Table 6.7 Production Cost per Hectare

I. Paddy, Corn and Tabacco

	Unit	Unit Price (₱)	Paddy				Corn				Tobacco			
			Without Project			With Project	Without Project		With Project		Without Project		With Project	
			Rainfed		Irrigated		Rainfed		Irrigated		Rainfed		Irrigated	
1. Level of Unit Yield	(ton/ha)		2.23		3.45		4.75		0.9		3.75		0.6		2.0	
2. Farm Inputs			Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)
1) Seed - Paddy	(kg)	8.6	80	688	50	430	46	396								
- Corn	(kg)	18.0							19	342	20	360				
- Tobacco (3,000 seedlings)		72.4											6	435	6	435
2) Fertilizer - N	(kg)	12.4	34	422	70	868	75	930	10	124	75	930	20	248	50	620
- P_2O_5	(kg)	9.1	4	36	14	128	30	273	-	-	85	774	-	-	50	455
- K_2O	(kg)	5.3	4	21	14	74	30	159	-	-	40	212	-	-	50	265
3) Agro-chemicals																
- Liquid	(ℓ)	235	1.5	353	1.7	400	3	705	-	-	2.5	588	2	470	2	470
- Granular	(kg)	21	2.0	42	3.9	82	17	357	-	-	17.0	357	-	-	17	357
Sub-total				1,562		1,982		2,820		466		3,206		1,153		2,602
3. Labor Cost	(man-day)	11														
1) Nursery Preparation			2	22	2	22	3	33	-	-	-	-	3	33	9	99
2) Land Preparation			16	176	16	176	16	176	10	110	11	121	18	198	21	231
3) Transplanting/Planting			18	198	20	220	20	220	9	99	9	99	10	110	11	121
4) Fertilizing			2	22	3	33	3	33	2	22	2	22	3	33	4	44
5) Weeding/Cultivating			4	44	5	55	5	55	7	77	7	77	10	110	11	121
6) Spraying			1	11	2	22	3	33	-	-	2	22	3	33	8	88
7) Irrigating			-	-	2	22	3	33	-	-	2	22	-	-	2	22
8) Harvesting			15	165	16	176	20	220	10	110	12	132	20	220	24	264
9) Threshing			4	44	5	55	13	143	9	99	10	110	32 /1	352	40 /1	440
10) Drying			3	33	4	44	5	55	7	77	8	88	-	-	-	-
11) Others			3	33	3	33	5	55	3	33	7	77	-	-	-	-
Sub-total			68	748	78	858	96	1,056	57	627	70	770	99	1,089	130	1,430
4. Animal Power	(day)	33	13	429	13	429	15	495	14	462	20	660	19	627	30	990
5. Mechanical Power	(day)	620	1	620	2	1,240	2	1,240	-	-	-	-	-	-	-	-
6. Others				171		261		299		75		229		151		248
Total				3,530		4,770		5,910		1,630		4,880		3,020		5,270

Note: /1; Sorting, sticking and others

(to be continued)

(continuation)

II. Peanuts, Sweet Potatoes, Sugar Cane, Beans and Vegetables

	Unit	Unit Price (₱)	Without Project (Rainfed)						With Project (Irrigated)			
			Peanuts		Sweet Potatoes		Sugar Cane		Beans		Vegetables	
1. Level of Unit Yield	(ton/ha)			0.7		5.0		39.0		1.5		13.0
2. Farm Inputs			Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)	Q'ty	Amount(₱)
1) Seed - Peanuts	(kg)	7.9	68	538								
- Sweet Potatoes	(kg)	0.9			450	405						
- Sugar Cane	(1,000 seedlings)	50.0					3.5	175				
- Beans	(kg)	5.4							35	189		
- Vetetables	(kg)	335.0									2	670
2) Fertilizer - N	(kg)	12.4	-	-	15	186	120	1,488	20	248	70	868
- P_2O_5	(kg)	9.1	-	-	15	137	20	182	20	182	90	819
- K_2O	(kg)	5.3	-	-	15	80	20	106	20	106	70	371
3) Agro-chemicals												
- Liquid	(ℓ)	235	-	-	2	470	1.5	353	2	470	8	1,880
- Granular	(kg)	21	-	-	-	-	-	-	-	-	-	-
Sub-total												
3. Labor Cost	(man-day)	11										
1) Nursery Preparation			-	-	2	22	-	-	-	-	-	-
2) Land Preparation			14	154	16	176	3	33	15	165	21	231
3) Transplanting/Planting			4	44	13	143	38	418	5	55	12	132
4) Fertilizing			-	-	1	11	10	110	2	22	16	176
5) Weeding/Cultivating			14	154	3	33	5	55	15	165	15	165
6) Spraying			-	-	1	11	2	22	8	88	36	396
7) Irrigating			-	-	-	-	-	-	2	22	2	22
8) Harvesting			18	198	22	242	40	440	16	176	86	946
9) Threshing			6	66	-	-	-	-	7	77	-	-
10) Drying			4	44	-	-	-	-	4	44	-	-
11) Others			1	11	2	22	4	44	2	22	12	132
Sub-total			61	671	60	660	102	1,122	76	836	200	2,200
4. Animal Power	(day)	33	18	594	25	825	24	792	23	759	20	660
5. Mechanical Power	(day)	620	-	-		-	2	1,240	-	-	-	-
6. Others				87		137		302		140		392
Total				1,890		2,900		5,760		2,930		7,860

Table 6.8 Crop Production under without and with Project Conditions in Irrigation Development Schemes

I. New Irrigation Scheme

Unit : Ton

Item	Proposed Cropping Pattern A&C			Proposed Cropping Pattern B&C		
	Without Project	With Project	Incre-mental	Without Project	With Project	Incre-mental
1. Chico Mallig I P						
Paddy -Wet season	50,738	126,135	75,397	50,738	114,923	64,185
-Dry season	0	140,150	140,150	0	140,150	140,150
(Total)	50,738	266,285	215,547	50,738	255,073	204,335
Corn	7,020	19,013	11,993	7,020	19,013	11,993
Tobacco	0	1,260	1,260	0	1,260	1,260
Vegetables	0	8,320	8,320	0	8,320	8,320
Beans	0	44,430	44,430	0	2,385	2,385
Peanuts	441	0	-441	441	0	-441
Sweet potatoes	500	0	-500	500	0	-500
Sugar cane	19,500	0	-19,500	19,500	0	-19,500
2. Matuno R I P						
Paddy -Wet season	25,415	49,725	24,310	25,415	45,305	19,890
-Dry season	18,900	55,250	36,350	18,900	55,250	36,350
(Total)	44,315	104,975	60,660	44,315	100,555	56,240
Corn	2,970	9,788	6,818	2,970	9,788	6,818
Tobacco	0	660	660	0	660	660
Vegetables	0	4,160	4,160	0	4,160	4,160
Beans	0	17,805	17,805	0	1,230	1,230
Peanuts	224	0	-224	224	0	-224
Sweet potatoes	250	0	-250	250	0	-250
Sugar cane	0	0	0	0	0	0
3. Dabubu R I P						
Paddy -Wet season	1,100	2,475	1,375	1,100	2,255	1,155
-Dry season	0	2,750	2,750	0	2,750	2,750
(Total)	1,100	5,225	4,125	1,100	5,005	3,905
Corn	738	2,663	1,925	738	2,663	1,925
Tobacco	30	180	150	30	180	150
Vegetables	0	1,300	1,300	0	1,300	1,300
Beans	0	1,170	1,170	0	345	345
Peanuts	63	0	-63	63	0	-63
Sweet potatoes	0	0	0	0	0	0
Sugar cane	0	0	0	0	0	0
4. Zinundungan I E P						
Paddy -Wet season	4,375	6,525	2,150	4,375	5,945	1,570
-Dry season	0	7,250	7,250	0	7,250	7,250
(Total)	4,375	13,775	9,400	4,375	13,195	8,820
Corn	847	1,800	953	847	1,800	953
Tobacco	0	120	120	0	120	120
Vegetables	0	780	780	0	780	780
Beans	0	2,400	2,400	0	225	225
Peanuts	42	0	-42	42	0	-42
Sweet potatoes	0	0	0	0	0	0
Sugar cane	0	0	0	0	0	0
5. Alucala Amulung West I P						
Paddy -Wet season	8,470	17,325	8,855	8,470	15,785	7,315
-Dry season	0	19,250	19,250	0	19,250	19,250
(Total)	8,470	36,575	28,105	8,470	35,035	26,565
Corn	4,869	17,400	12,531	4,869	17,400	12,531
Tobacco	0	1,160	1,160	0	1,160	1,160
Vegetables	0	7,540	7,540	0	7,540	7,540
Beans	0	7,950	7,950	0	2,175	2,175
Peanuts	406	0	-406	406	0	-406
Sweet potatoes	300	0	-300	300	0	-300
Sugar cane	8,970	0	-8,970	8,970	0	-8,970
6. Tuguegarao I P						
Paddy -Wet season	550	1,125	575	550	1,025	475
-Dry season	0	1,250	1,250	0	1,250	1,250
(Total)	550	2,375	1,825	550	2,275	1,725
Corn	2,268	6,863	4,595	2,268	6,863	4,595
Tobacco	0	460	460	0	460	460
Vegetables	0	3,120	3,120	0	3,120	3,120
Beans	0	1,245	1,245	0	870	870
Peanuts	161	0	-161	161	0	-161
Sweet potatoes	0	0	0	0	0	0
Sugar cane	0	0	0	0	0	0

(to be continued)

(continuation)

Unit : Ton

Item	Proposed Cropping Pattern A&C			Proposed Cropping Pattern B&C		
	Without Project	With Project	Incre-mental	Without Project	With Project	Incre-mental
7. Lulutan I P						
Paddy -Wet season	5,302	10,845	5,543	5,302	9,881	4,579
-Dry season	0	12,050	12,050	0	12,050	12,050
(Total)	5,302	22,895	17,593	5,302	21,931	16,629
Corn	1,340	3,263	1,923	1,340	3,263	1,923
Tobacco	36	220	184	36	220	184
Vegetables	0	1,300	1,300	0	1,300	1,300
Beans	0	4,020	4,020	0	405	405
Peanuts	77	0	-77	77	0	-77
Sweet potatoes	0	0	0	0	0	0
Sugar cane	0	0	0	0	0	0
8. Ilagan I P						
Paddy -Wet season	460	900	440	460	820	360
-Dry season	0	1,000	1,000	0	1,000	1,000
(Total)	460	1,900	1,440	460	1,820	1,360
Corn	4,356	18,000	13,644	4,356	18,000	13,644
Tobacco	180	1,200	1,020	180	1,200	1,020
Vegetables	0	7,800	7,800	0	7,800	7,800
Beans	0	2,550	2,550	0	2,250	2,250
Peanuts	420	0	-420	420	0	-420
Sweet potatoes	300	0	-300	300	0	-300
Sugar cane	0	0	0	0	0	0
9. Gappal I P						
Paddy -Wet season	7,260	14,850	7,590	7,260	13,530	6,270
-Dry season	0	16,500	16,500	0	16,500	16,500
(Total)	7,260	31,350	24,090	7,260	30,030	22,770
Corn	2,178	6,600	4,422	2,178	6,600	4,422
Tobacco	66	440	374	66	440	374
Vegetables	0	2,860	2,860	0	2,860	2,860
Beans	0	5,775	5,775	0	825	825
Peanuts	154	0	-154	154	0	-154
Sweet potatoes	0	0	0	0	0	0
Sugar cane	0	0	0	0	0	0

(to be continued)

(continuation)

II. Rehabilitation/Improvement Scheme

Unit : Ton

Item	Proposed Cropping Pattern A&C			Proposed Cropping Pattern B&C		
	Witout Project	With Project	Incre-mental	Witout Project	With Project	Incre-mental
1. Dummun R I S						
Paddy-Irrigated(Wet)	3,219	9,315	6,096	3,219	8,487	5,268
(Dry)	1,786	10,350	8,564	1,786	10,350	8,564
-Rainfed (Wet)	2,880	0	-2,880	2,880	0	-2,880
(Total)	7,885	19,665	11,780	7,885	18,837	10,952
Beans	0	3,105	3,105	0	0	0
Corn	640	0	-640	640	0	-640
Peanuts	105	0	-105	105	0	-105
2. Baggao I S						
Paddy-Irrigated(Wet)	2,640	7,839	5,199	2,640	7,429	4,789
(Dry)	3,045	9,060	6,015	3,045	9,060	6,015
-Rainfed (Wet)	2,162	0	-2,162	2,162	0	-2,162
(Total)	7,847	16,899	9,052	7,847	16,489	8,642
Beans	0	2,718	2,718	0	0	0
Corn	209	0	-209	209	0	-209
Peanuts	28	0	-28	28	0	-28
3. Solana I S						
Paddy-Irrigated(Wet)	1,380	12,731	11,351	1,380	11,599	10,219
(Dry)	2,155	14,145	11,990	2,155	14,145	11,990
-Rainfed (Wet)	4,686	0	-4,686	4,686	0	-4,686
(Total)	8,221	26,876	18,655	8,221	25,744	17,523
Beans	0	4,244	4,244	0	0	0
Corn	516	0	-516	516	0	-516
Peanuts	70	0	-70	70	0	-70
4. Pinacanauan I S						
Paddy-Irrigated(Wet)	864	5,400	4,536	864	4,920	4,056
(Dry)	988	6,000	5,012	988	6,000	5,012
-Rainfed (Wet)	2,139	0	-2,139	2,139	0	-2,139
(Total)	3,991	11,400	7,409	3,991	10,920	6,929
Beans	0	1,800	1,800	0	0	0
Corn	228	0	-228	228	0	-228
Peanuts	28	0	-28	28	0	-28
5. Tumauini I S						
Paddy-Irrigated(Wet)	4,862	16,785	11,923	4,862	16,347	11,485
(Dry)	2,278	15,800	13,522	2,278	19,450	17,172
-Rainfed (Wet)	5,865	0	-5,865	5,865	0	-5,865
(Total)	13,005	32,585	19,580	13,005	35,797	22,792
Beans	0	5,981	5,981	0	0	0
Corn	1,143	0	-1,143	1,143	0	-1,143
Peanuts	203	0	-203	203	0	-203
(6. Zinundungan R I S)						
Paddy-Irrigated(Wet)	3,959	7,920	3,961	3,959	7,216	3,257
(Dry)	3,003	8,800	5,797	3,003	8,800	5,797
-Rainfed (Wet)	1,700	0	-1,700	1,700	0	-1,700
(Total)	8,662	16,720	8,058	8,662	16,016	7,354
Beans	0	2,640	2,640	0	0	0
Corn	473	0	-473	473	0	-473
Peanuts	70	0	-70	70	0	-70

Table 6.9 Economic Price for Agricultural Outputs and Inputs, 1995
(1985 Constant Price)

I. Paddy

Item	Unit	Import Parity Price
1) Projected 1975, FOB Bangkok price (5% broken rice)/1	US$/ton	325
2) Ocean freight and insurance	US$/ton	40
3) Grade differential/2	US$/ton	-45
4) CIF Manila price (25~35% broken rice)	US$/ton	320
5) Converted to Philippine pesos	₱/ton	6,080 /3
6) Costs of port charge, handling and warehousing/4	₱/ton	180
7) NFA administration charge	₱/ton	60
8) Wholesale price of rice in Manila	₱/ton	6,320
9) Transportation cost (Manila-Basin)/5	₱/ton	-230
10) Wholesale price of rice in Basin	₱/ton	6,090
11) Milling cost/6	₱/ton	-320
12) Value of milling by-product/6	₱/ton	190
13) Ex-mill price of paddy/7	₱/ton	3,874
14) Costs of procurement, transportation and handling/8	₱/ton	-60
15) Farmgate price of paddy	₱/ton	3,814
		≒3,800

/1 : World Bank price projection for 5% broken of rice (FOB, Bangkok).

/2 : Applied 14% as for quality discount rate to 5% broken rice of Thailand.

/3 : US$1 : ₱19

/4 : Estimated ₱40/ton as for port charge, ₱20/ton as for handling cost and storage period of 30 days at ₱4.00/ton/day.

/5 : Transportation costs are adjusted by 0.78 to reflect shadow price; 500km x ₱0.60/km/ton x 0.78 ≒ 230.

/6 : Milling costs are ₱16.0/50 kg for output, while by-products are valued at ₱190/ton of rice.

/7 : Milling raate is estimated at 65%.

/8 : ₱3.0/50 kg of paddy including handling.

II. Corn

Item	Unit	Import Parity Price
1) Projected 1995 FOB Gulf port price /1	US$/ton	113
2) Ocean freight and insurance	US$/ton	30
3) CIF Manila price	US$/ton	143
4) Converted to Philippine pesos /2	₱/ton	2,717
5) Costs of port charge, handling and warehousing /2	₱/ton	180
6) NFA administration charge	₱/ton	60
7) Wholesale price in Manila	₱/ton	2,957
8) Transportation cost (Manila-Basin) /2	₱/ton	-230
9) Wholesale price in Basin	₱/ton	2,727
10) Costs of procurement, transportation and handling /2	₱/ton	-60
11) Farmgate of corn	₱/ton	2,667
		≒2,700

/1 : World Bank price projection for US No.2 yellow (FOB Galf Port)

/2 : Same as economic price projection of paddy

(to be continued)

(continuation)

III. Beans

Item	Unit	Import Parity Price
1) CIF Manila price /1	₱/ton	5,422
2) Costs of port charge, handling and warehousing	₱/ton	180
3) Wholesale price in Manila	₱/ton	5,602
4) Transportation cost (Manila-Basin) /2	₱/ton	-230
5) Wholesale price in Basin	₱/ton	5,372
6) Costs of procurement transportation and handling	₱/ton	-60
7) Farmgate price of beans	₱/ton	5,312
		≒5,300

/1 : Economic price of beans are estimatde by using the forecasted soybeans price as below, because beans are correlated with soybeans in its price change.

EP = IP x IR

EP: Economic price of beans in 1995 (₱5,422/ton)

IP: CIF Manila import price of beans in 1985 (₱5,020/ton)

IR: Average increased rate of soybean from 1985 to 1995 (1.08)

	1985 Constant price		Average
	1985 (US$/ton)	1995 (US$/ton)	Increased Rate
Soybeans	224	243	1.08

(Source: IBRD Price Projection)

/2 : Same as economic price projection of paddy

IV. Peanuts

Item	Unit	Import Parity Price
1) Projected 1995 European port price /1	US$/ton	360
2) Ocean freight and insurance	US$/ton	50
3) CIF Manila price	US$/ton	410
4) Converted to Philippine pesos /2	₱/ton	7,790
5) Costs of port charge, handling, warehousing /2	₱/ton	180
6) Wholesale price in Manila	₱/ton	7,970
7) Transportation cost (Manila - Basin) /2	₱/ton	-230
8) Wholesale price in Basin	₱/ton	7,740
9) Shelling and drying costs	₱/ton	-65
10) Economic price of unshelled equivalent /3	₱/ton	5,756
11) Cost of procurement, transportation and handling /2	₱/ton	-60
12) Farmgate price of groundnut	₱/ton	5,696
		≒5,700

/1 : Based on World Bank price projection for groundnut, oil (CIF UK), Economic price of groundnut is estimated as follows:

EPg=EPo x R

EPg: Economic price of groundnut in 1995 (US$360/ton)

EPo: Economic price of gorundnut oil in 1995 (US$667/ton)

R: Average price ratio of groundnut to groundnut oil in European port from 1979 to 1985 (0-54)

/2 : Same as economic price projection of paddy

/3 : Based on recovery rate of 75%

(to be continued)

(continuation)

V. Tobacco

Item	Unit	Import Parity Price
1) Projected 1995 FOB Indian price /1	US$/ton	2,150
2) Ocean freight and insurance	US$/ton	-80
3) Grade differential /2	US$/ton	-645
4) FOB price in Manila /3	US$/ton	1,425
5) Converted to Philippine pesos	₱/ton	27,075
6) Costs of port charge, handling and warehousing /3	₱/ton	-180
7) Costs of redrying, grading and bulking /4	₱/ton	-2,000
8) Loss of transportation and handling /5	₱/ton	-5,415
9) Transportation cost (Manaila-Basin) /6	₱/ton	-940
10) Wholesale price in Basin	₱/ton	18,540
11) Costs of procurement, transportation, handling, bulking and warehousing /7	₱/ton	-430
12) formgate price of tobacco		18,110
		≒18,100

/1 : World Bank price projection for Indian flue-cured tobacco leaf

/2 : Applied 30% as for quality discount rate to Indian flue-cured tobacco leaf based on ratio of unit value of Philippines' exports of flue-cured tobacco to average unit value of Indians' from 1981 to 1984

/3 : Same as economic price projection of paddy

/4 : Estimated ₱230/bail (115kg)

/5 : Estimated 20% of FOB price in Manila as loss

/6 : Transportaion costs are adjusted by 0.78 to reflect shadow price; 500km x ₱2.4/km/ton x 0.78 ≒ 940

/7 : Estimated ₱50/bail (115kg)

VI. Sugar Cane

Item	Unit	Import Parity Price
1) Projected 1995 FOB Caribean port price /1	US$/ton	268
2) Ocean freight and insurance	US$/ton	-30
3) FOB Manila price	US$/ton	238
4) Converted to Philippine pesos	₱/ton	4,522
5) Costs of port charge, handling and warehousing /2	₱/ton	-180
6) Wholesale price in Manila	₱/ton	4,342
7) Transportation cost (Manila-Basin) /2	₱/ton	-230
8) Wholesale price in Basin	₱/ton	4,112
9) Milling cost /3	₱/ton	-860
10) By-product /4	₱/ton	+500
11) Ex-mill price of sugar cane /5	₱/ton	367
12) Cost of procurement, transportation and handling	₱/ton	-60
13) Farmgate price of paddy	₱/ton	302
		≒300

/1 : World Bank price projection for sugar (FOB Caribean port)

/2 : Same as economic price projection of rice

/3 : Including costs of milling, storage and handling

/4 : Molases (data from NASUDECO)

/5 : Recovery rate from sugar cane to sugar: 9.8%

(to be continued)

(continuation)

VII. Fertilizer

Item	Unit	Import Parity Price		
		Urea	T.S.P.	Kce
1) Projected 1995 world market price /1	US$/ton	209	149	97
2) Ocean freight and insurance	US$/ton	30	36	30
3) CIF Manaila price	US$/ton	239	185	127
4) Converted to Philippine Pesos /2	₱/ton	4,541	3,515	2,413
5) Port charge and handling costs	₱/ton	100	100	100
6) Bagging cost	₱/ton	-	-	100
7) Landed cost in Manila	₱/ton	4,641	3,615	2,613
8) Operation expenses	₱/ton	120	120	120
9) Industrial margin (2%)	₱/ton	95	88	53
10) Ex-warehouse price	₱/ton	4,856	3,823	2,786
11) Transportation cost (Manila-Basin) /2	₱/ton	230	230	230
12) Dealer's make-up	₱/ton	80	80	80
13) Transport to farmgate /2	₱/ton	60	60	60
14) Farmgate price of fertilizer	₱/ton	5,226	4,193	3,156
		(N: 42%)	(P_2O_5: 46%)	(K_2O: 60%)
Price per nutrient	₱/kg	12.4	9.1	5.3

/1 : World Bank price projection

Urea: FOB Europe

T.S.P.: FOB US Gulf

Kce: FOB Vancouver

/2 : Same as economic price projection of paddy

Table 6.10 Summary of Financial and Economic Prices for Agricultural Outputs and Inputs

Outputs & Inputs			Financial Price (1985)	Economic Price/1 (1995)
Outputs				
- Paddy (import parity)		(₱/ton)	3,500	3,800
- Corn (import parity)		(₱/ton)	3,000	2,700
- Beans		(₱/ton)	9,900	5,300
- Peanuts		(₱/ton)	7,500	5,700
- Tobacco		(₱/ton)	10,000	18,100
- Sugar cane		(₱/ton)	290	300
- Sweet potatoes		(₱/ton)	900	900
- Vegetables		(₱/ton)	3,700	3,700
Inputs				
(1) Seed	- Paddy	(₱/kg)	7.5	8.6
	- Corn	(₱/kg)	20.0	18.0
	- Beans	(₱/kg)	10.0	5.4
	- Peanuts	(₱/kg)	10.4	7.9
	- Tobacco	(₱/3,000 seedlings)	40.0	72.4
	- Vegetables	(₱/kg)	335.0	335.0
(2) Fertilizer	- N	(₱/kg)	9.7	12.4
	- P_2O_5	(₱/kg)	9.5 /2	9.1
	- K_2O	(₱/kg)	9.5 /2	5.3
(3) Agro-chemicals/3	- Liquid	(₱/ℓ)	220	235
	- Granular	(₱/kg)	20	21
(4) Labor		(₱/day)	25	11 /4
(5) Hired animal		(₱/day)	33	33
(6) Operation cost of farm machinery		(₱/day)	620	620

/1 : 1985 constant price

/2 : Economic price of agro-chemicals are estimated as below:

$EP = FP \times SP \times IR$

EP ; Economic price of agro-chemicals
FP : Financial price of agro-chemicals
SP : Conversion factor for shadow price (0.82)
IR : Average increased rate of price for fertilizer from 1985 to 1995 (1.30)

	1985 Cosntant Price		Average Increased Rate
	1985 (US$/ton)	1995 (US$/ton)	
Urea	136	209	1.54
T.S.P	122	149	1.22
KCl	84	97	1.15
Average			1.30

(Source:: IBRD Price Projection)

/3 : Estimated on the basis of compound fertilizer (14:14:14)

/4 : Adjusted by the conversion factor of 0.52 for rural unskilled labor and consumption conversion factor of 0.84 as follows:

Conversion factor to economic price (0.44) = 0.52 x 0.84

Table 6.11 Irrigation Benefits in Irrigation Development Schemes

Table 6.11 (1) Irrigation Benefits of Chico Mallig Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	22,060	28,030	5,970
Diversified cropland	3,170	3,170	0
(Total)	5,970	0	-5,970
	31,200	31,200	0
2. Harvested Area (ha)			
Paddy -Wet season	22,060	28,030	5,970
-Dry season	0	28,030	28,030
(Total)	22,060	56,060	34,000
Corn	7,800	5,070	-2,730
Tobacco	0	630	630
Vegetables	0	640	640
Beans	0	29,620	29,620
Peanuts	630	0	-630
Sweet potatoes	100	0	-100
Sugar cane	500	0	-500
Total	31,090	92,020	60,930
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.30	4.50	2.20
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,660	5,690	2,030
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	192804	1,011,883	819,079
Corn	18,954	51,334	32,380
Tobacco	0	22,806	22,806
Vegetables	0	30,784	30,784
Beans	0	235,479	235,479
Peanuts	2,514	0	-2,514
Sweet potatoes	450	0	-450
Sugar cane	5,850	0	-5,850
Total	220572	1,352,286	1,131,714
7. Total Production Cost (1000 Pesos)			
Paddy	80,740	331,315	250,575
Corn	12,714	24,742	12,028
Tobacco	0	3,320	3,320
Vegetables	0	5,030	5,030
Beans	0	86,787	86,787
Peanuts	1,191	0	-1,191
Sweet potatoes	290	0	-290
Sugar cane	2,880	0	-2,880
Total	97,815	451,194	353,379
8. Net Production Value (1000 Pesos)			
Paddy	112064	680,568	568,504
Corn	6,240	26,592	20,352
Tobacco	0	19,486	19,486
Vegetables	0	25,754	25,754
Beans	0	148,692	148,692
Peanuts	1,323	0	-1,323
Sweet potatoes	160	0	-160
Sugar cane	2,970	0	-2,970
Total	122757	901,092	778,335
9. Annual Incremental Benefit (Peso/ha)	3,935	28,881	24,946

