140	82.60
Urea	kg	0.23	360	82.80
S.P.	kg	0.07	240	16.80
Captan	kg	7.86	1.1	8.65
MEP	ℓ	8.60	1.2	10.32
Kasugamycin	kg	0.51	-	-
Topzin-M	kg	15.56	2.0	31.12
DCPA	ℓ	5.57	-	-
Corbex	ℓ	13.55	3.0	40.65
CAT	kg	10.68	-	-
Gezaprim	kg	10.15	-	-
Diesel Oil	ℓ	0.13	189.1	24.58
Kerosene	ℓ	0.13	-	-
Operator	hr	0.31	40.14	12.44
Common Labor	hr	0.16	1,330.17	212.83
Tractor	hr	1.66	40.14	66.63
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	0.58	0.28
Seeder with Ridger	hr	1.62	12.82	20.77
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	6.25	8.31
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	-	65.44
Total	-	-	-	719.81

Economic Cost of Crop Production (per ha)

Crop: Maize

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.18	50	9.00
Urea	kg	0.23	360	82.80
S.P.	kg	0.07	-	-
Captan	kg	7.86	0.4	3.14
MEP	ℓ	8.60	1.2	10.32
Kasugamycin	kg	0.51	-	-
Topzin-M	kg	15.56	2.0	31.12
DCPA	ℓ	5.57	-	-
Corbex	ℓ	13.55	-	-
CAT	kg	10.68	-	-
Gezaprim	kg	10.15	2.0	20.30
Diesel Oil	ℓ	0.13	239.1	31.08
Kerosene	ℓ	0.13	-	-
Operator	hr	0.13	48.31	14.98
Common Labor	hr	0.16	565.96	90.55
Tractor	hr	1.66	48.31	80.19
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	-	-
Seeder with Ridger	hr	1.62	12.82	20.77
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	15.00	19.95
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	2.50	9.83
Miscellaneous	-	-	-	45.96
Total	-	-	-	505.58

Economic Cost of Crop Production (per ha)

Crop: Soiling Corn

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.18	50	9.00
Urea	kg	0.23	360	82.80
S.P.	kg	0.07	-	-
Captan	kg	7.86	0.4	3.14
MEP	ℓ	8.60	0.6	5.16
Kasugamycin	kg	0.51	-	-
Topzin-M	kg	15.56	1.0	15.56
DCPA	ℓ	5.57	-	-
Corbex	ℓ	13.55	-	-
CAT	kg	10.68	-	-
Gezaprim	kg	10.15	2.0	20.30
Diesel Oil	ℓ	0.13	242.61	31.54
Kerosene	ℓ	0.13	-	-
Operator	hr	0.31	47.56	14.74
Common Labor	hr	0.16	276.82	44.29
Tractor	hr	1.66	47.56	78.95
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	-	-
Seeder with Ridger	hr	1.62	12.82	20.77
Power Sprayer	hr	2.06	7.59	15.64
Corn Harvester	hr	4.10	4.31	17.67
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	15.00	19.95
Compine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	-	38.90
Total	-	-	-	427.94

Economic Cost of Crop Production (per ha)

Crop: Full-term Berseem

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.40	60	24.00
Urea	kg	0.23	-	-
S.P.	kg	0.07	480	33.60
Captan	kg	7.86	0.5	3.93
MEP	ℓ	8.60	1.8	15.48
Kasugamycin	kg	0.51	-	-
Topzin-M	kg	15.56	2.0	31.12
DCPA	ℓ	5.57	-	-
Corbex	ℓ	13.55	-	-
CAT	kg	10.68	-	-
Gezaprim	kg	10.15	-	-
Diesel Oil	ℓ	0.13	215.3	27.99
Kerosene	ℓ	0.13	-	-
Operator	hr	0.31	46.64	14.46
Common Labor	hr	0.16	131.35	21.02
Tractor	hr	1.66	46.64	77.42
Bottom Plow	hr	1.18	-	-
Disc Harrow	hr	1.26	-	-
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	1.74	0.84
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	17.25	19.49
Trailer	hr	1.33	15.00	19.95
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	-	31.54
Total	-	-	-	346.90

Economic Cost of Crop Production (per ha)

Crop: Catch-cropping Berseem					
Item	Unit	Unit Price (L.E.)	Input Amount	Cost (L.E.)	
Seed	kg	0.40	60	24.00	
Urea	kg	0.23	-	-	
S.P.	kg	0.07	360	25.20	
Captan	kg	7.86	0.5	3.93	
MEP	ℓ	8.60	1.2	10.32	
Kasugamycin	kg	0.51	-	-	
Topzin-M	kg	15.56	2.0	31.12	
DCPA	ℓ	5.57	-	-	
Corbex	ℓ	13.55	-	-	
CAT	kg	10.68	-	-	
Gezaprim	kg	10.15	-	-	
Diesel Oil	ℓ	0.13	184.3	23.96	
Kerosene	ℓ	0.13	-	-	
Operator	hr	0.31	38.10	11.81	
Common Labor	hr	0.16	87.18	13.95	
Tractor	hr	1.66	38.10	63.25	
Bottom Plow	hr	1.18	4.30	5.07	
Disc Harrow	hr	1.26	3.54	4.46	
Tooth Harrow	hr	0.58	2.27	1.32	
Drive Harrow	hr	1.31	-	-	
Broadcaster	hr	0.48	1.74	0.84	
Seeder with Ridger	hr	1.62	-	-	
Power Sprayer	hr	2.06	10.12	20.85	
Corn Harvester	hr	4.10	-	-	
Reciprocating Mower	hr	1.13	8.63	9.75	
Trailer	hr	1.33	7.50	9.98	
Combine	hr	26.34	-	-	
Thresher	hr	0.46	-	-	
Corn Sheller	hr	3.93	-	-	
Miscellaneous	-	-	-	25.98	
Total	-	-	-	285.79	

Economic Cost of Crop Production (per ha)

Crop: Wheat

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.20	180	36.00
Urea	kg	0.23	260	59.80
S.P.	kg	0.07	-	-
Captan	kg	7.86	1.4	11.00
MEP	ℓ	8.60	1.2	10.32
Kasugamycin	kg	0.51	-	-
Topzin-M	kg	15.56	2.0	31.12
DCPA	ℓ	5.57	-	-
Corbex	ℓ	13.55	-	-
CAT	kg	10.68	1.0	10.68
Gezaprim	kg	10.15	-	-
Diesel Oil	ℓ	0.13	199.9	25.99
Kerosene	ℓ	0.13	11.1	1.44
Operator	hr	0.31	42.09	13.05
Common Labor	hr	0.16	389.50	62.32
Tractor	hr	1.66	42.09	69.87
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.45
Tooth Harrow	hr	0.58	2.27	1.32
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	0.58	0.28
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	18.75	24.94
Combine	hr	26.34	-	-
Thresher	hr	0.46	11.10	5.11
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	-	39.88
Total	-	-	-	438.71

Economic Cost of Crop Production (per ha)

Crop: Paddy

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.21	140	29.40
Urea	kg	0.23	265	60.95
S.P.	kg	0.07	230	16.10
Captan	kg	7.86	1.1	8.65
MEP	ℓ	8.60	1.9	16.34
Kasugamycin	kg	0.51	3.1	1.58
Topzin-M	kg	15.56	-	-
DCPA	ℓ	5.57	21.3	118.64
Corbex	ℓ	13.55	-	-
CAT	kg	10.68	-	-
Gezaprim	kg	10.15	-	-
Diesel Oil	ℓ	0.13	261.9	34.05
Kerosene	ℓ	0.13	-	-
Operator	hr	0.31	56.00	17.36
Common Labor	hr	0.16	573.80	91.81
Tractor	hr	1.66	51.40	85.32
Bottom Plow	hr	1.18	4.84	5.71
Disc Harrow	hr	1.26	-	-
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	5.96	7.81
Broadcaster	hr	0.48	0.65	0.31
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	21.20	43.67
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	18.75	24.94
Combine	hr	26.34	4.60	121.16
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	-	65.30
Total	-	-	-	749.10

Economic Cost of Crop Production (per ha)

Crop: Wheat

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.20	180	36.00
Urea	kg	0.23	260	59.80
S.P.	kg	0.07	-	-
Captan	kg	7.86	1.4	11.00
MEP	ℓ	8.60	1.2	10.32
Kasugamycin	kg	0.51	-	-
Topzin-M	kg	15.56	2.0	31.12
DCPA	ℓ	5.57	-	-
Corbex	ℓ	13.55	-	-
CAT	kg	10.68	1.0	10.68
Gezaprim	kg	10.15	-	-
Diesel Oil	ℓ	0.13	232.1	30.17
Kerosene	ℓ	0.13	-	-
Operator	hr	0.31	46.69	13.85
Common Labor	hr	0.16	169.70	27.15
Tractor	hr	1.66	42.09	69.87
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	2.27	1.32
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	0.58	0.28
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	18.75	24.94
Combine	hr	26.34	4.60	121.16
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	-	48.33
Total	-	-	-	531.58

Appendix J-3 Sensitivity Analysis

Case-1 ***** STREAMS OF PROJECT COST AND BENEFIT *****

(UNIT: L.E. THOUSAND)

PROJECT YEAR	INITIAL COST	REPLACE. COST	PROJECT COST	*****	*****	*****	TOTAL	PROJECT BENEFIT	NET BENEFIT
1	787	-	-	-	-	-	787	-	-787
2	9848	-	-	-	-	-	9848	-	-9848
3	15605	-	-	-	-	-	15605	-	-15605
4	9559	-	-	53	-	-	9612	-	-9612
5	9335	-	-	107	-	-	9442	934	-8508
6	9138	-	-	266	-	-	9404	2801	-6603
7	7114	-	-	533	-	-	7647	5802	-1845
8	-	-	-	959	-	-	959	7469	6510
9	-	-	-	1065	-	-	1065	9335	8271
10	-	-	-	1065	-	-	1065	11203	10138
11	-	-	-	1065	-	-	1065	13070	12005
12	-	-	-	1065	-	-	1065	14938	13873
13	-	-	-	1065	-	-	1065	16871	14806
14	-	-	-	1065	-	-	1065	18805	15740
15	-	-	-	1065	-	-	1065	17738	16673
16	-	-	-	1065	-	-	1065	18672	17607
17	-	-	-	1065	-	-	1065	18672	17607
18	-	-	-	1065	-	-	1065	18672	17607
19	-	-	1427	1065	-	-	2492	18672	16180
20	-	-	-	1065	-	-	1065	18672	17607
21	-	-	-	1065	-	-	1065	18672	17607
22	-	-	-	1065	-	-	1065	18672	17607
23	-	-	-	1065	-	-	1065	18672	17607
24	-	-	-	1065	-	-	1065	18672	17607
25	-	-	-	1065	-	-	1065	18672	17607
26	-	-	-	1065	-	-	1065	18672	17607
27	-	-	-	1065	-	-	1065	18672	17607
28	-	-	-	1065	-	-	1065	18672	17607
29	-	-	-	1065	-	-	1065	18672	17607
30	-	-	-	1065	-	-	1065	18672	17607
31	-	-	-	1065	-	-	1065	18672	17607
32	-	-	-	1065	-	-	1065	18672	17607
33	-	-	-	1065	-	-	1065	18672	17607
34	-	-	1427	1065	-	-	2492	18672	16180
35	-	-	-	1065	-	-	1065	18672	17607
36	-	-	-	1065	-	-	1065	18672	17607
37	-	-	-	1065	-	-	1065	18672	17607
38	-	-	-	1065	-	-	1065	18672	17607
39	-	-	-	1065	-	-	1065	18672	17607
40	-	-	-	1065	-	-	1065	18672	17607
41	-	-	-	1065	-	-	1065	18672	17607
42	-	-	-	1065	-	-	1065	18672	17607
43	-	-	-	1065	-	-	1065	18672	17607
44	-	-	-	1065	-	-	1065	18672	17607
45	-	-	-	1065	-	-	1065	18672	17607
46	-	-	-	1065	-	-	1065	18672	17607
47	-	-	-	1065	-	-	1065	18672	17607
48	-	-	-	1065	-	-	1065	18672	17607
49	-	-	-	1065	-	-	1065	18672	17607
50	-	-	-	1065	-	-	1065	18672	17607

