2.5 Rural Road Upgrading Project

The Project cost on the rural road upgrading project is estimated at about 125.45 million pesos, excluding the cost of upgrading works of roads involving into the model development projects. The detailed project costs and work quantities are shown in Tables I.2.5, I.2.8 and I.2.10. The maintenance cost was estimated at 536,000 pesos / annum based on the PEO's annual maintenance work program an maintenance work is divided into routine and periodic maintenance. The routine maintenance work includes patching, resurfacing, reshaping, vegetation control, clean and repair of culverts and minor repair of bridges.

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	49,872	39,914	89,786
2. Engineering Cost	6,734	2,245	8,979
3. Administration Cost	0	1,796	1,796
4. Land Acquisition and Compensation Cost	0	111	111
5. Physical contingency	5,661	4,407	10,068
6. Price Escalation	4,206	10,507	14,713
GRAND TOTAL (P 1,000)	66,473	58,980	125,453

2.6 Rural Water Supply Rehabilitation Project

The Project cost on the rural water rehabilitation project is estimated at 1.49 million pesos (refer to Tables I.2.6, I.2.8 and I.2.11). The O&M cost was estimated at 17,000 pesos per annum, based on the DPWH standard. The O&M cost includes routine and replacement costs. The major routine activities are inspection of the facilities, conditions of water distribution, minor repair, collecting water charge and management. The replacement cost, to be considered every 10 years, will be essential to replace worn out facilities.

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	736	343	1,079
2. Engineering Cost	81	27	108
3. Administration Cost	0	22	22
4. Land Acquisition and Compensation Cost	0	0	0
5. Physical contingency	82	39	121
6. Price Escalation	67	101	168
GRAND TOTAL (P 1,000)	966	532	1,498

2.7 Integrated Support Services Project

The total costs comprising of procurement cost of extension equipment, construction cost, etc. is estimated at about 9.0 million pesos as shown below. The detailed costs are shown in Tables I.2.7, I.2.12 and I.2.13.

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	372	160	532
2. Procurement of Equipment	5,739	1,435	7,174
3. Engineering Cost	40	13	53
4. Administration Cost	0	11	11
5. Land Acquisition and Compensation Cost	0	1	1
6. Physical contingency	615	162	777
7. Price Escalation	271	221	492
GRAND TOTAL (P 1,000)	7,037	2,003	9,040

3. PROCUREMENT COST OF O&M EQUIPMENT

Procurement cost of O&M equipment is estimated at 300 thousand pesos. Necessary number of O&M equipment is estimated based on assumption of O&M work (Ref. Table I.3.1).

Maintenance work of irrigation and drainage facilities for low land model development projects is divided to the 2 categories such as the ISA own self work and PGU work. The maintenance work of dam and diversion weir shall be conducted by the LGU, and the other irrigation and drainage facilities, by the ISA. And all maintenance works, except for minor repairing works of the facilities, is scheduled periodically to carry out on contract base to local contractors. Operation works on irrigation and drainage aspects, such as water management works and supervising works of maintenance, will be conducted by the ISA. Therefore, maintenance equipment, except for maintenance tool, dose not need, and the Operation equipment such as transportation means only needs. The five (5) motorcycle will be provided for only operation works. Cost of spare parts is estimated at 10% of procurement cost.

O&M works of rural water supply will be carried out by the water users' association, but taking into consideration the project scale of rural water supply, he water users' association dose not need to have special O&M equipment. Furthermore, maintenance works of rural road is scheduled to carry out on contract base to local contractor by the PGU, and special O&M equipment also dose not need for the works.

As for procurement of post - harvest and market facilities and extension facilities, the all equipment to be procured are shown in Table I.2.13.

4. REPLACEMENT COST

Replacement cost of irrigation and drainage, rural water supply and rural road development is estimated as shown in Table I.4.1.

5. O&M COST

The O&M costs of the respective projects are summarized below, and the break down of the costs are shown in Table I.5.1.