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	22,060	28,030	5,970
Diversified cropland	3,170	3,170	0
(Total)	5,970	0	-5,970
	31,200	31,200	0
2. Harvested Area (ha)			
Paddy -Wet season	22,060	28,030	5,970
-Dry season	0	28,030	28,030
(Total)	22,060	56,060	34,000
Corn	7,800	5,070	-2,730
Tobacco	0	630	630
Vegetables	0	640	640
Beans	0	1,590	1,590
Peanuts	630	0	-630
Sweet potatoes	100	0	-100
Sugar cane	500	0	-500
Total	31,090	63,990	32,900
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.30	4.10	1.80
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,660	5,640	1,980
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	192804	969,277	776,473
Corn	18,954	51,334	32,380
Tobacco	0	22,806	22,806
Vegetables	0	30,784	30,784
Beans	0	12,641	12,641
Peanuts	2,514	0	-2,514
Sweet potatoes	450	0	-450
Sugar cane	5,850	0	-5,850
Total	220572	1,086,842	866,270
7. Total Production Cost (1000 Pesos)			
Paddy	80,740	329,913	249,173
Corn	12,714	24,742	12,028
Tobacco	0	3,320	3,320
Vegetables	0	5,030	5,030
Beans	0	4,659	4,659
Peanuts	1,191	0	-1,191
Sweet potatoes	290	0	-290
Sugar cane	2,880	0	-2,880
Total	97,815	367,664	269,849
8. Net Production Value (1000 Pesos)			
Paddy	112064	639,364	527,300
Corn	6,240	26,592	20,352
Tobacco	0	19,486	19,486
Vegetables	0	25,754	25,754
Beans	0	7,982	7,982
Peanuts	1,323	0	-1,323
Sweet potatoes	160	0	-160
Sugar cane	2,970	0	-2,970
Total	122757	719,178	596,421
9. Annual Incremental Benefit (Peso/ha)	3,935	23,051	19,116

(to be continued)

(continuation)

Table 6.11 (2) Irrigation Benefits of Matuno River Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	11,050	11,050	0
Diversified cropland	1,630	1,630	0
(Total)	12,680	12,680	0
2. Harvested Area (ha)			
Paddy -Wet season	11,050	11,050	0
-Dry season	6,000	11,050	5,050
(Total)	17,050	22,100	5,050
Corn	2,970	2,610	-360
Tobacco	0	330	330
Vegetables	0	320	320
Beans	0	11,870	11,870
Peanuts	320	0	-320
Sweet potatoes	50	0	-50
Sugar cane	0	0	0
Total	20,390	37,230	16,840
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.30	4.50	2.20
-Dry season	3.15	5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,660	5,690	2,030
-Dry season	4,370	6,130	
Corn	1,810	4,880	3,070
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	168397	398,905	230,508
Corn	8,019	26,426	18,407
Tobacco	0	11,946	11,946
Vegetables	0	15,392	15,392
Beans	0	94,367	94,367
Peanuts	1,277	0	-1,277
Sweet potatoes	225	0	-225
Sugar cane	0	0	0
Total	177918	547,036	369,118
7. Total Production Cost (1000 Pesos)			
Paddy	66,663	130,611	63,948
Corn	5,376	12,737	7,361
Tobacco	0	1,739	1,739
Vegetables	0	2,515	2,515
Beans	0	34,779	34,779
Peanuts	605	0	-605
Sweet potatoes	145	0	-145
Sugar cane	0	0	0
Total	72,789	182,381	109,592
8. Net Production Value (1000 Pesos)			
Paddy	101,734	268,294	166,560
Corn	2,643	13,689	11,046
Tobacco	0	10,207	10,207
Vegetables	0	12,877	12,877
Beans	0	59,588	59,588
Peanuts	672	0	-672
Sweet potatoes	80	0	-80
Sugar cane	0	0	0
Total	105,129	364,655	259,526
9. Annual Incremental Benefit (Peso/ha)	8,291	28,758	20,467

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	11,050	11,050	0
Diversified cropland	1,630	1,630	0
(Total)	12,680	12,680	0
2. Harvested Area (ha)			
Paddy -Wet season	11,050	11,050	0
-Dry season	6,000	11,050	5,050
(Total)	17,050	22,100	5,050
Corn	2,970	2,610	-360
Tobacco	0	330	330
Vegetables	0	320	320
Beans	0	820	820
Peanuts	320	0	-320
Sweet potatoes	50	0	-50
Sugar cane	0	0	0
Total	20,390	26,180	5,790
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.30	4.10	1.80
-Dry season	3.15	5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,660	5,640	1,980
-Dry season	4,370	6,130	
Corn	1,810	4,880	3,070
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	168397	382,109	213,712
Corn	8,019	26,426	18,407
Tobacco	0	11,946	11,946
Vegetables	0	15,392	15,392
Beans	0	6,519	6,519
Peanuts	1,277	0	-1,277
Sweet potatoes	225	0	-225
Sugar cane	0	0	0
Total	177918	442,392	264,474
7. Total Production Cost (1000 Pesos)			
Paddy	66,663	130,059	63,396
Corn	5,376	12,737	7,361
Tobacco	0	1,739	1,739
Vegetables	0	2,515	2,515
Beans	0	2,403	2,403
Peanuts	605	0	-605
Sweet potatoes	145	0	-145
Sugar cane	0	0	0
Total	72,789	149,453	76,664
8. Net Production Value (1000 Pesos)			
Paddy	101,734	252,050	150,316
Corn	2,643	13,689	11,046
Tobacco	0	10,207	10,207
Vegetables	0	12,877	12,877
Beans	0	4,116	4,116
Peanuts	672	0	-672
Sweet potatoes	80	0	-80
Sugar cane	0	0	0
Total	105,129	292,939	187,810
9. Annual Incremental Benefit (Peso/ha)	8,291	23,102	14,811

(to be continued)

(continuation)

Table 6.11 (3) Irrigation Benefits of Dabubu Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	550	550	0
Diversified cropland	450	450	0
(Total)	1,000	1,000	0
2. Harvested Area (ha)			
Paddy -Wet season	500	550	50
-Dry season	0	550	550
(Total)	500	1,100	600
Corn	820	710	-110
Tobacco	50	90	40
Vegetables	0	100	100
Beans	0	780	780
Peanuts	90	0	-90
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	1,460	2,780	1,320
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,690	2,190
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	4,180	19,855	15,675
Corn	1,993	7,189	5,196
Tobacco	543	3,258	2,715
Vegetables	0	4,810	4,810
Beans	0	6,201	6,201
Peanuts	359	0	-359
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	7,075	41,313	34,238
7. Total Production Cost (1000 Pesos)			
Paddy	1,750	6,501	4,751
Corn	1,337	3,465	2,128
Tobacco	151	474	323
Vegetables	0	786	786
Beans	0	2,285	2,285
Peanuts	170	0	-170
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,408	13,511	10,103
8. Net Production Value (1000 Pesos)			
Paddy	2,430	13,354	10,924
Corn	656	3,724	3,068
Tobacco	392	2,784	2,392
Vegetables	0	4,024	4,024
Beans	0	3,916	3,916
Peanuts	189	0	-189
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,667	27,802	24,135
9. Annual Incremental Benefit (Peso/ha)	3,667	27,802	24,135

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	550	550	0
Diversified cropland	450	450	0
(Total)	1,000	1,000	0
2. Harvested Area (ha)			
Paddy -Wet season	500	550	50
-Dry season	0	550	550
(Total)	500	1,100	600
Corn	820	710	-110
Tobacco	50	90	40
Vegetables	0	100	100
Beans	0	230	230
Peanuts	90	0	-90
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	1,460	2,230	770
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,640	2,140
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	4,180	19,019	14,839
Corn	1,993	7,189	5,196
Tobacco	543	3,258	2,715
Vegetables	0	4,810	4,810
Beans	0	1,829	1,829
Peanuts	359	0	-359
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	7,075	36,105	29,030
7. Total Production Cost (1000 Pesos)			
Paddy	1,750	6,474	4,724
Corn	1,337	3,465	2,128
Tobacco	151	474	323
Vegetables	0	786	786
Beans	0	674	674
Peanuts	170	0	-170
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,408	11,873	8,465
8. Net Production Value (1000 Pesos)			
Paddy	2,430	12,545	10,115
Corn	656	3,724	3,068
Tobacco	392	2,784	2,392
Vegetables	0	4,024	4,024
Beans	0	1,155	1,155
Peanuts	189	0	-189
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,667	24,232	20,565
9. Annual Incremental Benefit (Peso/ha)	3,667	24,232	20,565

(to be continued)

(continuation)

Table 6.11 (4) Irrigation Benefits of Zinundungan Irrigation Extension Project

- Proposed Cropping Pattern A &C -

Item	Without Project	With Project	Incre-mental	Item	Without Project	With Project	Incre-mental
1. Total Area (ha)				Tobacco	3,020	5,270	2,250
Paddy field	1,450	1,450	0	Vegetables		7,860	
Diversified cropland	300	300	0	Beans		2,930	
(Total)	1,750	1,750	0	Peanuts	1,890		
				Sweet potatoes	2,900		
2. Harvested Area (ha)				Sugar cane	5,760		
Paddy -Wet season	1,750	1,450	-300				
-Dry season	0	1,450	1,450	6. Gross Production Value (1000 Pesos)			
(Total)	1,750	2,900	1,150	Paddy	16,625	52,345	35,720
Corn	770	480	-290	Corn	2,287	4,860	2,573
Tobacco	0	60	60	Tobacco	0	2,172	2,172
Vegetables	0	60	60	Vegetables	0	2,886	2,886
Beans	0	1,600	1,600	Beans	0	12,720	12,720
Peanuts	60	0	-60	Peanuts	239	0	-239
Sweet potatoes	0	0	0	Sweet potatoes	0	0	0
Sugar cane	0	0	0	Sugar cane	0	0	0
Total	2,580	5,100	2,520	Total	19,151	74,983	55,832
3. Unit Yield (ton/ha)				7. Total Production Cost (1000 Pesos)			
Paddy-Wet season	2.5	4.50	2.00	Paddy	6,965	17,139	10,174
-Dry season		5.00		Corn	1,532	2,342	810
Corn	1.1	3.75	2.65	Tobacco	0	316	316
Tobacco	0.60	2.00	1.40	Vegetables	0	472	472
Vegetables		13.00		Beans	0	4,688	4,688
Beans		1.50		Peanuts	113	0	-113
Peanuts	0.70			Sweet potatoes	0	0	0
Sweet potatoes	5.00			Sugar cane	0	0	0
Sugar cane	39.00			Total	8,610	24,957	16,347
4. Unit Price (Peso/ton)				8. Net Production Value (1000 Pesos)			
Paddy	3,800	3,800		Paddy	9,660	35,206	25,546
Corn	2,700	2,700		Corn	755	2,518	1,763
Tobacco	18,100	18,100		Tobacco	0	1,856	1,856
Vegetables	3,700	3,700		Vegetables	0	2,414	2,414
Beans	5,300	5,300		Beans	0	8,032	8,032
Peanuts	5,700	5,700		Peanuts	126	0	-126
Sweet potatoes	900	900		Sweet potatoes	0	0	0
Sugar cane	300	300		Sugar cane	0	0	0
				Total	10,541	50,026	39,485
5. Unit Production Cost (Peso/ha)							
Paddy-Wet season	3,980	5,690	1,710	9. Annual Incremental Benefit			
-Dry season		6,130		(Peso/ha)	6,023	28,586	22,563
Corn	1,990	4,880	2,890				

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental	Item	Without Project	With Project	Incre-mental
1. Total Area (ha)				Tobacco	3,020	5,270	2,250
Paddy field	1,450	1,450	0	Vegetables		7,860	
Diversified cropland	300	300	0	Beans		2,930	
(Total)	1,750	1,750	0	Peanuts	1,890		
				Sweet potatoes	2,900		
2. Harvested Area (ha)				Sugar cane	5,760		
Paddy -Wet season	1,750	1,450	-300				
-Dry season	0	1,450	1,450	6. Gross Production Value (1000 Pesos)			
(Total)	1,750	2,900	1,150	Paddy	16,625	50,141	33,516
Corn	770	480	-290	Corn	2,287	4,860	2,573
Tobacco	0	60	60	Tobacco	0	2,172	2,172
Vegetables	0	60	60	Vegetables	0	2,886	2,886
Beans	0	150	150	Beans	0	1,193	1,193
Peanuts	60	0	-60	Peanuts	239	0	-239
Sweet potatoes	0	0	0	Sweet potatoes	0	0	0
Sugar cane	0	0	0	Sugar cane	0	0	0
Total	2,580	3,650	1,070	Total	19,151	61,252	42,101
3. Unit Yield (ton/ha)				7. Total Production Cost (1000 Pesos)			
Paddy-Wet season	2.5	4.10	1.60	Paddy	6,965	17,067	10,102
-Dry season		5.00		Corn	1,532	2,342	810
Corn	1.1	3.75	2.65	Tobacco	0	316	316
Tobacco	0.60	2.00	1.40	Vegetables	0	472	472
Vegetables		13.00		Beans	0	440	440
Beans		1.50		Peanuts	113	0	-113
Peanuts	0.70			Sweet potatoes	0	0	0
Sweet potatoes	5.00			Sugar cane	0	0	0
Sugar cane	39.00			Total	8,610	20,637	12,027
4. Unit Price (Peso/ton)				8. Net Production Value (1000 Pesos)			
Paddy	3,800	3,800		Paddy	9,660	33,074	23,414
Corn	2,700	2,700		Corn	755	2,518	1,763
Tobacco	18,100	18,100		Tobacco	0	1,856	1,856
Vegetables	3,700	3,700		Vegetables	0	2,414	2,414
Beans	5,300	5,300		Beans	0	753	753
Peanuts	5,700	5,700		Peanuts	126	0	-126
Sweet potatoes	900	900		Sweet potatoes	0	0	0
Sugar cane	300	300		Sugar cane	0	0	0
				Total	10,541	40,615	30,074
5. Unit Production Cost (Peso/ha)							
Paddy-Wet season	3,980	5,640	1,660	9. Annual Incremental Benefit			
-Dry season		6,130		(Peso/ha)	6,023	23,209	17,186
Corn	1,990	4,880	2,890				

(to be continued)

(continuation)

Table 6.11 (5) Irrigation Benefits of Alcala Amulung West Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,850	3,850	0
Diversified cropland	2,900	2,900	0
(Total)	6,750	6,750	0
2. Harvested Area (ha)			
Paddy -Wet season	3,850	3,850	0
-Dry season	0	3,850	3,850
(Total)	3,850	7,700	3,850
Corn	5,410	4,640	-770
Tobacco	0	580	580
Vegetables	0	580	580
Beans	0	5,300	5,300
Peanuts	580	0	-580
Sweet potatoes	60	0	-60
Sugar cane	230	0	-230
Total	10,130	18,800	8,670
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,690	2,190
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	32,186	138,985	106,799
Corn	13,146	46,980	33,834
Tobacco	0	20,996	20,996
Vegetables	0	27,898	27,898
Beans	0	42,135	42,135
Peanuts	2,314	0	-2,314
Sweet potatoes	270	0	-270
Sugar cane	2,691	0	-2,691
Total	50,607	276,994	226,387
7. Total Production Cost (1000 Pesos)			
Paddy	13,475	45,507	32,032
Corn	8,818	22,643	13,825
Tobacco	0	3,057	3,057
Vegetables	0	4,559	4,559
Beans	0	15,529	15,529
Peanuts	1,096	0	-1,096
Sweet potatoes	174	0	-174
Sugar cane	1,325	0	-1,325
Total	24,888	91,295	66,407
8. Net Production Value (1000 Pesos)			
Paddy	18,711	93,478	74,767
Corn	4,328	24,337	20,009
Tobacco	0	17,939	17,939
Vegetables	0	23,339	23,339
Beans	0	26,606	26,606
Peanuts	1,218	0	-1,218
Sweet potatoes	96	0	-96
Sugar cane	1,366	0	-1,366
Total	25,719	185,699	159,980
9. Annual Incremental Benefit (Peso/ha)	3,810	27,511	23,701

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,850	3,850	0
Diversified cropland	2,900	2,900	0
(Total)	6,750	6,750	0
2. Harvested Area (ha)			
Paddy -Wet season	3,850	3,850	0
-Dry season	0	3,850	3,850
(Total)	3,850	7,700	3,850
Corn	5,410	4,640	-770
Tobacco	0	580	580
Vegetables	0	580	580
Beans	0	1,450	1,450
Peanuts	580	0	-580
Sweet potatoes	60	0	-60
Sugar cane	230	0	-230
Total	10,130	14,950	4,820
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,640	2,140
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	32,186	133,133	100,947
Corn	13,146	46,980	33,834
Tobacco	0	20,996	20,996
Vegetables	0	27,898	27,898
Beans	0	11,528	11,528
Peanuts	2,314	0	-2,314
Sweet potatoes	270	0	-270
Sugar cane	2,691	0	-2,691
Total	50,607	240,535	189,928
7. Total Production Cost (1000 Pesos)			
Paddy	13,475	45,315	31,840
Corn	8,818	22,643	13,825
Tobacco	0	3,057	3,057
Vegetables	0	4,559	4,559
Beans	0	4,249	4,249
Peanuts	1,096	0	-1,096
Sweet potatoes	174	0	-174
Sugar cane	1,325	0	-1,325
Total	24,888	79,823	54,935
8. Net Production Value (1000 Pesos)			
Paddy	18,711	87,818	69,107
Corn	4,328	24,337	20,009
Tobacco	0	17,939	17,939
Vegetables	0	23,339	23,339
Beans	0	7,279	7,279
Peanuts	1,218	0	-1,218
Sweet potatoes	96	0	-96
Sugar cane	1,366	0	-1,366
Total	25,719	160,712	134,993
9. Annual Incremental Benefit (Peso/ha)	3,810	23,809	19,999

(to be continued)

(continuation)

Table 6.11 (6) Irrigation Benefits of Tuguegarao Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	250	250	0
Diversified cropland	1,150	1,150	0
(Total)	1,400	1,400	0
2. Harvested Area (ha)			
Paddy -Wet season	250	250	0
-Dry season	0	250	250
(Total)	250	500	250
Corn	1,890	1,830	-60
Tobacco	0	230	230
Vegetables	0	240	240
Beans	0	830	830
Peanuts	230	0	-230
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	2,370	3,630	1,260
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	1.20	3.75	2.55
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,690	2,190
-Dry season		6,130	
Corn	2,170	4,880	2,710
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	2,090	9,025	6,935
Corn	6,124	18,529	12,405
Tobacco	0	8,326	8,326
Vegetables	0	11,544	11,544
Beans	0	6,599	6,599
Peanuts	918	0	-918
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	9,132	54,023	44,891
7. Total Production Cost (1000 Pesos)			
Paddy	875	2,955	2,080
Corn	4,101	8,930	4,829
Tobacco	0	1,212	1,212
Vegetables	0	1,886	1,886
Beans	0	2,432	2,432
Peanuts	435	0	-435
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	5,411	17,415	12,004
8. Net Production Value (1000 Pesos)			
Paddy	1,215	6,070	4,855
Corn	2,023	9,599	7,576
Tobacco	0	7,114	7,114
Vegetables	0	9,658	9,658
Beans	0	4,167	4,167
Peanuts	483	0	-483
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,721	36,608	32,887
9. Annual Incremental Benefit (Peso/ha)	2,658	26,149	23,491

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	250	250	0
Diversified cropland	1,150	1,150	0
(Total)	1,400	1,400	0
2. Harvested Area (ha)			
Paddy -Wet season	250	250	0
-Dry season	0	250	250
(Total)	250	500	250
Corn	1,890	1,830	-60
Tobacco	0	230	230
Vegetables	0	240	240
Beans	0	580	580
Peanuts	230	0	-230
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	2,370	3,380	1,010
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	1.20	3.75	2.55
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,640	2,140
-Dry season		6,130	
Corn	2,170	4,880	2,710
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	2,090	8,645	6,555
Corn	6,124	18,529	12,405
Tobacco	0	8,326	8,326
Vegetables	0	11,544	11,544
Beans	0	4,611	4,611
Peanuts	918	0	-918
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	9,132	51,655	42,523
7. Total Production Cost (1000 Pesos)			
Paddy	875	2,943	2,068
Corn	4,101	8,930	4,829
Tobacco	0	1,212	1,212
Vegetables	0	1,886	1,886
Beans	0	1,699	1,699
Peanuts	435	0	-435
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	5,411	16,670	11,259
8. Net Production Value (1000 Pesos)			
Paddy	1,215	5,702	4,487
Corn	2,023	9,599	7,576
Tobacco	0	7,114	7,114
Vegetables	0	9,658	9,658
Beans	0	2,912	2,912
Peanuts	483	0	-483
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,721	34,985	31,264
9. Annual Incremental Benefit (Peso/ha)	2,658	24,989	22,331

(to be continued)

(continuation)

Table 6.11 (7) Irrigation Benefits of Lulutan Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	2,410	2,410	0
Diversified cropland	540	540	0
(Total)	2,950	2,950	0
2. Harvested Area (ha)			
Paddy -Wet season	2,410	2,410	0
-Dry season	0	2,410	2,410
(Total)	2,410	4,820	2,410
Corn	1,340	870	-470
Tobacco	60	110	50
Vegetables	0	100	100
Beans	0	2,680	2,680
Peanuts	110	0	-110
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,920	8,580	4,660
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,690	2,190
-Dry season		6,130	
Corn	1,810	4,880	3,070
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	20148	87,001	66,853
Corn	3,618	8,809	5,191
Tobacco	652	3,982	3,330
Vegetables	0	4,810	4,810
Beans	0	21,306	21,306
Peanuts	439	0	-439
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	24857	125,908	101,051
7. Total Production Cost (1000 Pesos)			
Paddy	8,435	28,486	20,051
Corn	2,425	4,246	1,821
Tobacco	181	580	399
Vegetables	0	786	786
Beans	0	7,852	7,852
Peanuts	208	0	-208
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	11249	41,950	30,701
8. Net Production Value (1000 Pesos)			
Paddy	11713	58,515	46,802
Corn	1,193	4,563	3,370
Tobacco	471	3,402	2,931
Vegetables	0	4,024	4,024
Beans	0	13,454	13,454
Peanuts	231	0	-231
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	13608	83,958	70,350
9. Annual Incremental Benefit (Peso/ha)	4,613	28,460	23,847

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	2,410	2,410	0
Diversified cropland	540	540	0
(Total)	2,950	2,950	0
2. Harvested Area (ha)			
Paddy -Wet season	2,410	2,410	0
-Dry season	0	2,410	2,410
(Total)	2,410	4,820	2,410
Corn	1,340	870	-470
Tobacco	60	110	50
Vegetables	0	100	100
Beans	0	270	270
Peanuts	110	0	-110
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,920	6,170	2,250
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,640	2,140
-Dry season		6,130	
Corn	1,810	4,880	3,070
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	20148	83,338	63,190
Corn	3,618	8,809	5,191
Tobacco	652	3,982	3,330
Vegetables	0	4,810	4,810
Beans	0	2,147	2,147
Peanuts	439	0	-439
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	24857	103,086	78,229
7. Total Production Cost (1000 Pesos)			
Paddy	8,435	28,366	19,931
Corn	2,425	4,246	1,821
Tobacco	181	580	399
Vegetables	0	786	786
Beans	0	791	791
Peanuts	208	0	-208
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	11249	34,769	23,520
8. Net Production Value (1000 Pesos)			
Paddy	11713	54,972	43,259
Corn	1,193	4,563	3,370
Tobacco	471	3,402	2,931
Vegetables	0	4,024	4,024
Beans	0	1,356	1,356
Peanuts	231	0	-231
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	13608	68,317	54,709
9. Annual Incremental Benefit (Peso/ha)	4,613	23,158	18,545

(to be continued)

(continuation)

Table 6.11 (8) Irrigation Benefits of Ilagan Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	200	200	0
Diversified cropland	3,000	3,000	0
(Total)	3,200	3,200	0
2. Harvested Area (ha)			
Paddy -Wet season	200	200	0
-Dry season	0	200	200
(Total)	200	400	200
Corn	4,840	4,800	-40
Tobacco	300	600	300
Vegetables	0	600	600
Beans	0	1,700	1,700
Peanuts	600	0	-600
Sweet potatoes	60	0	-60
Sugar cane	0	0	0
Total	6,000	8,100	2,100
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.30	4.50	2.20
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,660	5,690	2,030
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	1,748	7,220	5,472
Corn	11,761	48,600	36,839
Tobacco	3,258	21,720	18,462
Vegetables	0	28,860	28,860
Beans	0	13,515	13,515
Peanuts	2,394	0	-2,394
Sweet potatoes	270	0	-270
Sugar cane	0	0	0
Total	19,431	119,915	100,484
7. Total Production Cost (1000 Pesos)			
Paddy	732	2,364	1,632
Corn	7,889	23,424	15,535
Tobacco	906	3,162	2,256
Vegetables	0	4,716	4,716
Beans	0	4,981	4,981
Peanuts	1,134	0	-1,134
Sweet potatoes	174	0	-174
Sugar cane	0	0	0
Total	10,835	38,647	27,812
8. Net Production Value (1000 Pesos)			
Paddy	1,016	4,856	3,840
Corn	3,872	25,176	21,304
Tobacco	2,352	18,558	16,206
Vegetables	0	24,144	24,144
Beans	0	8,534	8,534
Peanuts	1,260	0	-1,260
Sweet potatoes	96	0	-96
Sugar cane	0	0	0
Total	8,596	81,268	72,672
9. Annual Incremental Benefit (Peso/ha)	2,686	25,396	22,710