Case-1

*** PRESENT WORTH OF BENEFIT ***

YEAR	B. STREAM	5.00 %	7.50 %	10.00 %	12.50 %	15.00 %	17.50 %	20.00 %	22.50 %	25.00 %	27.50 %
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	934.	732.	651.	580.	518.	464.	417.	375.	339.	306.	277.
6	2801.	2090.	1815.	1581.	1382.	1211.	1064.	938.	829.	734.	652.
7	5802.	4123.	3497.	2977.	2544.	2181.	1876.	1619.	1402.	1217.	1059.
8	7469.	5055.	4188.	3484.	2911.	2442.	2056.	1737.	1473.	1253.	1070.
9	9336.	6018.	4870.	3959.	3234.	2654.	2187.	1809.	1503.	1253.	1049.
10	11203.	6878.	5436.	4319.	3430.	2769.	2233.	1809.	1472.	1203.	987.
11	13070.	7642.	5899.	4581.	3578.	2809.	2217.	1759.	1402.	1123.	903.
12	14938.	8318.	6272.	4760.	3635.	2792.	2157.	1675.	1308.	1027.	809.
13	15871.	8417.	6199.	4597.	3433.	2579.	1950.	1483.	1135.	873.	674.
14	16805.	8488.	6105.	4425.	3231.	2375.	1758.	1309.	981.	739.	560.
15	17738.	8532.	5995.	4246.	3031.	2180.	1579.	1151.	845.	624.	464.
16	18672.	8554.	5870.	4064.	2836.	1993.	1414.	1010.	726.	526.	383.
17	18672.	8147.	5461.	3594.	2521.	1735.	1204.	842.	593.	420.	300.
18	18672.	7759.	5080.	3358.	2241.	1509.	1025.	701.	484.	336.	236.
19	18672.	7389.	4725.	3053.	1992.	1312.	872.	584.	395.	269.	185.
20	18672.	7037.	4396.	2776.	1771.	1141.	742.	487.	322.	215.	145.
21	18672.	6702.	4069.	2523.	1574.	992.	632.	406.	263.	172.	114.
22	18672.	6383.	3804.	2294.	1399.	863.	537.	338.	215.	138.	89.
23	18672.	6079.	3538.	2085.	1244.	750.	457.	282.	175.	110.	70.
24	18672.	5790.	3291.	1896.	1105.	652.	389.	235.	143.	88.	55.
25	18672.	5514.	3062.	1723.	983.	567.	331.	196.	117.	71.	43.
26	18672.	5251.	2848.	1567.	873.	493.	282.	143.	95.	56.	34.
27	18672.	5001.	2650.	1424.	776.	429.	240.	136.	78.	45.	26.
28	18672.	4783.	2465.	1295.	690.	373.	204.	113.	64.	36.	21.
29	18672.	4536.	2293.	1177.	613.	324.	174.	94.	52.	29.	16.
30	18672.	4320.	2133.	1070.	545.	282.	148.	79.	42.	23.	13.
31	18672.	4115.	1984.	973.	485.	245.	126.	66.	35.	18.	10.
32	18672.	3919.	1846.	884.	431.	213.	107.	55.	28.	15.	8.
33	18672.	3732.	1717.	804.	383.	185.	91.	46.	23.	12.	6.
34	18672.	3554.	1597.	731.	340.	161.	78.	38.	19.	9.	5.
35	18672.	3385.	1486.	664.	303.	140.	66.	32.	15.	8.	4.
36	18672.	3224.	1382.	604.	269.	122.	56.	26.	13.	6.	3.
37	18672.	3070.	1286.	549.	239.	106.	48.	22.	10.	5.	2.
38	18672.	2924.	1196.	499.	213.	92.	41.	18.	8.	4.	2.
39	18672.	2785.	1112.	454.	189.	80.	35.	15.	7.	3.	1.
40	18672.	2652.	1033.	413.	168.	70.	29.	13.	6.	2.	1.
41	18672.	2526.	963.	375.	149.	61.	25.	11.	5.	2.	1.
42	18672.	2406.	895.	341.	133.	53.	21.	9.	4.	2.	1.
43	18672.	2291.	833.	310.	118.	46.	18.	7.	3.	1.	1.
44	18672.	2182.	775.	282.	105.	40.	15.	6.	2.	1.	0.
45	18672.	2078.	721.	256.	93.	35.	13.	5.	2.	1.	0.
46	18672.	1979.	671.	233.	83.	30.	11.	4.	2.	1.	0.
47	18672.	1885.	624.	212.	74.	26.	10.	4.	1.	1.	0.
48	18672.	1795.	580.	192.	65.	23.	8.	3.	1.	1.	0.
49	18672.	1710.	540.	175.	58.	20.	7.	3.	1.	0.	0.
50	18672.	1628.	502.	159.	52.	17.	6.	2.	1.	0.	0.
TOTAL	769487.	213361.	128371.	82620.	56060.	39640.	28958.	21716.	16638.	12978.	10279.

Case-1

*** PRESENT WORTH OF COST ***

(UNIT: L. E. THOUSAND)

YEAR	C. STREAM	5.00 X	7.50 X	10.00 X	12.50 X	15.00 X	17.50 X	20.00 X	22.50 X	25.00 X	27.50 X
1	787.	750.	732.	715.	700.	684.	670.	656.	642.	630.	617.
2	9848.	8932.	8522.	8139.	7781.	7447.	7133.	6839.	6563.	6303.	6058.
3	15605.	13480.	12561.	11724.	10960.	10261.	9619.	9031.	8489.	7990.	7529.
4	9612.	7908.	7197.	6565.	6001.	5496.	5043.	4635.	4268.	3937.	3637.
5	9442.	7398.	6577.	5863.	5240.	4694.	4216.	3795.	3423.	3094.	2802.
6	9404.	6093.	5308.	4639.	4066.	3573.	3149.	2783.	2465.	2189.	1996.
7	7647.	5635.	4609.	3924.	3353.	2875.	2473.	2134.	1847.	1604.	1396.
8	959.	649.	538.	447.	374.	313.	264.	223.	189.	161.	137.
9	1065.	687.	555.	452.	369.	303.	249.	206.	171.	143.	120.
10	1065.	654.	517.	411.	328.	263.	212.	172.	140.	114.	94.
11	1065.	623.	481.	373.	292.	229.	181.	143.	114.	91.	74.
12	1065.	593.	447.	339.	259.	199.	154.	119.	93.	73.	58.
13	1065.	565.	416.	308.	230.	173.	131.	100.	76.	59.	45.
14	1065.	538.	387.	280.	205.	151.	111.	83.	62.	47.	35.
15	1065.	512.	360.	255.	182.	131.	95.	69.	51.	37.	28.
16	1065.	488.	335.	232.	162.	114.	81.	58.	41.	30.	22.
17	1065.	465.	311.	212.	146.	99.	68.	48.	34.	24.	17.
18	1065.	443.	290.	192.	128.	86.	58.	40.	28.	19.	13.
19	2492.	986.	631.	407.	266.	175.	116.	78.	53.	36.	25.
20	1065.	401.	251.	158.	101.	65.	42.	28.	18.	12.	8.
21	1065.	382.	233.	144.	90.	57.	36.	23.	15.	10.	6.
22	1065.	364.	217.	131.	80.	49.	31.	19.	12.	8.	5.
23	1065.	347.	202.	119.	71.	43.	26.	16.	10.	6.	4.
24	1065.	330.	188.	108.	63.	37.	22.	13.	8.	5.	3.
25	1065.	315.	175.	98.	56.	32.	19.	11.	7.	4.	2.
26	1065.	300.	162.	89.	50.	28.	16.	9.	5.	3.	2.
27	1065.	285.	151.	81.	44.	24.	14.	8.	4.	3.	2.
28	1065.	272.	141.	74.	39.	21.	12.	6.	4.	2.	1.
29	1065.	259.	131.	67.	35.	18.	10.	5.	3.	2.	1.
30	1065.	246.	122.	61.	31.	16.	8.	4.	2.	1.	1.
31	1065.	235.	113.	55.	28.	14.	7.	4.	2.	1.	1.
32	1065.	224.	105.	50.	25.	12.	6.	3.	2.	1.	0.
33	1065.	213.	98.	46.	22.	11.	5.	3.	2.	1.	0.
34	2492.	474.	213.	98.	45.	22.	10.	5.	3.	1.	1.
35	1065.	193.	85.	38.	17.	8.	4.	2.	1.	0.	0.
36	1065.	184.	79.	34.	15.	7.	3.	2.	1.	0.	0.
37	1065.	175.	73.	31.	14.	6.	3.	2.	1.	0.	0.
38	1065.	167.	68.	28.	12.	5.	2.	1.	0.	0.	0.
39	1065.	159.	63.	26.	11.	5.	2.	1.	0.	0.	0.
40	1065.	151.	59.	24.	10.	4.	2.	1.	0.	0.	0.
41	1065.	144.	55.	21.	9.	3.	1.	1.	0.	0.	0.
42	1065.	137.	51.	19.	8.	3.	1.	1.	0.	0.	0.
43	1065.	131.	48.	18.	7.	3.	1.	0.	0.	0.	0.
44	1065.	124.	44.	16.	6.	2.	1.	0.	0.	0.	0.
45	1065.	119.	41.	15.	5.	2.	1.	0.	0.	0.	0.
46	1065.	113.	38.	13.	5.	2.	1.	0.	0.	0.	0.
47	1065.	108.	36.	12.	4.	1.	0.	0.	0.	0.	0.
48	1065.	102.	33.	11.	4.	1.	0.	0.	0.	0.	0.
49	1065.	98.	31.	10.	3.	1.	0.	0.	0.	0.	0.
50	1065.	93.	29.	9.	3.	1.	0.	0.	0.	0.	0.
TOTAL	110888.	64965.	54893.	47853.	42522.	38262.	34737.	31747.	29169.	26919.	24935.

Case-1

***** CALCULATION OF INTERNAL RATE OF RETURN *****

(UNIT: L.E. THOUSAND)

DISCOUNT RATE	+++++ PRESENT WORTH BENEFIT	+++++ COST	B/C RATIO
5.00 %	213361.	64965.	3.28
7.50 %	128371.	54893.	2.34
10.00 %	82620.	47853.	1.73
12.50 %	56060.	42522.	1.32
15.00 %	39640.	38262.	1.04
17.50 %	28958.	34737.	0.83
20.00 %	21716.	31747.	0.68
22.50 %	16638.	29169.	0.57
25.00 %	12978.	26919.	0.48
27.50 %	10279.	24935.	0.41

INTERNAL RATE OF RETURN ----- 15.4 %

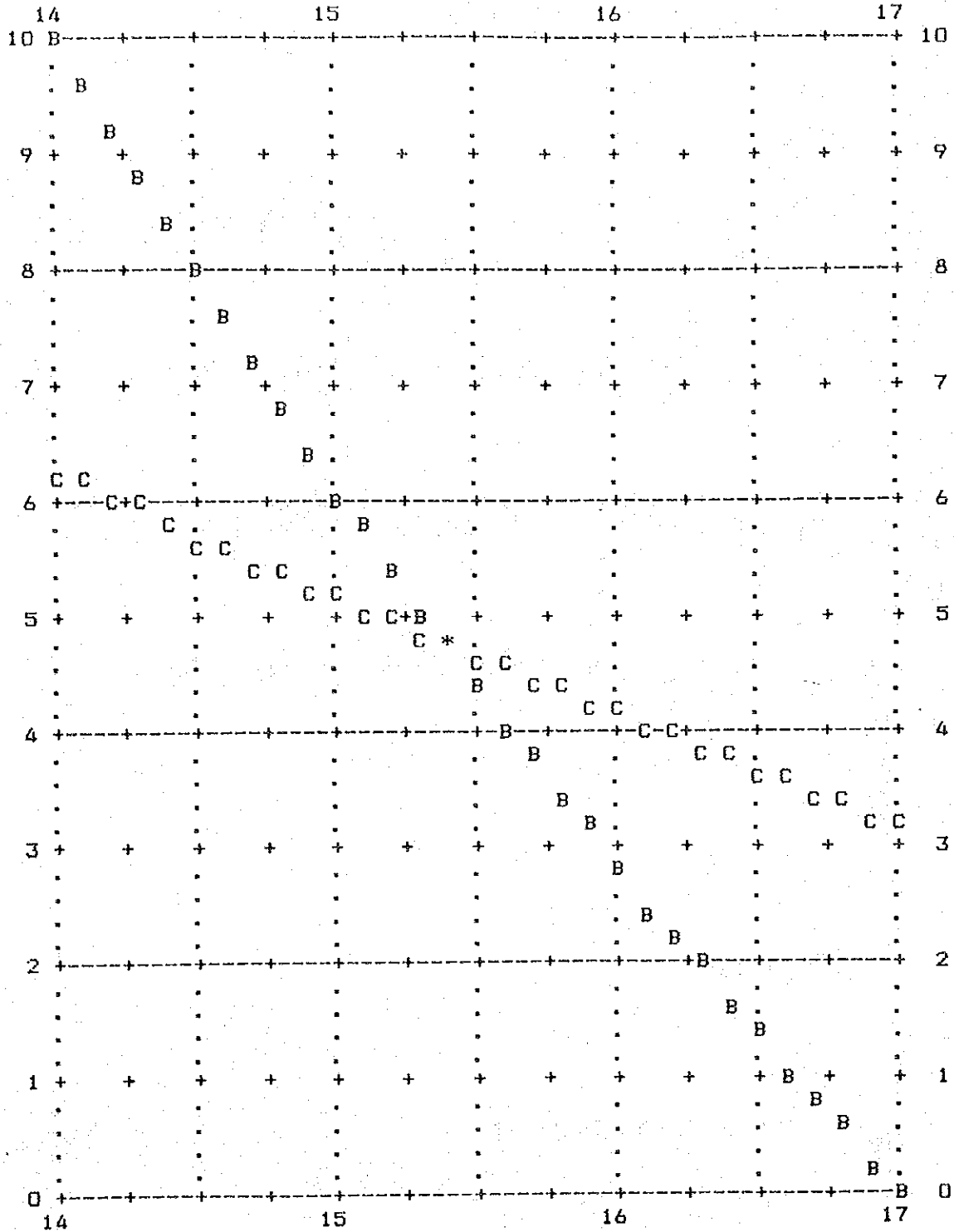
Case-1

*** PLOT OF PW OF BENEFIT AND COST ***

Y AXIS : PRESENT WORTH VALUE

X AXIS : DISCOUNT RATE (%)

I.R.R. (*) ----- 15.4 %



Case-2 ***** STREAMS OF PROJECT COST AND BENEFIT *****
 (UNIT: L.E. THOUSAND)

PROJECT YEAR	INITIAL COST	REPLACE. COST	PROJECT COST	PROJECT COST & M COST	TOTAL	PROJECT BENEFIT	NET BENEFIT
1	697	-	-	-	697	-	-697
2	6712	-	-	-	6712	-	-6712
3	9364	-	-	-	9364	-	-9364
4	10760	53	53	53	10760	-	-10760
5	8544	107	107	107	8550	934	-8651
6	8284	266	266	266	8522	2801	-7616
7	7989	533	533	533	8525	5802	-5721
8	4266	959	959	959	7469	7469	577
9	-	1065	1065	1065	1065	9336	6404
10	-	1065	1065	1065	1065	11203	8271
11	-	1065	1065	1065	1065	12009	10138
12	-	1065	1065	1065	1065	13070	12009
13	-	1065	1065	1065	1065	14938	13673
14	-	1065	1065	1065	1065	15871	14806
15	-	1065	1065	1065	1065	16805	15740
16	-	1065	1065	1065	1065	17738	16673
17	-	1065	1065	1065	1065	18672	17607
18	-	1065	1065	1065	1065	18672	17607
19	-	1065	1065	1065	1065	18672	17607
20	-	1065	1065	1065	1065	18672	17607
21	-	1427	1427	1427	2492	18672	16180
22	-	1065	1065	1065	1065	18672	17607
23	-	1065	1065	1065	1065	18672	17607
24	-	1065	1065	1065	1065	18672	17607
25	-	1065	1065	1065	1065	18672	17607
26	-	1065	1065	1065	1065	18672	17607
27	-	1065	1065	1065	1065	18672	17607
28	-	1065	1065	1065	1065	18672	17607
29	-	1065	1065	1065	1065	18672	17607
30	-	1065	1065	1065	1065	18672	17607
31	-	1065	1065	1065	1065	18672	17607
32	-	1065	1065	1065	1065	18672	17607
33	-	1065	1065	1065	1065	18672	17607
34	-	1065	1065	1065	1065	18672	17607
35	-	1065	1065	1065	1065	18672	17607
36	-	1427	1427	1427	2492	18672	16180
37	-	1065	1065	1065	1065	18672	17607
38	-	1065	1065	1065	1065	18672	17607
39	-	1065	1065	1065	1065	18672	17607
40	-	1065	1065	1065	1065	18672	17607
41	-	1065	1065	1065	1065	18672	17607
42	-	1065	1065	1065	1065	18672	17607
43	-	1065	1065	1065	1065	18672	17607
44	-	1065	1065	1065	1065	18672	17607
45	-	1065	1065	1065	1065	18672	17607
46	-	1065	1065	1065	1065	18672	17607
47	-	1065	1065	1065	1065	18672	17607
48	-	1065	1065	1065	1065	18672	17607
49	-	1065	1065	1065	1065	18672	17607
50	-	1065	1065	1065	1065	18672	17607