Project	O&M Cost (Pesos 1,000)
Camalig Diversion Model Area	426.6
Dam No.2 Model Area	824.8
Magogon Model Area	966.8
San Ramon Model Area	1,999.8
Rural Infrastructure Development	553.0

5.1 Irrigation and Drainage

The O&M works of the irrigation and drainage facilities are conducted by the ISA, and the cost is estimated based on the conditions of water management, extension training and maintenance. The cost is consisting of labor cost, operation expenses, expenses of training and materials cost of maintenance.

The annual O&M costs of lowland model projects are estimated at Pesos 66,200 / year for the Camalig Diversion low land model development Project and Pesos 151,400 / year for the Dam No.2 low land development Project.

5.2 Rural Road

Work items and costs for each maintenance activity were estimated based on the PEO's annual maintenance work program and budget in 1995. The maintenance works are divided into two (2) categories, namely (i) routine maintenance (annual) and (ii) periodic maintenance. Major routine maintenance works are patching, resurfacing, reshaping, vegetation control, clean and repair culverts and minor repair of bridges. While major periodic maintenance work items are considered as re-graveling for gravel roads in every ten (10) years and PCC overlay for concrete paved roads in every 25 years. The estimated maintenance costs for the proposed provincial and barangay roads are summarized below.

Maintenance Costs per km

Road Category	Provincial Rd.	Barangay Rd.
Width of Carriage Way (m)	6.1	4.5
Pavement	PCC, */	PCC, */
Annual Maintenance Cost (P'000 / km)	32	24
Periodic Maintenance Cost (every 25 years) (P'000 / km)	1,700	1,300

Note: */ PCC (Portland Cement Concrete)

Project	O&M Cost (Pesos 1,000)
Camalig Diversion Model Area	129
Dam No.2 Model Area	350
Magogon Model Area	159
San Ramon Model Area	160
Other Route for Rural Road Upgrading	536

5.3 Rural Water Supply

Work items and costs for each O&M activity were estimated based on the interview with the barangay councils and the staffs of the rural water supply section of DPWH. The O&M costs

are divided into two (2) categories, namely (i) routine O&M (annual) cost and (ii) replacement cost. Major routine O&M works are inspection of the facilities, conditions of water distribution, minor repair, collecting water charge and their management. Replacement cost should be considered as every 10 years to replace some parts of facilities. The estimated O&M and replacement costs are summarized below.

Project	O&M Cost (Pesos 1,000)
Camalig Diversion Model Area	8
Dam No.2 Model Area	14
Magogon Model Area	16
San Ramon Model Area	30
Rural Water Supply	17

5.4 Production and Marketing Center

Facilities and equipment of production & marketing center comprises rice mill, warehouse, dryer and agriculture machinery, and the O&M costs of the facilities and equipment are estimated as follows;

Project	O&M Cost (Pesos 1,000)
Camalig Diversion Model Area	259.4
Dam No.2 Model Area	309.4

5.5 Processing and handicraft Center

The O&M costs of processing and handicraft center which the processing equipment such as rice mill, Sheller and dryer, warehouse, poultry cage and handicraft facilities are estimated as follows;

Project	O&M Cost (Pesos 1,000)
Magogon Model Area	791.8
San Ramon Model Area	1,809.8

6. LAND ACQUISITION AND COMPENSATION COSTS

Land acquisition and compensation costs for dam, weir, canals, drains and post harvest facilities, etc. are estimated at about 11 million pesos as shown in Table I.6.1.

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TABLES

Table I.1.1 Labor Cost

Item	Unit	Unit Cost (Pesos)
Common Labor	man-day	120
Skilled Labor	man-day	200
Foreman	man-day	300
Steel Worker	man-day	200
Carpenter	man-day	200
Painter	man-day	200
Concrete Worker	man-day	200
Plumber	man-day	200
Welder	man-day	200
Mason	man-day	200
Electrician	man-day	250
Mechanician	man-day	250
Equipment Operator	man-day	250