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	200	200	0
Diversified cropland	3,000	3,000	0
(Total)	3,200	3,200	0
2. Harvested Area (ha)			
Paddy -Wet season	200	200	0
-Dry season	0	200	200
(Total)	200	400	200
Corn	4,840	4,800	-40
Tobacco	300	600	300
Vegetables	0	600	600
Beans	0	1,500	1,500
Peanuts	600	0	-600
Sweet potatoes	60	0	-60
Sugar cane	0	0	0
Total	6,000	7,900	1,900
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.30	4.10	1.80
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,660	5,640	1,980
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	1,748	6,916	5,168
Corn	11,761	48,600	36,839
Tobacco	3,258	21,720	18,462
Vegetables	0	28,860	28,860
Beans	0	11,925	11,925
Peanuts	2,394	0	-2,394
Sweet potatoes	270	0	-270
Sugar cane	0	0	0
Total	19,431	118,021	98,590
7. Total Production Cost (1000 Pesos)			
Paddy	732	2,354	1,622
Corn	7,889	23,424	15,535
Tobacco	906	3,162	2,256
Vegetables	0	4,716	4,716
Beans	0	4,395	4,395
Peanuts	1,134	0	-1,134
Sweet potatoes	174	0	-174
Sugar cane	0	0	0
Total	10,835	38,051	27,216
8. Net Production Value (1000 Pesos)			
Paddy	1,016	4,562	3,546
Corn	3,872	25,176	21,304
Tobacco	2,352	18,558	16,206
Vegetables	0	24,144	24,144
Beans	0	7,530	7,530
Peanuts	1,260	0	-1,260
Sweet potatoes	96	0	-96
Sugar cane	0	0	0
Total	8,596	79,970	71,374
9. Annual Incremental Benefit (Peso/ha)	2,686	24,991	22,305

(to be continued)

(continuation)

Table 6.11 (9) Irrigation Benefits of Gappal Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,300	3,300	0
Diversified cropland	1,100	1,100	0
(Total)	4,400	4,400	0
2. Harvested Area (ha)			
Paddy -Wet season	3,300	3,300	0
-Dry season	0	3,300	3,300
(Total)	3,300	6,600	3,300
Corn	2,420	1,760	-660
Tobacco	110	220	110
Vegetables	0	220	220
Beans	0	3,850	3,850
Peanuts	220	0	-220
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,050	12,650	6,600
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,690	2,190
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	27,588	119,130	91,542
Corn	5,881	17,820	11,939
Tobacco	1,195	7,964	6,769
Vegetables	0	10,582	10,582
Beans	0	30,608	30,608
Peanuts	878	0	-878
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	35,542	186,104	150,562
7. Total Production Cost (1000 Pesos)			
Paddy	11,550	39,006	27,456
Corn	3,945	8,589	4,644
Tobacco	332	1,159	827
Vegetables	0	1,729	1,729
Beans	0	11,281	11,281
Peanuts	416	0	-416
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	16,243	61,764	45,521
8. Net Production Value (1000 Pesos)			
Paddy	16,038	80,124	64,086
Corn	1,936	9,231	7,295
Tobacco	863	6,805	5,942
Vegetables	0	8,853	8,853
Beans	0	19,327	19,327
Peanuts	462	0	-462
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	19,299	124,340	105,041
9. Annual Incremental Benefit (Peso/ha)	4,386	28,259	23,873

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,300	3,300	0
Diversified cropland	1,100	1,100	0
(Total)	4,400	4,400	0
2. Harvested Area (ha)			
Paddy -Wet season	3,300	3,300	0
-Dry season	0	3,300	3,300
(Total)	3,300	6,600	3,300
Corn	2,420	1,760	-660
Tobacco	110	220	110
Vegetables	0	220	220
Beans	0	550	550
Peanuts	220	0	-220
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,050	9,350	3,300
3. Unit Yield (ton/ha)			
Paddy-Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Corn	2,700	2,700	
Tobacco	18,100	18,100	
Vegetables	3,700	3,700	
Beans	5,300	5,300	
Peanuts	5,700	5,700	
Sweet potatoes	900	900	
Sugar cane	300	300	
5. Unit Production Cost (Peso/ha)			
Paddy-Wet season	3,500	5,640	2,140
-Dry season		6,130	
Corn	1,630	4,880	3,250
Tobacco	3,020	5,270	2,250
Vegetables		7,860	
Beans		2,930	
Peanuts	1,890		
Sweet potatoes	2,900		
Sugar cane	5,760		
6. Gross Production Value (1000 Pesos)			
Paddy	27,588	114,114	86,526
Corn	5,881	17,820	11,939
Tobacco	1,195	7,964	6,769
Vegetables	0	10,582	10,582
Beans	0	4,373	4,373
Peanuts	878	0	-878
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	35,542	154,853	119,311
7. Total Production Cost (1000 Pesos)			
Paddy	11,550	38,841	27,291
Corn	3,945	8,589	4,644
Tobacco	332	1,159	827
Vegetables	0	1,729	1,729
Beans	0	1,612	1,612
Peanuts	416	0	-416
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	16,243	51,930	35,687
8. Net Production Value (1000 Pesos)			
Paddy	16,038	75,273	59,235
Corn	1,936	9,231	7,295
Tobacco	863	6,805	5,942
Vegetables	0	8,853	8,853
Beans	0	2,761	2,761
Peanuts	462	0	-462
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	19,299	102,923	83,624
9. Annual Incremental Benefit (Peso/ha)	4,386	23,392	19,006

(to be continued)

(continuation)

Table 6.11 (10) Irrigation Benefits of Dummun River Irrigation System

-Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	2,070	2,070	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	870	2,070	1,200
(Dry)	470	2,070	1,600
-Rainfed (Wet)	1,200	0	-1,200
Beans	0	2,070	2,070
Corn	640	0	-640
Peanuts	150	0	-150
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.70	4.50	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.40		
Beans		1.50	
Corn	1.00		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	5,130	5,690	560
(Dry)	5,270	6,130	860
-Rainfed (Wet)	3,820		
Beans		2,930	
Corn	1,810		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	19,019	74,727	55,708
-Rainfed	10,944	0	-10,944
Beans	0	16,457	16,457
Corn	1,728	0	-1,728
Peanuts	599	0	-599
Total	32,290	91,184	58,894
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	6,940	24,467	17,527
-Rainfed	4,584	0	-4,584
Beans	0	6,065	6,065
Corn	1,158	0	-1,158
Peanuts	284	0	-284
Total	12,966	30,532	17,566
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	12,079	50,260	38,181
-Rainfed	6,360	0	-6,360
Beans	0	10,392	10,392
Corn	570	0	-570
Peanuts	315	0	-315
Total	19,324	60,652	41,328
9. Annual Incremental Benefit (Peso/ha)	9,335	29,300	19,965

- Proposed Cropping Pattern B -

Item	Without Project	With Project	incre-mental
1. Total Paddy Field (ha)	2,070	2,070	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	870	2,070	1,200
(Dry)	470	2,070	1,600
-Rainfed (Wet)	1,200	0	-1,200
Beans	0	0	0
Corn	640	0	-640
Peanuts	150	0	-150
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.70	4.10	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.40		
Beans			
Corn	1.00		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	5,130	5,640	510
(Dry)	5,270	6,130	860
-Rainfed (Wet)	3,820		
Beans			
Corn	1,810		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	19,019	71,581	52,562
-Rainfed	10,944	0	-10,944
Beans	0	0	0
Corn	1,728	0	-1,728
Peanuts	599	0	-599
Total	32,290	71,581	39,291
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	6,940	24,364	17,424
-Rainfed	4,584	0	-4,584
Beans	0	0	0
Corn	1,158	0	-1,158
Peanuts	284	0	-284
Total	12,966	24,364	11,398
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	12,079	47,217	35,138
-Rainfed	6,360	0	-6,360
Beans	0	0	0
Corn	570	0	-570
Peanuts	315	0	-315
Total	19,324	47,217	27,893
9. Annual Incremental Benefit (Peso/ha)	9,335	22,810	13,475

(to be continued)

(continuation)

Table 6.11 (11) Irrigation Benefits of Baggao Irrigation System

- Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,812	1,812	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	800	1,742	942
(Dry)	870	1,812	942
-Rainfed (Wet)	940	0	-940
Beans	0	1,812	1,812
Corn	190	0	-190
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.30	4.50	
(Dry)	3.50	5.00	
-Rainfed (Wet)	2.30		
Beans		1.50	
Corn	1.10		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,580	5,690	1,110
(Dry)	4,850	6,130	1,280
-Rainfed (Wet)	3,660		
Beans		2,930	
Corn	1,990		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	21,603	64,216	42,613
-Rainfed	8,216	0	-8,216
Beans	0	14,405	14,405
Corn	564	0	-564
Peanuts	160	0	-160
Total	30,543	78,621	48,078
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	7,884	21,020	13,136
-Rainfed	3,440	0	-3,440
Beans	0	5,309	5,309
Corn	378	0	-378
Peanuts	76	0	-76
Total	11,778	26,329	14,551
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	13,719	43,196	29,477
-Rainfed	4,776	0	-4,776
Beans	0	9,096	9,096
Corn	186	0	-186
Peanuts	84	0	-84
Total	18,765	52,292	33,527
9. Annual Incremental Benefit (Peso/ha)	10,356	28,859	18,503

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,812	1,812	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	800	1,812	1,012
(Dry)	870	1,812	942
-Rainfed (Wet)	940	0	-940
Beans	0	0	1,446
Corn	190	0	1,140
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.30	4.10	
(Dry)	3.50	5.00	
-Rainfed (Wet)	2.30		
Beans			
Corn	1.10		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,580	5,640	1,060
(Dry)	4,850	6,130	1,280
-Rainfed (Wet)	3,660		
Beans			
Corn	1,990		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	21,603	62,659	41,056
-Rainfed	8,216	0	-8,216
Beans	0	0	0
Corn	564	0	-564
Peanuts	160	0	-160
Total	30,543	62,659	32,116
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	7,884	21,327	13,443
-Rainfed	3,440	0	-3,440
Beans	0	0	0
Corn	378	0	-378
Peanuts	76	0	-76
Total	11,778	21,327	9,549
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	13,719	41,332	27,613
-Rainfed	4,776	0	-4,776
Beans	0	0	0
Corn	186	0	-186
Peanuts	84	0	-84
Total	18,765	41,332	22,567
9. Annual Incremental Benefit (Peso/ha)	10,356	22,810	12,454

(to be continued)

(continuation)

Table 6.11 (12) Irrigation Benefits of Solana Irrigation System

- Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	2,829	2,829	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	445	2,829	2,384
(Dry)	695	2,829	2,134
-Rainfed (Wet)	2,130	0	-2,130
Beans	0	2,829	2,829
Corn	430	0	-430
Peanuts	100	0	-100
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.10	4.50	
(Dry)	3.10	5.00	
-Rainfed (Wet)	2.20		
Beans		1.50	
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,300	5,690	1,390
(Dry)	4,300	6,130	1,830
-Rainfed (Wet)	3,500		
Beans		2,930	
Corn	2,170		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	13,429	102,127	88,698
-Rainfed	17,807	0	-17,807
Beans	0	22,491	22,491
Corn	1,393	0	-1,393
Peanuts	399	0	-399
Total	33,028	124,618	91,590
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	4,902	33,439	28,537
-Rainfed	7,455	0	-7,455
Beans	0	8,289	8,289
Corn	933	0	-933
Peanuts	189	0	-189
Total	13,479	41,728	28,249
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	8,527	68,688	60,161
-Rainfed	10,352	0	-10,352
Beans	0	14,202	14,202
Corn	460	0	-460
Peanuts	210	0	-210
Total	19,549	82,890	63,341
9. Annual Incremental Benefit			
(Peso/ha)	6,910	29,300	22,390

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	2,829	2,829	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	445	2,829	2,384
(Dry)	695	2,829	2,134
-Rainfed (Wet)	2,130	0	-2,130
Beans	0	0	0
Corn	430	0	-430
Peanuts	100	0	-100
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.10	4.10	
(Dry)	3.10	5.00	
-Rainfed (Wet)	2.20		
Beans			
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,300	5,640	1,340
(Dry)	4,300	6,130	1,830
-Rainfed (Wet)	3,500		
Beans			
Corn	2,170		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	13,429	97,827	84,398
-Rainfed	17,807	0	-17,807
Beans	0	0	0
Corn	1,393	0	-1,393
Peanuts	399	0	-399
Total	33,028	97,827	64,799
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	4,902	33,297	28,395
-Rainfed	7,455	0	-7,455
Beans	0	0	0
Corn	933	0	-933
Peanuts	189	0	-189
Total	13,479	33,297	19,818
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	8,527	64,530	56,003
-Rainfed	10,352	0	-10,352
Beans	0	0	0
Corn	460	0	-460
Peanuts	210	0	-210
Total	19,549	64,530	44,981
9. Annual Incremental Benefit			
(Peso/ha)	6,910	22,610	15,900

(to be continued)

(continuation)

Table 6.11 (13) Irrigation Benefits of Pinacanauan River Irrigation System

-Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,200	1,200	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	270	1,200	930
(Dry)	260	1,200	940
-Rainfed (Wet)	930	0	-930
Beans	0	1,200	1,200
Corn	190	0	-190
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.20	4.50	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.30		
Beans		1.50	
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,440	5,690	1,250
(Dry)	5,270	6,130	860
-Rainfed (Wet)	3,660		
Beans		2,930	
Corn	2,170		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	7,038	43,320	36,282
-Rainfed	8,128	0	-8,128
Beans	0	9,540	9,540
Corn	616	0	-616
Peanuts	160	0	-160
Total	15,942	52,860	36,918
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	2,569	14,184	11,615
-Rainfed	3,404	0	-3,404
Beans	0	3,516	3,516
Corn	412	0	-412
Peanuts	76	0	-76
Total	6,461	17,700	11,239
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	4,469	29,136	24,667
-Rainfed	4,724	0	-4,724
Beans	0	6,024	6,024
Corn	204	0	-204
Peanuts	84	0	-84
Total	9,481	35,160	25,679
9. Annual Incremental Benefit (Peso/ha)	7,901	29,300	21,399

-Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,200	1,200	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	270	1,200	930
(Dry)	260	1,200	940
-Rainfed (Wet)	930	0	-930
Beans	0	0	0
Corn	190	0	-190
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.20	4.10	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.30		
Beans			
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,440	5,640	1,200
(Dry)	5,270	6,130	860
-Rainfed (Wet)	3,660		
Beans			
Corn	2,170		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	7,038	41,496	34,458
-Rainfed	8,128	0	-8,128
Beans	0	0	0
Corn	616	0	-616
Peanuts	160	0	-160
Total	15,942	41,496	25,554
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	2,569	14,124	11,555
-Rainfed	3,404	0	-3,404
Beans	0	0	0
Corn	412	0	-412
Peanuts	76	0	-76
Total	6,461	14,124	7,663
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	4,469	27,372	22,903
-Rainfed	4,724	0	-4,724
Beans	0	0	0
Corn	204	0	-204
Peanuts	84	0	-84
Total	9,481	27,372	17,891
9. Annual Incremental Benefit (Peso/ha)	7,901	22,810	14,909

(to be continued)

(continuation)

Table 6.11 (14) Irrigation Benefits of Tumauini Irrigation System

- Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	3,987	3,987	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	1,430	3,730	2,300
(Dry)	670	3,160	2,490
-Rainfed (Wet)	2,550	0	-2,550
Beans	0	3,987	3,987
Corn	1,270	0	-1,270
Peanuts	290	0	-290
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.40	4.50	
(Dry)	3.40	5.00	
-Rainfed (Wet)	2.30		
Beans		1.50	
Corn	0.90		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,720	5,690	970
(Dry)	4,720	6,130	1,410
-Rainfed (Wet)	3,660		
Beans		2,930	
Corn	1,630		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	27,132	123,823	96,691
-Rainfed	22,287	0	-22,287
Beans	0	31,697	31,697
Corn	3,086	0	-3,086
Peanuts	1,157	0	-1,157
Total	53,662	155,520	101,858
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	9,912	40,595	30,683
-Rainfed	9,333	0	-9,333
Beans	0	11,682	11,682
Corn	2,070	0	-2,070
Peanuts	548	0	-548
Total	21,863	52,277	30,414
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	17,220	83,228	66,008
-Rainfed	12,954	0	-12954
Beans	0	20,015	20,015
Corn	1,016	0	-1,016
Peanuts	609	0	-609
Total	31,799	103,243	71,444
9. Annual Incremental Benefit (Peso/ha)	7,976	25,895	17,919

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	3,987	3,987	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	1,430	3,987	2,557
(Dry)	670	3,890	3,220
-Rainfed (Wet)	2,550	0	-2,550
Beans	0	0	0
Corn	1,270	0	-1,270
Peanuts	290	0	-290
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.40	4.10	
(Dry)	3.40	5.00	
-Rainfed (Wet)	2.30		
Beans			
Corn	0.90		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	4,720	5,640	920
(Dry)	4,720	6,130	1,410
-Rainfed (Wet)	3,660		
Beans			
Corn	1,630		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	27,132	136,027	108,895
-Rainfed	22,287	0	-22287
Beans	0	0	0
Corn	3,086	0	-3,086
Peanuts	1,157	0	-1,157
Total	53,662	136,027	82,365
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	9,912	46,332	36,420
-Rainfed	9,333	0	-9,333
Beans	0	0	0
Corn	2,070	0	-2,070
Peanuts	548	0	-548
Total	21,863	46,332	24,469
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	17,220	89,695	72,475
-Rainfed	12,954	0	-12954
Beans	0	0	0
Corn	1,016	0	-1,016
Peanuts	609	0	-609
Total	31,799	89,695	57,896
9. Annual Incremental Benefit (Peso/ha)	7,976	22,497	14,521

(to be continued)

(continuation)

Table 6.11 (15) Irrigation Benefits of Zinundungan River Irrigation System

- Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,760	1,760	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	1,070	1,760	690
(Dry)	770	1,760	990
-Rainfed (Wet)	680	0	-680
Beans	0	0	0
Corn	430	0	-430
Peanuts	100	0	-100
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.70	4.50	
(Dry)	3.90	5.00	
-Rainfed (Wet)	2.50		
Beans		1.50	
Corn	1.10		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	5,130	5,690	560
(Dry)	5,410	6,130	720
-Rainfed (Wet)	3,980		
Beans		2,930	
Corn	1,990		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	26,456	63,536	37,080
-Rainfed	6,460	0	-6,460
Beans	0	0	0
Corn	1,277	0	-1,277
Peanuts	399	0	-399
Total	34,592	63,536	28,944
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	9,655	20,803	11,148
-Rainfed	2,706	0	-2,706
Beans	0	0	0
Corn	856	0	-856
Peanuts	189	0	-189
Total	13,406	20,803	7,397
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	16,801	42,733	25,932
-Rainfed	3,754	0	-3754
Beans	0	0	0
Corn	421	0	-421
Peanuts	210	0	-210
Total	21,186	42,733	21,547
9. Annual Incremental Benefit (Peso/ha)	12,038	24,280	12,242

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,760	1,760	0
2. Harvested Area (ha)			
Paddy-Irrigated (Wet)	1,070	1,760	690
(Dry)	770	1,760	990
-Rainfed (Wet)	680	0	-680
Beans	0	0	0
Corn	430	0	-430
Peanuts	100	0	-100
3. Unit Yield (ton/ha)			
Paddy-Irrigated (Wet)	3.70	4.10	
(Dry)	3.90	5.00	
-Rainfed (Wet)	2.50		
Beans			
Corn	1.10		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,800	3,800	
Beans	5,300	5,300	
Corn	2,700	2,700	
Peanuts	5,700	5,700	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated (Wet)	5,130	5,640	510
(Dry)	5,410	6,130	720
-Rainfed (Wet)	3,980		
Beans			
Corn	1,990		
Peanuts	1,890		

Item	Without Project	With Project	Incre-mental
6. Gross Production Value (1000 Pesos)			
Paddy -Irrigated	26,456	60,861	34,405
-Rainfed	6,460	0	-6460
Beans	0	0	0
Corn	1,277	0	-1,277
Peanuts	399	0	-399
Total	34,592	60,861	26,269
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	9,655	20,715	11,060
-Rainfed	2,706	0	-2,706
Beans	0	0	0
Corn	856	0	-856
Peanuts	189	0	-189
Total	13,406	20,715	7,309
8. Net Production Value (1000 Pesos)			
Paddy -Irrigated	16,801	40,146	23,345
-Rainfed	3,754	0	-3754
Beans	0	0	0
Corn	421	0	-421
Peanuts	210	0	-210
Total	21,186	40,146	18,960
9. Annual Incremental Benefit (Peso/ha)	12,038	22,810	10,772

Table 6.12 Annual Incremental Benefits in Irrigation Development Schemes

Name of Scheme	Total Annual Incremental Benefit (10^3P)		Annual Incremental Benefit per ha (P/ha)	
	Proposed Cropping Pattern		Proposed Cropping Pattern	
	A&C	B&C	A&C	B&C
New Irrigation Scheme				
(1) Chico Mallig IP	778,335	596,421	24,946	19,116
(2) Matuno RIP	259,526	187,810	20,467	14,811
(3) Dabubu RIP	24,135	20,565	24,135	20,565
(4) Zinundungan IEP	61,032	49,034	22,563	17,186
	(21,547) /1	(18,960) /1	(12,242) /1	(10,772) /1
(5) Alcala Amulung West IP	159,980	134,993	23,701	19,999
(6) Tuguegarao IP	32,887	31,264	23,491	22,331
(7) Lulutan IP	70,350	54,709	23,847	18,545
(8) Ilagan IP	72,672	71,374	22,710	22,305
(9) Gappal IP	105,041	83,624	23,873	19,006
Rehabilittion/Improvement Scheme				
(1) Dummun RIS	41,328	27,893	19,965	13,475
(2) Baggao IS	33,527	22,567	18,503	12,454
(3) Solana IS	63,341	44,981	22,390	15,900
(4) Pinacanauan IS	25,679	17,891	21,399	14,909
(5) Tumauini IS	71,444	57,896	17,919	14,521

/1 : Irrigation benefits derived from the water supply to the existing Zinundungan River Irrigation System.

Table 6.13 Annual Equivalent Flood Damages in Irrigation Development Schemes

Table 6.13(1) Annual Equivalent Flood Damages in Chico Mallig I P

Pattern A & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	22.58	11.29	2.03	2.03
1/5	(0.2)	0.30	55.82	39.20	11.76	13.79
1/10	(0.1)	0.10	74.75	65.29	6.53	20.32
1/25	(0.05)	0.05	89.14	81.95	4.10	24.42
1/50	(0.02)	0.03	100.74	94.94	2.85	27.27
1/100	(0.01)	0.01	116.14	108.44	1.08	28.35

Pattern B & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	16.15	8.07	1.45	1.45
1/5	(0.2)	0.30	40.32	28.24	8.47	9.92
1/10	(0.1)	0.10	52.90	46.61	4.66	14.58
1/25	(0.05)	0.05	62.88	57.89	2.89	17.47
1/50	(0.02)	0.03	70.87	66.88	2.01	19.48
1/100	(0.01)	0.01	81.53	76.20	0.76	20.24

Table 6.13(2) Annual Equivalent Flood Damages in Matuno R I P

Pattern A & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	50.11	25.06	4.51	4.51
1/5	(0.2)	0.30	55.24	52.68	15.80	20.31
1/10	(0.1)	0.10	59.78	57.51	5.75	26.06
1/25	(0.05)	0.05	62.89	61.34	3.07	29.13
1/50	(0.02)	0.03	67.46	65.18	1.96	31.09
1/100	(0.01)	0.01	70.33	68.90	0.69	31.78

Pattern B & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	35.81	17.91	3.22	3.22
1/5	(0.2)	0.30	39.53	37.67	11.30	14.52
1/10	(0.1)	0.10	42.38	40.96	4.10	18.62
1/25	(0.05)	0.05	44.31	43.35	2.17	20.79
1/50	(0.02)	0.03	47.21	45.76	1.37	22.16
1/100	(0.01)	0.01	49.19	48.20	0.48	22.64

(to be continued)

(continuation)

Table 6.13(3) Annual Equivalent Flood Damages in Zinundungan I E P & R I S

Pattern A & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	3.50	1.75	0.32	0.32
1/5	(0.2)	0.30	22.04	12.77	3.83	4.15
1/10	(0.1)	0.10	30.98	26.51	2.65	6.80
1/25	(0.05)	0.05	47.39	39.19	1.96	8.76
1/50	(0.02)	0.03	51.40	49.40	1.48	10.24
1/100	(0.01)	0.01	54.89	53.15	0.53	10.77

Pattern B & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	2.40	1.20	0.22	0.22
1/5	(0.2)	0.30	14.41	8.40	2.52	2.74
1/10	(0.1)	0.10	20.18	17.30	1.73	4.47
1/25	(0.05)	0.05	30.67	25.43	1.27	5.74
1/50	(0.02)	0.03	33.20	31.94	0.96	6.70
1/100	(0.01)	0.01	35.38	34.29	0.34	7.04

Table 6.13(4) Annual Equivalent Flood Damages in Alcala-Amulung West I P

Pattern A & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	21.04	10.52	1.89	1.89
1/5	(0.2)	0.30	55.67	38.36	11.51	13.40
1/10	(0.1)	0.10	73.60	64.63	6.46	19.86
1/25	(0.05)	0.05	85.32	79.46	3.97	23.83
1/50	(0.02)	0.03	88.09	86.71	2.60	26.43
1/100	(0.01)	0.01	93.19	90.64	0.91	27.34

Pattern B & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	17.81	8.90	1.60	1.60
1/5	(0.2)	0.30	45.01	31.41	9.42	11.02
1/10	(0.1)	0.10	58.32	51.67	5.17	16.19
1/25	(0.05)	0.05	67.05	62.69	3.13	19.32
1/50	(0.02)	0.03	68.95	68.00	2.04	21.36
1/100	(0.01)	0.01	72.40	70.68	0.71	22.07

(to be continued)

(continuation)

Table 6.13(5) Annual Equivalent Flood Damages in Tuguegarao I P

Pattern A & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	3.22	1.61	0.29	0.29
1/5	(0.2)	0.30	7.63	5.43	1.63	1.92
1/10	(0.1)	0.10	12.94	10.29	1.03	2.95
1/25	(0.05)	0.05	17.96	15.45	0.77	3.72
1/50	(0.02)	0.03	18.60	18.28	0.55	4.27
1/100	(0.01)	0.01	19.04	18.82	0.19	4.46

Pattern B & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	3.08	1.54	0.28	0.28
1/5	(0.2)	0.30	6.95	5.02	1.51	1.79
1/10	(0.1)	0.10	11.86	9.40	0.94	2.73
1/25	(0.05)	0.05	16.52	14.19	0.71	3.44
1/50	(0.02)	0.03	17.10	16.81	0.50	3.94
1/100	(0.01)	0.01	17.52	17.31	0.17	4.11

Table 6.13(6) Annual Equivalent Flood Damages in Lulutan I P

Pattern A & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	0.25	0.13	0.02	0.02
1/5	(0.2)	0.30	1.82	1.04	0.31	0.33
1/10	(0.1)	0.10	5.30	3.56	0.36	0.69
1/25	(0.05)	0.05	11.02	8.16	0.41	1.10
1/50	(0.02)	0.03	12.94	11.98	0.36	1.46
1/100	(0.01)	0.01	16.88	14.91	0.15	1.61

Pattern B & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	0.20	0.10	0.02	0.02
1/5	(0.2)	0.30	1.34	0.77	0.23	0.25
1/10	(0.1)	0.10	3.85	2.60	0.26	0.51
1/25	(0.05)	0.05	8.21	6.03	0.30	0.81
1/50	(0.02)	0.03	9.63	8.92	0.27	1.08
1/100	(0.01)	0.01	12.45	11.04	0.11	1.19