Case-2

*** PRESENT WORTH OF BENEFIT ***

(UNIT: L.E. THOUSAND)

YEAR	B. STREAM	5.00 *	7.50 *	10.00 *	12.50 *	15.00 *	17.50 *	20.00 *	22.50 *	25.00 *	27.50 *
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6	934.	697.	527.	461.	404.	355.	313.	276.	245.	217.	191.
7	2801.	1991.	1437.	1228.	1053.	906.	782.	677.	587.	511.	444.
8	5802.	3927.	2707.	2261.	1897.	1597.	1349.	1144.	973.	831.	717.
9	7469.	4815.	3168.	2588.	2123.	1750.	1448.	1202.	1002.	859.	744.
10	9336.	5732.	3599.	2875.	2308.	1861.	1508.	1227.	1002.	859.	744.
11	11203.	6550.	4056.	3067.	2408.	1901.	1508.	1227.	1002.	859.	744.
12	13070.	7278.	4165.	3180.	2443.	1887.	1466.	1145.	898.	708.	611.
13	14938.	7922.	4327.	3231.	2428.	1836.	1396.	1068.	821.	635.	529.
14	16805.	8016.	4179.	3051.	2243.	1660.	1236.	926.	698.	529.	439.
15	18672.	8084.	4023.	2872.	2065.	1496.	1091.	801.	591.	439.	364.
16	17738.	8126.	3860.	2694.	1896.	1344.	959.	690.	499.	364.	300.
17	16672.	8147.	3694.	2521.	1735.	1204.	842.	593.	420.	300.	236.
18	15599.	7759.	3358.	2241.	1509.	1025.	701.	484.	336.	236.	185.
19	14526.	7389.	3053.	1992.	1312.	872.	584.	395.	269.	185.	145.
20	13453.	7037.	2776.	1771.	1141.	742.	487.	322.	215.	145.	114.
21	12380.	6702.	2523.	1574.	992.	632.	406.	263.	172.	114.	89.
22	11307.	6383.	2294.	1399.	863.	537.	338.	215.	138.	89.	70.
23	10234.	6079.	2095.	1244.	750.	457.	282.	175.	110.	88.	55.
24	9161.	5790.	1896.	1105.	652.	389.	235.	143.	88.	55.	43.
25	8088.	5514.	1723.	983.	567.	331.	196.	117.	88.	43.	34.
26	7015.	5251.	1567.	873.	493.	282.	163.	95.	56.	34.	26.
27	5942.	5001.	1424.	776.	429.	240.	136.	78.	45.	26.	21.
28	4869.	4763.	1295.	690.	373.	204.	113.	64.	36.	21.	16.
29	3796.	4536.	1177.	613.	324.	174.	94.	52.	29.	16.	13.
30	2723.	4320.	1070.	545.	282.	148.	79.	42.	23.	13.	10.
31	1650.	4115.	973.	485.	245.	128.	66.	35.	18.	10.	8.
32	577.	3919.	884.	431.	213.	107.	55.	28.	15.	8.	6.
33	0.	3732.	804.	383.	185.	91.	46.	23.	12.	6.	5.
34	0.	3554.	731.	340.	161.	78.	38.	19.	9.	5.	4.
35	0.	3385.	664.	303.	140.	66.	32.	15.	8.	4.	3.
36	0.	3224.	604.	269.	122.	56.	26.	13.	8.	3.	2.
37	0.	3070.	549.	239.	106.	48.	22.	10.	6.	2.	2.
38	2924.	2866.	499.	213.	92.	41.	18.	8.	5.	2.	1.
39	2785.	2785.	454.	189.	80.	35.	15.	7.	4.	1.	1.
40	2652.	2652.	413.	168.	70.	29.	13.	6.	3.	1.	1.
41	2526.	2526.	375.	149.	61.	25.	11.	5.	2.	1.	1.
42	2406.	2406.	341.	133.	53.	21.	9.	4.	2.	1.	1.
43	2291.	2291.	310.	118.	46.	18.	7.	3.	1.	1.	1.
44	2182.	2182.	282.	105.	40.	15.	6.	2.	1.	0.	0.
45	2078.	2078.	256.	93.	35.	13.	5.	2.	1.	0.	0.
46	1979.	1979.	233.	83.	30.	11.	4.	1.	1.	0.	0.
47	1885.	1885.	212.	74.	26.	10.	4.	1.	1.	0.	0.
48	1795.	1795.	192.	65.	23.	8.	3.	1.	1.	0.	0.
49	1710.	1710.	175.	58.	20.	7.	2.	1.	1.	0.	0.
50	1628.	1628.	159.	52.	17.	6.	2.	1.	1.	0.	0.
TOTAL	750815.	201650.	74964.	49785.	34455.	24640.	18095.	13581.	10362.	8062.	6062.

Case-2

*** PRESENT WORTH OF COST ***

(UNIT: L.E. THOUSAND)

YEAR	C. STREAM	5.00 %	7.50 %	10.00 %	12.50 %	15.00 %	17.50 %	20.00 %	22.50 %	25.00 %	27.50 %
1	697.	664.	648.	634.	620.	606.	593.	581.	569.	558.	547.
2	6712.	6088.	5808.	5547.	5303.	5075.	4862.	4661.	4473.	4296.	4129.
3	9364.	8089.	7538.	7035.	6577.	6157.	5772.	5419.	5094.	4794.	4518.
4	10760.	8852.	8057.	7349.	6717.	6152.	5645.	5189.	4778.	4407.	4072.
5	8651.	6778.	6026.	5372.	4801.	4301.	3863.	3477.	3136.	2835.	2568.
6	8550.	6380.	5540.	4826.	4217.	3696.	3249.	2863.	2530.	2241.	1990.
7	8522.	6056.	5137.	4373.	3737.	3204.	2756.	2378.	2059.	1787.	1556.
8	5225.	3537.	2930.	2438.	2036.	1708.	1438.	1215.	1030.	877.	748.
9	1065.	654.	555.	452.	369.	303.	249.	206.	171.	143.	120.
10	1065.	654.	517.	411.	328.	263.	212.	172.	140.	114.	94.
11	1065.	623.	481.	373.	292.	229.	181.	143.	114.	91.	74.
12	1065.	593.	447.	339.	259.	199.	154.	119.	93.	73.	58.
13	1065.	565.	416.	308.	230.	173.	131.	100.	76.	57.	45.
14	1065.	538.	387.	280.	205.	151.	111.	83.	62.	47.	35.
15	1065.	512.	360.	255.	182.	131.	95.	69.	51.	37.	28.
16	1065.	488.	335.	232.	162.	114.	81.	58.	41.	30.	22.
17	1065.	465.	311.	211.	144.	99.	69.	48.	34.	24.	17.
18	1065.	443.	290.	192.	128.	86.	58.	40.	28.	19.	13.
19	1065.	421.	270.	174.	114.	75.	50.	33.	23.	15.	11.
20	2492.	939.	587.	370.	236.	152.	99.	65.	43.	29.	19.
21	1065.	382.	233.	144.	80.	57.	36.	23.	15.	10.	6.
22	1065.	364.	217.	131.	71.	49.	31.	19.	12.	8.	5.
23	1065.	347.	202.	119.	63.	43.	26.	16.	10.	6.	4.
24	1065.	330.	188.	108.	56.	37.	22.	13.	8.	5.	3.
25	1065.	315.	175.	98.	50.	32.	19.	11.	7.	4.	2.
26	1065.	300.	162.	89.	44.	28.	16.	9.	5.	3.	2.
27	1065.	285.	151.	81.	39.	24.	14.	8.	4.	2.	1.
28	1065.	272.	141.	74.	35.	21.	12.	7.	4.	2.	1.
29	1065.	259.	131.	67.	31.	18.	10.	6.	3.	2.	1.
30	1065.	246.	122.	61.	28.	16.	8.	5.	2.	1.	1.
31	1065.	235.	113.	55.	25.	14.	7.	4.	2.	1.	1.
32	1065.	224.	105.	50.	22.	12.	6.	3.	2.	1.	0.
33	1065.	213.	98.	46.	20.	11.	5.	3.	2.	1.	0.
34	1065.	203.	91.	42.	19.	9.	4.	2.	1.	1.	0.
35	2492.	452.	198.	89.	40.	9.	4.	2.	1.	1.	0.
36	1065.	184.	179.	34.	15.	7.	3.	2.	1.	1.	0.
37	1065.	175.	167.	31.	14.	6.	3.	1.	1.	0.	0.
38	1065.	167.	158.	28.	12.	5.	2.	1.	0.	0.	0.
39	1065.	159.	148.	26.	11.	4.	2.	1.	0.	0.	0.
40	1065.	151.	137.	24.	10.	4.	2.	1.	0.	0.	0.
41	1065.	144.	127.	21.	9.	3.	2.	1.	0.	0.	0.
42	1065.	137.	119.	19.	8.	3.	1.	1.	0.	0.	0.
43	1065.	131.	111.	18.	7.	2.	1.	1.	0.	0.	0.
44	1065.	124.	104.	16.	6.	2.	1.	0.	0.	0.	0.
45	1065.	119.	98.	15.	5.	2.	1.	0.	0.	0.	0.
46	1065.	113.	93.	13.	4.	2.	1.	0.	0.	0.	0.
47	1065.	108.	88.	12.	4.	1.	1.	0.	0.	0.	0.
48	1065.	102.	83.	11.	4.	1.	1.	0.	0.	0.	0.
49	1065.	98.	78.	10.	3.	1.	1.	0.	0.	0.	0.
50	1065.	93.	73.	9.	3.	1.	1.	0.	0.	0.	0.
TOTAL	106065.	59800.	49713.	42714.	37464.	33312.	29912.	27061.	24628.	22526.	20693.

Case-2

***** CALCULATION OF INTERNAL RATE OF RETURN *****

(UNIT: L.E. THOUSAND)

DISCOUNT RATE	***** PRESENT WORTH BENEFIT	***** COST	B/C RATIO
5.00 %	201650.	59800.	3.37
7.50 %	118948.	49713.	2.39
10.00 %	74964.	42714.	1.76
12.50 %	49785.	37464.	1.33
15.00 %	34455.	33312.	1.03
17.50 %	24640.	29912.	0.82
20.00 %	18095.	27061.	0.67
22.50 %	13581.	24628.	0.55
25.00 %	10382.	22526.	0.46
27.50 %	8062.	20693.	0.39

INTERNAL RATE OF RETURN ----- 15.4 %

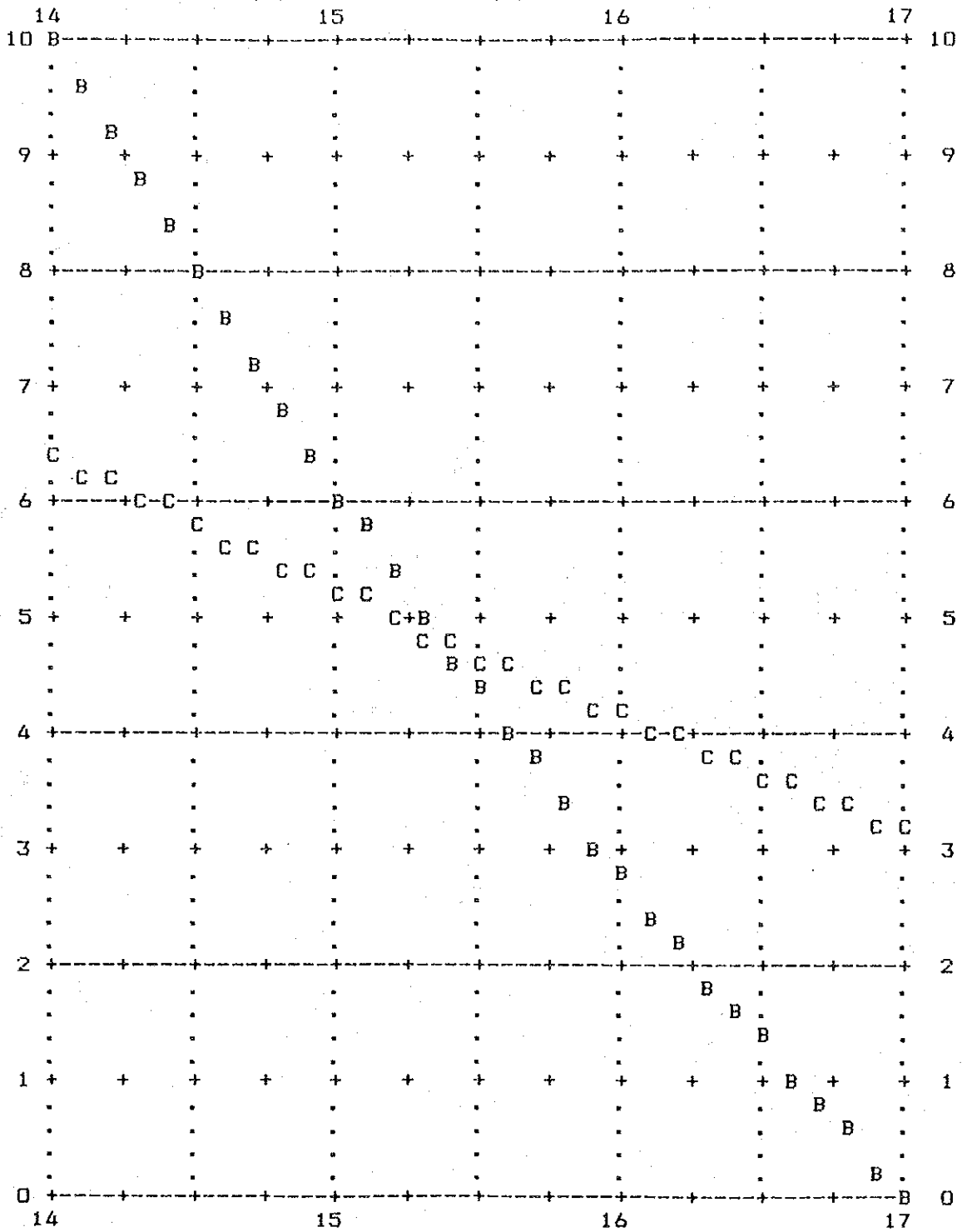
Case-2

*** PLOT OF PW OF BENEFIT AND COST ***

Y AXIS : PRESENT WORTH VALUE

X AXIS : DISCOUNT RATE (%)