Table I.1.2 Material Cost

Item	Unit	*/ Unit Cost		
		Foreign Currency (Pesos)	Local Currency (Pesos)	Total (Pesos)
Cement	ton	560	2,240	2,800
Reinforcement Bar	ton	1,400	12,600	14,000
Sand	m3	105	45	150
Gravel	m3	210	90	300
Boulder	m3	280	120	400
Wood, Plywood (T = 4 mm)	m2	81	54	135
Wood, Plywood (T = 12 mm)	m2	168	112	280
Concrete Block (150x200x400 mm)	no.	1	5	6
Gasoline	lit.	2	8	10
Diesel oil	lit.	1	6	7
PVC Pipe (Dia. 13) (3m/pc.)	m	2	10	12
PVC Pipe (Dia. 20) (3m/pc.)	m	4	15	19
PVC Pipe (Dia. 25) (3m/pc.)	m	5	20	25
PVC Pipe (Dia. 32) (3m/pc.)	m	6	23	29
PVC Pipe (Dia. 38) (3m/pc.)	m	9	35	44
PVC Pipe (Dia. 50) (3m/pc.)	m	13	52	65
Galvanized Iron Pipe (Dia. 20) (6m/pc.)	m	3	29	32
Galvanized Iron Pipe (Dia. 50) (6m/pc.)	m	11	98	109
RC Pipe (Dia. 150) (1m/pc.)	m	12	48	60
RC Pipe (Dia. 300) (1m/pc.)	m	46	184	230
RC Pipe (Dia. 460) (1m/pc.)	m	70	280	350
RC Pipe (Dia. 610) (1m/pc.)	m	110	440	550
RC Pipe (Dia. 760) (1m/pc.)	m	150	600	750
RC Pipe (Dia. 910) (1m/pc.)	m	200	800	1,000
Slide Gate (1.0 x 1.0 m) (Bevel Gear)	set	9,000	36,000	45,000
Slide Gate (1.0 x 0.5 m) (Screw Gear)	set	3,000	12,000	15,000
Slide Gate (1.0 x 0.3 m) (Screw Gear)	set	2,600	10,400	13,000
Slide Gate (0.6 x 0.6 m) (Screw Gear)	set	2,700	10,800	13,500
Slide Gate (0.6 x 0.4 m) (Screw Gear)	set	2,500	10,000	12,500
Flap Gate (1.0 x 1.0 m)	set	10,000	40,000	50,000

Note : */ Unit Cost including Transportation Cost

Table I.2.1 Project Cost
(Camalig Diversion Lowland Model Project)

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	19,772	12,420	32,192
1.1 Irrigation and Drainage Facilities	9,172	4,359	13,531
(1) Diversion Weir	3,157	1,699	4,856
(2) Irrigation and Drainage Canals	6,015	2,660	8,675
- Irrigation Canals	2,479	1,446	3,925
- Drainage Canals	369	92	461
- Canal Structures	3,167	1,122	4,289
1.2 Rural Infrastructure Facilities	9,880	7,752	17,632
(1) Rural Road Upgrading	8,833	6,335	15,168
(2) Farm Roads	767	1,309	2,076
(3) Rural Water Supply Rehabilitation	280	108	388
1.3 Production and Marketing Center	720	309	1,029
2. O & M Equipment	96	24	120
3. Engineering Cost	2,414	805	3,219
4. Administration Cost	0	644	644
5. Land Acquisition and Compensation Cost	0	2,494	2,494
Total (Item No.1 to 5)	22,282	16,387	38,669
6. Physical contingency (10%)	2,228	1,639	3,867
Total (Item No.1 to 6)	24,510	18,026	42,536
7. Price Escalation (F/C : 2.0%) (L/C : 6.0%)	1,650	3,631	5,281
Total (Item No.6 to 7)	3,878	5,270	9,148
GRAND TOTAL (P 1,000)	26,160	21,657	47,817
Price Escalation Rate (%)			
GRAND TOTAL (US$ 1,000)	1,006	833	1,839

Exchange Rate : US$1 = P26 = ¥108

Table I.2.2 Project Cost
(Dam No.2 Lowland Model Project)