(to be continued)

(continuation)

Table 6.13(7) Annual Equivalent Flood Damages in Ilagan I P

Pattern A & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	2.64	1.32	0.24	0.24
1/5	(0.2)	0.30	7.01	4.83	1.45	1.69
1/10	(0.1)	0.10	10.47	8.74	0.87	2.56
1/25	(0.05)	0.05	12.79	11.63	0.58	3.14
1/50	(0.02)	0.03	13.70	13.25	0.40	3.54
1/100	(0.01)	0.01	15.68	14.69	0.15	3.69

Pattern B & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	2.63	1.32	0.24	0.24
1/5	(0.2)	0.30	6.95	4.79	1.44	1.68
1/10	(0.1)	0.10	10.37	8.66	0.87	2.55
1/25	(0.05)	0.05	12.65	11.51	0.58	3.13
1/50	(0.02)	0.03	13.54	13.10	0.39	3.52
1/100	(0.01)	0.01	15.49	14.52	0.15	3.67

Table 6.13(8) Annual Equivalent Flood Damages in Gappal I P

Pattern A & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	1.68	0.84	0.15	0.15
1/5	(0.2)	0.30	5.10	3.39	1.02	1.17
1/10	(0.1)	0.10	7.18	6.14	0.61	1.78
1/25	(0.05)	0.05	12.42	9.80	0.49	2.27
1/50	(0.02)	0.03	14.46	13.44	0.40	2.67
1/100	(0.01)	0.01	17.16	15.81	0.16	2.83

Pattern B & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	1.42	0.71	0.13	0.13
1/5	(0.2)	0.30	4.28	2.85	0.86	0.99
1/10	(0.1)	0.10	5.97	5.13	0.51	1.50
1/25	(0.05)	0.05	9.89	7.93	0.40	1.90
1/50	(0.02)	0.03	11.47	10.68	0.32	2.22
1/100	(0.01)	0.01	13.46	12.47	0.12	2.34

(to be continued)

(continuation)

Table 6.13(9) Annual Equivalent Flood Damages in Dummun R I S

Pattern A & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	0.74	0.37	0.07	0.07
1/5	(0.2)	0.30	5.86	3.30	0.99	1.06
1/10	(0.1)	0.10	10.15	8.01	0.80	1.86
1/25	(0.05)	0.05	15.01	12.58	0.63	2.49
1/50	(0.02)	0.03	16.57	15.79	0.47	2.96
1/100	(0.01)	0.01	24.85	20.71	0.21	3.17

Pattern B & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	0.46	0.23	0.04	0.04
1/5	(0.2)	0.30	3.64	2.05	0.61	0.65
1/10	(0.1)	0.10	6.31	4.97	0.50	1.15
1/25	(0.05)	0.05	9.33	7.82	0.39	1.54
1/50	(0.02)	0.03	10.30	9.82	0.29	1.83
1/100	(0.01)	0.01	15.44	12.87	0.13	1.96

Table 6.13(10) Annual Equivalent Flood Damages in Solana I S

Pattern A & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	6.35	3.18	0.57	0.57
1/5	(0.2)	0.30	20.57	13.46	4.04	4.61
1/10	(0.1)	0.10	29.54	25.06	2.51	7.12
1/25	(0.05)	0.05	35.41	32.47	1.62	8.74
1/50	(0.02)	0.03	37.34	36.38	1.09	9.83
1/100	(0.01)	0.01	40.22	38.78	0.39	10.22

Pattern B & C

(Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	3.95	1.98	0.36	0.36
1/5	(0.2)	0.30	12.78	8.37	2.51	2.87
1/10	(0.1)	0.10	18.36	15.57	1.56	4.43
1/25	(0.05)	0.05	22.01	20.19	1.01	5.44
1/50	(0.02)	0.03	23.21	22.61	0.68	6.12
1/100	(0.01)	0.01	25.00	24.11	0.24	6.36

(to be continued)

(continuation)

Table 6.13(11) Annual Equivalent Flood Damages in Tumauini I S

Pattern A & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	3.45	1.73	0.31	0.31
1/5	(0.2)	0.30	6.16	4.81	1.44	1.75
1/10	(0.1)	0.10	11.54	8.85	0.89	2.64
1/25	(0.05)	0.05	14.52	13.03	0.65	3.29
1/50	(0.02)	0.03	16.42	15.47	0.46	3.75
1/100	(0.01)	0.01	21.28	18.85	0.19	3.94

Pattern B & C (Unit:10^6 Pesos)

Exceeding Probability		Annual Average Probability Between Scale of Flood	Damages by Flood	Average Damages Between Scale of Flood	Annual Equivalent Damages Between Scale of Flood	Annual Equivalent Damages
1/1.47	(0.68)	-	0	-	-	-
1/2	(0.5)	0.18	2.14	1.07	0.19	0.19
1/5	(0.2)	0.30	3.83	2.99	0.90	1.09
1/10	(0.1)	0.10	7.17	5.50	0.55	1.64
1/25	(0.05)	0.05	9.02	8.09	0.40	2.04
1/50	(0.02)	0.03	10.21	9.62	0.29	2.33
1/100	(0.01)	0.01	13.23	11.72	0.12	2.45

Table 6.14 Summary of Annual Equivalent Flood Damages in Irrigation Development Schemes

(Unit: 10⁶P)

Name of Scheme	Proposed Cropping Pattern	
	A&C	B&C
New Irrigation Scheme		
(1) Chico Mallig IP	28.35	20.24
(2) Matuno RIP	31.78	22.64
(3) Dabubu RIP	-	-
(4) Zinundungan IEP & RIS	10.77	7.04
(5) Alcala Amulung West P	27.34	22.07
(6) Tuguegarao IP	4.46	4.11
(7) Lulutan IP	1.61	1.19
(8) Ilagan IP	3.69	3.67
(9) Gappal IP	2.83	2.34
Rehabilitation/Improvement Scheme		
(1) Dummun RIS	3.17	1.96
(2) Baggao IS	-	-
(3) Solana IS	10.22	6.36
(4) Pinacanauan IS	-	-
(5) Tumauini IS	3.94	2.45

Table 6.15 Annual Production Foregone in Irrigation Development Schemes

(Unit: 10⁶P)

Name of Scheme	Proposed Cropping Pattern A&C		Proposed Cropping Pattern B&C	
	Dam Reservoir	Irrigation Facility	Dam Reservoir	Irrigation Facility
New Irrigation Scheme				
(1) Chico Mallig IP	1.42	3.21	1.37	3.21
(2) Matuno RIP	-	2.40	-	2.40
(3) Dabubu RIP	-	0.10	-	0.10
(4) Zinundungan IEP	0.40	0.28	0.37	0.28
(5) Alcala Amulung West IP	-	0.75	-	0.75
(6) Tuguegarao IP	-	0.11	-	0.11
(7) Lulutan IP	-	0.42	-	0.42
(8) Ilagan IP	-	0.25	-	0.25
(9) Gappal IP				
- Dam	0.09	0.65	0.07	0.65
- Pump	-	0.54	-	0.54

Table 6.16 Economic Cost and Benefit Flow for Irrigation Development Schemes

Table 6.16 (1) Economic Cost and Benefit Flow for Chico Malig I P

(Proposed Cropping Pattern A & C)

IRR = 15.71%

(Unit : Peso 10^6)

Year in Order	Cost					Benefit				Benefit-Cost
	Capital Cost		Replace-ment cost	O & M Cost	Total Cost	Irrigation Benefit	Flood Damage	Production Foegone	Tatal Benefit	
	Dam	Irrigation								
1		38.21			38.21				0.00	-38.21
2	32.94	205.53			238.47			-0.64	-0.64	-239.11
3	164.70	452.47			617.17			-1.28	-1.28	-618.45
4	274.51	452.47			726.98			-1.92	-1.92	-728.90
5	351.37	452.47			803.84			-2.57	-2.57	-806.41
6	274.51	287.61			562.12			-4.63	-4.63	-566.75
7				24.36	24.36	389.16	-14.18	-4.63	370.35	345.99
8				24.36	24.36	544.82	-19.85	-4.63	520.34	495.98
9				24.36	24.36	622.65	-22.68	-4.63	595.34	570.98
10				24.36	24.36	700.48	-25.51	-4.63	670.34	645.98
11				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
12				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
13				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
14				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
15				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
16			31.20	24.36	55.56	778.34	-28.35	-4.63	745.36	689.80
17				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
18				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
19				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
20				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
21				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
22				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
23				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
24				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
25				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
26			31.20	24.36	55.56	778.34	-28.35	-4.63	745.36	689.80
27				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
28				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
29				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
30				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
31			21.70	24.36	46.06	778.34	-28.35	-4.63	745.36	699.30
32				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
33				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
34				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
35				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
36			31.20	24.36	55.56	778.34	-28.35	-4.63	745.36	689.80
37				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
38				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
39				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
40				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
41				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
42				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
43				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
44				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
45				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
46			31.20	24.36	55.56	778.34	-28.35	-4.63	745.36	689.80
47				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
48				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
49				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00
50				24.36	24.36	778.34	-28.35	-4.63	745.36	721.00

(Proposed Cropping Pattern B & C)

IRR = 12.87%

(Unit : Peso 10^6)

Year in Order	Cost					Benefit				Benefit-Cost
	Capital Cost		Replace-ment cost	O & M Cost	Total Cost	Irrigation Benefit	Flood Damage	Production Foegone	Tatal Benefit	
	Dam	Irrigation								
1		38.21			38.21				0.00	-38.21
2	31.97	205.53			237.50			-0.64	-0.64	-238.14
3	159.83	452.47			612.30			-1.28	-1.28	-613.58
4	266.38	452.47			718.85			-1.92	-1.92	-720.77
5	340.96	452.47			793.43			-2.57	-2.57	-796.00
6	266.38	287.61			553.99			-4.58	-4.58	-558.57
7				24.01	24.01	298.21	-10.12	-4.58	283.51	259.50
8				24.01	24.01	417.49	-14.17	-4.58	398.74	374.73
9				24.01	24.01	477.14	-16.19	-4.58	456.37	432.36
10				24.01	24.01	536.78	-18.22	-4.58	513.98	489.97
11				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
12				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
13				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
14				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
15				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
16			31.20	24.01	55.21	596.42	-20.24	-4.58	571.60	516.39
17				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
18				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
19				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
20				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
21				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
22				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
23				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
24				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
25				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
26			31.20	24.01	55.21	596.42	-20.24	-4.58	571.60	516.39
27				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
28				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
29				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
30				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
31			21.70	24.01	45.71	596.42	-20.24	-4.58	571.60	525.89
32				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
33				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
34				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
35				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
36			31.20	24.01	55.21	596.42	-20.24	-4.58	571.60	516.39
37				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
38				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
39				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
40				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
41				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
42				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
43				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
44				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
45				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
46			31.20	24.01	55.21	596.42	-20.24	-4.58	571.60	516.39
47				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
48				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
49				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59
50				24.01	24.01	596.42	-20.24	-4.58	571.60	547.59

(to be continued)

Table 6.16 (2) Economic Cost and Benefit Flow for Matuno R I S

(Proposed Cropping Pattern A & C)

IRR = 12.42% (Unit : Peso 10^6)

Year in Order	Cost: Capital Cost Dam	Capital Cost Irrigation	Replacement cost	O & M Cost	Total Cost	Benefit: Irrigation Benefit	Flood Damage	Production Foegone	Total Benefit	Benefit-Cost
1	16.32				16.32				0.00	-16.32
2	54.39				54.39			-0.48	-0.48	-54.87
3	97.91	20.95			118.86			-0.96	-0.96	-119.82
4	119.66	212.80			332.46			-1.44	-1.44	-333.90
5	135.98	275.45			411.43			-1.92	-1.92	-413.35
6	119.66	208.90			328.56			-2.40	-2.40	-330.96
7				10.85	10.85	129.76	-15.89	-2.40	111.47	100.62
8				10.85	10.85	181.67	-22.25	-2.40	157.02	146.17
9				10.85	10.85	207.62	-25.42	-2.40	179.80	168.95
10				10.85	10.85	233.57	-28.60	-2.40	202.57	191.72
11				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
12				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
13				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
14			12.68	10.85	23.53	259.53	-31.78	-2.40	225.35	201.82
15				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
16				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
17				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
18				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
19				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
20				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
21				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
22				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
23				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
24			12.68	10.85	23.53	259.53	-31.78	-2.40	225.35	201.82
25				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
26				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
27				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
28				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
29			44.48	10.85	55.33	259.53	-31.78	-2.40	225.35	170.02
30				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
31				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
32				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
33				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
34			12.68	10.85	23.53	259.53	-31.78	-2.40	225.35	201.82
35				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
36				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
37				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
38				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
39				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
40				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
41				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
42				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
43				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
44			12.68	10.85	23.53	259.53	-31.78	-2.40	225.35	201.82
45				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
46				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
47				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
48				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
49				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50
50				10.85	10.85	259.53	-31.78	-2.40	225.35	214.50

(Proposed Cropping Pattern B & C)

IRR = 10.12% (Unit : Peso 10^6)

Year in Order	Cost: Capital Cost Dam	Capital Cost Irrigation	Replacement cost	O & M Cost	Total Cost	Benefit: Irrigation Benefit	Flood Damage	Production Foegone	Total Benefit	Benefit-Cost
1	12.99				12.99				0.00	-12.99
2	43.31				43.31			-0.48	-0.48	-43.79
3	77.96	20.95			98.91			-0.96	-0.96	-99.87
4	95.28	212.80			308.08			-1.44	-1.44	-309.52
5	108.28	275.45			383.73			-1.92	-1.92	-385.65
6	95.28	208.90			304.18			-2.40	-2.40	-306.58
7				9.68	9.68	93.90	-11.32	-2.40	80.18	70.50
8				9.68	9.68	131.46	-15.85	-2.40	113.21	103.53
9				9.68	9.68	150.24	-18.11	-2.40	129.73	120.05
10				9.68	9.68	169.02	-20.38	-2.40	146.24	136.56
11				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
12				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
13				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
14			12.68	9.68	22.36	187.81	-22.64	-2.40	162.77	140.41
15				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
16				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
17				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
18				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
19				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
20				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
21				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
22				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
23				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
24			12.68	9.68	22.36	187.81	-22.64	-2.40	162.77	140.41
25				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
26				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
27				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
28				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
29			44.48	9.68	54.16	187.81	-22.64	-2.40	162.77	108.61
30				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
31				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
32				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
33				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
34			12.68	9.68	22.36	187.81	-22.64	-2.40	162.77	140.41
35				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
36				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
37				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
38				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
39				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
40				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
41				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
42				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
43				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
44			12.68	9.68	22.36	187.81	-22.64	-2.40	162.77	140.41
45				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
46				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
47				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
48				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
49				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09
50				9.68	9.68	187.81	-22.64	-2.40	162.77	153.09

(to be continued)

(continuation)

Table 6.16 (3) Economic Cost and Benefit Flow for Dabubu R.I.P

(Proposed Cropping Pattern A & C)

IRR = 19.46%

(Unit : Peso 10^6)

Year in Order	Cost					Benefit				Benefit-Cost
	Capital Cost		Replace-ment Cost	O & M Cost	Total Cost	Irrigation Benefit	Flood Damage	Production Foegone	Tatal Benefit	
	Dam	Irrigation								
1	2.24	2.75			4.99				0.00	-4.99
2	10.07	32.60			42.67			-0.05	-0.05	-42.72
3	10.07	32.59			42.66			-0.10	-0.10	-42.76
4				0.62	0.62	12.07		-0.10	11.97	11.35
5				0.62	0.62	16.90		-0.10	16.80	16.18
6				0.62	0.62	19.31		-0.10	19.21	18.59
7				0.62	0.62	21.72		-0.10	21.62	21.00
8				0.62	0.62	24.14		-0.10	24.04	23.42
9				0.62	0.62	24.14		-0.10	24.04	23.42
10				0.62	0.62	24.14		-0.10	24.04	23.42
11				0.62	0.62	24.14		-0.10	24.04	23.42
12				0.62	0.62	24.14		-0.10	24.04	23.42
13			1.00	0.62	1.62	24.14		-0.10	24.04	22.42
14				0.62	0.62	24.14		-0.10	24.04	23.42
15				0.62	0.62	24.14		-0.10	24.04	23.42
16				0.62	0.62	24.14		-0.10	24.04	23.42
17				0.62	0.62	24.14		-0.10	24.04	23.42
18				0.62	0.62	24.14		-0.10	24.04	23.42
19				0.62	0.62	24.14		-0.10	24.04	23.42
20				0.62	0.62	24.14		-0.10	24.04	23.42
21				0.62	0.62	24.14		-0.10	24.04	23.42
22				0.62	0.62	24.14		-0.10	24.04	23.42
23			1.00	0.62	1.62	24.14		-0.10	24.04	22.42
24				0.62	0.62	24.14		-0.10	24.04	23.42
25				0.62	0.62	24.14		-0.10	24.04	23.42
26				0.62	0.62	24.14		-0.10	24.04	23.42
27				0.62	0.62	24.14		-0.10	24.04	23.42
28			1.80	0.62	2.42	24.14		-0.10	24.04	21.62
29				0.62	0.62	24.14		-0.10	24.04	23.42
30				0.62	0.62	24.14		-0.10	24.04	23.42
31				0.62	0.62	24.14		-0.10	24.04	23.42
32				0.62	0.62	24.14		-0.10	24.04	23.42
33			1.00	0.62	1.62	24.14		-0.10	24.04	22.42
34				0.62	0.62	24.14		-0.10	24.04	23.42
35				0.62	0.62	24.14		-0.10	24.04	23.42
36				0.62	0.62	24.14		-0.10	24.04	23.42
37				0.62	0.62	24.14		-0.10	24.04	23.42
38				0.62	0.62	24.14		-0.10	24.04	23.42
39				0.62	0.62	24.14		-0.10	24.04	23.42
40				0.62	0.62	24.14		-0.10	24.04	23.42
41				0.62	0.62	24.14		-0.10	24.04	23.42
42				0.62	0.62	24.14		-0.10	24.04	23.42
43			1.00	0.62	1.62	24.14		-0.10	24.04	22.42
44				0.62	0.62	24.14		-0.10	24.04	23.42
45				0.62	0.62	24.14		-0.10	24.04	23.42
46				0.62	0.62	24.14		-0.10	24.04	23.42
47				0.62	0.62	24.14		-0.10	24.04	23.42
48				0.62	0.62	24.14		-0.10	24.04	23.42
49				0.62	0.62	24.14		-0.10	24.04	23.42
50				0.62	0.62	24.14		-0.10	24.04	23.42

(Proposed Cropping Pattern B & C)

IRR = 17.21%

(Unit : Peso 10^6)

Year in Order	Cost					Benefit				Benefit-Cost
	Capital Cost		Replace-ment Cost	O & M Cost	Total Cost	Irrigation Benefit	Flood Damage	Production Foegone	Tatal Benefit	
	Dam	Irrigation								
1	2.10	2.75			4.85				0.00	-4.85
2	9.44	32.60			42.04			-0.05	-0.05	-42.09
3	9.44	32.59			42.03			-0.10	-0.10	-42.13
4				0.61	0.61	10.28		-0.10	10.18	9.57
5				0.61	0.61	14.40		-0.10	14.30	13.69
6				0.61	0.61	16.45		-0.10	16.35	15.74
7				0.61	0.61	18.51		-0.10	18.41	17.80
8				0.61	0.61	20.57		-0.10	20.47	19.86
9				0.61	0.61	20.57		-0.10	20.47	19.86
10				0.61	0.61	20.57		-0.10	20.47	19.86
11				0.61	0.61	20.57		-0.10	20.47	19.86
12				0.61	0.61	20.57		-0.10	20.47	19.86
13			1.00	0.61	1.61	20.57		-0.10	20.47	18.86
14				0.61	0.61	20.57		-0.10	20.47	19.86
15				0.61	0.61	20.57		-0.10	20.47	19.86
16				0.61	0.61	20.57		-0.10	20.47	19.86
17				0.61	0.61	20.57		-0.10	20.47	19.86
18				0.61	0.61	20.57		-0.10	20.47	19.86
19				0.61	0.61	20.57		-0.10	20.47	19.86
20				0.61	0.61	20.57		-0.10	20.47	19.86
21				0.61	0.61	20.57		-0.10	20.47	19.86
22				0.61	0.61	20.57		-0.10	20.47	19.86
23			1.00	0.61	1.61	20.57		-0.10	20.47	18.86
24				0.61	0.61	20.57		-0.10	20.47	19.86
25				0.61	0.61	20.57		-0.10	20.47	19.86
26				0.61	0.61	20.57		-0.10	20.47	19.86
27				0.61	0.61	20.57		-0.10	20.47	19.86
28			1.80	0.61	2.41	20.57		-0.10	20.47	18.06
29				0.61	0.61	20.57		-0.10	20.47	19.86
30				0.61	0.61	20.57		-0.10	20.47	19.86
31				0.61	0.61	20.57		-0.10	20.47	19.86
32				0.61	0.61	20.57		-0.10	20.47	19.86
33			1.00	0.61	1.61	20.57		-0.10	20.47	18.86
34				0.61	0.61	20.57		-0.10	20.47	19.86
35				0.61	0.61	20.57		-0.10	20.47	19.86
36				0.61	0.61	20.57		-0.10	20.47	19.86
37				0.61	0.61	20.57		-0.10	20.47	19.86
38				0.61	0.61	20.57		-0.10	20.47	19.86
39				0.61	0.61	20.57		-0.10	20.47	19.86
40				0.61	0.61	20.57		-0.10	20.47	19.86
41				0.61	0.61	20.57		-0.10	20.47	19.86
42				0.61	0.61	20.57		-0.10	20.47	19.86
43			1.00	0.61	1.61	20.57		-0.10	20.47	18.86
44				0.61	0.61	20.57		-0.10	20.47	19.86
45				0.61	0.61	20.57		-0.10	20.47	19.86
46				0.61	0.61	20.57		-0.10	20.47	19.86
47				0.61	0.61	20.57		-0.10	20.47	19.86
48				0.61	0.61	20.57		-0.10	20.47	19.86
49				0.61	0.61	20.57		-0.10	20.47	19.86
50				0.61	0.61	20.57		-0.10	20.47	19.86

(to be continued)

(continuation)

Table 6.16 (4) Economic Cost and Benefit Flow for Zinundungan I & P

(Proposed Cropping Pattern A & C)

IRR = 13.38%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	10.43				10.43				0.00	-10.43
2	41.73	2.47			44.20			-0.09	-0.09	-44.29
3	83.45	29.11			112.56			-0.19	-0.19	-112.75
4	73.02	29.09			102.11			-0.68	-0.68	-102.79
5				2.96	2.96	30.52	-5.39	-0.68	24.45	21.49
6				2.96	2.96	42.72	-7.54	-0.68	34.50	31.54
7				2.96	2.96	48.83	-8.62	-0.68	39.53	36.57
8				2.96	2.96	54.93	-9.69	-0.68	44.56	41.60
9				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
10				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
11				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
12				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
13				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
14			1.75	2.96	4.71	61.03	-10.77	-0.68	49.58	44.87
15				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
16				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
17				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
18				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
19				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
20				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
21				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
22				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
23				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
24			1.75	2.96	4.71	61.03	-10.77	-0.68	49.58	44.87
25				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
26				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
27				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
28				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
29			1.30	2.96	4.26	61.03	-10.77	-0.68	49.58	45.32
30				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
31				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
32				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
33				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
34			1.75	2.96	4.71	61.03	-10.77	-0.68	49.58	44.87
35				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
36				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
37				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
38				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
39				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
40				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
41				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
42				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
43				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
44			1.75	2.96	4.71	61.03	-10.77	-0.68	49.58	44.87
45				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
46				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
47				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
48				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
49				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62
50				2.96	2.96	61.03	-10.77	-0.68	49.58	46.62

Note: Including the irrigation benefit and flood damage of Zinundungan RIS

(Proposed Cropping Pattern B & C)

IRR = 12.47%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	9.11				9.11				0.00	-9.11
2	36.42	2.47			38.89			-0.09	-0.09	-38.98
3	72.85	29.11			101.96			-0.19	-0.19	-102.15
4	63.74	29.09			92.83			-0.65	-0.65	-93.48
5				2.67	2.67	24.52	-3.52	-0.65	20.35	17.68
6				2.67	2.67	34.32	-4.93	-0.65	28.74	26.07
7				2.67	2.67	39.23	-5.63	-0.65	32.95	30.28
8				2.67	2.67	44.13	-6.34	-0.65	37.14	34.47
9				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
10				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
11				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
12				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
13				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
14			1.75	2.67	4.42	49.03	-7.04	-0.65	41.34	36.92
15				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
16				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
17				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
18				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
19				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
20				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
21				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
22				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
23				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
24			1.75	2.67	4.42	49.03	-7.04	-0.65	41.34	36.92
25				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
26				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
27				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
28				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
29			1.30	2.67	3.97	49.03	-7.04	-0.65	41.34	37.37
30				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
31				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
32				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
33				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
34			1.75	2.67	4.42	49.03	-7.04	-0.65	41.34	36.92
35				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
36				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
37				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
38				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
39				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
40				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
41				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
42				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
43				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
44			1.75	2.67	4.42	49.03	-7.04	-0.65	41.34	36.92
45				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
46				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
47				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
48				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
49				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67
50				2.67	2.67	49.03	-7.04	-0.65	41.34	38.67

Note: Including the irrigation benefit and flood damage of Zinundungan RIS

(to be continued)

(continuation)

Table 6.16 (5) Economic Cost and Benefit Flow for Alcala Amulung West I P

(Proposed Cropping Pattern A & C)

IRR = 17.26%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replacement Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		11.68			11.68				0.00	-11.68
2		119.72			119.72			-0.25	-0.25	-119.97
3		155.02			155.02			-0.50	-0.50	-155.52
4		117.49			117.49			-0.75	-0.75	-118.24
5				28.83	28.83	79.99	-13.67	-0.75	65.57	36.74
6				28.83	28.83	111.99	-19.14	-0.75	92.10	63.27
7				28.83	28.83	127.99	-21.87	-0.75	105.37	76.54
8				28.83	28.83	143.98	-24.61	-0.75	118.62	89.79
9				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
10				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
11				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
12				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
13				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
14			6.75	28.83	35.58	159.98	-27.34	-0.75	131.89	96.31
15				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
16				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
17				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
18				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
19				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
20				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
21				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
22				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
23				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
24			6.75	28.83	35.58	159.98	-27.34	-0.75	131.89	96.31
25				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
26				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
27				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
28				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
29			80.68	28.83	109.51	159.98	-27.34	-0.75	131.89	22.38
30				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
31				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
32				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
33				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
34			6.75	28.83	35.58	159.98	-27.34	-0.75	131.89	96.31
35				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
36				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
37				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
38				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
39				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
40				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
41				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
42				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
43				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
44			6.75	28.83	35.58	159.98	-27.34	-0.75	131.89	96.31
45				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
46				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
47				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
48				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
49				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06
50				28.83	28.83	159.98	-27.34	-0.75	131.89	103.06