I.R.R. (*) ----- 15.4 %



Case-3 ***** STREAMS OF PROJECT COST AND BENEFIT *****
 (UNIT: L.E. THOUSAND)

PROJECT YEAR	INITIAL COST	REPLACE. COST	PROJECT COST	PROJECT COST	PROJECT COST	PROJECT BENEFIT	NET BENEFIT
			0 & M COST	*****	*****		
1	715	-	-	715	-	-	-715
2	8953	-	-	8953	-	-	-8953
3	14280	-	-	14280	-	-	-14280
4	8784	53	53	8837	-	-	-8837
5	8580	266	266	8846	729	729	-7958
6	8401	533	533	8934	4373	4373	-6480
7	6561	959	959	7520	5831	5831	-2721
8	-	1065	1065	6455	7289	7289	4672
9	-	1065	1065	5390	8746	8746	6224
10	-	1065	1065	4325	10204	10204	7681
11	-	1065	1065	3260	11662	11662	9139
12	-	1065	1065	2195	13120	13120	10597
13	-	1065	1065	1130	14577	14577	11325
14	-	1065	1065	65	16034	16034	12054
15	-	1065	1065	-	17491	17491	13783
16	-	1065	1065	-	18948	18948	15512
17	-	1065	1065	-	20405	20405	17241
18	-	1065	1065	-	21862	21862	18970
19	-	1065	1065	-	23319	23319	20700
20	-	1065	1065	-	24776	24776	22430
21	-	1065	1065	-	26233	26233	24160
22	-	1065	1065	-	27690	27690	25890
23	-	1065	1065	-	29147	29147	27620
24	-	1065	1065	-	30604	30604	29350
25	-	1065	1065	-	32061	32061	31080
26	-	1065	1065	-	33518	33518	32810
27	-	1065	1065	-	34975	34975	34540
28	-	1065	1065	-	36432	36432	36270
29	-	1065	1065	-	37889	37889	38000
30	-	1065	1065	-	39346	39346	39730
31	-	1065	1065	-	40803	40803	41460
32	-	1065	1065	-	42260	42260	43190
33	-	1065	1065	-	43717	43717	44920
34	-	1065	1065	-	45174	45174	46650
35	-	1065	1065	-	46631	46631	48380
36	-	1065	1065	-	48088	48088	50110
37	-	1065	1065	-	49545	49545	51840
38	-	1065	1065	-	51002	51002	53570
39	-	1065	1065	-	52459	52459	55300
40	-	1065	1065	-	53916	53916	57030
41	-	1065	1065	-	55373	55373	58760
42	-	1065	1065	-	56830	56830	60490
43	-	1065	1065	-	58287	58287	62220
44	-	1065	1065	-	59744	59744	63950
45	-	1065	1065	-	61201	61201	65680
46	-	1065	1065	-	62658	62658	67410
47	-	1065	1065	-	64115	64115	69140
48	-	1065	1065	-	65572	65572	70870
49	-	1065	1065	-	67029	67029	72600
50	-	1065	1065	-	68486	68486	74330

Case-3

*** PRESENT WORTH OF BENEFIT ***

YEAR	B. STREAM	5.00 %	7.50 %	10.00 %	12.50 %	15.00 %	17.50 %	20.00 %	22.50 %	25.00 %	27.50 %
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	729.	571.	508.	453.	405.	362.	325.	293.	264.	239.	216.
6	2187.	1632.	1417.	1235.	1079.	946.	831.	732.	647.	573.	509.
7	4373.	3108.	2636.	2244.	1917.	1644.	1414.	1220.	1056.	917.	798.
8	5831.	3947.	3269.	2720.	2273.	1906.	1605.	1356.	1150.	978.	835.
9	7289.	4699.	3802.	3091.	2525.	2072.	1707.	1413.	1173.	978.	819.
10	8746.	5369.	4244.	3372.	2693.	2162.	1744.	1413.	1149.	939.	770.
11	10204.	5966.	4606.	3576.	2793.	2193.	1731.	1373.	1095.	877.	705.
12	11682.	6494.	4896.	3716.	2838.	2180.	1684.	1308.	1021.	801.	632.
13	12390.	6571.	4839.	3589.	2680.	2014.	1523.	1158.	866.	661.	527.
14	13119.	6624.	4766.	3455.	2522.	1854.	1372.	1022.	766.	577.	437.
15	13848.	6661.	4680.	3315.	2366.	1702.	1233.	899.	660.	487.	362.
16	14577.	6678.	4583.	3172.	2214.	1558.	1104.	788.	567.	410.	299.
17	14577.	6360.	4263.	2884.	1968.	1358.	940.	657.	463.	328.	234.
18	14577.	6057.	3966.	2622.	1750.	1178.	800.	548.	378.	263.	184.
19	14577.	5769.	3689.	2383.	1555.	1024.	681.	525.	308.	210.	144.
20	14577.	5494.	3432.	2167.	1382.	891.	579.	460.	252.	168.	113.
21	14577.	5232.	3192.	1970.	1229.	774.	493.	317.	206.	134.	89.
22	14577.	4983.	2770.	1791.	1092.	673.	420.	254.	168.	108.	70.
23	14577.	4746.	2762.	1628.	971.	586.	357.	220.	137.	86.	55.
24	14577.	4520.	2570.	1480.	863.	509.	304.	183.	112.	69.	43.
25	14577.	4305.	2390.	1345.	767.	443.	259.	153.	91.	55.	34.
26	14577.	4100.	2224.	1223.	682.	389.	220.	127.	74.	44.	26.
27	14577.	3905.	2068.	1112.	606.	335.	187.	106.	61.	35.	21.
28	14577.	3719.	1924.	1011.	539.	291.	159.	88.	50.	28.	16.
29	14577.	3542.	1790.	919.	479.	253.	136.	74.	41.	23.	13.
30	14577.	3373.	1665.	835.	426.	220.	115.	61.	33.	18.	10.
31	14577.	3212.	1549.	759.	378.	191.	98.	51.	27.	14.	8.
32	14577.	3059.	1441.	690.	336.	166.	84.	43.	22.	12.	6.
33	14577.	2914.	1340.	628.	299.	143.	71.	36.	18.	9.	5.
34	14577.	2775.	1247.	571.	266.	126.	61.	30.	15.	7.	4.
35	14577.	2643.	1160.	519.	236.	109.	52.	25.	12.	6.	3.
36	14577.	2517.	1079.	472.	210.	95.	44.	21.	10.	5.	2.
37	14577.	2397.	1004.	429.	187.	83.	37.	17.	8.	4.	2.
38	14577.	2283.	934.	390.	166.	72.	32.	14.	7.	3.	1.
39	14577.	2174.	868.	354.	147.	63.	27.	12.	5.	2.	1.
40	14577.	2071.	808.	322.	131.	54.	23.	10.	4.	2.	1.
41	14577.	1972.	751.	293.	117.	47.	20.	8.	4.	2.	1.
42	14577.	1878.	699.	266.	104.	41.	17.	7.	3.	1.	1.
43	14577.	1789.	650.	242.	92.	36.	14.	6.	2.	1.	0.
44	14577.	1704.	605.	220.	82.	31.	12.	5.	2.	1.	0.
45	14577.	1622.	563.	200.	73.	27.	10.	4.	2.	1.	0.
46	14577.	1545.	523.	182.	65.	24.	9.	3.	1.	1.	0.
47	14577.	1472.	487.	165.	57.	21.	8.	3.	1.	1.	0.
48	14577.	1402.	453.	150.	51.	18.	7.	3.	1.	1.	0.
49	14577.	1335.	421.	137.	45.	15.	6.	2.	1.	1.	0.
50	14577.	1271.	392.	124.	40.	13.	5.	2.	1.	1.	0.
TOTAL	600573.	166457.	100123.	64421.	43697.	30888.	22557.	16910.	12951.	10099.	7996.

Case-3

*** PRESENT WORTH OF COST ***

(UNIT: L.E. THOUSAND)

YEAR	C. STREAM	5.00 *	7.50 *	10.00 *	12.50 *	15.00 *	17.50 *	20.00 *	22.50 *	25.00 *	27.50 *
1	715.	681.	665.	650.	636.	622.	609.	596.	584.	572.	561.
2	8953.	8121.	7747.	7399.	7074.	6770.	6485.	6217.	5966.	5730.	5507.
3	14280.	12336.	11495.	10729.	10029.	9389.	8803.	8264.	7768.	7311.	6890.
4	8637.	7270.	6617.	6036.	5517.	5053.	4636.	4262.	3924.	3620.	3344.
5	8687.	6807.	6051.	5394.	4821.	4319.	3879.	3491.	3149.	2847.	2578.
6	8667.	6467.	5616.	4892.	4275.	3747.	3293.	2903.	2565.	2272.	2017.
7	7094.	5042.	4276.	3640.	3110.	2667.	2294.	1980.	1714.	1488.	1295.
8	959.	649.	447.	374.	313.	264.	219.	181.	149.	120.	94.
9	1065.	687.	555.	452.	369.	303.	249.	206.	171.	143.	120.
10	1065.	654.	517.	411.	328.	263.	212.	172.	140.	114.	94.
11	1065.	623.	481.	373.	292.	229.	181.	143.	114.	91.	74.
12	1065.	593.	447.	339.	259.	199.	154.	119.	93.	73.	58.
13	1065.	565.	416.	308.	230.	173.	131.	100.	76.	59.	45.
14	1065.	538.	387.	280.	205.	151.	111.	83.	62.	47.	35.
15	1065.	512.	360.	255.	182.	131.	95.	69.	51.	37.	28.
16	1065.	488.	335.	232.	162.	114.	81.	58.	41.	30.	22.
17	1065.	465.	311.	211.	144.	99.	69.	48.	34.	24.	17.
18	1065.	443.	290.	192.	128.	86.	58.	40.	28.	19.	13.
19	2492.	986.	631.	407.	266.	175.	116.	78.	53.	36.	25.
20	1065.	401.	251.	158.	101.	65.	42.	28.	18.	12.	8.
21	1065.	382.	233.	144.	90.	57.	36.	23.	15.	10.	6.
22	1065.	364.	217.	131.	80.	49.	31.	19.	12.	8.	5.
23	1065.	347.	202.	119.	71.	43.	26.	16.	10.	6.	4.
24	1065.	330.	188.	108.	63.	37.	22.	13.	8.	5.	3.
25	1065.	315.	175.	98.	56.	32.	19.	11.	7.	4.	2.
26	1065.	300.	162.	89.	50.	28.	16.	9.	5.	3.	2.
27	1065.	285.	151.	81.	44.	24.	14.	8.	4.	3.	2.
28	1065.	272.	141.	74.	39.	21.	12.	6.	4.	2.	1.
29	1065.	259.	131.	67.	35.	18.	10.	5.	3.	2.	1.
30	1065.	246.	122.	61.	31.	16.	8.	4.	2.	1.	1.
31	1065.	235.	113.	55.	28.	14.	7.	4.	2.	1.	1.
32	1065.	224.	105.	50.	25.	12.	6.	3.	2.	1.	0.
33	1065.	213.	98.	46.	22.	11.	5.	3.	1.	1.	0.
34	2492.	474.	213.	98.	45.	22.	10.	5.	3.	1.	1.
35	1065.	193.	85.	38.	17.	8.	4.	2.	1.	0.	0.
36	1065.	184.	79.	34.	15.	7.	3.	2.	1.	0.	0.
37	1065.	175.	73.	31.	14.	6.	3.	2.	1.	0.	0.
38	1065.	167.	68.	28.	12.	5.	2.	1.	1.	0.	0.
39	1065.	159.	63.	26.	11.	5.	2.	1.	0.	0.	0.
40	1065.	151.	59.	24.	10.	4.	2.	1.	0.	0.	0.
41	1065.	144.	55.	21.	9.	3.	1.	1.	0.	0.	0.
42	1065.	137.	51.	19.	8.	3.	1.	1.	0.	0.	0.
43	1065.	131.	48.	18.	7.	3.	1.	1.	0.	0.	0.
44	1065.	124.	44.	16.	6.	2.	1.	1.	0.	0.	0.
45	1065.	119.	41.	15.	5.	2.	1.	1.	0.	0.	0.
46	1065.	113.	38.	13.	5.	2.	1.	1.	0.	0.	0.
47	1065.	108.	36.	12.	4.	1.	1.	1.	0.	0.	0.
48	1065.	102.	33.	11.	4.	1.	1.	1.	0.	0.	0.
49	1065.	98.	31.	10.	3.	1.	1.	1.	0.	0.	0.
50	1065.	93.	29.	9.	3.	1.	0.	0.	0.	0.	0.
TOTAL	105776.	60768.	51068.	44355.	39311.	35307.	32008.	29221.	26824.	24736.	22899.