(Proposed Cropping Pattern B & C)

IRR = 14.91%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replacement Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		11.68			11.68				0.00	-11.68
2		119.72			119.72			-0.25	-0.25	-119.97
3		155.02			155.02			-0.50	-0.50	-155.52
4		117.49			117.49			-0.75	-0.75	-118.24
5				26.42	26.42	67.50	-11.04	-0.75	55.71	29.29
6				26.42	26.42	94.50	-15.45	-0.75	78.30	51.88
7				26.42	26.42	108.00	-17.66	-0.75	89.59	63.17
8				26.42	26.42	121.49	-19.86	-0.75	100.88	74.46
9				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
10				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
11				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
12				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
13				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
14			6.75	26.42	33.17	134.99	-22.07	-0.75	112.17	79.00
15				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
16				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
17				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
18				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
19				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
20				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
21				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
22				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
23				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
24			6.75	26.42	33.17	134.99	-22.07	-0.75	112.17	79.00
25				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
26				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
27				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
28				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
29			80.68	26.42	107.10	134.99	-22.07	-0.75	112.17	5.07
30				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
31				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
32				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
33				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
34			6.75	26.42	33.17	134.99	-22.07	-0.75	112.17	79.00
35				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
36				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
37				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
38				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
39				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
40				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
41				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
42				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
43				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
44			6.75	26.42	33.17	134.99	-22.07	-0.75	112.17	79.00
45				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
46				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
47				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
48				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
49				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75
50				26.42	26.42	134.99	-22.07	-0.75	112.17	85.75

(to be continued)

Table 6.16 (6) Economic Cost and Benefit Flow for Tuguegarao I P

(Proposed Cropping Pattern A & C)

IRR = 19.43%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		3.67			3.67				0.00	-3.67
2		44.72			44.72			-0.05	-0.05	-44.77
3		44.70			44.70			-0.11	-0.11	-44.81
4				3.69	3.69	16.44	-2.23	-0.11	14.10	10.41
5				3.69	3.69	23.02	-3.12	-0.11	19.79	16.10
6				3.69	3.69	26.31	-3.57	-0.11	22.63	18.94
7				3.69	3.69	29.60	-4.01	-0.11	25.48	21.79
8				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
9				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
10				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
11				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
12				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
13			1.40	3.69	5.09	32.89	-4.46	-0.11	28.32	23.23
14				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
15				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
16				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
17				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
18				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
19				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
20				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
21				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
22				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
23			1.40	3.69	5.09	32.89	-4.46	-0.11	28.32	23.23
24				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
25				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
26				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
27				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
28			27.84	3.69	31.53	32.89	-4.46	-0.11	28.32	-3.21
29				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
30				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
31				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
32				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
33			1.40	3.69	5.09	32.89	-4.46	-0.11	28.32	23.23
34				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
35				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
36				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
37				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
38				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
39				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
40				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
41				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
42				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
43			1.40	3.69	5.09	32.89	-4.46	-0.11	28.32	23.23
44				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
45				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
46				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
47				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
48				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
49				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63
50				3.69	3.69	32.89	-4.46	-0.11	28.32	24.63

(Proposed Cropping Pattern B & C)

IRR = 18.68%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		3.67			3.67				0.00	-3.67
2		44.72			44.72			-0.05	-0.05	-44.77
3		44.70			44.70			-0.11	-0.11	-44.81
4				3.56	3.56	15.63	-2.06	-0.11	13.46	9.90
5				3.56	3.56	21.88	-2.88	-0.11	18.89	15.33
6				3.56	3.56	25.01	-3.29	-0.11	21.61	18.05
7				3.56	3.56	28.14	-3.70	-0.11	24.33	20.77
8				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
9				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
10				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
11				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
12				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
13			1.40	3.56	4.96	31.26	-4.11	-0.11	27.04	22.08
14				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
15				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
16				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
17				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
18				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
19				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
20				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
21				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
22				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
23			1.40	3.56	4.96	31.26	-4.11	-0.11	27.04	22.08
24				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
25				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
26				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
27				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
28			27.84	3.56	31.40	31.26	-4.11	-0.11	27.04	-4.36
29				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
30				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
31				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
32				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
33			1.40	3.56	4.96	31.26	-4.11	-0.11	27.04	22.08
34				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
35				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
36				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
37				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
38				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
39				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
40				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
41				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
42				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
43			1.40	3.56	4.96	31.26	-4.11	-0.11	27.04	22.08
44				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
45				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
46				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
47				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
48				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
49				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48
50				3.56	3.56	31.26	-4.11	-0.11	27.04	23.48

(to be continued)

(continuation)

Table 6.16 (7) Economic Cost and Benefit Flow for Lulutan I P

(Proposed Cropping Pattern A & C) (Unit : Peso 10^6)

IRR = 22.60%

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replacement Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		6.82			6.82				0.00	-6.82
2		82.76			82.76			-0.21	-0.21	-82.97
3		82.71			82.71			-0.42	-0.42	-83.13
4				11.73	11.73	35.17	-0.81	-0.42	33.94	22.21
5				11.73	11.73	49.24	-1.13	-0.42	47.69	35.96
6				11.73	11.73	56.28	-1.29	-0.42	54.57	42.84
7				11.73	11.73	63.31	-1.45	-0.42	61.44	49.71
8				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
9				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
10				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
11				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
12				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
13			2.95	11.73	14.68	70.35	-1.61	-0.42	68.32	53.64
14				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
15				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
16				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
17				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
18				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
19				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
20				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
21				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
22				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
23			2.95	11.73	14.68	70.35	-1.61	-0.42	68.32	53.64
24				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
25				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
26				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
27				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
28			48.69	11.73	60.42	70.35	-1.61	-0.42	68.32	7.90
29				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
30				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
31				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
32				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
33			2.95	11.73	14.68	70.35	-1.61	-0.42	68.32	53.64
34				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
35				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
36				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
37				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
38				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
39				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
40				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
41				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
42				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
43			2.95	11.73	14.68	70.35	-1.61	-0.42	68.32	53.64
44				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
45				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
46				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
47				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
48				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
49				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59
50				11.73	11.73	70.35	-1.61	-0.42	68.32	56.59

(Proposed Cropping Pattern B & C) (Unit : Peso 10^6)

IRR = 18.00%

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replacement Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		6.82			6.82				0.00	-6.82
2		82.76			82.76			-0.21	-0.21	-82.97
3		82.71			82.71			-0.42	-0.42	-83.13
4				10.70	10.70	27.35	-0.60	-0.42	26.33	15.63
5				10.70	10.70	38.30	-0.83	-0.42	37.05	26.35
6				10.70	10.70	43.77	-0.95	-0.42	42.40	31.70
7				10.70	10.70	49.24	-1.07	-0.42	47.75	37.05
8				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
9				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
10				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
11				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
12				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
13			2.95	10.70	13.65	54.71	-1.19	-0.42	53.10	39.45
14				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
15				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
16				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
17				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
18				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
19				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
20				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
21				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
22				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
23			2.95	10.70	13.65	54.71	-1.19	-0.42	53.10	39.45
24				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
25				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
26				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
27				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
28			48.69	10.70	59.39	54.71	-1.19	-0.42	53.10	-6.29
29				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
30				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
31				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
32				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
33			2.95	10.70	13.65	54.71	-1.19	-0.42	53.10	39.45
34				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
35				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
36				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
37				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
38				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
39				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
40				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
41				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
42				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
43			2.95	10.70	13.65	54.71	-1.19	-0.42	53.10	39.45
44				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
45				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
46				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
47				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
48				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
49				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40
50				10.70	10.70	54.71	-1.19	-0.42	53.10	42.40

(to be continued)

Table 6.16 (8) Economic Cost and Benefit Flow for Ilagan I P

(Proposed Cropping Pattern A & C)

IRR = 27.96% (Unit : Peso 10^6)

Year In Order	Cost					Benefit				Benefit-Cost
	Capital Cost		Replace-ment Cost	O & M Cost	Total Cost	Irrigation Benefit	Flood Production		Tatal Benefit	
	Dam	Irrigation					Damage	Foegone		
1		6.15			6.15				0.00	-6.15
2		73.88			73.88			-0.12	-0.12	-74.00
3		73.85			73.85			-0.25	-0.25	-74.10
4				5.01	5.01	36.34	-1.85	-0.25	34.24	29.23
5				5.01	5.01	50.87	-2.58	-0.25	48.04	43.03
6				5.01	5.01	58.14	-2.95	-0.25	54.94	49.93
7				5.01	5.01	65.41	-3.32	-0.25	61.84	56.83
8				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
9				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
10				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
11				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
12				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
13			3.09	5.01	8.10	72.67	-3.69	-0.25	68.73	60.63
14				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
15				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
16				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
17				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
18				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
19				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
20				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
21				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
22				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
23			3.09	5.01	8.10	72.67	-3.69	-0.25	68.73	60.63
24				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
25				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
26				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
27				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
28			20.25	5.01	25.26	72.67	-3.69	-0.25	68.73	43.47
29				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
30				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
31				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
32				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
33			3.09	5.01	8.10	72.67	-3.69	-0.25	68.73	60.63
34				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
35				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
36				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
37				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
38				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
39				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
40				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
41				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
42				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
43			3.09	5.01	8.10	72.67	-3.69	-0.25	68.73	60.63
44				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
45				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
46				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
47				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
48				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
49				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72
50				5.01	5.01	72.67	-3.69	-0.25	68.73	63.72

(Proposed Cropping Pattern B & C)

IRR = 27.72% (Unit : Peso 10^6)

Year In Order	Cost					Benefit				Benefit-Cost
	Capital Cost		Replace-ment Cost	O & M Cost	Total Cost	Irrigation Benefit	Flood Production		Tatal Benefit	
	Dam	Irrigation					Damage	Foegone		
1		6.08			6.08				0.00	-6.08
2		73.16			73.16			-0.12	-0.12	-73.28
3		73.13			73.13			-0.25	-0.25	-73.38
4				5.01	5.01	35.69	-1.84	-0.25	33.60	28.59
5				5.01	5.01	49.96	-2.57	-0.25	47.14	42.13
6				5.01	5.01	57.10	-2.94	-0.25	53.91	48.90
7				5.01	5.01	64.24	-3.30	-0.25	60.69	55.68
8				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
9				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
10				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
11				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
12				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
13			3.09	5.01	8.10	71.37	-3.67	-0.25	67.45	59.35
14				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
15				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
16				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
17				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
18				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
19				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
20				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
21				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
22				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
23			3.09	5.01	8.10	71.37	-3.67	-0.25	67.45	59.35
24				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
25				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
26				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
27				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
28			21.83	5.01	26.84	71.37	-3.67	-0.25	67.45	40.61
29				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
30				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
31				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
32				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
33			3.09	5.01	8.10	71.37	-3.67	-0.25	67.45	59.35
34				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
35				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
36				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
37				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
38				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
39				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
40				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
41				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
42				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
43			3.09	5.01	8.10	71.37	-3.67	-0.25	67.45	59.35
44				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
45				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
46				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
47				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
48				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
49				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44
50				5.01	5.01	71.37	-3.67	-0.25	67.45	62.44

(to be continued)

(continuation)

Table 6.16 (9) Economic Cost and Benefit Flow for Gappal I P (Pump Scheme)

(Proposed Cropping Pattern A & C)

IRR = 20.20%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost Dam	Cost: Capital Cost Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		11.35			11.35				0.00	-11.35
2		137.75			137.75			-0.27	-0.27	-138.02
3		137.70			137.70			-0.54	-0.54	-138.24
4				20.35	20.35	52.52	-1.42	-0.54	50.56	30.21
5				20.35	20.35	73.53	-1.98	-0.54	71.01	50.66
6				20.35	20.35	84.03	-2.26	-0.54	81.23	60.88
7				20.35	20.35	94.54	-2.55	-0.54	91.45	71.10
8				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
9				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
10				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
11				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
12				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
13			4.40	20.35	24.75	105.04	-2.83	-0.54	101.67	76.92
14				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
15				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
16				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
17				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
18				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
19				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
20				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
21				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
22				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
23			4.40	20.35	24.75	105.04	-2.83	-0.54	101.67	76.92
24				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
25				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
26				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
27				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
28			68.85	20.35	89.20	105.04	-2.83	-0.54	101.67	12.47
29				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
30				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
31				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
32				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
33			4.40	20.35	24.75	105.04	-2.83	-0.54	101.67	76.92
34				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
35				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
36				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
37				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
38				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
39				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
40				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
41				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
42				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
43			4.40	20.35	24.75	105.04	-2.83	-0.54	101.67	76.92
44				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
45				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
46				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
47				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
48				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
49				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32
50				20.35	20.35	105.04	-2.83	-0.54	101.67	81.32

(Proposed Cropping Pattern B & C)

IRR = 16.20%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost Dam	Cost: Capital Cost Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		11.35			11.35				0.00	-11.35
2		137.75			137.75			-0.27	-0.27	-138.02
3		137.70			137.70			-0.54	-0.54	-138.24
4				18.38	18.38	41.81	-1.17	-0.54	40.10	21.72
5				18.38	18.38	58.54	-1.64	-0.54	56.36	37.98
6				18.38	18.38	66.90	-1.87	-0.54	64.49	46.11
7				18.38	18.38	75.26	-2.11	-0.54	72.61	54.23
8				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
9				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
10				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
11				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
12				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
13			4.40	18.38	22.78	83.62	-2.34	-0.54	80.74	57.96
14				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
15				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
16				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
17				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
18				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
19				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
20				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
21				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
22				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
23			4.40	18.38	22.78	83.62	-2.34	-0.54	80.74	57.96
24				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
25				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
26				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
27				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
28			68.85	18.38	87.23	83.62	-2.34	-0.54	80.74	-6.49
29				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
30				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
31				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
32				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
33			4.40	18.38	22.78	83.62	-2.34	-0.54	80.74	57.96
34				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
35				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
36				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
37				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
38				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
39				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
40				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
41				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
42				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
43			4.40	18.38	22.78	83.62	-2.34	-0.54	80.74	57.96
44				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
45				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
46				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
47				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
48				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
49				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36
50				18.38	18.38	83.62	-2.34	-0.54	80.74	62.36

(to be continued)

(continuation)

Table 6.16 (10) Economic Cost and Benefit Flow for Gappal I P (Dam)

(Proposed Cropping Pattern A & C)

IRR = 13.53%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost Dam	Cost: Capital Cost Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	29.84				29.84				0.00	-29.84
2	75.97	7.79			83.76			-0.22	-0.22	-83.98
3	134.29	92.35			226.64			-0.43	-0.43	-227.07
4	114.96	92.30			207.26			-0.74	-0.74	-208.00
5				5.31	5.31	52.52	-1.42	-0.74	50.36	45.05
6				5.31	5.31	73.53	-1.98	-0.74	70.81	65.50
7				5.31	5.31	84.03	-2.26	-0.74	81.03	75.72
8				5.31	5.31	94.54	-2.55	-0.74	91.25	85.94
9				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
10				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
11				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
12				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
13				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
14			4.40	5.31	9.71	105.04	-2.83	-0.74	101.47	91.76
15				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
16				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
17				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
18				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
19				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
20				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
21				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
22				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
23				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
24			4.40	5.31	9.71	105.04	-2.83	-0.74	101.47	91.76
25				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
26				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
27				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
28				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
29			2.60	5.31	7.91	105.04	-2.83	-0.74	101.47	93.56
30				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
31				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
32				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
33				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
34			4.40	5.31	9.71	105.04	-2.83	-0.74	101.47	91.76
35				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
36				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
37				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
38				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
39				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
40				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
41				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
42				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
43				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
44			4.40	5.31	9.71	105.04	-2.83	-0.74	101.47	91.76
45				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
46				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
47				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
48				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
49				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16
50				5.31	5.31	105.04	-2.83	-0.74	101.47	96.16

(Proposed Cropping Pattern B & C)

IRR = 11.42%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost Dam	Cost: Capital Cost Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	27.96				27.96				0.00	-27.96
2	71.16	7.79			78.95			-0.22	-0.22	-79.17
3	125.81	92.35			218.16			-0.43	-0.43	-218.59
4	107.69	92.30			199.99			-0.72	-0.72	-200.71
5				5.09	5.09	41.81	-1.17	-0.72	39.92	34.83
6				5.09	5.09	58.54	-1.64	-0.72	56.18	51.09
7				5.09	5.09	66.90	-1.87	-0.72	64.31	59.22
8				5.09	5.09	75.26	-2.11	-0.72	72.43	67.34
9				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
10				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
11				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
12				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
13				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
14			4.00	5.09	9.09	83.62	-2.34	-0.72	80.56	71.47
15				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
16				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
17				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
18				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
19				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
20				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
21				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
22				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
23				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
24			4.00	5.09	9.09	83.62	-2.34	-0.72	80.56	71.47
25				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
26				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
27				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
28				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
29			2.70	5.09	7.79	83.62	-2.34	-0.72	80.56	72.77
30				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
31				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
32				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
33				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
34			4.00	5.09	9.09	83.62	-2.34	-0.72	80.56	71.47
35				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
36				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
37				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
38				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
39				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
40				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
41				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
42				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
43				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
44			4.00	5.09	9.09	83.62	-2.34	-0.72	80.56	71.47
45				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
46				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
47				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
48				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
49				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47
50				5.09	5.09	83.62	-2.34	-0.72	80.56	75.47

(to be continued)

(continuation)

Table 6.16 (11) Economic Cost and Benefit Flow for Dummun R I S

(Proposed Cropping Pattern A)

IRR = 8.00%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	49.16				49.16				0.00	-49.16
2	81.94	1.27			83.21				0.00	-83.21
3	114.72	14.88			129.60	4.34	-0.33		4.01	-125.59
4	81.94	14.88			96.82	10.42	-0.80		9.62	-87.20
5				4.38	4.38	25.01	-1.92		23.09	18.71
6				4.38	4.38	31.54	-2.42		29.12	24.74
7				4.38	4.38	35.67	-2.74		32.93	28.55
8				4.38	4.38	38.93	-2.99		35.94	31.56
9				4.38	4.38	41.33	-3.17		38.16	33.78
10				4.38	4.38	41.33	-3.17		38.16	33.78
11				4.38	4.38	41.33	-3.17		38.16	33.78
12				4.38	4.38	41.33	-3.17		38.16	33.78
13				4.38	4.38	41.33	-3.17		38.16	33.78
14			1.04	4.38	5.42	41.33	-3.17		38.16	32.74
15				4.38	4.38	41.33	-3.17		38.16	33.78
16				4.38	4.38	41.33	-3.17		38.16	33.78
17				4.38	4.38	41.33	-3.17		38.16	33.78
18				4.38	4.38	41.33	-3.17		38.16	33.78
19				4.38	4.38	41.33	-3.17		38.16	33.78
20				4.38	4.38	41.33	-3.17		38.16	33.78
21				4.38	4.38	41.33	-3.17		38.16	33.78
22				4.38	4.38	41.33	-3.17		38.16	33.78
23				4.38	4.38	41.33	-3.17		38.16	33.78
24			1.04	4.38	5.42	41.33	-3.17		38.16	32.74
25				4.38	4.38	41.33	-3.17		38.16	33.78
26				4.38	4.38	41.33	-3.17		38.16	33.78
27				4.38	4.38	41.33	-3.17		38.16	33.78
28				4.38	4.38	41.33	-3.17		38.16	33.78
29			0.55	4.38	4.93	41.33	-3.17		38.16	33.23
30				4.38	4.38	41.33	-3.17		38.16	33.78
31				4.38	4.38	41.33	-3.17		38.16	33.78
32				4.38	4.38	41.33	-3.17		38.16	33.78
33				4.38	4.38	41.33	-3.17		38.16	33.78
34			1.04	4.38	5.42	41.33	-3.17		38.16	32.74
35				4.38	4.38	41.33	-3.17		38.16	33.78
36				4.38	4.38	41.33	-3.17		38.16	33.78
37				4.38	4.38	41.33	-3.17		38.16	33.78
38				4.38	4.38	41.33	-3.17		38.16	33.78
39				4.38	4.38	41.33	-3.17		38.16	33.78
40				4.38	4.38	41.33	-3.17		38.16	33.78
41				4.38	4.38	41.33	-3.17		38.16	33.78
42				4.38	4.38	41.33	-3.17		38.16	33.78
43				4.38	4.38	41.33	-3.17		38.16	33.78
44			1.04	4.38	5.42	41.33	-3.17		38.16	32.74
45				4.38	4.38	41.33	-3.17		38.16	33.78
46				4.38	4.38	41.33	-3.17		38.16	33.78
47				4.38	4.38	41.33	-3.17		38.16	33.78
48				4.38	4.38	41.33	-3.17		38.16	33.78
49				4.38	4.38	41.33	-3.17		38.16	33.78
50				4.38	4.38	41.33	-3.17		38.16	33.78

(Proposed Cropping Pattern B)

IRR = 5.72%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment Cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	43.35				43.35				0.00	-43.35
2	72.25	1.27			73.52				0.00	-73.52
3	101.15	14.88			116.03	2.93	-0.21		2.72	-113.31
4	72.25	14.88			87.13	7.03	-0.49		6.54	-80.59
5				3.96	3.96	16.88	-1.19		15.69	11.73
6				3.96	3.96	21.28	-1.50		19.78	15.82
7				3.96	3.96	24.07	-1.69		22.38	18.42
8				3.96	3.96	26.28	-1.85		24.43	20.47
9				3.96	3.96	27.89	-1.96		25.93	21.97
10				3.96	3.96	27.89	-1.96		25.93	21.97
11				3.96	3.96	27.89	-1.96		25.93	21.97
12				3.96	3.96	27.89	-1.96		25.93	21.97
13				3.96	3.96	27.89	-1.96		25.93	21.97
14			1.04	3.96	5.00	27.89	-1.96		25.93	20.93
15				3.96	3.96	27.89	-1.96		25.93	21.97
16				3.96	3.96	27.89	-1.96		25.93	21.97
17				3.96	3.96	27.89	-1.96		25.93	21.97
18				3.96	3.96	27.89	-1.96		25.93	21.97
19				3.96	3.96	27.89	-1.96		25.93	21.97
20				3.96	3.96	27.89	-1.96		25.93	21.97
21				3.96	3.96	27.89	-1.96		25.93	21.97
22				3.96	3.96	27.89	-1.96		25.93	21.97
23				3.96	3.96	27.89	-1.96		25.93	21.97
24			1.04	3.96	5.00	27.89	-1.96		25.93	20.93
25				3.96	3.96	27.89	-1.96		25.93	21.97
26				3.96	3.96	27.89	-1.96		25.93	21.97
27				3.96	3.96	27.89	-1.96		25.93	21.97
28				3.96	3.96	27.89	-1.96		25.93	21.97
29			0.55	3.96	4.51	27.89	-1.96		25.93	21.42
30				3.96	3.96	27.89	-1.96		25.93	21.97
31				3.96	3.96	27.89	-1.96		25.93	21.97
32				3.96	3.96	27.89	-1.96		25.93	21.97
33				3.96	3.96	27.89	-1.96		25.93	21.97
34			1.04	3.96	5.00	27.89	-1.96		25.93	20.93
35				3.96	3.96	27.89	-1.96		25.93	21.97
36				3.96	3.96	27.89	-1.96		25.93	21.97
37				3.96	3.96	27.89	-1.96		25.93	21.97
38				3.96	3.96	27.89	-1.96		25.93	21.97
39				3.96	3.96	27.89	-1.96		25.93	21.97
40				3.96	3.96	27.89	-1.96		25.93	21.97
41				3.96	3.96	27.89	-1.96		25.93	21.97
42				3.96	3.96	27.89	-1.96		25.93	21.97
43				3.96	3.96	27.89	-1.96		25.93	21.97
44			1.04	3.96	5.00	27.89	-1.96		25.93	20.93
45				3.96	3.96	27.89	-1.96		25.93	21.97
46				3.96	3.96	27.89	-1.96		25.93	21.97
47				3.96	3.96	27.89	-1.96		25.93	21.97
48				3.96	3.96	27.89	-1.96		25.93	21.97
49				3.96	3.96	27.89	-1.96		25.93	21.97
50				3.96	3.96	27.89	-1.96		25.93	21.97

(to be continued)

(continuation)

Table 6.16 (12) Economic Cost and Benefit Flow for Bagao I S

(Proposed Cropping Pattern A)

IRR = 7.28%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Capital Cost: Irrigation	Replace-ment cost	O & M Cost	Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Tatal Benefit	Benefit-Cost
1	16.43				16.43				0.00	-16.43
2	65.72	0.97			66.69				0.00	-66.69
3	131.43	11.47			142.90	4.02			4.02	-138.88
4	115.01	11.47			126.48	9.66			9.66	-116.82
5				4.28	4.28	20.79			20.79	16.51
6				4.28	4.28	25.88			25.88	21.60
7				4.28	4.28	29.24			29.24	24.96
8				4.28	4.28	31.79			31.79	27.51
9				4.28	4.28	33.53			33.53	29.25
10				4.28	4.28	33.53			33.53	29.25
11				4.28	4.28	33.53			33.53	29.25
12				4.28	4.28	33.53			33.53	29.25
13				4.28	4.28	33.53			33.53	29.25
14			0.91	4.28	5.19	33.53			33.53	28.34
15				4.28	4.28	33.53			33.53	29.25
16				4.28	4.28	33.53			33.53	29.25
17				4.28	4.28	33.53			33.53	29.25
18				4.28	4.28	33.53			33.53	29.25
19				4.28	4.28	33.53			33.53	29.25
20				4.28	4.28	33.53			33.53	29.25
21				4.28	4.28	33.53			33.53	29.25
22				4.28	4.28	33.53			33.53	29.25
23				4.28	4.28	33.53			33.53	29.25
24			0.91	4.28	5.19	33.53			33.53	28.34
25				4.28	4.28	33.53			33.53	29.25
26				4.28	4.28	33.53			33.53	29.25
27				4.28	4.28	33.53			33.53	29.25
28				4.28	4.28	33.53			33.53	29.25
29			0.61	4.28	4.89	33.53			33.53	28.64
30				4.28	4.28	33.53			33.53	29.25
31				4.28	4.28	33.53			33.53	29.25
32				4.28	4.28	33.53			33.53	29.25
33				4.28	4.28	33.53			33.53	29.25
34			0.91	4.28	5.19	33.53			33.53	28.34
35				4.28	4.28	33.53			33.53	29.25
36				4.28	4.28	33.53			33.53	29.25
37				4.28	4.28	33.53			33.53	29.25
38				4.28	4.28	33.53			33.53	29.25
39				4.28	4.28	33.53			33.53	29.25
40				4.28	4.28	33.53			33.53	29.25
41				4.28	4.28	33.53			33.53	29.25
42				4.28	4.28	33.53			33.53	29.25
43				4.28	4.28	33.53			33.53	29.25
44			0.91	4.28	5.19	33.53			33.53	28.34
45				4.28	4.28	33.53			33.53	29.25
46				4.28	4.28	33.53			33.53	29.25
47				4.28	4.28	33.53			33.53	29.25
48				4.28	4.28	33.53			33.53	29.25
49				4.28	4.28	33.53			33.53	29.25
50				4.28	4.28	33.53			33.53	29.25