Case-3

***** CALCULATION OF INTERNAL RATE OF RETURN *****

(UNIT: L.E. THOUSAND)

DISCOUNT RATE	+++++ PRESENT WORTH BENEFIT	+++++ COST	B/C RATIO
5.00 %	166457.	60768.	2.74
7.50 %	100123.	51068.	1.96
10.00 %	64421.	44355.	1.45
12.50 %	43697.	39311.	1.11
15.00 %	30888.	35307.	0.87
17.50 %	22557.	32008.	0.70
20.00 %	16910.	29221.	0.58
22.50 %	12951.	26824.	0.48
25.00 %	10099.	24736.	0.41
27.50 %	7996.	22899.	0.35

INTERNAL RATE OF RETURN ----- 13.6 %

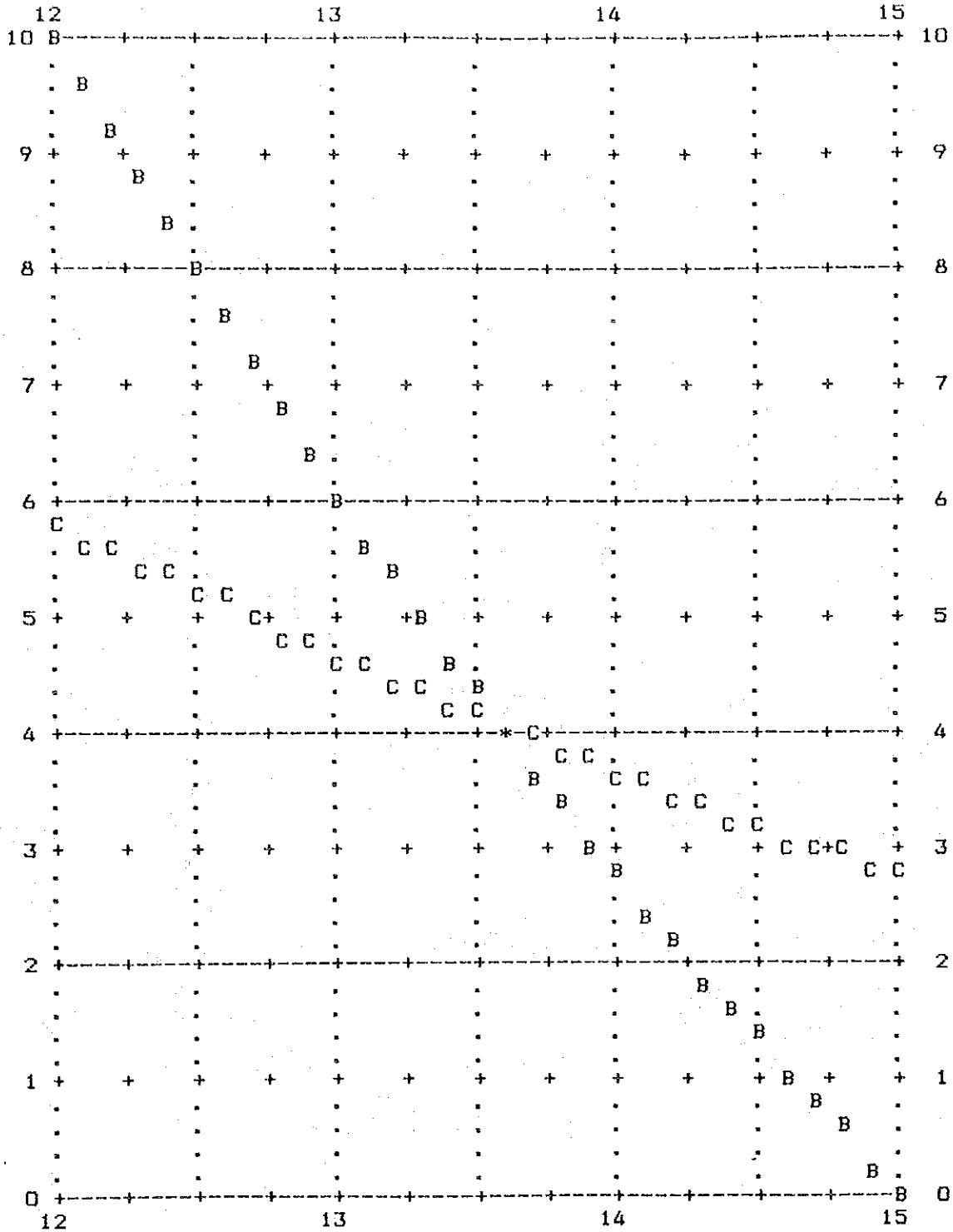
Case-3

*** PLOT OF PW OF BENEFIT AND COST ***

Y AXIS : PRESENT WORTH VALUE

X AXIS : DISCOUNT RATE (%)

I.R.R. (*) ----- 13.6 %



Case-4 ***** STREAMS OF PROJECT COST AND BENEFIT *****
 (UNIT: L.E. THOUSAND)

PROJECT YEAR	INITIAL COST	REPLACE. COST	PROJECT COST + M COST	PROJECT BENEFIT	NET BENEFIT
1	715	-	-	-	-715
2	8953	-	-	-	-8953
3	14280	-	-	-	-14280
4	8784	53	53	-	-8837
5	8580	107	107	733	-7954
6	8401	266	266	2200	-6467
7	6561	533	533	4400	-2894
8	-	959	959	5867	4908
9	-	1065	1065	7334	6269
10	-	1065	1065	8600	7735
11	-	1065	1065	10267	9202
12	-	1065	1065	11734	10669
13	-	1065	1065	12467	11402
14	-	1065	1065	13200	12135
15	-	1065	1065	13934	12869
16	-	1065	1065	14667	13602
17	-	1065	1065	14667	13602
18	-	1065	1065	14667	13602
19	-	1427	1427	14667	13602
20	-	1065	1065	14667	12175
21	-	1065	1065	14667	13602
22	-	1065	1065	14667	13602
23	-	1065	1065	14667	13602
24	-	1065	1065	14667	13602
25	-	1065	1065	14667	13602
26	-	1065	1065	14667	13602
27	-	1065	1065	14667	13602
28	-	1065	1065	14667	13602
29	-	1065	1065	14667	13602
30	-	1065	1065	14667	13602
31	-	1065	1065	14667	13602
32	-	1065	1065	14667	13602
33	-	1065	1065	14667	13602
34	-	1427	1427	14667	12175
35	-	1065	1065	14667	13602
36	-	1065	1065	14667	13602
37	-	1065	1065	14667	13602
38	-	1065	1065	14667	13602
39	-	1065	1065	14667	13602
40	-	1065	1065	14667	13602
41	-	1065	1065	14667	13602
42	-	1065	1065	14667	13602
43	-	1065	1065	14667	13602
44	-	1065	1065	14667	13602
45	-	1065	1065	14667	13602
46	-	1065	1065	14667	13602
47	-	1065	1065	14667	13602
48	-	1065	1065	14667	13602
49	-	1065	1065	14667	13602
50	-	1065	1065	14667	13602

Case-4

*** PRESENT WORTH OF BENEFIT ***

(UNIT: L.E. THOUSAND)

YEAR	B. STREAM	5.00 X	7.50 X	10.00 X	12.50 X	15.00 X	17.50 X	20.00 X	22.50 X	25.00 X	27.50 X
1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5	733.	574.	511.	455.	407.	364.	327.	295.	266.	240.	218.
6	2200.	1642.	1426.	1242.	1085.	951.	836.	737.	651.	577.	512.
7	4400.	3127.	2652.	2258.	1929.	1654.	1423.	1228.	1063.	923.	803.
8	5867.	3971.	3290.	2737.	2287.	1918.	1615.	1364.	1157.	984.	840.
9	7334.	4728.	3825.	3110.	2541.	2085.	1719.	1421.	1181.	984.	824.
10	8800.	5402.	4270.	3393.	2710.	2175.	1754.	1421.	1156.	945.	775.
11	10267.	6003.	4634.	3599.	2810.	2207.	1742.	1382.	1101.	882.	709.
12	11734.	6534.	4927.	3739.	2855.	2193.	1694.	1316.	1028.	806.	636.
13	13200.	7067.	5212.	3911.	2976.	2026.	1532.	1165.	891.	685.	530.
14	14667.	7603.	5496.	4096.	3098.	1866.	1381.	1028.	770.	581.	440.
15	16134.	8139.	5780.	4282.	3231.	1712.	1240.	904.	664.	490.	364.
16	17600.	8675.	6064.	4467.	3364.	1567.	1111.	793.	570.	413.	301.
17	19067.	9211.	6348.	4652.	3507.	1402.	946.	661.	466.	330.	236.
18	20534.	9747.	6632.	4837.	3650.	1243.	799.	551.	380.	264.	185.
19	22000.	10283.	6916.	5022.	3793.	1084.	652.	435.	310.	211.	145.
20	23467.	10819.	7200.	5207.	3936.	925.	553.	383.	253.	169.	114.
21	24934.	11355.	7484.	5392.	4079.	766.	422.	319.	207.	135.	89.
22	26400.	11891.	7768.	5577.	4222.	607.	359.	266.	149.	108.	70.
23	27867.	12427.	8052.	5762.	4365.	448.	297.	221.	138.	87.	55.
24	29334.	12963.	8336.	5947.	4508.	289.	229.	184.	112.	69.	43.
25	30800.	13499.	8620.	6132.	4651.	130.	162.	154.	92.	55.	34.
26	32267.	14035.	8904.	6317.	4794.	11.	130.	128.	75.	44.	26.
27	33734.	14571.	9188.	6502.	4937.	107.	107.	107.	61.	35.	21.
28	35200.	15107.	9472.	6687.	5080.	293.	89.	89.	50.	28.	16.
29	36667.	15643.	9756.	6872.	5223.	255.	74.	74.	41.	23.	13.
30	38134.	16179.	10040.	7057.	5366.	222.	62.	62.	33.	18.	10.
31	39600.	16715.	10324.	7242.	5509.	193.	51.	51.	27.	15.	8.
32	41067.	17251.	10608.	7427.	5652.	168.	43.	43.	22.	12.	6.
33	42534.	17787.	10892.	7612.	5795.	146.	36.	36.	18.	9.	5.
34	44000.	18323.	11176.	7797.	5938.	127.	30.	30.	15.	7.	4.
35	45467.	18859.	11460.	7982.	6081.	110.	25.	25.	12.	6.	3.
36	46934.	19395.	11744.	8167.	6224.	96.	21.	21.	10.	5.	2.
37	48400.	19931.	12028.	8352.	6367.	83.	17.	17.	8.	4.	2.
38	49867.	20467.	12312.	8537.	6510.	72.	14.	14.	7.	3.	1.
39	51334.	21003.	12596.	8722.	6653.	63.	12.	12.	6.	2.	1.
40	52800.	21539.	12880.	8907.	6796.	55.	10.	10.	5.	2.	1.
41	54267.	22075.	13164.	9092.	6939.	48.	8.	8.	4.	2.	1.
42	55734.	22611.	13448.	9277.	7082.	41.	7.	7.	3.	1.	1.
43	57200.	23147.	13732.	9462.	7225.	36.	6.	6.	2.	1.	0.
44	58667.	23683.	14016.	9647.	7368.	31.	5.	5.	2.	1.	0.
45	60134.	24219.	14300.	9832.	7511.	27.	4.	4.	2.	1.	0.
46	61600.	24755.	14584.	10017.	7654.	24.	3.	3.	2.	1.	0.
47	63067.	25291.	14868.	10202.	7797.	21.	3.	3.	2.	1.	0.
48	64534.	25827.	15152.	10387.	7940.	18.	2.	2.	1.	1.	0.
49	66000.	26363.	15436.	10572.	8083.	16.	2.	2.	1.	1.	0.
50	67467.	26899.	15720.	10757.	8226.	14.	2.	2.	1.	1.	0.
TOTAL	604281.	167485.	100741.	64818.	43966.	31078.	22696.	17014.	13031.	10161.	8045.

Case-4 ***** PRESENT WORTH OF COST *****

YEAR	C-STREAM	5.00 %	7.50 %	10.00 %	12.50 %	15.00 %	17.50 %	20.00 %	22.50 %	25.00 %	27.50 %
1	715.	681.	665.	650.	636.	622.	609.	596.	584.	572.	561.
2	8953.	8121.	7747.	7399.	7074.	6770.	6485.	6217.	5966.	5730.	5507.
3	14280.	12334.	11495.	10729.	10029.	9389.	8803.	8264.	7768.	7311.	6890.
4	8637.	7270.	6617.	6036.	5517.	5053.	4636.	4262.	3924.	3620.	3344.
5	8687.	6807.	6051.	5394.	4821.	4319.	3879.	3491.	3149.	2847.	2578.
6	8667.	6467.	5616.	4892.	4275.	3747.	3293.	2903.	2565.	2272.	2017.
7	7094.	5042.	4276.	3640.	3110.	2667.	2294.	1980.	1714.	1489.	1295.
8	959.	649.	538.	447.	374.	313.	264.	223.	189.	161.	137.
9	1065.	687.	595.	522.	461.	403.	349.	306.	271.	245.	220.
10	1065.	654.	571.	501.	441.	383.	329.	286.	251.	225.	200.
11	1065.	623.	541.	471.	411.	353.	300.	257.	222.	196.	171.
12	1065.	593.	511.	441.	381.	323.	270.	227.	192.	166.	141.
13	1065.	565.	483.	413.	353.	295.	242.	199.	164.	138.	113.
14	1065.	538.	456.	386.	326.	268.	215.	172.	137.	111.	86.
15	1065.	512.	430.	360.	300.	242.	189.	146.	111.	85.	60.
16	1065.	488.	406.	336.	276.	218.	165.	122.	87.	61.	35.
17	1065.	465.	383.	313.	253.	195.	142.	99.	64.	38.	13.
18	1065.	443.	361.	291.	231.	173.	120.	77.	42.	16.	2.
19	2492.	986.	831.	707.	606.	522.	453.	396.	349.	312.	275.
20	1065.	401.	331.	281.	241.	201.	161.	121.	81.	51.	21.
21	1065.	382.	312.	262.	222.	182.	142.	102.	62.	32.	2.
22	1065.	364.	294.	244.	204.	164.	124.	84.	44.	14.	4.
23	1065.	347.	277.	227.	187.	147.	107.	67.	27.	7.	3.
24	1065.	330.	260.	210.	170.	130.	90.	50.	10.	0.	0.
25	1065.	315.	245.	195.	155.	115.	75.	35.	5.	5.	5.
26	1065.	300.	230.	180.	140.	100.	60.	20.	0.	0.	0.
27	1065.	285.	215.	165.	125.	85.	45.	5.	0.	0.	0.
28	1065.	272.	202.	152.	112.	72.	32.	2.	0.	0.	0.
29	1065.	259.	189.	139.	99.	59.	19.	8.	1.	1.	1.
30	1065.	246.	176.	126.	86.	46.	10.	5.	2.	2.	2.
31	1065.	235.	165.	115.	75.	35.	10.	4.	1.	1.	1.
32	1065.	224.	154.	104.	64.	24.	7.	3.	1.	1.	1.
33	1065.	213.	143.	93.	53.	13.	4.	2.	0.	0.	0.
34	2492.	474.	404.	354.	304.	254.	204.	154.	104.	54.	4.
35	1065.	193.	163.	133.	103.	73.	43.	13.	3.	3.	3.
36	1065.	184.	154.	124.	94.	64.	34.	4.	1.	1.	1.
37	1065.	175.	145.	115.	85.	55.	25.	2.	0.	0.	0.
38	1065.	167.	137.	107.	77.	47.	17.	1.	0.	0.	0.
39	1065.	159.	129.	99.	69.	39.	11.	0.	0.	0.	0.
40	1065.	151.	121.	91.	61.	31.	6.	0.	0.	0.	0.
41	1065.	144.	114.	84.	54.	24.	5.	0.	0.	0.	0.
42	1065.	137.	107.	77.	47.	17.	4.	0.	0.	0.	0.
43	1065.	131.	101.	71.	41.	11.	3.	0.	0.	0.	0.
44	1065.	124.	94.	64.	34.	2.	2.	0.	0.	0.	0.
45	1065.	119.	89.	59.	29.	1.	1.	0.	0.	0.	0.
46	1065.	113.	83.	53.	23.	0.	0.	0.	0.	0.	0.
47	1065.	108.	78.	48.	18.	0.	0.	0.	0.	0.	0.
48	1065.	102.	72.	42.	12.	0.	0.	0.	0.	0.	0.
49	1065.	98.	68.	38.	8.	0.	0.	0.	0.	0.	0.
50	1065.	93.	63.	33.	3.	0.	0.	0.	0.	0.	0.
TOTAL	105776.	60769.	51068.	44355.	39311.	35307.	32008.	29221.	26824.	24736.	22899.

(UNIT: L.E. THOUSAND)

Case-4

***** CALCULATION OF INTERNAL RATE OF RETURN *****

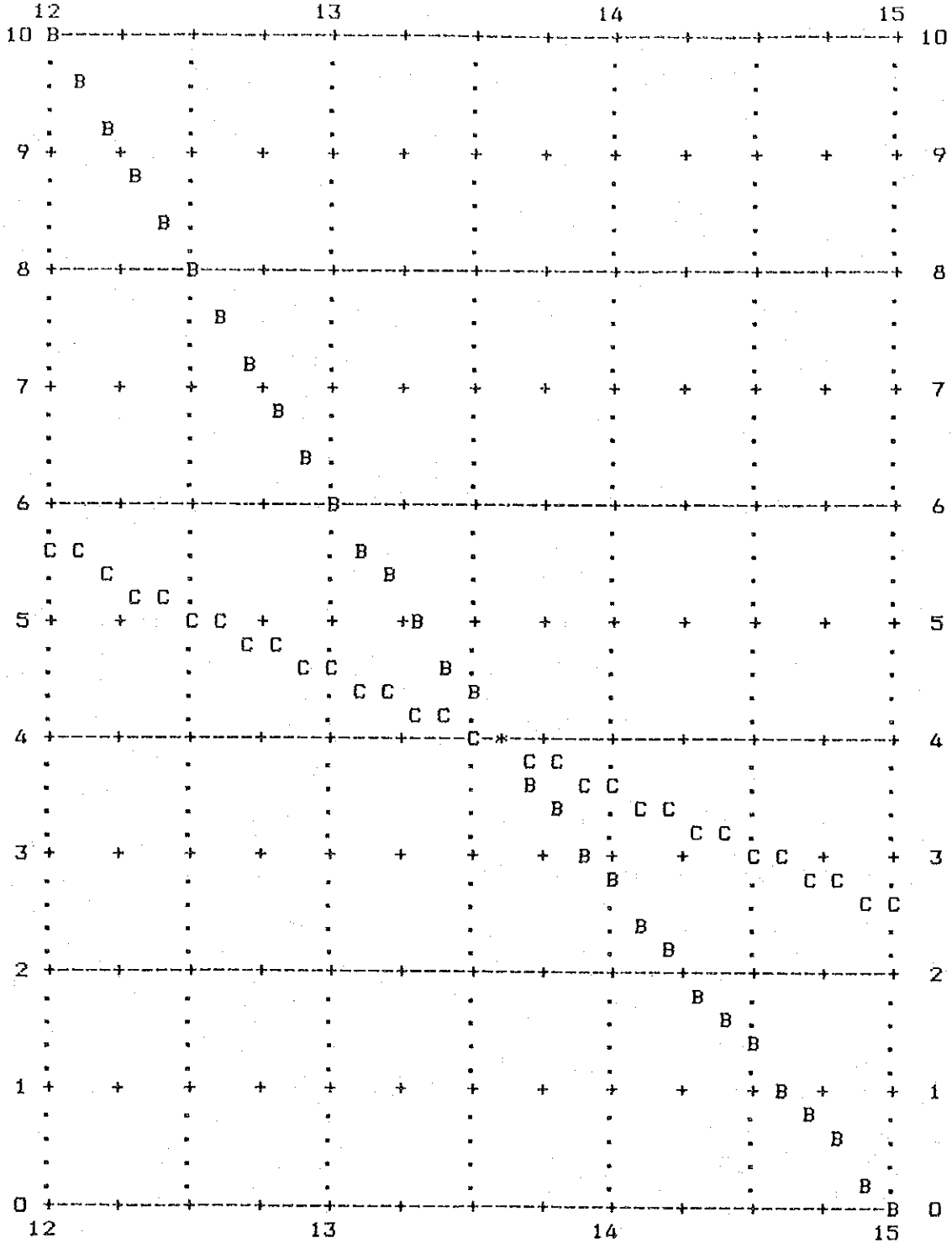
(UNIT: L.E. THOUSAND)

DISCOUNT RATE	***** PRESENT WORTH BENEFIT	***** COST	B/C RATIO
5.00 %	167485.	60768.	2.76
7.50 %	100741.	51068.	1.97
10.00 %	64818.	44355.	1.46
12.50 %	43966.	39311.	1.12
15.00 %	31078.	35307.	0.88
17.50 %	22696.	32008.	0.71
20.00 %	17014.	29221.	0.58
22.50 %	13031.	26824.	0.49
25.00 %	10161.	24736.	0.41
27.50 %	8045.	22899.	0.35

INTERNAL RATE OF RETURN ----- 13.6 %

Case-4

*** PLOT OF PW OF BENEFIT AND COST ***
 Y AXIS : PRESENT WORTH VALUE
 X AXIS : DISCOUNT RATE (%)
 I.R.R. (*) ----- 13.6 %



Case-5 ***** STREAMS OF PROJECT COST AND BENEFIT ***** (UNIT: L.E. THOUSAND)

PROJECT YEAR	INITIAL COST	REPLACE. COST	PROJECT COST	O & M COST	TOTAL	PROJECT BENEFIT	NET BENEFIT
1	4019	-	-	-	4019	-	-4019
2	4019	-	-	153	4172	-	-4172
3	4734	-	-	241	4975	-	-4975
4	12972	-	-	330	13302	-	-13302
5	18299	-	-	402	18701	-	-18701
6	8784	-	-	455	9239	-	-9239
7	8580	-	-	509	9089	-	-9089
8	8401	-	-	668	9069	934	-8135
9	6561	-	-	935	7496	2801	-6268
10	-	-	-	1361	7496	5802	-1694
11	-	-	-	1467	1467	7469	6108
12	-	-	-	1467	1467	9336	7869
13	-	-	-	1467	1467	11203	9736
14	-	-	-	1467	1467	13070	11603
15	-	-	-	1467	1467	14938	13471
16	-	-	-	1467	1467	15871	14404
17	-	-	-	1467	1467	16805	15338
18	-	-	-	1467	1467	17738	16271
19	-	-	-	1467	1467	18672	17205
20	-	-	-	1467	1467	18672	17205
21	-	-	1427	1467	2894	18672	15778
22	-	-	-	1467	1467	18672	17205
23	-	-	-	1467	1467	18672	17205
24	-	-	-	1467	1467	18672	17205
25	-	-	-	1467	1467	18672	17205
26	-	-	-	1467	1467	18672	17205
27	-	-	-	1467	1467	18672	17205
28	-	-	-	1467	1467	18672	17205
29	-	-	-	1467	1467	18672	17205
30	-	-	-	1467	1467	18672	17205
31	-	-	-	1467	1467	18672	17205
32	-	-	-	1467	1467	18672	17205
33	-	-	-	1467	1467	18672	17205
34	-	-	-	1467	1467	18672	17205
35	-	-	-	1467	1467	18672	17205
36	-	-	1427	1467	2894	18672	15778
37	-	-	-	1467	1467	18672	17205
38	-	-	-	1467	1467	18672	17205
39	-	-	-	1467	1467	18672	17205
40	-	-	-	1467	1467	18672	17205
41	-	-	-	1467	1467	18672	17205
42	-	-	-	1467	1467	18672	17205
43	-	-	-	1467	1467	18672	17205
44	-	-	-	1467	1467	18672	17205
45	-	-	-	1467	1467	18672	17205
46	-	-	-	1467	1467	18672	17205
47	-	-	-	1467	1467	18672	17205
48	-	-	-	1467	1467	18672	17205
49	-	-	-	1467	1467	18672	17205
50	-	-	-	1467	1467	18672	17205

Case-5

*** PRESENT WORTH OF BENEFIT ***

(UNIT: L.E. THOUSAND)

YEAR	B. STREAM	5.00 %	7.50 %	10.00 %	12.50 %	15.00 %	17.50 %	20.00 %	22.50 %	25.00 %	27.50 %
1		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
2		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
3		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
4		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
5		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
6		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
7	934.	664.	563.	479.	410.	351.	302.	261.	226.	196.	171.
8	2801.	1876.	1571.	1307.	1092.	916.	771.	651.	552.	470.	401.
9	5802.	3740.	3026.	2461.	2010.	1649.	1359.	1124.	934.	779.	652.
10	7469.	4585.	3624.	2880.	2300.	1846.	1489.	1206.	982.	802.	658.
11	9336.	5459.	4214.	3272.	2556.	2007.	1584.	1257.	1002.	802.	645.
12	11203.	6238.	4704.	3570.	2726.	2094.	1584.	1257.	981.	770.	607.
13	13070.	6931.	5105.	3786.	2827.	2124.	1606.	1222.	934.	719.	555.
14	14938.	7545.	5427.	3934.	2872.	2111.	1562.	1163.	872.	657.	498.
15	15871.	7634.	5364.	3799.	2712.	1950.	1413.	1030.	756.	558.	415.
16	16805.	7699.	5283.	3657.	2553.	1796.	1273.	909.	654.	473.	345.
17	17738.	7739.	5188.	3509.	2395.	1648.	1144.	800.	563.	399.	285.
18	18672.	7759.	5080.	3358.	2241.	1509.	1025.	701.	484.	336.	236.
19	18672.	7389.	4725.	3053.	1992.	1312.	872.	564.	395.	269.	185.
20	18672.	7037.	4396.	2776.	1771.	1141.	742.	487.	322.	215.	145.
21	18672.	6702.	4089.	2523.	1574.	992.	632.	406.	265.	172.	114.
22	18672.	6383.	3804.	2294.	1399.	863.	537.	338.	215.	138.	89.
23	18672.	6079.	3538.	2085.	1244.	750.	457.	282.	175.	110.	70.
24	18672.	5790.	3291.	1896.	1105.	652.	389.	235.	143.	86.	55.
25	18672.	5514.	3062.	1723.	983.	567.	331.	196.	117.	71.	43.
26	18672.	5251.	2848.	1577.	873.	493.	282.	163.	95.	56.	34.
27	18672.	5001.	2650.	1424.	776.	429.	240.	136.	78.	45.	26.
28	18672.	4763.	2465.	1295.	690.	373.	204.	113.	64.	36.	21.
29	18672.	4536.	2293.	1177.	613.	324.	174.	94.	52.	29.	16.
30	18672.	4320.	2133.	1070.	545.	282.	148.	79.	42.	23.	13.
31	18672.	4115.	1984.	973.	485.	245.	126.	66.	35.	18.	10.
32	18672.	3919.	1846.	884.	431.	213.	107.	55.	28.	15.	8.
33	18672.	3732.	1717.	804.	383.	185.	91.	46.	23.	12.	6.
34	18672.	3554.	1597.	731.	340.	161.	78.	38.	19.	9.	5.
35	18672.	3385.	1486.	664.	303.	140.	66.	32.	15.	8.	4.
36	18672.	3224.	1382.	604.	269.	122.	56.	26.	13.	6.	3.
37	18672.	3070.	1286.	549.	239.	106.	48.	22.	10.	5.	2.
38	18672.	2924.	1196.	499.	213.	92.	41.	18.	8.	4.	2.
39	18672.	2785.	1112.	454.	189.	80.	35.	15.	7.	3.	1.
40	18672.	2652.	1035.	413.	168.	70.	29.	13.	6.	2.	1.
41	18672.	2524.	963.	375.	149.	61.	25.	11.	5.	2.	1.
42	18672.	2406.	895.	341.	133.	53.	21.	9.	4.	1.	1.
43	18672.	2291.	833.	310.	118.	46.	18.	7.	3.	1.	1.
44	18672.	2182.	775.	282.	105.	40.	15.	6.	2.	1.	0.
45	18672.	2078.	721.	256.	93.	35.	13.	5.	2.	1.	0.
46	18672.	1978.	671.	233.	83.	30.	11.	4.	2.	1.	0.
47	18672.	1885.	624.	212.	74.	26.	10.	4.	1.	1.	0.
48	18672.	1795.	580.	192.	65.	23.	8.	3.	1.	1.	0.
49	18672.	1710.	540.	175.	58.	20.	7.	2.	1.	1.	0.
50	18672.	1628.	502.	159.	52.	17.	6.	2.	1.	1.	0.
TOTAL	732143.	190497.	110182.	68005.	44207.	29946.	20966.	15077.	11086.	8305.	6323.