(Proposed Cropping Pattern B)

IRR = 5.73%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Capital Cost: Irrigation	Replace-ment cost	O & M Cost	Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Tatal Benefit	Benefit-Cost
1	12.98				12.98				0.00	-12.98
2	51.94	0.97			52.91				0.00	-52.91
3	103.88	11.47			115.35	2.71			2.71	-112.64
4	90.89	11.47			102.36	6.50			6.50	-95.86
5				3.53	3.53	13.99			13.99	10.46
6				3.53	3.53	17.42			17.42	13.89
7				3.53	3.53	19.68			19.68	16.15
8				3.53	3.53	21.39			21.39	17.86
9				3.53	3.53	22.57			22.57	19.04
10				3.53	3.53	22.57			22.57	19.04
11				3.53	3.53	22.57			22.57	19.04
12				3.53	3.53	22.57			22.57	19.04
13				3.53	3.53	22.57			22.57	19.04
14			0.91	3.53	4.44	22.57			22.57	18.13
15				3.53	3.53	22.57			22.57	19.04
16				3.53	3.53	22.57			22.57	19.04
17				3.53	3.53	22.57			22.57	19.04
18				3.53	3.53	22.57			22.57	19.04
19				3.53	3.53	22.57			22.57	19.04
20				3.53	3.53	22.57			22.57	19.04
21				3.53	3.53	22.57			22.57	19.04
22				3.53	3.53	22.57			22.57	19.04
23				3.53	3.53	22.57			22.57	19.04
24			0.91	3.53	4.44	22.57			22.57	18.13
25				3.53	3.53	22.57			22.57	19.04
26				3.53	3.53	22.57			22.57	19.04
27				3.53	3.53	22.57			22.57	19.04
28				3.53	3.53	22.57			22.57	19.04
29			0.61	3.53	4.14	22.57			22.57	18.43
30				3.53	3.53	22.57			22.57	19.04
31				3.53	3.53	22.57			22.57	19.04
32				3.53	3.53	22.57			22.57	19.04
33				3.53	3.53	22.57			22.57	19.04
34			0.91	3.53	4.44	22.57			22.57	18.13
35				3.53	3.53	22.57			22.57	19.04
36				3.53	3.53	22.57			22.57	19.04
37				3.53	3.53	22.57			22.57	19.04
38				3.53	3.53	22.57			22.57	19.04
39				3.53	3.53	22.57			22.57	19.04
40				3.53	3.53	22.57			22.57	19.04
41				3.53	3.53	22.57			22.57	19.04
42				3.53	3.53	22.57			22.57	19.04
43				3.53	3.53	22.57			22.57	19.04
44			0.91	3.53	4.44	22.57			22.57	18.13
45				3.53	3.53	22.57			22.57	19.04
46				3.53	3.53	22.57			22.57	19.04
47				3.53	3.53	22.57			22.57	19.04
48				3.53	3.53	22.57			22.57	19.04
49				3.53	3.53	22.57			22.57	19.04
50				3.53	3.53	22.57			22.57	19.04

(to be continued)

(continuation)

Table 6.16 (13) Economic Cost and Benefit Flow for Solana I S

(Proposed Cropping Pattern A)

IRR = 39.04%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		2.69			2.69				0.00	-2.69
2		32.72			32.72				0.00	-32.72
3		32.72			32.72	7.78	-1.26		6.52	-26.20
4				11.49	11.49	34.78	-5.61		29.17	17.68
5				11.49	11.49	45.90	-7.41		38.49	27.00
6				11.49	11.49	52.23	-8.43		43.80	32.31
7				11.49	11.49	58.56	-9.45		49.11	37.62
8				11.49	11.49	63.34	-10.22		53.12	41.63
9				11.49	11.49	63.34	-10.22		53.12	41.63
10				11.49	11.49	63.34	-10.22		53.12	41.63
11				11.49	11.49	63.34	-10.22		53.12	41.63
12				11.49	11.49	63.34	-10.22		53.12	41.63
13			1.41	11.49	12.90	63.34	-10.22		53.12	40.22
14				11.49	11.49	63.34	-10.22		53.12	41.63
15				11.49	11.49	63.34	-10.22		53.12	41.63
16				11.49	11.49	63.34	-10.22		53.12	41.63
17				11.49	11.49	63.34	-10.22		53.12	41.63
18			47.23	11.49	58.72	63.34	-10.22		53.12	-5.60
19				11.49	11.49	63.34	-10.22		53.12	41.63
20				11.49	11.49	63.34	-10.22		53.12	41.63
21				11.49	11.49	63.34	-10.22		53.12	41.63
22				11.49	11.49	63.34	-10.22		53.12	41.63
23			1.41	11.49	12.90	63.34	-10.22		53.12	40.22
24				11.49	11.49	63.34	-10.22		53.12	41.63
25				11.49	11.49	63.34	-10.22		53.12	41.63
26				11.49	11.49	63.34	-10.22		53.12	41.63
27				11.49	11.49	63.34	-10.22		53.12	41.63
28			19.55	11.49	31.04	63.34	-10.22		53.12	22.08
29				11.49	11.49	63.34	-10.22		53.12	41.63
30				11.49	11.49	63.34	-10.22		53.12	41.63
31				11.49	11.49	63.34	-10.22		53.12	41.63
32				11.49	11.49	63.34	-10.22		53.12	41.63
33			1.41	11.49	12.90	63.34	-10.22		53.12	40.22
34				11.49	11.49	63.34	-10.22		53.12	41.63
35				11.49	11.49	63.34	-10.22		53.12	41.63
36				11.49	11.49	63.34	-10.22		53.12	41.63
37				11.49	11.49	63.34	-10.22		53.12	41.63
38				11.49	11.49	63.34	-10.22		53.12	41.63
39				11.49	11.49	63.34	-10.22		53.12	41.63
40				11.49	11.49	63.34	-10.22		53.12	41.63
41				11.49	11.49	63.34	-10.22		53.12	41.63
42				11.49	11.49	63.34	-10.22		53.12	41.63
43			48.64	11.49	60.13	63.34	-10.22		53.12	-7.01
44				11.49	11.49	63.34	-10.22		53.12	41.63
45				11.49	11.49	63.34	-10.22		53.12	41.63
46				11.49	11.49	63.34	-10.22		53.12	41.63
47				11.49	11.49	63.34	-10.22		53.12	41.63
48				11.49	11.49	63.34	-10.22		53.12	41.63
49				11.49	11.49	63.34	-10.22		53.12	41.63
50				11.49	11.49	63.34	-10.22		53.12	41.63

(Proposed Cropping Pattern B)

IRR = 28.49%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		2.69			2.69				0.00	-2.69
2		32.72			32.72				0.00	-32.72
3		32.72			32.72	5.53	-0.78		4.75	-27.97
4				10.14	10.14	24.70	-3.49		21.21	11.07
5				10.14	10.14	32.59	-4.61		27.98	17.84
6				10.14	10.14	37.09	-5.24		31.85	21.71
7				10.14	10.14	41.59	-5.88		35.71	25.57
8				10.14	10.14	44.98	-6.36		38.62	28.48
9				10.14	10.14	44.98	-6.36		38.62	28.48
10				10.14	10.14	44.98	-6.36		38.62	28.48
11				10.14	10.14	44.98	-6.36		38.62	28.48
12				10.14	10.14	44.98	-6.36		38.62	28.48
13			1.41	10.14	11.55	44.98	-6.36		38.62	27.07
14				10.14	10.14	44.98	-6.36		38.62	28.48
15				10.14	10.14	44.98	-6.36		38.62	28.48
16				10.14	10.14	44.98	-6.36		38.62	28.48
17				10.14	10.14	44.98	-6.36		38.62	28.48
18			47.23	10.14	57.37	44.98	-6.36		38.62	-18.75
19				10.14	10.14	44.98	-6.36		38.62	28.48
20				10.14	10.14	44.98	-6.36		38.62	28.48
21				10.14	10.14	44.98	-6.36		38.62	28.48
22				10.14	10.14	44.98	-6.36		38.62	28.48
23			1.41	10.14	11.55	44.98	-6.36		38.62	27.07
24				10.14	10.14	44.98	-6.36		38.62	28.48
25				10.14	10.14	44.98	-6.36		38.62	28.48
26				10.14	10.14	44.98	-6.36		38.62	28.48
27				10.14	10.14	44.98	-6.36		38.62	28.48
28			19.55	10.14	29.69	44.98	-6.36		38.62	8.93
29				10.14	10.14	44.98	-6.36		38.62	28.48
30				10.14	10.14	44.98	-6.36		38.62	28.48
31				10.14	10.14	44.98	-6.36		38.62	28.48
32				10.14	10.14	44.98	-6.36		38.62	28.48
33			1.41	10.14	11.55	44.98	-6.36		38.62	27.07
34				10.14	10.14	44.98	-6.36		38.62	28.48
35				10.14	10.14	44.98	-6.36		38.62	28.48
36				10.14	10.14	44.98	-6.36		38.62	28.48
37				10.14	10.14	44.98	-6.36		38.62	28.48
38				10.14	10.14	44.98	-6.36		38.62	28.48
39				10.14	10.14	44.98	-6.36		38.62	28.48
40				10.14	10.14	44.98	-6.36		38.62	28.48
41				10.14	10.14	44.98	-6.36		38.62	28.48
42				10.14	10.14	44.98	-6.36		38.62	28.48
43			48.64	10.14	58.78	44.98	-6.36		38.62	-20.16
44				10.14	10.14	44.98	-6.36		38.62	28.48
45				10.14	10.14	44.98	-6.36		38.62	28.48
46				10.14	10.14	44.98	-6.36		38.62	28.48
47				10.14	10.14	44.98	-6.36		38.62	28.48
48				10.14	10.14	44.98	-6.36		38.62	28.48
49				10.14	10.14	44.98	-6.36		38.62	28.48
50				10.14	10.14	44.98	-6.36		38.62	28.48

(to be continued)

(continuation)

Table 6.16 (14) Economic Cost and Benefit Flow for Pinacanauan I S

(Proposed Cropping Pattern A)

IRR = 75.74%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replacement cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		1.68			1.68				0.00	-1.68
2		19.30			19.30				0.00	-19.30
3				0.48	0.48	12.84			12.84	12.36
4				0.48	0.48	17.98			17.98	17.50
5				0.48	0.48	20.54			20.54	20.06
6				0.48	0.48	23.11			23.11	22.63
7				0.48	0.48	25.68			25.68	25.20
8				0.48	0.48	25.68			25.68	25.20
9				0.48	0.48	25.68			25.68	25.20
10				0.48	0.48	25.68			25.68	25.20
11				0.48	0.48	25.68			25.68	25.20
12			0.60	0.48	1.08	25.68			25.68	24.60
13				0.48	0.48	25.68			25.68	25.20
14				0.48	0.48	25.68			25.68	25.20
15				0.48	0.48	25.68			25.68	25.20
16				0.48	0.48	25.68			25.68	25.20
17				0.48	0.48	25.68			25.68	25.20
18				0.48	0.48	25.68			25.68	25.20
19				0.48	0.48	25.68			25.68	25.20
20				0.48	0.48	25.68			25.68	25.20
21				0.48	0.48	25.68			25.68	25.20
22			0.60	0.48	1.08	25.68			25.68	24.60
23				0.48	0.48	25.68			25.68	25.20
24				0.48	0.48	25.68			25.68	25.20
25				0.48	0.48	25.68			25.68	25.20
26				0.48	0.48	25.68			25.68	25.20
27			0.77	0.48	1.25	25.68			25.68	24.43
28				0.48	0.48	25.68			25.68	25.20
29				0.48	0.48	25.68			25.68	25.20
30				0.48	0.48	25.68			25.68	25.20
31				0.48	0.48	25.68			25.68	25.20
32			0.60	0.48	1.08	25.68			25.68	24.60
33				0.48	0.48	25.68			25.68	25.20
34				0.48	0.48	25.68			25.68	25.20
35				0.48	0.48	25.68			25.68	25.20
36				0.48	0.48	25.68			25.68	25.20
37				0.48	0.48	25.68			25.68	25.20
38				0.48	0.48	25.68			25.68	25.20
39				0.48	0.48	25.68			25.68	25.20
40				0.48	0.48	25.68			25.68	25.20
41				0.48	0.48	25.68			25.68	25.20
42			0.60	0.48	1.08	25.68			25.68	24.60
43				0.48	0.48	25.68			25.68	25.20
44				0.48	0.48	25.68			25.68	25.20
45				0.48	0.48	25.68			25.68	25.20
46				0.48	0.48	25.68			25.68	25.20
47				0.48	0.48	25.68			25.68	25.20
48				0.48	0.48	25.68			25.68	25.20
49				0.48	0.48	25.68			25.68	25.20
50				0.48	0.48	25.68			25.68	25.20

(Proposed Cropping Pattern B)

IRR = 55.96%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replacement cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1		1.68			1.68				0.00	-1.68
2		19.30			19.30				0.00	-19.30
3				0.48	0.48	8.95			8.95	8.47
4				0.48	0.48	12.52			12.52	12.04
5				0.48	0.48	14.31			14.31	13.83
6				0.48	0.48	16.10			16.10	15.62
7				0.48	0.48	17.89			17.89	17.41
8				0.48	0.48	17.89			17.89	17.41
9				0.48	0.48	17.89			17.89	17.41
10				0.48	0.48	17.89			17.89	17.41
11				0.48	0.48	17.89			17.89	17.41
12			0.60	0.48	1.08	17.89			17.89	16.81
13				0.48	0.48	17.89			17.89	17.41
14				0.48	0.48	17.89			17.89	17.41
15				0.48	0.48	17.89			17.89	17.41
16				0.48	0.48	17.89			17.89	17.41
17				0.48	0.48	17.89			17.89	17.41
18				0.48	0.48	17.89			17.89	17.41
19				0.48	0.48	17.89			17.89	17.41
20				0.48	0.48	17.89			17.89	17.41
21				0.48	0.48	17.89			17.89	17.41
22			0.60	0.48	1.08	17.89			17.89	16.81
23				0.48	0.48	17.89			17.89	17.41
24				0.48	0.48	17.89			17.89	17.41
25				0.48	0.48	17.89			17.89	17.41
26				0.48	0.48	17.89			17.89	17.41
27			0.77	0.48	1.25	17.89			17.89	16.64
28				0.48	0.48	17.89			17.89	17.41
29				0.48	0.48	17.89			17.89	17.41
30				0.48	0.48	17.89			17.89	17.41
31				0.48	0.48	17.89			17.89	17.41
32			0.60	0.48	1.08	17.89			17.89	16.81
33				0.48	0.48	17.89			17.89	17.41
34				0.48	0.48	17.89			17.89	17.41
35				0.48	0.48	17.89			17.89	17.41
36				0.48	0.48	17.89			17.89	17.41
37				0.48	0.48	17.89			17.89	17.41
38				0.48	0.48	17.89			17.89	17.41
39				0.48	0.48	17.89			17.89	17.41
40				0.48	0.48	17.89			17.89	17.41
41				0.48	0.48	17.89			17.89	17.41
42			0.60	0.48	1.08	17.89			17.89	16.81
43				0.48	0.48	17.89			17.89	17.41
44				0.48	0.48	17.89			17.89	17.41
45				0.48	0.48	17.89			17.89	17.41
46				0.48	0.48	17.89			17.89	17.41
47				0.48	0.48	17.89			17.89	17.41
48				0.48	0.48	17.89			17.89	17.41
49				0.48	0.48	17.89			17.89	17.41
50				0.48	0.48	17.89			17.89	17.41

(to be continued)

(continuation)

Table 6.16 (15) Economic Cost and Benefit Flow for Tumauini I S

(Proposed Cropping Pattern A)

IRR = 12.63%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	8.29	10.64			18.93				0.00	-18.93
2	37.33	130.23			167.56				0.00	-167.56
3	37.32	130.21			167.53	12.81	-0.71		12.10	-155.43
4				13.85	13.85	40.85	-2.25		38.60	24.75
5				13.85	13.85	52.57	-2.90		49.67	35.82
6				13.85	13.85	59.72	-3.29		56.43	42.58
7				13.85	13.85	66.86	-3.69		63.17	49.32
8				13.85	13.85	71.44	-3.94		67.50	53.65
9				13.85	13.85	71.44	-3.94		67.50	53.65
10				13.85	13.85	71.44	-3.94		67.50	53.65
11				13.85	13.85	71.44	-3.94		67.50	53.65
12				13.85	13.85	71.44	-3.94		67.50	53.65
13			1.92	13.85	15.77	71.44	-3.94		67.50	51.73
14				13.85	13.85	71.44	-3.94		67.50	53.65
15				13.85	13.85	71.44	-3.94		67.50	53.65
16				13.85	13.85	71.44	-3.94		67.50	53.65
17				13.85	13.85	71.44	-3.94		67.50	53.65
18				13.85	13.85	71.44	-3.94		67.50	53.65
19				13.85	13.85	71.44	-3.94		67.50	53.65
20				13.85	13.85	71.44	-3.94		67.50	53.65
21				13.85	13.85	71.44	-3.94		67.50	53.65
22				13.85	13.85	71.44	-3.94		67.50	53.65
23			1.92	13.85	15.77	71.44	-3.94		67.50	51.73
24				13.85	13.85	71.44	-3.94		67.50	53.65
25				13.85	13.85	71.44	-3.94		67.50	53.65
26				13.85	13.85	71.44	-3.94		67.50	53.65
27				13.85	13.85	71.44	-3.94		67.50	53.65
28			76.97	13.85	90.82	71.44	-3.94		67.50	-23.32
29				13.85	13.85	71.44	-3.94		67.50	53.65
30				13.85	13.85	71.44	-3.94		67.50	53.65
31				13.85	13.85	71.44	-3.94		67.50	53.65
32				13.85	13.85	71.44	-3.94		67.50	53.65
33			1.92	13.85	15.77	71.44	-3.94		67.50	51.73
34				13.85	13.85	71.44	-3.94		67.50	53.65
35				13.85	13.85	71.44	-3.94		67.50	53.65
36				13.85	13.85	71.44	-3.94		67.50	53.65
37				13.85	13.85	71.44	-3.94		67.50	53.65
38				13.85	13.85	71.44	-3.94		67.50	53.65
39				13.85	13.85	71.44	-3.94		67.50	53.65
40				13.85	13.85	71.44	-3.94		67.50	53.65
41				13.85	13.85	71.44	-3.94		67.50	53.65
42				13.85	13.85	71.44	-3.94		67.50	53.65
43			1.92	13.85	15.77	71.44	-3.94		67.50	51.73
44				13.85	13.85	71.44	-3.94		67.50	53.65
45				13.85	13.85	71.44	-3.94		67.50	53.65
46				13.85	13.85	71.44	-3.94		67.50	53.65
47				13.85	13.85	71.44	-3.94		67.50	53.65
48				13.85	13.85	71.44	-3.94		67.50	53.65
49				13.85	13.85	71.44	-3.94		67.50	53.65
50				13.85	13.85	71.44	-3.94		67.50	53.65

(Proposed Cropping Pattern B)

IRR = 11.71%

(Unit : Peso 10^6)

Year in Order	Cost: Capital Cost: Dam	Cost: Capital Cost: Irrigation	Cost: Replace-ment cost	Cost: O & M Cost	Cost: Total Cost	Benefit: Irrigation Benefit	Benefit: Flood Damage	Benefit: Production Foegone	Benefit: Tatal Benefit	Benefit-Cost
1	6.41	9.82			16.23				0.00	-16.23
2	28.83	120.14			148.97				0.00	-148.97
3	28.83	120.12			148.95	10.38	-0.44		9.94	-139.01
4				11.54	11.54	33.10	-1.40		31.70	20.16
5				11.54	11.54	42.60	-1.80		40.80	29.26
6				11.54	11.54	48.39	-2.05		46.34	34.80
7				11.54	11.54	54.18	-2.29		51.89	40.35
8				11.54	11.54	57.90	-2.45		55.45	43.91
9				11.54	11.54	57.90	-2.45		55.45	43.91
10				11.54	11.54	57.90	-2.45		55.45	43.91
11				11.54	11.54	57.90	-2.45		55.45	43.91
12				11.54	11.54	57.90	-2.45		55.45	43.91
13			1.92	11.54	13.46	57.90	-2.45		55.45	41.99
14				11.54	11.54	57.90	-2.45		55.45	43.91
15				11.54	11.54	57.90	-2.45		55.45	43.91
16				11.54	11.54	57.90	-2.45		55.45	43.91
17				11.54	11.54	57.90	-2.45		55.45	43.91
18				11.54	11.54	57.90	-2.45		55.45	43.91
19				11.54	11.54	57.90	-2.45		55.45	43.91
20				11.54	11.54	57.90	-2.45		55.45	43.91
21				11.54	11.54	57.90	-2.45		55.45	43.91
22				11.54	11.54	57.90	-2.45		55.45	43.91
23			1.92	11.54	13.46	57.90	-2.45		55.45	41.99
24				11.54	11.54	57.90	-2.45		55.45	43.91
25				11.54	11.54	57.90	-2.45		55.45	43.91
26				11.54	11.54	57.90	-2.45		55.45	43.91
27				11.54	11.54	57.90	-2.45		55.45	43.91
28			69.20	11.54	80.74	57.90	-2.45		55.45	-25.29
29				11.54	11.54	57.90	-2.45		55.45	43.91
30				11.54	11.54	57.90	-2.45		55.45	43.91
31				11.54	11.54	57.90	-2.45		55.45	43.91
32				11.54	11.54	57.90	-2.45		55.45	43.91
33			1.92	11.54	13.46	57.90	-2.45		55.45	41.99
34				11.54	11.54	57.90	-2.45		55.45	43.91
35				11.54	11.54	57.90	-2.45		55.45	43.91
36				11.54	11.54	57.90	-2.45		55.45	43.91
37				11.54	11.54	57.90	-2.45		55.45	43.91
38				11.54	11.54	57.90	-2.45		55.45	43.91
39				11.54	11.54	57.90	-2.45		55.45	43.91
40				11.54	11.54	57.90	-2.45		55.45	43.91
41				11.54	11.54	57.90	-2.45		55.45	43.91
42				11.54	11.54	57.90	-2.45		55.45	43.91
43			1.92	11.54	13.46	57.90	-2.45		55.45	41.99
44				11.54	11.54	57.90	-2.45		55.45	43.91
45				11.54	11.54	57.90	-2.45		55.45	43.91
46				11.54	11.54	57.90	-2.45		55.45	43.91
47				11.54	11.54	57.90	-2.45		55.45	43.91
48				11.54	11.54	57.90	-2.45		55.45	43.91
49				11.54	11.54	57.90	-2.45		55.45	43.91
50				11.54	11.54	57.90	-2.45		55.45	43.91

Table 6.17 Economic Internal Rate of Returns for Irrigation Development Schemes

(Unit: %)

Name of Scheme	Proposed Cropping Pattern A&C	B&C
New Irrigation Scheme		
(1) Chico Mallig IP	15.7	12.9
(2) Matuno RIP	12.4	10.1
(3) Dabubu RIP	19.5	17.2
(4) Zinundungan IEP	13.4	12.5
(5) Alcala Amulung West IP	17.3	14.9
(6) Tuguegarao IP	19.4	18.7
(7) Lulutan IP	22.8	18.0
(8) Ilagan IP	28.0	27.7
(9) Gappal IP - Pump	20.2	16.2
- Dam	13.5	11.4
Rehabilitation/Improvement Scheme		
(1) Dummun RIS	8.0	5.7
(2) Baggao IS	7.3	5.7
(3) Solana IS	39.0	28.5
(4) Pinacanauan IS	75.7	56.0
(5) Tumauini IS	12.6	11.7

Table 6.18 Farm Budgets of Irrigation Development Schemes

Table 6.18 (1) Farm Budget of Chico Mallig Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	22,060	28,030	5,970
Diversified croplan	3,170	3,170	0
(Total)	5,970	0	-5,970
	31,200	31,200	0
2. Harvested Area (ha)			
Paddy -Wet season	22,060	28,030	5,970
-Dry season	0	28,030	28,030
(Total)	22,060	56,060	34,000
Corn	7,800	5,070	-2,730
Tobacco	0	630	630
Vegetables	0	640	640
Beans	0	29,620	29,620
Peanuts	630	0	-630
Sweet potatoes	100	0	-100
Sugar cane	500	0	-500
Total	31,090	92,020	60,930
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.30	4.50	2.20
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,230	5,250	2,020
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	177583	931,998	754,415
Corn	21,060	57,038	35,978
Tobacco	0	12,600	12,600
Vegetables	0	30,784	30,784
Beans	0	439,857	439,857
Peanuts	3,308	0	-3,308
Sweet potatoes	450	0	-450
Sugar cane	5,655	0	-5,655
Total	208056	1,472,277	1,264,221
7. Total Production Cost (1000 Pesos)			
Paddy	71,254	304,686	233,432
Corn	11,700	23,322	11,622
Tobacco	0	3,024	3,024
Vegetables	0	4,877	4,877
Beans	0	82,936	82,936
Peanuts	1,153	0	-1,153
Sweet potatoes	246	0	-246
Sugar cane	2,480	0	-2,480
Total	86,833	418,845	332,012
8. Flood Damaged Value (1000 Pesos)	0	22,105	
9. Total Net Production Value (1000 Pesos)	121,223	1,031,327	910,104
10. Net Production Value per Ha (Peso/Ha)	3,885	33,055	29,170
11. Irrigation Service Fee per Ha (Peso/ha)	0	1,400	1,400
12. Net Farm Income per Ha (Peso/ha)	3,885	31,655	27,770

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	22,060	28,030	5,970
Diversified croplan	3,170	3,170	0
(Total)	5,970	0	-5,970
	31200	31200	0
2. Harvested Area (ha)			
Paddy -Wet season	22,060	28,030	5,970
-Dry season	0	28,030	28,030
(Total)	22,060	56,060	34,000
Corn	7,800	5,070	-2,730
Tobacco	0	630	630
Vegetables	0	640	640
Beans	0	1,590	1,590
Peanuts	630	0	-630
Sweet potatoes	100	0	-100
Sugar cane	500	0	-500
Total	31,090	63,990	32,900
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.30	4.10	1.80
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,230	5,200	1,970
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	177583	892,756	715,173
Corn	21,060	57,038	35,978
Tobacco	0	12,600	12,600
Vegetables	0	30,784	30,784
Beans	0	23,612	23,612
Peanuts	3,308	0	-3,308
Sweet potatoes	450	0	-450
Sugar cane	5,655	0	-5,655
Total	208056	1,016,790	808,734
7. Total Production Cost (1000 Pesos)			
Paddy	71,254	303,285	232,031
Corn	11,700	23,322	11,622
Tobacco	0	3,024	3,024
Vegetables	0	4,877	4,877
Beans	0	4,452	4,452
Peanuts	1,153	0	-1,153
Sweet potatoes	246	0	-246
Sugar cane	2,480	0	-2,480
Total	86,833	338,960	252,127
8. Flood Damaged Value (1000 Pesos)	0	12,617	
9. Total Net Production Value (1000 Pesos)	121,223	665,213	543,990
10. Net Production Value per Ha (Peso/Ha)	3,885	21,321	17,436
11. Irrigation Service Fee per Ha (Peso/ha)	0	875	875
12. Net Farm Income per Ha (Peso/ha)	3,885	20,446	16,561

(to be continued)

(continuation)

Table 6.18 (2) Farm Budget of Matuno River Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	11,050	11,050	0
Diversified croplan	1,630	1,630	0
(Total)	12,680	12,680	0
2. Harvested Area (ha)			
Paddy -Wet season	11,050	11,050	0
-Dry season	6,000	11,050	5,050
(Total)	17,050	22,100	5,050
Corn	2,970	2,610	-360
Tobacco	0	330	330
Vegetables	0	320	320
Beans	0	11,870	11,870
Peanuts	320	0	-320
Sweet potatoes	50	0	-50
Sugar cane	0	0	0
Total	20,390	37,230	16,840
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.30	4.50	2.20
-Dry season	3.15	5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,230	5,250	2,020
-Dry season	3,950	5,620	
Corn	1,670	4,600	2,930
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	155103	367,413	212,310
Corn	8,910	29,363	20,453
Tobacco	0	6,600	6,600
Vegetables	0	15,392	15,392
Beans	0	176,270	176,270
Peanuts	1,680	0	-1,680
Sweet potatoes	225	0	-225
Sugar cane	0	0	0
Total	165918	595,038	429,120
7. Total Production Cost (1000 Pesos)			
Paddy	58,792	120,114	61,322
Corn	4,960	12,006	7,046
Tobacco	0	1,584	1,584
Vegetables	0	2,438	2,438
Beans	0	33,236	33,236
Peanuts	586	0	-586
Sweet potatoes	123	0	-123
Sugar cane	0	0	0
Total	64,461	169,378	104,917
8. Flood Damaged Value (1000 Pesos)	0	24,723	
9. Total Net Production Value (1000 Pesos)	101,457	400,937	299,480
10. Net Production Value per Ha (Peso/Ha)	8,001	31,620	23,619
11. Irrigation Service Fee per Ha (Peso/ha)	0	1,400	1,400
12. Net Farm Income per Ha (Peso/ha)	8,001	30,220	22,219

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	11,050	11,050	0
Diversified croplan	1,630	1,630	0
(Total)	12,680	12,680	0
2. Harvested Area (ha)			
Paddy -Wet season	11,050	11,050	0
-Dry season	6,000	11,050	5,050
(Total)	17,050	22,100	5,050
Corn	2,970	2,610	-360
Tobacco	0	330	330
Vegetables	0	320	320
Beans	0	820	820
Peanuts	320	0	-320
Sweet potatoes	50	0	-50
Sugar cane	0	0	0
Total	20,390	26,180	5,790
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.30	4.10	1.80
-Dry season	3.15	5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,230	5,200	1,970
-Dry season	3,950	5,620	
Corn	1,670	4,600	2,930
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	155103	351,943	196,840
Corn	8,910	29,363	20,453
Tobacco	0	6,600	6,600
Vegetables	0	15,392	15,392
Beans	0	12,177	12,177
Peanuts	1,680	0	-1,680
Sweet potatoes	225	0	-225
Sugar cane	0	0	0
Total	165918	415,475	249,557
7. Total Production Cost (1000 Pesos)			
Paddy	58,792	119,561	60,769
Corn	4,960	12,006	7,046
Tobacco	0	1,584	1,584
Vegetables	0	2,438	2,438
Beans	0	2,296	2,296
Peanuts	586	0	-586
Sweet potatoes	123	0	-123
Sugar cane	0	0	0
Total	64,461	137,885	73,424
8. Flood Damaged Value (1000 Pesos)	0	14,201	
9. Total Net Production Value (1000 Pesos)	101,457	263,389	161,932
10. Net Production Value per Ha (Peso/Ha)	8,001	20,772	12,771
11. Irrigation Service Fee per Ha (Peso/ha)	0	875	875
12. Net Farm Income per Ha (Peso/ha)	8,001	19,897	11,896

(to be contiuned)

(continuation)

Table 6.18 (3) Farm Budget of Dabubu Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	550	550	0
Diversified croplan	450	450	0
(Total)	1,000	1,000	0
2. Harvested Area (ha)			
Paddy -Wet season	500	550	50
-Dry season	0	550	550
(Total)	500	1,100	600
Corn	820	710	-110
Tobacco	50	90	40
Vegetables	0	100	100
Beans	0	780	780
Peanuts	90	0	-90
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	1,460	2,780	1,320
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,250	2,160
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	3,850	18,288	14,438
Corn	2,214	7,988	5,774
Tobacco	300	1,800	1,500
Vegetables	0	4,810	4,810
Beans	0	11,583	11,583
Peanuts	472	0	-472
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,836	44,469	37,633
7. Total Production Cost (1000 Pesos)			
Paddy	1,545	5,979	4,434
Corn	1,230	3,266	2,036
Tobacco	129	432	303
Vegetables	0	762	762
Beans	0	2,184	2,184
Peanuts	165	0	-165
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,069	12,623	9,554
8. Flood Damaged Value (1000 Pesos)	0	0	
9. Total Net Production Value (1000 Pesos)	3,767	31,846	28,079
10. Net Production Value per Ha (Peso/Ha)	3,767	31,846	28,079
11. Irrigation Service Fee per Ha (Peso/ha)	0	1,400	1,400
12. Net Farm Income per Ha (Peso/ha)	3,767	30,446	26,679

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	550	550	0
Diversified croplan	450	450	0
(Total)	1,000	1,000	0
2. Harvested Area (ha)			
Paddy -Wet season	500	550	50
-Dry season	0	550	550
(Total)	500	1,100	600
Corn	820	710	-110
Tobacco	50	90	40
Vegetables	0	100	100
Beans	0	230	230
Peanuts	90	0	-90
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	1,460	2,230	770
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,200	2,110
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	3,850	17,518	13,668
Corn	2,214	7,988	5,774
Tobacco	300	1,800	1,500
Vegetables	0	4,810	4,810
Beans	0	3,416	3,416
Peanuts	472	0	-472
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,836	35,532	28,696
7. Total Production Cost (1000 Pesos)			
Paddy	1,545	5,951	4,406
Corn	1,230	3,266	2,036
Tobacco	129	432	303
Vegetables	0	762	762
Beans	0	644	644
Peanuts	165	0	-165
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,069	11,055	7,986
8. Flood Damaged Value (1000 Pesos)	0	0	
9. Total Net Production Value (1000 Pesos)	3,767	24,477	20,710
10. Net Production Value per Ha (Peso/Ha)	3,767	24,477	20,710
11. Irrigation Service Fee per Ha (Peso/ha)	0	875	875
12. Net Farm Income per Ha (Peso/ha)	3,767	23,602	19,835

(to be continued)

(continuation)

Table 6.18 (4) Farm Budget of Zinundungan Irrigation Extension Project

- Proposed Cropping Pattern A &C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	1,450	1,450	0
Diversified croplan	300	300	0
(Total)	1,750	1,750	0
2. Harvested Area (ha)			
Paddy -Wet season	1,750	1,450	-300
-Dry season	0	1,450	1,450
(Total)	1,750	2,900	1,150
Corn	770	480	-290
Tobacco	0	60	60
Vegetables	0	60	60
Beans	0	1,600	1,600
Peanuts	60	0	-60
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	2,580	5,100	2,520
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.5	4.50	2.00
-Dry season		5.00	
Corn	1.1	3.75	2.65
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,510	5,250	1,740
-Dry season		5,620	
Corn	1,830	4,600	2,770
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	15,313	48,213	32,900
Corn	2,541	5,400	2,859
Tobacco	0	1,200	1,200
Vegetables	0	2,886	2,886
Beans	0	23,760	23,760
Peanuts	315	0	-315
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	18,169	81,459	63,290
7. Total Production Cost (1000 Pesos)			
Paddy	6,143	15,762	9,619
Corn	1,409	2,208	799
Tobacco	0	288	288
Vegetables	0	457	457
Beans	0	4,480	4,480
Peanuts	110	0	-110
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	7,662	23,195	15,533
8. Flood Damaged Value (1000 Pesos)	0	8,363	
9. Total Net Production Value (1000 Pesos)	10,507	49,901	39,394
10. Net Production Value per Ha (Peso/Ha)	6,004	28,515	22,511
11. Irrigation Service Fee per Ha (Peso/ha)	0	1,400	1,400
12. Net Farm Income per Ha (Peso/ha)	6,004	27,115	21,111

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	1,450	1,450	0
Diversified croplan	300	300	0
(Total)	1,750	1,750	0
2. Harvested Area (ha)			
Paddy -Wet season	1,750	1,450	-300
-Dry season	0	1,450	1,450
(Total)	1,750	2,900	1,150
Corn	770	480	-290
Tobacco	0	60	60
Vegetables	0	60	60
Beans	0	150	150
Peanuts	60	0	-60
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	2,580	3,650	1,070
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.5	4.10	1.60
-Dry season		5.00	
Corn	1.1	3.75	2.65
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,510	5,200	1,690
-Dry season		5,620	
Corn	1,830	4,600	2,770
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	15,313	46,183	30,870
Corn	2,541	5,400	2,859
Tobacco	0	1,200	1,200
Vegetables	0	2,886	2,886
Beans	0	2,228	2,228
Peanuts	315	0	-315
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	18,169	57,897	39,728
7. Total Production Cost (1000 Pesos)			
Paddy	6,143	15,689	9,546
Corn	1,409	2,208	799
Tobacco	0	288	288
Vegetables	0	457	457
Beans	0	420	420
Peanuts	110	0	-110
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	7,662	19,062	11,400
8. Flood Damaged Value (1000 Pesos)	0	4,464	
9. Total Net Production Value (1000 Pesos)	10,507	34,371	23,864
10. Net Production Value per Ha (Peso/Ha)	6,004	19,641	13,637
11. Irrigation Service Fee per Ha (Peso/ha)	0	875	875
12. Net Farm Income per Ha (Peso/ha)	6,004	18,766	12,762

(to be continued)

(continuation)

Table 6.18 (5) Farm Budget of Alcala Amulung West Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,850	3,850	0
Diversified croplan	2,900	2,900	0
(Total)	6,750	6,750	0
2. Harvested Area (ha)			
Paddy -Wet season	3,850	3,850	0
-Dry season	0	3,850	3,850
(Total)	3,850	7,700	3,850
Corn	5,410	4,640	-770
Tobacco	0	580	580
Vegetables	0	580	580
Beans	0	5,300	5,300
Peanuts	580	0	-580
Sweet potatoes	60	0	-60
Sugar cane	230	0	-230
Total	10,130	18,800	8,670
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,250	2,160
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	29,645	128,013	98,368
Corn	14,607	52,200	37,593
Tobacco	0	11,600	11,600
Vegetables	0	27,898	27,898
Beans	0	78,705	78,705
Peanuts	3,045	0	-3,045
Sweet potatoes	270	0	-270
Sugar cane	2,601	0	-2,601
Total	50,168	298,416	248,248
7. Total Production Cost (1000 Pesos)			
Paddy	11,897	41,850	29,953
Corn	8,115	21,344	13,229
Tobacco	0	2,784	2,784
Vegetables	0	4,420	4,420
Beans	0	14,840	14,840
Peanuts	1,061	0	-1,061
Sweet potatoes	148	0	-148
Sugar cane	1,141	0	-1,141
Total	22,362	85,238	62,876
8. Flood Damaged Value (1000 Pesos)	0	21,024	
9. Total Net Production Value (1000 Pesos)	27,806	192,154	164,348
10. Net Production Value per Ha (Peso/Ha)	4,119	28,467	24,348
11. Irrigation Service Fee per Ha (Peso/ha)	0	4,270	4,270
12. Net Farm Income per Ha (Peso/ha)	4,119	24,197	20,078

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,850	3,850	0
Diversified croplan	2,900	2,900	0
(Total)	6,750	6,750	0
2. Harvested Area (ha)			
Paddy -Wet season	3,850	3,850	0
-Dry season	0	3,850	3,850
(Total)	3,850	7,700	3,850
Corn	5,410	4,640	-770
Tobacco	0	580	580
Vegetables	0	580	580
Beans	0	1,450	1,450
Peanuts	580	0	-580
Sweet potatoes	60	0	-60
Sugar cane	230	0	-230
Total	10,130	14,950	4,820
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,200	2,110
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	29,645	122,623	92,978
Corn	14,607	52,200	37,593
Tobacco	0	11,600	11,600
Vegetables	0	27,898	27,898
Beans	0	21,533	21,533
Peanuts	3,045	0	-3,045
Sweet potatoes	270	0	-270
Sugar cane	2,601	0	-2,601
Total	50,168	235,854	185,686
7. Total Production Cost (1000 Pesos)			
Paddy	11,897	41,657	29,760
Corn	8,115	21,344	13,229
Tobacco	0	2,784	2,784
Vegetables	0	4,420	4,420
Beans	0	4,060	4,060
Peanuts	1,061	0	-1,061
Sweet potatoes	148	0	-148
Sugar cane	1,141	0	-1,141
Total	22,362	74,265	51,903
8. Flood Damaged Value (1000 Pesos)	0	14,831	
9. Total Net Production Value (1000 Pesos)	27,806	146,758	118,952
10. Net Production Value per Ha (Peso/Ha)	4,119	21,742	17,623
11. Irrigation Service Fee per Ha (Peso/ha)	0	3,910	3,910
12. Net Farm Income per Ha (Peso/ha)	4,119	17,832	13,713

(to be continued)

(continuation)

Table 6.18 (6) Farm Budget of Tuguegarao Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	250	250	0
Diversified croplan	1,150	1,150	0
(Total)	1,400	1,400	0
2. Harvested Area (ha)			
Paddy -Wet season	250	250	0
-Dry season	0	250	250
(Total)	250	500	250
Corn	1,890	1,830	-60
Tobacco	0	230	230
Vegetables	0	240	240
Beans	0	830	830
Peanuts	230	0	-230
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	2,370	3,630	1,260
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	1.20	3.75	2.55
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,250	2,160
-Dry season		5,620	
Corn	2,000	4,600	2,600
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	1,925	8,313	6,388
Corn	6,804	20,588	13,784
Tobacco	0	4,600	4,600
Vegetables	0	11,544	11,544
Beans	0	12,326	12,326
Peanuts	1,208	0	-1,208
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	9,937	57,371	47,434
7. Total Production Cost (1000 Pesos)			
Paddy	773	2,718	1,945
Corn	3,780	8,418	4,638
Tobacco	0	1,104	1,104
Vegetables	0	1,829	1,829
Beans	0	2,324	2,324
Peanuts	421	0	-421
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	4,974	16,393	11,419
8. Flood Damaged Value (1000 Pesos)	0	3,382	
9. Total Net Production Value (1000 Pesos)	4,963	37,596	32,633
10. Net Production Value per Ha (Peso/Ha)	3,545	26,854	23,309
11. Irrigation Service Fee per Ha (Peso/ha)	0	2,640	2,640
12. Net Farm Income per Ha (Peso/ha)	3,545	24,214	20,669

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	250	250	0
Diversified croplan	1,150	1,150	0
(Total)	1,400	1,400	0
2. Harvested Area (ha)			
Paddy -Wet season	250	250	0
-Dry season	0	250	250
(Total)	250	500	250
Corn	1,890	1,830	-60
Tobacco	0	230	230
Vegetables	0	240	240
Beans	0	580	580
Peanuts	230	0	-230
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	2,370	3,380	1,010
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	1.20	3.75	2.55
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,200	2,110
-Dry season		5,620	
Corn	2,000	4,600	2,600
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	1,925	7,963	6,038
Corn	6,804	20,588	13,784
Tobacco	0	4,600	4,600
Vegetables	0	11,544	11,544
Beans	0	8,613	8,613
Peanuts	1,208	0	-1,208
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	9,937	53,308	43,371
7. Total Production Cost (1000 Pesos)			
Paddy	773	2,705	1,932
Corn	3,780	8,418	4,638
Tobacco	0	1,104	1,104
Vegetables	0	1,829	1,829
Beans	0	1,624	1,624
Peanuts	421	0	-421
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	4,974	15,680	10,706
8. Flood Damaged Value (1000 Pesos)	0	2,995	
9. Total Net Production Value (1000 Pesos)	4,963	34,633	29,670
10. Net Production Value per Ha (Peso/Ha)	3,545	24,738	21,193
11. Irrigation Service Fee per Ha (Peso/ha)	0	2,540	2,540
12. Net Farm Income per Ha (Peso/ha)	3,545	22,198	18,653

(to be continued)

(continuation)

Table 6.18 (7) Farm Budget of Lufutan Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	2,410	2,410	0
Diversified croplan	540	2,410	0
(Total)	2,950	2,950	0
2. Harvested Area (ha)			
Paddy -Wet season	2,410	2,410	0
-Dry season	0	2,410	2,410
(Total)	2,410	4,820	2,410
Corn	1,340	870	-470
Tobacco	60	110	50
Vegetables	0	100	100
Beans	0	2,680	2,680
Peanuts	110	0	-110
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,920	8,580	4,660
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,250	2,160
-Dry season		5,620	
Corn	1,670	4,600	2,930
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	18557	80,133	61,576
Corn	4,020	9,788	5,768
Tobacco	360	2,200	1,840
Vegetables	0	4,810	4,810
Beans	0	39,798	39,798
Peanuts	578	0	-578
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	23515	136,729	113,214
7. Total Production Cost (1000 Pesos)			
Paddy	7,447	26,197	18,750
Corn	2,238	4,002	1,764
Tobacco	154	528	374
Vegetables	0	762	762
Beans	0	7,504	7,504
Peanuts	201	0	-201
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	10040	38,993	28,953
8. Flood Damaged Value (1000 Pesos)	0	1,250	
9. Total Net Production Value (1000 Pesos)	13,475	96,486	83,011
10. Net Production Value per Ha (Peso/Ha)	4,568	32,707	28,139
11. Irrigation Service Fee per Ha (Peso/ha)	0	3,950	3,950
12. Net Farm Income per Ha (Peso/ha)	4,568	28,757	24,189

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	2,410	2,410	0
Diversified croplan	540	2,410	0
(Total)	2,950	2,950	0
2. Harvested Area (ha)			
Paddy -Wet season	2,410	2,410	0
-Dry season	0	2,410	2,410
(Total)	2,410	4,820	2,410
Corn	1,340	870	-470
Tobacco	60	110	50
Vegetables	0	100	100
Beans	0	270	270
Peanuts	110	0	-110
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	3,920	6,170	2,250
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	1.00	3.75	2.75
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,200	2,110
-Dry season		5,620	
Corn	1,670	4,600	2,930
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	18557	76,759	58,202
Corn	4,020	9,788	5,768
Tobacco	360	2,200	1,840
Vegetables	0	4,810	4,810
Beans	0	4,010	4,010
Peanuts	578	0	-578
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	23515	97,567	74,052
7. Total Production Cost (1000 Pesos)			
Paddy	7,447	26,076	18,629
Corn	2,238	4,002	1,764
Tobacco	154	528	374
Vegetables	0	762	762
Beans	0	756	756
Peanuts	201	0	-201
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	10040	32,124	22,084
8. Flood Damaged Value (1000 Pesos)	0	756	
9. Total Net Production Value (1000 Pesos)	13,475	64,687	51,212
10. Net Production Value per Ha (Peso/Ha)	4,568	21,928	17,360
11. Irrigation Service Fee per Ha (Peso/ha)	0	3,600	3,600
12. Net Farm Income per Ha (Peso/ha)	4,568	18,328	13,760

(to be continued)

(continuation)

Table 6.18 (6) Farm Budget of Ilagan Irrigation Project

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	200	200	0
Diversified croplan	3,000	3,000	0
(Total)	3,200	3,200	0
2. Harvested Area (ha)			
Paddy -Wet season	200	200	0
-Dry season	0	200	200
(Total)	200	400	200
Corn	4,840	4,800	-40
Tobacco	300	600	300
Vegetables	0	600	600
Beans	0	1,700	1,700
Peanuts	600	0	-600
Sweet potatoes	50	0	-60
Sugar cane	0	0	0
Total	6,000	8,100	2,100
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.30	4.50	2.20
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,230	5,250	2,020
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	1,610	6,650	5,040
Corn	13,068	54,000	40,932
Tobacco	1,800	12,000	10,200
Vegetables	0	28,860	28,860
Beans	0	25,245	25,245
Peanuts	3,150	0	-3,150
Sweet potatoes	270	0	-270
Sugar cane	0	0	0
Total	19,898	126,755	106,857
7. Total Production Cost (1000 Pesos)			
Paddy	646	2,174	1,528
Corn	7,260	22,080	14,820
Tobacco	771	2,880	2,109
Vegetables	0	4,572	4,572
Beans	0	4,760	4,760
Peanuts	1,098	0	-1,098
Sweet potatoes	148	0	-148
Sugar cane	0	0	0
Total	9,923	36,466	26,543
8. Flood Damaged Value (1000 Pesos)	0	2,777	
9. Total Net Production Value (1000 Pesos)	9,975	87,512	77,537
10. Net Production Value per Ha (Peso/Ha)	3,117	27,348	24,231
11. Irrigation Service Fee per Ha (Peso/ha)	0	1,570	1,570
12. Net Farm Income per Ha (Peso/ha)	3,117	25,778	22,661

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	200	200	0
Diversified croplan	3,000	3,000	0
(Total)	3,200	3,200	0
2. Harvested Area (ha)			
Paddy -Wet season	200	200	0
-Dry season	0	200	200
(Total)	200	400	200
Corn	4,840	4,800	-40
Tobacco	300	600	300
Vegetables	0	600	600
Beans	0	1,500	1,500
Peanuts	600	0	-600
Sweet potatoes	60	0	-60
Sugar cane	0	0	0
Total	6,000	7,900	1,900
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.30	4.10	1.80
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,230	5,200	1,970
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	1,610	6,370	4,760
Corn	13,068	54,000	40,932
Tobacco	1,800	12,000	10,200
Vegetables	0	28,860	28,860
Beans	0	22,275	22,275
Peanuts	3,150	0	-3,150
Sweet potatoes	270	0	-270
Sugar cane	0	0	0
Total	19,898	123,505	103,607
7. Total Production Cost (1000 Pesos)			
Paddy	646	2,164	1,518
Corn	7,260	22,080	14,820
Tobacco	771	2,880	2,109
Vegetables	0	4,572	4,572
Beans	0	4,200	4,200
Peanuts	1,098	0	-1,098
Sweet potatoes	148	0	-148
Sugar cane	0	0	0
Total	9,923	35,896	25,973
8. Flood Damaged Value (1000 Pesos)	0	2,722	
9. Total Net Production Value (1000 Pesos)	9,975	84,887	74,912
10. Net Production Value per Ha (Peso/Ha)	3,117	26,527	23,410
11. Irrigation Service Fee per Ha (Peso/ha)	0	1,570	1,570
12. Net Farm Income per Ha (Peso/ha)	3,117	24,957	21,840

(to be continued)

(continuation)

Table 6.18 (9) Farm Budget of Gappal Irrigation Project (Pump Scheme)

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,300	3,300	0
Diversified croplan	1,100	1,100	0
(Total)	4,400	4,400	0
2. Harvested Area (ha)			
Paddy -Wet season	3,300	3,300	0
-Dry season	0	3,300	3,300
(Total)	3,300	6,600	3,300
Corn	2,420	1,760	-660
Tobacco	110	220	110
Vegetables	0	220	220
Beans	0	3,850	3,850
Peanuts	220	0	-220
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,050	12,650	6,600
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,250	2,160
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	25,410	109,725	84,315
Corn	6,534	19,800	13,266
Tobacco	660	4,400	3,740
Vegetables	0	10,582	10,582
Beans	0	57,173	57,173
Peanuts	1,155	0	-1,155
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	33,759	201,680	167,921
7. Total Production Cost (1000 Pesos)			
Paddy	10,197	35,871	25,674
Corn	3,630	8,096	4,466
Tobacco	283	1,056	773
Vegetables	0	1,676	1,676
Beans	0	10,780	10,780
Peanuts	403	0	-403
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	14,513	57,479	42,966
8. Flood Damaged Value (1000 Pesos)	0	2,194	
9. Total Net Production Value (1000 Pesos)	19,246	142,007	122,761
10. Net Production Value per Ha (Peso/Ha)	4,374	32,274	27,900
11. Irrigation Service Fee per Ha (Peso/ha)	0	4,830	4,830
12. Net Farm Income per Ha (Peso/ha)	4,374	27,644	23,270

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,300	3,300	0
Diversified croplan	1,100	1,100	0
(Total)	4,400	4,400	0
2. Harvested Area (ha)			
Paddy -Wet season	3,300	3,300	0
-Dry season	0	3,300	3,300
(Total)	3,300	6,600	3,300
Corn	2,420	1,760	-660
Tobacco	110	220	110
Vegetables	0	220	220
Beans	0	550	550
Peanuts	220	0	-220
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,050	9,350	3,300
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,200	2,110
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	25,410	105,105	79,695
Corn	6,534	19,800	13,266
Tobacco	660	4,400	3,740
Vegetables	0	10,582	10,582
Beans	0	8,168	8,168
Peanuts	1,155	0	-1,155
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	33,759	148,055	114,296
7. Total Production Cost (1000 Pesos)			
Paddy	10,197	35,706	25,509
Corn	3,630	8,096	4,466
Tobacco	283	1,056	773
Vegetables	0	1,676	1,676
Beans	0	1,540	1,540
Peanuts	403	0	-403
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	14,513	48,074	33,561
8. Flood Damaged Value (1000 Pesos)	0	1,510	
9. Total Net Production Value (1000 Pesos)	19,246	98,471	79,225
10. Net Production Value per Ha (Peso/Ha)	4,374	22,380	18,006
11. Irrigation Service Fee per Ha (Peso/ha)	0	4,180	4,180
12. Net Farm Income per Ha (Peso/ha)	4,374	18,200	13,826

(to be continued)

(continuation)

Table 6.18 (10) Farm Budget of Gappal Irrigation Project (Dam Scheme)

- Proposed Cropping Pattern A & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,300	3,300	0
Diversified croplan	1,100	1,100	0
(Total)	4,400	4,400	0
2. Harvested Area (ha)			
Paddy -Wet season	3,300	3,300	0
-Dry season	0	3,300	3,300
(Total)	3,300	6,600	3,300
Corn	2,420	1,760	-660
Tobacco	110	220	110
Vegetables	0	220	220
Beans	0	3,850	3,850
Peanuts	220	0	-220
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,050	12,650	6,600
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.50	2.30
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,250	2,160
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	25,410	109,725	84,315
Corn	6,534	19,800	13,266
Tobacco	660	4,400	3,740
Vegetables	0	10,582	10,582
Beans	0	57,173	57,173
Peanuts	1,155	0	-1,155
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	33,759	201,680	167,921
7. Total Production Cost (1000 Pesos)			
Paddy	10,197	35,871	25,674
Corn	3,630	8,096	4,466
Tobacco	283	1,056	773
Vegetables	0	1,676	1,676
Beans	0	10,780	10,780
Peanuts	403	0	-403
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	14,513	57,479	42,966
8. Flood Damaged Value (1000 Pesos)	0	2,194	
9. Total Net Production Value (1000 Pesos)	19,246	142,007	122,761
10. Net Production Value per Ha (Peso/Ha)	4,374	32,274	27,900
11. Irrigation Service Fee per Ha (Peso/ha)	0	1,400	1,400
12. Net Farm Income per Ha (Peso/ha)	4,374	30,874	26,500