Case-5

*** PRESENT WORTH OF COST ***

(UNIT: L.E. THOUSAND)

YEAR	C. STREAM	5.00 X	7.50 X	10.00 X	12.50 X	15.00 X	17.50 X	20.00 X	22.50 X	25.00 X	27.50 X
1	4019.	3828.	3739.	3654.	3572.	3495.	3420.	3349.	3281.	3215.	3152.
2	4172.	3784.	3610.	3448.	3296.	3155.	3022.	2897.	2780.	2670.	2566.
3	4298.	4005.	3738.	3494.	3271.	3067.	2879.	2704.	2547.	2400.	2266.
4	10944.	9961.	9085.	8304.	7605.	6977.	6415.	5907.	5449.	5034.	4658.
5	14633.	13026.	11612.	10378.	9298.	8350.	7516.	6779.	6128.	5550.	5034.
6	16894.	14833.	13026.	11612.	10378.	9298.	8350.	7516.	6779.	6128.	5550.
7	18089.	16359.	14644.	13026.	11612.	10378.	9298.	8350.	7516.	6779.	6128.
8	19069.	17386.	15644.	14026.	12557.	11217.	9994.	8907.	7964.	7154.	6459.
9	19969.	18332.	16544.	14932.	13465.	12131.	10907.	9819.	8882.	8082.	7399.
10	20791.	19191.	17344.	15791.	14322.	13000.	11776.	10650.	9622.	8692.	7872.
11	21532.	20061.	18264.	16611.	15142.	13831.	12607.	11480.	10452.	9522.	8692.
12	22291.	20941.	19144.	17471.	16002.	14712.	13487.	12359.	11331.	10302.	9472.
13	23061.	21831.	20024.	18331.	16873.	15583.	14362.	13234.	12206.	11177.	10242.
14	23841.	22731.	20914.	19211.	17754.	16454.	15244.	14116.	13088.	12059.	11032.
15	24631.	23641.	21804.	20091.	18635.	17345.	16135.	15007.	13979.	12950.	11922.
16	25431.	24561.	22704.	20971.	19516.	18226.	17016.	15888.	14860.	13831.	12812.
17	26241.	25491.	23614.	21851.	20397.	19107.	17907.	16769.	15742.	14713.	13702.
18	27061.	26431.	24524.	22731.	21278.	19988.	18798.	17660.	16633.	15604.	14592.
19	27891.	27381.	25444.	23611.	22159.	20869.	19689.	18551.	17524.	16495.	15482.
20	28731.	28341.	26374.	24491.	23040.	21750.	20570.	19432.	18395.	17357.	16372.
21	29581.	29311.	27314.	25371.	23921.	22631.	21451.	20313.	19276.	18238.	17262.
22	30441.	30291.	28264.	26251.	24802.	23512.	22332.	21194.	20157.	19119.	18082.
23	31311.	31281.	29224.	27131.	25683.	24393.	23213.	22075.	21038.	19999.	18972.
24	32191.	32261.	30194.	28011.	26564.	25274.	24094.	22956.	21919.	20880.	19862.
25	33081.	33251.	31174.	28891.	27445.	26155.	24975.	23837.	22800.	21762.	20752.
26	33981.	34241.	32164.	29771.	28326.	27036.	25856.	24718.	23681.	22643.	21642.
27	34891.	35241.	33164.	30651.	29207.	27917.	26737.	25599.	24562.	23524.	22532.
28	35811.	36251.	34174.	31531.	30088.	28798.	27618.	26480.	25443.	24405.	23392.
29	36741.	37271.	35194.	32411.	30969.	29679.	28499.	27361.	26324.	25286.	24282.
30	37681.	38301.	36224.	33291.	31850.	30560.	29380.	28242.	27205.	26167.	25172.
31	38631.	39341.	37264.	34171.	32731.	31441.	30261.	29123.	28086.	27048.	26062.
32	39591.	40391.	38314.	35051.	33612.	32322.	31142.	30004.	28967.	27929.	27052.
33	40561.	41451.	39374.	35931.	34493.	33203.	32023.	30886.	29849.	28811.	28042.
34	41541.	42521.	40444.	36811.	35374.	34084.	32904.	31766.	30729.	29691.	29032.
35	42531.	43601.	41524.	37691.	36255.	34965.	33785.	32647.	31610.	30572.	29912.
36	43531.	44691.	42614.	38571.	37136.	35846.	34666.	33529.	32492.	31454.	30792.
37	44541.	45791.	43714.	39451.	38017.	36727.	35547.	34410.	33373.	32335.	31672.
38	45561.	46901.	44824.	40331.	38898.	37608.	36428.	35282.	34245.	33207.	32552.
39	46591.	48021.	45944.	41211.	39779.	38489.	37289.	36146.	35109.	34071.	33432.
40	47631.	49151.	47074.	42091.	40660.	39370.	38140.	37003.	35972.	34934.	34312.
41	48681.	50291.	48214.	42971.	41541.	40251.	39021.	37886.	36835.	35817.	35192.
42	49741.	51441.	49364.	43851.	42422.	41132.	39902.	38770.	37718.	36700.	36072.
43	50811.	52601.	50524.	44731.	43303.	42013.	40783.	39654.	38601.	37582.	36952.
44	51891.	53771.	51694.	45611.	44184.	42894.	41664.	40537.	39484.	38465.	37832.
45	52981.	54951.	52874.	46491.	45065.	43775.	42545.	41420.	40361.	39346.	38712.
46	54081.	56141.	54064.	47371.	45946.	44656.	43426.	42282.	41243.	40227.	39592.
47	55191.	57341.	55304.	48251.	46827.	45537.	44307.	43147.	42108.	41111.	40472.
48	56311.	58551.	56484.	49131.	47708.	46418.	45188.	44028.	43009.	42004.	41352.
49	57441.	59771.	57624.	50011.	48589.	47309.	46069.	44909.	43900.	42907.	42232.
50	58581.	61001.	58784.	50891.	49470.	48190.	46950.	45790.	44791.	43808.	43112.
TOTAL	142957.	78877.	64843.	55121.	47661.	42160.	37532.	33685.	30435.	27654.	25252.

Case-5

***** CALCULATION OF INTERNAL RATE OF RETURN *****

(UNIT: L.E. THOUSAND)

DISCOUNT RATE	+++++ PRESENT WORTH BENEFIT	+++++ COST	B/C RATIO
5.00 %	190497.	78877.	2.42
7.50 %	110182.	64843.	1.70
10.00 %	68005.	55121.	1.23
12.50 %	44207.	47861.	0.92
15.00 %	29946.	42160.	0.71
17.50 %	20966.	37532.	0.56
20.00 %	15077.	33685.	0.45
22.50 %	11086.	30435.	0.36
25.00 %	8305.	27654.	0.30
27.50 %	6323.	25252.	0.25

INTERNAL RATE OF RETURN ----- 11.8 %

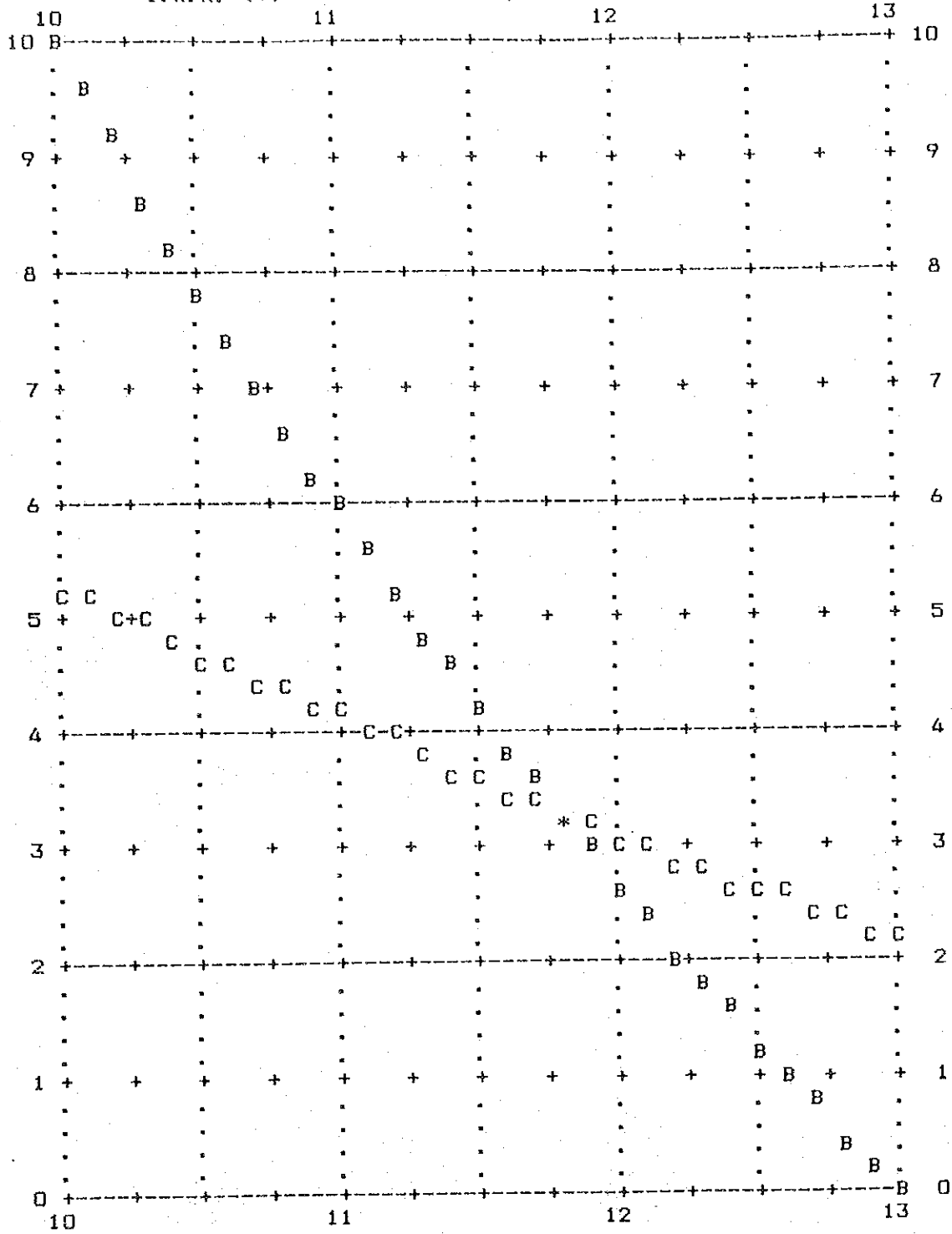
Case-5

*** PLOT OF PW OF BENEFIT AND COST ***

Y AXIS : PRESENT WORTH VALUE

X AXIS : DISCOUNT RATE (%)

I.R.R. (*) ----- 11.8 %



Appendix J-4 Farm Labor Balance

***** MONTHLY LABOR AND MACHINERY REQUIREMENT ***** (UNIT: HOURS)

CASE: HALF MECHANIZED

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
----- CROP: PADDY (0.54 HA) -----													
OPERATOR	-	-	-	0.1	2.2	5.7	4.6	3.3	1.6	10.1	-	-	27.8
COMMON LABOR	-	-	-	5.4	8.7	167.8	44.8	26.9	20.4	157.5	-	-	431.6
TRACTOR	-	-	-	0.1	2.2	5.7	4.6	3.3	1.6	10.1	-	-	27.8
BOTTOM PLOW	-	-	-	0.1	1.3	1.2	-	-	-	-	-	-	2.6
DISC HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
TOOTH HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVE HARROW	-	-	-	-	0.4	2.9	-	-	-	-	-	-	3.2
BROADCASTER	-	-	-	-	0.0	0.3	-	-	-	-	-	-	0.4
SEEDER WITH RIDGER	-	-	-	-	-	-	-	-	-	-	-	-	-
POWER SPRAYER	-	-	-	-	0.5	1.4	4.6	3.3	1.6	-	-	-	11.4
CORN HARVESTER	-	-	-	-	-	-	-	-	-	-	-	-	-
RECIPROCATING MOWER	-	-	-	-	-	-	-	-	-	10.1	-	-	10.1
TRAILER	-	-	-	-	-	-	-	-	-	-	-	-	-
COMBINE	-	-	-	-	-	-	-	-	-	-	-	-	-
THRESHER	-	-	-	-	-	-	-	-	-	6.8	-	-	6.8
CORN SHELLER	-	-	-	-	-	-	-	-	-	-	-	-	-

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
----- CROP: COTTON (0.54 HA) -----													
OPERATOR	-	-	10.5	3.0	1.4	2.0	1.4	0.8	2.5	-	-	-	21.7
COMMON LABOR	-	-	17.9	163.1	174.0	15.0	11.6	92.4	264.2	-	-	-	718.3
TRACTOR	-	-	10.5	3.0	1.4	2.0	1.4	0.8	2.5	-	-	-	21.7
BOTTOM PLOW	-	-	2.3	-	-	-	-	-	-	-	-	-	2.3
DISC HARROW	-	-	1.9	-	-	-	-	-	-	-	-	-	1.9
TOOTH HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVE HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
BROADCASTER	-	-	0.3	-	-	-	-	-	-	-	-	-	0.3
SEEDER WITH RIDGER	-	-	4.6	2.3	-	-	-	-	-	-	-	-	6.9
POWER SPRAYER	-	-	1.4	0.7	1.4	2.0	1.4	-	-	-	-	-	6.8
CORN HARVESTER	-	-	-	-	-	-	-	-	-	-	-	-	-
RECIPROCATING MOWER	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAILER	-	-	-	-	-	-	-	0.8	2.5	-	-	-	3.4
COMBINE	-	-	-	-	-	-	-	-	-	-	-	-	-
THRESHER	-	-	-	-	-	-	-	-	-	-	-	-	-
CORN SHELLER	-	-	-	-	-	-	-	-	-	-	-	-	-

***** MONTHLY LABOR AND MACHINERY REQUIREMENT *****

(UNIT: HOURS)

CASE: HALF MECHANIZED

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
----- CROP: MAIZE (0.28 HA) -----													
OPERATOR	-	-	-	0.4	2.5	3.8	1.4	1.2	2.8	1.4	-	-	13.5
COMMON LABOR	-	-	-	1.7	11.3	17.3	34.5	23.2	47.9	22.4	-	-	158.5
TRACTOR	-	-	-	0.4	2.5	3.8	1.4	1.2	2.8	1.4	-	-	13.5
BOTTOM PLOW	-	-	-	0.2	1.0	-	-	-	-	-	-	-	1.2
DISC HARROW	-	-	-	0.2	0.8	-	-	-	-	-	-	-	1.0
TOOTH HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVE HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
BROADCASTER	-	-	-	-	-	-	-	-	-	-	-	-	-
SEEDER WITH RIDGER	-	-	-	-	0.6	3.0	-	-	-	-	-	-	3.6
POWER SPRAYER	-	-	-	-	0.1	0.8	1.4	1.2	-	-	-	-	3.5
CORN HARVESTER	-	-	-	-	-	-	-	-	-	-	-	-	-
RECIPROCATING MOWER	-	-	-	-	-	-	-	-	2.8	1.4	-	-	4.2
TRAILER	-	-	-	-	-	-	-	-	-	-	-	-	-
COMBINE	-	-	-	-	-	-	-	-	-	-	-	-	-
THRESHER	-	-	-	-	-	-	-	-	0.5	0.2	-	-	0.7
CORN SHELLER	-	-	-	-	-	-	-	-	-	-	-	-	-

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
----- CROP: SOIL. CORN (0.28 HA) -----													
OPERATOR	-	-	-	0.6	1.1	2.7	2.9	0.7	5.4	-	-	-	13.3
COMMON LABOR	-	-	-	0.3	0.3	8.8	22.6	22.9	22.5	-	-	-	77.5
TRACTOR	-	-	-	0.6	1.1	2.7	2.9	0.7	5.4	-	-	-	13.3
BOTTOM PLOW	-	-	-	0.3	0.6	0.3	-	-	-	-	-	-	1.2
DISC HARROW	-	-	-	0.2	0.5	0.2	-	-	-	-	-	-	1.0
TOOTH HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVE HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
BROADCASTER	-	-	-	-	-	-	-	-	-	-	-	-	-
SEEDER WITH RIDGER	-	-	-	-	-	1.8	1.8	-	-	-	-	-	3.6
POWER SPRAYER	-	-	-	-	-	0.4	1.1	0.7	-	-	-	-	2.1
CORN HARVESTER	-	-	-	-	-	-	-	-	1.2	-	-	-	1.2
RECIPROCATING MOWER	-	-	-	-	-	-	-	-	4.2	-	-	-	4.2
TRAILER	-	-	-	-	-	-	-	-	-	-	-	-	-
COMBINE	-	-	-	-	-	-	-	-	-	-	-	-	-
THRESHER	-	-	-	-	-	-	-	-	-	-	-	-	-
CORN SHELLER	-	-	-	-	-	-	-	-	-	-	-	-	-