- Proposed Cropping Pattern B & C -

Item	Without Project	With Project	Incre-mental
1. Total Area (ha)			
Paddy field	3,300	3,300	0
Diversified croplan	1,100	1,100	0
(Total)	4,400	4,400	0
2. Harvested Area (ha)			
Paddy -Wet season	3,300	3,300	0
-Dry season	0	3,300	3,300
(Total)	3,300	6,600	3,300
Corn	2,420	1,760	-660
Tobacco	110	220	110
Vegetables	0	220	220
Beans	0	550	550
Peanuts	220	0	-220
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	6,050	9,350	3,300
3. Unit Yield (ton/ha)			
Paddy -Wet season	2.20	4.10	1.90
-Dry season		5.00	
Corn	0.90	3.75	2.85
Tobacco	0.60	2.00	1.40
Vegetables		13.00	
Beans		1.50	
Peanuts	0.70		
Sweet potatoes	5.00		
Sugar cane	39.00		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Corn	3,000	3,000	
Tobacco	10,000	10,000	
Vegetables	3,700	3,700	
Beans	9,900	9,900	
Peanuts	7,500	7,500	
Sweet potatoes	900	900	
Sugar cane	290	290	
5. Unit Production Cost (Peso/ha)			
Paddy -Wet season	3,090	5,200	2,110
-Dry season		5,620	
Corn	1,500	4,600	3,100
Tobacco	2,570	4,800	2,230
Vegetables		7,620	
Beans		2,800	
Peanuts	1,830		
Sweet potatoes	2,460		
Sugar cane	4,960		
6. Gross Farm Income (1000 Pesos)			
Paddy	25,410	105,105	79,695
Corn	6,534	19,800	13,266
Tobacco	660	4,400	3,740
Vegetables	0	10,582	10,582
Beans	0	8,168	8,168
Peanuts	1,155	0	-1,155
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	33,759	148,055	114,296
7. Total Production Cost (1000 Pesos)			
Paddy	10,197	35,706	25,509
Corn	3,630	8,096	4,466
Tobacco	283	1,056	773
Vegetables	0	1,676	1,676
Beans	0	1,540	1,540
Peanuts	403	0	-403
Sweet potatoes	0	0	0
Sugar cane	0	0	0
Total	14,513	48,074	33,561
8. Flood Damaged Value (1000 Pesos)	0	1,510	
9. Total Net Production Value (1000 Pesos)	19,246	98,471	79,225
10. Net Production Value per Ha (Peso/Ha)	4,374	22,380	18,006
11. Irrigation Service Fee per Ha (Peso/ha)	0	875	875
12. Net Farm Income per Ha (Peso/ha)	4,374	21,505	17,131

(to be continued)

(continuation)

Table 6.18 (11) Farm Budget of Dummun River Irrigation System

-Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	2,070	2,070	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	870	2,070	1,200
(Dry)	470	2,070	1,600
-Rainfed (Wet)	1,200	0	-1,200
Beans	0	2,070	2,070
Corn	640	0	-640
Peanuts	150	0	-150
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.70	4.50	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.40		
Beans		1.50	
Corn	1.00		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	4,530	5,250	720
(Dry)	4,650	5,620	970
-Rainfed (Dry)	3,370		
Beans		2,800	
Corn	1,670		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	17,518	68,828	51,310
-Rainfed	10,080	0	-10,080
Beans	0	30,740	30,740
Corn	1,920	0	-1,920
Peanuts	788	0	-788
Total	30,306	99,568	69,262
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	6,127	22,501	16,374
-Rainfed	4,044	0	-4,044
Beans	0	5,796	5,796
Corn	1,069	0	-1,069
Peanuts	275	0	-275
Total	11,515	28,297	16,782
8. Flood Damaged Value (1000 Pesos)	0	2,479	
9. Total Net Production Value (1000 Peso)	18,791	68,792	50,001
10. Net Production Value per Ha (Peso/ha)	9,078	33,233	24,155
11. Irrigation Service Fee per Ha (Peso/ha)	368	1,400	1,032
12. Net Farm Income per Ha (Peso/ha)	8,710	31,833	23,123

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	2,070	2,070	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	870	2,070	1,200
(Dry)	470	2,070	1,600
-Rainfed (Wet)	1,200	0	-1,200
Beans	0	0	0
Corn	640	0	-640
Peanuts	150	0	-150
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.70	4.10	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.40		
Beans			
Corn	1.00		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	4,530	5,200	670
(Dry)	4,650	5,620	970
-Rainfed (Dry)	3,370		
Beans		2,800	
Corn	1,670		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	17,518	65,930	48,412
-Rainfed	10,080	0	-10,080
Beans	0	0	0
Corn	1,920	0	-1,920
Peanuts	788	0	-788
Total	30,306	65,930	35,624
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	6,127	22,397	16,270
-Rainfed	4,044	0	-4,044
Beans	0	0	0
Corn	1,069	0	-1,069
Peanuts	275	0	-275
Total	11,515	22,397	10,882
8. Flood Damaged Value (1000 Pesos)	0	1,191	
9. Total Net Production Value (1000 Peso)	18,791	42,342	23,551
10. Net Production Value per Ha (Peso/ha)	9,078	20,455	11,377
11. Irrigation Service Fee per Ha (Peso/ha)	368	875	507
12. Net Farm Income per Ha (Peso/ha)	8,710	19,580	10,870

(to be continued)

(continuation)

Table 6.18 (12) Farm Budget of Baggao Irrigation System

- Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,812	1,812	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	800	1,742	942
(Dry)	870	1,812	942
-Rainfed (Wet)	940	0	-940
Beans	0	1,812	1,812
Corn	190	0	-190
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.30	4.50	
(Dry)	3.50	5.00	
-Rainfed (Wet)	2.30		
Beans		1.50	
Corn	1.10		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	4,040	5,250	1,210
(Dry)	4,280	5,620	1,340
-Rainfed (Dry)	3,230		
Beans		2,800	
Corn	1,830		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	19,898	59,147	39,249
-Rainfed	7,567	0	-7,567
Beans	0	26,908	26,908
Corn	627	0	-627
Peanuts	210	0	-210
Total	28,302	86,055	57,753
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	6,956	19,329	12,373
-Rainfed	3,036	0	-3,036
Beans	0	5,074	5,074
Corn	348	0	-348
Peanuts	73	0	-73
Total	10,413	24,403	13,990
8. Flood Damaged Value (1000 Pesos)	0	0	
9. Total Net Production Value (1000 Peso)	17,889	61,652	43,763
10. Net Production Value per Ha (Peso/ha)	9,873	34,024	24,151
11. Irrigation Service Fee per Ha (Peso/ha)	525	1,400	875
12. Net Farm Income per Ha (Peso/ha)	9,348	32,624	23,276

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,812	1,812	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	800	1,812	1,012
(Dry)	870	1,812	942
-Rainfed (Wet)	940	0	-940
Beans	0	0	1,446
Corn	190	0	1,140
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.30	4.10	
(Dry)	3.50	5.00	
-Rainfed (Wet)	2.30		
Beans			
Corn	1.10		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	4,040	5,200	1,160
(Dry)	4,280	5,620	1,340
-Rainfed (Dry)	3,230		
Beans		2,800	
Corn	1,830		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	19,898	57,712	37,814
-Rainfed	7,567	0	-7,567
Beans	0	0	0
Corn	627	0	-627
Peanuts	210	0	-210
Total	28,302	57,712	29,410
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	6,956	19,606	12,650
-Rainfed	3,036	0	-3,036
Beans	0	0	0
Corn	348	0	-348
Peanuts	73	0	-73
Total	10,413	19,606	9,193
8. Flood Damaged Value (1000 Pesos)	0	0	
9. Total Net Production Value (1000 Peso)	17,889	38,106	20,217
10. Net Production Value per Ha (Peso/ha)	9,873	21,030	11,157
11. Irrigation Service Fee per Ha (Peso/ha)	525	875	350
12. Net Farm Income per Ha (Peso/ha)	9,348	20,155	10,807

(to be continued)

(continuation)

Table 6.18 (13) Farm Budget of Solana Irrigation System

- Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	2,829	2,829	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	445	2,829	2,384
(Dry)	695	2,829	2,134
-Rainfed (Wet)	2,130	0	-2,130
Beans	0	2,829	2,829
Corn	430	0	-430
Peanuts	100	0	-100
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.10	4.50	
(Dry)	3.10	5.00	
-Rainfed (Wet)	2.20		
Beans		1.50	
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	3,790	5,250	1,460
(Dry)	3,790	5,620	1,830
-Rainfed (Dry)	3,090		
Beans		2,800	
Corn	2,000		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	12,369	94,064	81,695
-Rainfed	16,401	0	-16,401
Beans	0	42,011	42,011
Corn	1,548	0	-1,548
Peanuts	525	0	-525
Total	30,843	136,075	105,232
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	4,321	30,751	26,430
-Rainfed	6,582	0	-6,582
Beans	0	7,921	7,921
Corn	860	0	-860
Peanuts	183	0	-183
Total	11,946	38,672	26,726
8. Flood Damaged Value (1000 Pesos)	0	7,991	
9. Total Net Production Value (1000 Peso)	18,897	89,412	70,515
10. Net Production Value per Ha (Peso/ha)	6,680	31,606	24,926
11. Irrigation Service Fee per Ha (Peso/ha)	1,085	4,060	2,975
12. Net Farm Income per Ha (Peso/ha)	5,595	27,546	21,951

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	2,829	2,829	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	445	2,829	2,384
(Dry)	695	2,829	2,134
-Rainfed (Wet)	2,130	0	-2,130
Beans	0	0	0
Corn	430	0	-430
Peanuts	100	0	-100
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.10	4.10	
(Dry)	3.10	5.00	
-Rainfed (Wet)	2.20		
Beans			
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	3,790	5,200	1,410
(Dry)	3,790	5,620	1,830
-Rainfed (Dry)	3,090		
Beans		2,800	
Corn	2,000		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	12,369	90,104	77,735
-Rainfed	16,401	0	-16,401
Beans	0	0	0
Corn	1,548	0	-1,548
Peanuts	525	0	-525
Total	30,843	90,104	59,261
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	4,321	30,610	26,289
-Rainfed	6,582	0	-6,582
Beans	0	0	0
Corn	860	0	-860
Peanuts	183	0	-183
Total	11,946	30,610	18,664
8. Flood Damaged Value (1000 Pesos)	0	3,866	
9. Total Net Production Value (1000 Peso)	18,897	55,628	36,731
10. Net Production Value per Ha (Peso/ha)	6,680	19,663	12,983
11. Irrigation Service Fee per Ha (Peso/ha)	1,085	3,580	2,495
12. Net Farm Income per Ha (Peso/ha)	5,595	16,083	10,488

(to be continued)

(continuation)

Table 6.18 (14) Farm Budget of Pinacanauan River Irrigation System

-Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,200	1,200	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	270	1,200	930
(Dry)	260	1,200	940
-Rainfed (Wet)	930	0	-930
Beans	0	1,200	1,200
Corn	190	0	-190
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.20	4.50	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.30		
Beans		1.50	
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	3,910	5,250	1,340
(Dry)	4,650	5,620	970
-Rainfed (Dry)	3,230		
Beans		2,800	
Corn	2,000		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	6,482	39,900	33,418
-Rainfed	7,487	0	-7,487
Beans	0	17,820	17,820
Corn	684	0	-684
Peanuts	210	0	-210
Total	14,863	57,720	42,857
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	2,265	13,044	10,779
-Rainfed	3,004	0	-3,004
Beans	0	3,360	3,360
Corn	380	0	-380
Peanuts	73	0	-73
Total	5,722	16,404	10,682
8. Flood Damaged Value (1000 Pesos)	0	0	
9. Total Net Production Value (1000 Peso)	9,141	41,316	32,175
10. Net Production Value per Ha (Peso/ha)	7,618	34,430	26,812
11. Irrigation Service Fee per Ha (Peso/ha)	280	1,400	1,120
12. Net Farm Income per Ha (Peso/ha)	7,338	33,030	25,692

-Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	1,200	1,200	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	270	1,200	930
(Dry)	260	1,200	940
-Rainfed (Wet)	930	0	-930
Beans	0	0	0
Corn	190	0	-190
Peanuts	40	0	-40
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.20	4.10	
(Dry)	3.80	5.00	
-Rainfed (Wet)	2.30		
Beans			
Corn	1.20		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	3,910	5,200	1,290
(Dry)	4,650	5,620	970
-Rainfed (Dry)	3,230		
Beans		2,800	
Corn	2,000		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	6,482	38,220	31,738
-Rainfed	7,487	0	-7,487
Beans	0	0	0
Corn	684	0	-684
Peanuts	210	0	-210
Total	14,863	38,220	23,357
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	2,265	12,984	10,719
-Rainfed	3,004	0	-3,004
Beans	0	0	0
Corn	380	0	-380
Peanuts	73	0	-73
Total	5,722	12,984	7,262
8. Flood Damaged Value (1000 Pesos)	0	0	
9. Total Net Production Value (1000 Peso)	9,141	25,236	16,095
10. Net Production Value per Ha (Peso/ha)	7,618	21,030	13,412
11. Irrigation Service Fee per Ha (Peso/ha)	280	875	595
12. Net Farm Income per Ha (Peso/ha)	7,338	20,155	12,817

(to be continued)

(continuation)

Table 6.18 (15) Farm Budget of Tumaulini Irrigation System

- Proposed Cropping Pattern A -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	3,987	3,987	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	1,430	3,730	2,300
(Dry)	670	3,160	2,490
-Rainfed (Wet)	2,550	0	-2,550
Beans	0	3,987	3,987
Corn	1,270	0	-1,270
Peanuts	290	0	-290
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.40	4.50	
(Dry)	3.40	5.00	
-Rainfed (Wet)	2.30		
Beans		1.50	
Corn	0.90		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	4,160	5,250	1,090
(Dry)	4,160	5,620	1,460
-Rainfed (Dry)	3,230		
Beans		2,800	
Corn	1,500		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	24,990	114,048	89058
-Rainfed	20,528	0	-20528
Beans	0	59,207	59,207
Corn	3,429	0	-3,429
Peanuts	1,523	0	-1,523
Total	50,470	173,255	122785
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	8,736	37,342	28,606
-Rainfed	8,237	0	-8,237
Beans	0	11,164	11,164
Corn	1,905	0	-1,905
Peanuts	531	0	-531
Total	19,409	48,506	29,097
8. Flood Damaged Value (1000 Pesos)	0	3,160	
9. Total Net Production Value (1000 Peso)	31,061	121,589	90,528
10. Net Production Value per Ha (Peso/ha)	7,791	30,496	22,705
11. Irrigation Service Fee per Ha (Peso/ha)	306	3,270	2,964
12. Net Farm Income per Ha (Peso/ha)	7,485	27,226	19,741

- Proposed Cropping Pattern B -

Item	Without Project	With Project	Incre-mental
1. Total Paddy Field (ha)	3,987	3,987	0
2. Harvested Area (ha)			
Paddy-Irrigated(Wet)	1,430	3,987	2,557
(Dry)	670	3,890	3,220
-Rainfed (Wet)	2,550	0	-2,550
Beans	0	0	0
Corn	1,270	0	-1,270
Peanuts	290	0	-290
3. Unit Yield (ton/ha)			
Paddy-Irrigated(Wet)	3.40	4.10	
(Dry)	3.40	5.00	
-Rainfed (Wet)	2.30		
Beans			
Corn	0.90		
Peanuts	0.70		
4. Unit Price (Peso/ton)			
Paddy	3,500	3,500	
Beans	9,900	9,900	
Corn	3,000	3,000	
Peanuts	7,500	7,500	
5. Unit Production Cost (Peso/ha)			
Paddy-Irrigated(Wet)	4,160	5,200	1,040
(Dry)	4,160	5,620	1,460
-Rainfed (Dry)	3,230		
Beans		2,800	
Corn	1,500		
Peanuts	1,830		

Item	Without Project	With Project	Incre-mental
6. Gross Farm Income (1000 Pesos)			
Paddy -Irrigated	24,990	125,288	100,298
-Rainfed	20,528	0	-20528
Beans	0	0	0
Corn	3,429	0	-3,429
Peanuts	1,523	0	-1,523
Total	50,470	125,288	74,818
7. Total Production Cost (1000 Pesos)			
Paddy -Irrigated	8,736	42,594	33,858
-Rainfed	8,237	0	-8,237
Beans	0	0	0
Corn	1,905	0	-1,905
Peanuts	531	0	-531
Total	19,409	42,594	23,185
8. Flood Damaged Value (1000 Pesos)	0	1,489	
9. Total Net Production Value (1000 Peso)	31,061	81,205	50,144
10. Net Production Value per Ha (Peso/ha)	7,791	20,367	12,576
11. Irrigation Service Fee per Ha (Peso/ha)	306	2,730	2,424
12. Net Farm Income per Ha (Peso/ha)	7,485	17,637	10,152

Table 6.19 Net Farm Income per ha of Irrigation Development Schemes (Financial Price)

(Unit: 10^3 P/ha)

Name of Scheme	Proposed Cropping Pattern A & C			Proposed Cropping Pattern B & C		
	Without Project	With Project	(2)/(1)	Without Project	With Project	(4)/(3)
	(1)	(2)		(3)	(4)	
New Irrigation Scheme						
(1) Chico Mallig IP	4	32	8.0	4	20	5.0
(2) Matuno RIP	8	30	3.8	8	20	2.5
(3) Dabubu RIP	4	30	7.5	4	24	6.0
(4) Zinundungan IEP	6	27	4.5	6	19	3.2
(5) Alcala Amulung West IP	4	24	6.0	4	18	4.5
(6) Tuguegarao IP	4	24	6.0	4	22	5.5
(7) Lulutan IP	5	29	5.8	5	18	3.6
(8) Ilagan IP	3	26	8.7	3	25	8.3
(9) Gappal IP - Pump	4	28	7.0	4	18	4.5
- Dam	4	31	7.8	4	22	5.5
Rehabilitation / Improvement Scheme						
(1) Dummun RIS	9	32	3.6	9	20	2.2
(2) Baggao IS	9	33	3.7	9	20	2.2
(3) Solana IS	6	28	4.7	6	16	2.7
(4) Pinacanauan IS	7	33	4.7	7	20	2.9
(5) Tumauini IS	7	27	3.9	7	18	2.6

Table 6.20 Number of Beneficiaries per ha of Irrigation Service Area

(Unit: person/ha)

Name of Scheme	Beneficialies per ha (person/ha)	Index (Total Average = 100)
New Irrigation Scheme		
(1) Chico Mallig IP	3.1	71
(2) Matuno RIP	6.3	141
(3) Dabubu RIP	5.1	115
(4) Zinundungan IEP	2.9	66
(5) Alcala Amulung West IP	1.9	43
(6) Tuguegarao IP	6.1	137
(7) Lulutan IP	4.4	100
(8) Ilagan IP	8.4	190
(9) Gappal IP	4.8	108
(Average)	(4.1)	(93)
Rehabilitation/Improvement Scheme		
(1) Dummun RIS	3.2	72
(2) Baggao IS	4.8	108
(3) Solana IS	8.1	183
(4) Pinacanauan IS	8.3	189
(5) Tumauini IS	6.0	135
(Average)	(6.0)	(137)
Total Average	4.4	100

Table 6.21 Priority Ranking of Irrigation Development Schemes

Name of Scheme	Net Farm Income/1 per Ha under with Project Condition (10^3 ₱/ha)	Ranking by Net Farm Income	Number of Beneficiaries per Ha (Person/ha)	Ranking by Number of Beneficiaries	Overall Ranking
Above 15% of EIRRs					
Pinacanauan IS	33	1	8.3	2	1
Chico Mallig IP	32	2	3.1	8	2
Dabubu RIS	30	3	5.1	5	3
Lulutan IP	29	4	4.4	7	4
Solana IS	28	5	8.1	3	5
Gappal IP (Pump)	28	5	4.8	6	6
Ilagan IP	26	6	8.4	1	7
Tuguegarao IP	24	7	6.1	4	8
Alcala Amulung West IP	24	7	1.9	9	9
Under 15% of EIRRs					
Baggao IS	33	1	4.8	3	10
Dummun RIS	32	2	3.2	4	11
Matuno RIP	30	3	6.3	1	12
Tumauini IS	27	4	6.0	2	13
Zinundungan IEP	27	4	2.9	5	14

Note: /1; Taken the case of proposed cropping pattern A & C.

Table 7.1 Grass Yield and Total Digestible Nutrients

	Fresh Yield (ton/ha)	Dry Matter Yield (ton/ha)	TDN/1 (kg)
(1) Pasture Grass			
- Guinea grass	40.0	8.4	6.0
- Para grass	70.0	14.7	10.5
- Centro	30.0	6.6	6.9
- Stylo	50.0	9.0	9.1
(Average)	47.5	9.8	8.3
(2) Meadow Grass			
- Guinea grass	70.0	14.7	10.5
- Para grass	90.0	18.9	13.5
- Centro	50.0	11.0	11.5
- Stylo	70.0	12.6	12.7
- Napier grass	140.0	28.0	22.4
- Ipil-ipil	50.0	17.0	12.5
(Average)	80.0	17.0	13.9

Note: /1: Total digestible nutrients

Table 7.2 Cattle Herd Composition in the Average Cattle Farm of 280 ha

Classification of Cattle	Average Age (Month)	Average Weight (kg/head)	No. of Cattle (head)	Percent (%)
(1) Grazing				
a. Breeding				
- Bull	78	over 530	7	2
- Cow	78	over 425	140	38
- Young bull/1	30	470	7	2
- Heifer	30	380	30	8
- Yearling heifer	18	305	46	12
- Yerarling bull	18	355	5	1
(sub total)		(399)	(235)	(63)
b. Calves				
- Male	6	150	48	13
- Female	6	130	48	13
(sub total)		(140)	(96)	(26)
Total of Grazing		324	331	89
(2) Feedlot Feeding		355	41	11
Total		327	372	100

/1: Including young bull of 2 heads for new blood line

Table 7.3 Outlines of Pasture Management and Calf Production

I. Present Condition	
(1) Grazing rate	0.4 heads/ha/year
(2) Average area of cattle farm	280 ha
(3) Capucity of grazing cattle in (2)	120 heads/280 ha
(4) Grazing system	Continuous grazing
II. Future Condition	
(1) Average feed intake	48 kg of fresh grass/head/day
a) TDN of 48 kg (Fresh grass)	8.4 kg/head/day
b) TDN requirement for beef cattle (Average live weight of 320 kg)	5.0 kg/ha
c) % of (a) to (b)	168%
(2) Average fresh grass yield in the pasture	47.5 tons/ha
(3) Possible feed intake ratio	0.55
(4) Grazing rate	$\frac{\text{Avergae Yield/ha} \times \text{Possible feed intake ratio}}{\text{Average feed intake} \times 365 \text{ days}}$
	$= \frac{47.5 \text{ tons/ha} \times 0.5}{0.048 \times 365}$
	= 1.3 heads/ha/year
(5) Area of pasture	275 ha
(6) Maximum capacity of grazing cattle in (5)	357 heads
(7) Number of grazing cattle in the future	331 heads
(8) % of (7) to (6)	93%
(9) Grazing system	Rotational Grazing
a) Number of paddock	6-8
b) Grazing duration	7-10 days/paddock

Table 7.4 Outlines of Feedlot Management

I. Period and Live Weight	
(1) Period	8 months
a) Starting	16 months old
b) Completing	24 months old
(2) Increase in live weight	150 kg or more/head
a) Starting	250 kg/head
b) Completing	400 kg or more/head
(3) Average daily gain	0.65 kg/day

II. Feeding Plan per Day

	Feed Intake (kg)	Dry Matter (kg)	TDN (kg)
(1) Forage grass	19.00	4.06	3.31
(2) Rice bran	2.40	2.19	1.68
(3) Total	21.40	6.25	4.99

III. Meadow	
(1) Average yield of meadow grass	68 tons/ha
(2) Annual number of yearling steers for fattening	41 heads
(3) Feeding period	240 days (8 months)
(4) Forage requirement	4,560 kg/head/240 days (19 kg/day x 240 days)
(5) Area of meadow required	2.8 ha $\left(\frac{4.56 \text{ ton} \times 41 \text{ heads}}{68 \text{ tons/ha}} \right)$

Table 8.1 Future Agricultural Production in the Basin (2005)

A. Crop Production

Item	Physical Area (10^3 ha)	Cropping Intensity (%)	Harvested Area (10^3 ha)	Average Yield (ton/ha)	Production (10^3 ha)
1. Lowland					
1) Paddy Field (Irrigated)					
- Palay	291.8	180	525.2	3.8 /1	1,996 /1
- Corn and others	14.2	250	35.5	3.5 /1	99 /1
(Total)	306.0		560.7		
2) Corn Field (Rainfed)					
. Corn	-	-	274.0	1.4	384
. Peanut	-	-	30.0	1.0	30
. Vegetables	-	-	4.4	6.0	26
. Beans	-	-	2.5	0.6	1.5
(Total)	142.0	219	310.9		
3) Other Annual Cropland (Rainfed)					
- Tobacco	14.2	100	14.2	0.9	13
- Sugar cane	10.0	100	10.0	60.0	600
- Root crops	3.8	189	7.2	4.76	34
(Total)	28.0	111	31.2		
2. Upland					
1) Permanent Cropland					
- Fruits & Nuts	44.4	100	44.4	9.0	400
- Coffee	6.5	100	6.5	0.8	5
- Coconuts	4.1	100	4.1	5.0	21
- Others	2.0	100	2.0	4.0	8
(Total)	57.0	100	57.0		
Crop Total	476.0				

B. Livestock Production (Unit: 10^3 head)

Livestock, Poultry & Dairy Product	Total Population	Annual Change in No. of Head (2004/05)	No. of Slaughtered	Livestock Production
1) Carabao	862	41	69	110
2) Cattle	279	45 /2	69	114
3) Hog	612	20	464	484
4) Goat	406	53	25	78
5) Chicken & Duck	9,724	323	24,239	24,562
				(10^3 ton)
6) Egg	-	-	-	21.6
				(10^3 l)
7) Milk	-	-	-	15,860

C. Fishery Production

	Area (ha)	Unit Yield (ton/ha)	Production (ton)
Total Fishery Product	3,360	1.10	3,700

D. Forestry Production

	Area (km^2)	Logwood Production (10^3 m^3)
Total Forestry Product	11,500	715

Note: /1: Corn yield and production.

/2: Including the number of head calculated on the basis of the increase in live weight compared between 1985 and 2005.