***** MONTHLY LABOR AND MACHINERY REQUIREMENT *****

CASE: HALF MECHANIZED

(UNIT: HOURS)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
	----- CROP: FT-BERSEEM (0.54 HA) -----												
OPERATOR	3.6	3.9	2.9	4.4	-	-	-	-	-	1.0	2.9	6.5	25.2
COMMON LABOR	7.3	9.1	5.5	6.1	-	-	-	-	4.5	10.0	15.1	13.4	70.9
TRACTOR	3.6	3.9	2.9	4.4	-	-	-	-	-	1.0	2.9	6.5	25.2
BOTTOM PLOW	-	-	-	-	-	-	-	-	-	-	-	-	-
DISC HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
TOOTH HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
DRIVE HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
BROADCASTER	0.2	0.1	-	-	-	-	-	-	-	0.1	0.2	0.3	0.9
SEEDER WITH RIDGER	-	-	-	-	-	-	-	-	-	-	-	-	-
POWER SPRAYER	0.5	0.9	-	-	-	-	-	-	-	0.9	2.7	1.8	6.8
CORN HARVESTER	-	-	-	-	-	-	-	-	-	-	-	-	-
RECIPROCATING MOWER	1.6	1.5	1.6	2.3	-	-	-	-	-	-	-	2.3	9.3
TRAILER	1.3	1.3	1.3	2.0	-	-	-	-	-	-	-	2.0	8.1
COMBINE	-	-	-	-	-	-	-	-	-	-	-	-	-
THRESHER	-	-	-	-	-	-	-	-	-	-	-	-	-
CORN SHELLER	-	-	-	-	-	-	-	-	-	-	-	-	-

	----- CROP: CC-BERSEEM (0.56 HA) -----												
OPERATOR	3.0	1.5	-	-	-	-	-	-	2.9	4.1	3.1	6.7	21.3
COMMON LABOR	5.7	2.1	-	-	-	-	-	-	3.5	8.0	15.6	13.9	48.8
TRACTOR	3.0	1.5	-	-	-	-	-	-	2.9	4.1	3.1	6.7	21.3
BOTTOM PLOW	-	-	-	-	-	-	-	-	1.2	1.2	-	-	2.4
DISC HARROW	-	-	-	-	-	-	-	-	1.0	1.0	-	-	2.0
TOOTH HARROW	-	-	-	-	-	-	-	-	0.6	0.6	-	-	1.3
DRIVE HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
BROADCASTER	-	-	-	-	-	-	-	-	0.1	0.3	0.2	0.3	1.0
SEEDER WITH RIDGER	-	-	-	-	-	-	-	-	-	-	-	-	-
POWER SPRAYER	-	-	-	-	-	-	-	-	-	0.9	2.8	1.9	5.7
CORN HARVESTER	-	-	-	-	-	-	-	-	-	-	-	-	-
RECIPROCATING MOWER	1.6	0.8	-	-	-	-	-	-	-	-	-	2.4	4.8
TRAILER	1.4	0.7	-	-	-	-	-	-	-	-	-	2.1	4.2
COMBINE	-	-	-	-	-	-	-	-	-	-	-	-	-
THRESHER	-	-	-	-	-	-	-	-	-	-	-	-	-
CORN SHELLER	-	-	-	-	-	-	-	-	-	-	-	-	-

***** MONTHLY LABOR AND MACHINERY REQUIREMENT *****

CASE: HALF MECHANIZED

(UNIT: HOURS)

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL
OPERATOR	0.9	2.7	-	5.1	5.1	-	-	-	-	-	6.6	2.4	22.7
COMMON LABOR	12.9	15.7	4.7	78.5	76.1	-	-	-	-	-	5.2	17.3	210.3
TRACTOR	0.9	2.7	-	5.1	5.1	-	-	-	-	-	6.6	2.4	22.7
BOTTOM PLOW	-	-	-	-	-	-	-	-	-	-	2.3	-	2.3
DISC HARROW	-	-	-	-	-	-	-	-	-	-	1.9	-	1.9
TOOTH HARROW	-	-	-	-	-	-	-	-	-	-	1.2	-	1.2
DRIVE HARROW	-	-	-	-	-	-	-	-	-	-	-	-	-
BROADCASTER	-	-	-	-	-	-	-	-	-	-	0.2	0.1	0.3
SEEDER WITH RIDGER	-	-	-	-	-	-	-	-	-	-	-	-	-
POWER SPRAYER	0.9	2.7	-	-	-	-	-	-	-	-	0.9	2.3	6.8
CORN HARVESTER	-	-	-	-	-	-	-	-	-	-	-	-	-
RECIPROCATING MOWER	-	-	-	-	-	-	-	-	-	-	-	-	-
TRAILER	-	-	-	5.1	5.1	-	-	-	-	-	-	-	10.1
COMBINE	-	-	-	-	-	-	-	-	-	-	-	-	-
THRESHER	-	-	-	3.0	3.0	-	-	-	-	-	-	-	6.0
CORN SHELLER	-	-	-	-	-	-	-	-	-	-	-	-	-

----- CROP: WHEAT (0.54 HA) -----

Appendix J-5 Financial Cost of Production (per ha)

Crop: Paddy

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.09	140.0	12.60
Urea	kg	0.09	265.0	23.85
S.P.	kg	0.03	230.0	6.90
Captan	kg	1.73	1.1	1.90
MEP	ℓ	1.89	1.9	3.59
Kasugamycin	kg	0.11	3.1	0.34
Topzin-M	kg	3.42	-	-
DCPA	ℓ	1.23	21.3	26.20
Corbex	ℓ	2.98	-	-
CAT	kg	2.35	-	-
Gezaprim	kg	2.05	-	-
Diesel Oil	ℓ	0.03	229.7	6.89
Kerosene	ℓ	0.03	12.5	0.38
Operator	hr	0.38	51.40	19.53
Hired Labor	hr	0.19	-	-
Tractor	hr	1.66	51.40	85.32
Bottom Plow	hr	1.18	4.84	5.71
Disc Harrow	hr	1.26	-	-
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	5.96	7.81
Broadcaster	hr	0.48	0.65	0.31
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	21.20	43.67
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	18.75	24.94
Combine	hr	26.34	-	-
Thresher	hr	0.46	12.50	5.75
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	L.S.	27.57
Total	-	-	-	303.26

Financial Cost of Production (per ha)

Crop: Cotton

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.03	140.0	4.20
Urea	kg	0.09	360.0	32.40
S.P.	kg	0.03	240.0	7.20
Captan	kg	1.73	1.1	1.90
MEP	ℓ	1.89	1.2	2.27
Kasugamycin	kg	0.11	-	-
Topzin-M	kg	3.42	2.0	6.84
DCPA	ℓ	1.23	-	-
Corbex	ℓ	2.98	3.0	8.94
CAT	kg	2.35	-	-
Gezaprim	kg	2.05	-	-
Diesel Oil	ℓ	0.03	189.1	5.67
Kerosene	ℓ	0.03	-	-
Operator	hr	0.38	40.14	15.25
Hired Labor	hr	0.19	-	-
Tractor	hr	1.66	40.14	66.63
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	0.58	0.28
Seeder with Ridger	hr	1.62	12.82	20.77
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	6.25	8.31
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	L.S.	21.63
Total	-	-	-	237.88

Financial Cost of Production (per ha)

Crop: Maize

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.F.)</u>
Seed	kg	0.09	50.0	4.50
Urea	kg	0.09	360.0	32.40
S.P.	kg	0.03	-	-
Captan	kg	1.73	0.4	0.69
MEP	ℓ	1.89	1.2	2.27
Kasugamycin	kg	0.11	-	-
Topzin-M	kg	3.42	2.0	6.84
DCPA	ℓ	1.23	-	-
Corbex	ℓ	2.98	-	-
CAT	kg	2.35	-	-
Gezaprim	kg	2.05	2.0	4.10
Diesel Oil	ℓ	0.03	239.1	7.17
Kerosene	ℓ	0.03	-	-
Operator	hr	0.38	48.31	18.36
Hired Labor	hr	0.19	-	-
Tractor	hr	1.66	48.31	80.19
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	-	-
Seeder with Ridger	hr	1.62	12.82	20.77
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	15.00	19.95
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	2.50	9.83
Miscellaneous	-	-	L.S.	24.27
Total	-	-	-	266.93

Financial Cost of Production (per ha)

Crop: Soiling Corn

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.09	50.0	4.50
Urea	kg	0.09	360.0	32.40
S.P.	kg	0.03	-	-
Captan	kg	1.73	0.4	0.69
MEP	ℓ	1.89	0.6	1.13
Kasugamycin	kg	0.11	-	-
Topzin-M	kg	3.42	1.0	3.42
DCPA	ℓ	1.23	-	-
Corbex	ℓ	2.98	-	-
CAT	kg	2.35	-	-
Gezaprīm	kg	2.05	2.0	4.10
Diesel Oil	ℓ	0.03	242.61	7.28
Kerosene	ℓ	0.03	-	-
Operator	hr	0.38	47.56	18.07
Hired Labor	hr	0.19	-	-
Tractor	hr	1.66	47.56	78.95
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	-	-
Seeder with Ridger	hr	1.62	12.82	20.77
Power Sprayer	hr	2.06	7.59	15.64
Corn Harvester	hr	4.10	4.31	17.67
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	15.00	19.95
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	L.S.	23.41
Total	-	-	-	257.51

Financial Cost of Production (per ha)

Crop: Full-term Berseem

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.40	60.0	24.00
Urea	kg	0.09	-	-
S.P.	kg	0.03	480.0	14.40
Captan	kg	1.73	0.5	0.87
MEP	ℓ	1.89	1.8	3.40
Kasugamycin	kg	0.11	-	-
Topzin-M	kg	3.42	2.0	6.84
DCPA	ℓ	1.23	-	-
Corbex	ℓ	2.98	-	-
CAT	kg	2.35	-	-
Gezaprim	kg	2.05	-	-
Diesel Oil	ℓ	0.03	215.3	6.46
Kerosene	ℓ	0.03	-	-
Operator	hr	0.38	46.64	29.12
Hired Labor	hr	0.19	-	-
Tractor	hr	1.66	46.64	77.42
Bottom Plow	hr	1.18	-	-
Disc Harrow	hr	1.26	-	-
Tooth Harrow	hr	0.58	-	-
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	1.74	0.84
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	17.25	19.49
Trailer	hr	1.33	15.00	19.95
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	L.S.	22.89
Total	-	-	-	251.74

Financial Cost of Production (per ha)

Crop: Catch-cropping Berseem

<u>Item</u>	<u>Unit</u>	<u>Unit Price (L.E.)</u>	<u>Input Amount</u>	<u>Cost (L.E.)</u>
Seed	kg	0.40	60	24.00
Urea	kg	0.09	-	-
S.P.	kg	0.03	360	10.80
Captan	kg	1.73	0.5	0.87
MEP	ℓ	1.89	1.2	2.27
Kasugamycin	kg	0.11	-	-
Topzin-M	kg	3.42	2.0	6.84
DCPA	ℓ	1.23	-	-
Corbex	ℓ	2.98	-	-
CAT	kg	2.35	-	-
Gezaprim	kg	2.05	-	-
Diesel Oil	ℓ	0.03	184.3	5.53
Kerosene	ℓ	0.03	-	-
Operator	hr	0.38	38.10	14.48
Hired Labor	hr	0.19	-	-
Tractor	hr	1.66	38.10	63.25
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	2.27	1.32
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	1.74	0.84
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	10.12	20.85
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	8.63	9.75
Trailer	hr	1.33	7.50	9.98
Combine	hr	26.34	-	-
Thresher	hr	0.46	-	-
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	L.S.	18.03
Total	-	-	-	198.34

Financial Cost of Production (per ha)

Crop: Wheat

Item	Unit	Unit Price (L.E.)	Input Amount	Cost (L.E.)
Seed	kg	0.08	180.0	14.40
Urea	kg	0.09	260.0	23.40
S.P.	kg	0.03	-	-
Captan	kg	1.73	1.4	2.42
MEP	ℓ	1.89	1.2	2.27
Kasugamycin	kg	0.11	-	-
Topzin-M	kg	3.42	2.0	6.84
DCPA	ℓ	1.23	-	-
Corbex	ℓ	2.98	-	-
CAT	kg	2.35	1.0	2.35
Gezaprim	kg	2.05	-	-
Diesel Oil	ℓ	0.03	199.9	6.00
Kerosene	ℓ	0.03	11.1	0.33
Operator	hr	0.38	42.09	15.99
Hired Labor	hr	0.19	-	-
Tractor	hr	1.66	42.09	69.87
Bottom Plow	hr	1.18	4.30	5.07
Disc Harrow	hr	1.26	3.54	4.46
Tooth Harrow	hr	0.58	2.27	1.32
Drive Harrow	hr	1.31	-	-
Broadcaster	hr	0.48	0.58	0.28
Seeder with Ridger	hr	1.62	-	-
Power Sprayer	hr	2.06	12.65	26.06
Corn Harvester	hr	4.10	-	-
Reciprocating Mower	hr	1.13	-	-
Trailer	hr	1.33	18.75	24.94
Combine	hr	26.34	-	-
Thresher	hr	0.46	11.10	5.11
Corn Sheller	hr	3.93	-	-
Miscellaneous	-	-	L.S.	21.11
Total	-	-	-	232.22

Appendix J-6

Abstract from Cabinet Decree Nr. 288.1979

An Amendment to Ministry of Agriculture Decree 59.1975

The purchaser will pay for the land price, accessories and extras mentioned above by annual instalments for twenty five years as follows:-

- A. One quarter of the annual instalment to be paid during the first and second year and it will commence from the beginning of the agricultural year of acquisition, on the condition that the amount collected annually will not be less than the present rent of land and residence.
- B. One half of the annual instalment to be paid during the following two years (i.e. the third and fourth years) on the condition that the amount collected annually will not be less than the present rent of land and residence.
- C. Threequarters of the annual instalment to be paid during the fifth and sixth years on the condition that the amount collected annually will be less than the present rent of land and residence.
- D. The remaining annual instalments will be paid during the remaining nineteen years with the addition of any arrears resulting from the previous six years instalments.

The first instalment will be paid at the end of the agricultural year in which acquisition was taking place. If the purchaser does not fulfil the payment of instalments, a 6% rate of interest will be charged without due notice to the purchaser and legal actions will be taken.

The land price will be reduced by 5% if the purchaser pays in advance.