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	74,446	41,585	116,031
1.1 Irrigation and Drainage Facilities	64,088	32,442	96,530
(1) Dam	32,591	16,670	49,261
(2) Irrigation and Drainage Canals	31,497	15,772	47,269
- Irrigation Canals	13,649	8,617	22,266
- Drainage Canals	10,009	2,502	12,511
- Canal Structures	7,839	4,653	12,492
1.2 Rural Infrastructure Facilities	9,006	8,563	17,569
(1) Rural Road Upgrading	5,514	4,031	9,545
(2) Barangay Road and Farm Roads	2,599	4,220	6,819
(3) Rural Water Supply Rehabilitation	893	312	1,205
1.3 Production and Marketing Center	1,352	580	1,932
2. O & M Equipment	144	36	180
3. Engineering Cost	8,702	2,901	11,603
4. Administration Cost	0	2,321	2,321
5. Land Acquisition and Compensation Cost	0	4,663	4,663
Total (Item No.1 to 5)	83,292	51,506	134,798
6. Physical contingency (10%)	8,329	5,151	13,480
Total (Item No.1 to 6)	91,621	56,657	148,278
7. Price Escalation (F/C : 2.0%) (L/C : 6.0%)	6,488	12,232	18,720
Total (Item No.6 to 7)	14,817	17,383	32,200
GRAND TOTAL (P 1,000)	98,109	68,889	166,998
Price Escalation Rate (%)			
GRAND TOTAL (US$ 1,000)	3,773	2,650	6,423

Exchange Rate : US$1 = P26 = ¥108

Table I.2.3 Project Cost
(Magogon Upland Development Model Project)

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	15,397	11,474	26,871
1.1 Rural Infrastructure Facilities	14,101	10,919	25,020
(1) Rural Road Upgrading	13,019	9,586	22,605
(2) Barangay Road and Farm Roads	853	1,270	2,123
(3) Deep Well for Rural Water Supply	229	63	292
1.2 Nucleus Facilities	1,296	555	1,851
2. Engineering Cost	2,015	672	2,687
3. Administration Cost	0	537	537
4. Land Acquisition and Compensation Cost	0	38	38
Total (Item No.1 to 4)	17,412	12,721	30,133
5. Physical contingency (10%)	1,741	1,272	3,013
Total (Item No.1 to 5)	19,153	13,993	33,146
6. Price Escalation (F/C : 2.0%) (L/C : 6.0%)	1,122	2,595	3,717
Total (Item No.5 to 6)	2,863	3,867	6,730
GRAND TOTAL (P 1,000)	20,275	16,588	36,863
GRAND TOTAL (US$ 1,000)	780	638	1,418

Exchange Rate : US$1 = P26 = ¥108

Table I.2.4 Project Cost
(San Ramon Upland Development Model Project)

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	15,145	11,092	26,237
1.1 Rural Infrastructure Facilities	13,135	10,231	23,366
(1) Rural Road Upgrading	9,821	7,927	17,748
(2) Barangay Road and Farm Roads	2,136	1,998	4,134
(3) Deep Well for Rural Water Supply	1,178	306	1,484
1.2 Nucleus Facilities	2,010	861	2,871
2. Engineering Cost	1,968	656	2,624
3. Administration Cost	0	525	525
4. Land Acquisition and Compensation Cost	0	37	37
Total (Item No.1 to 4)	17,113	12,310	29,423
5. Physical contingency (10%)	1,711	1,231	2,942
Total (Item No.1 to 5)	18,824	13,541	32,365
6. Price Escalation (F/C : 2.0%) (L/C : 6.0%)	1,103	2,511	3,614
Total (Item No.5 to 6)	2,814	3,742	6,556
GRAND TOTAL (P 1,000)	19,927	16,052	35,979
GRAND TOTAL (US$ 1,000)	766	617	1,384

Exchange Rate : US$1 = P26 = ¥108

Table I.2.5 Project Cost
(Rural Road Upgrading Project)

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	49,872	39,914	89,786
1.1 Rural Infrastructure Facilities	49,872	39,914	89,786
(1) Rural Road Upgrading	49,872	39,914	89,786
2. Engineering Cost	6,734	2,245	8,979
3. Administration Cost	0	1,796	1,796
4. Land Acquisition and Compensation Cost	0	111	111
Total (Item No.1 to 4)	56,606	44,066	100,672
5. Physical contingency (10%)	5,661	4,407	10,068
Total (Item No.1 to 5)	62,267	48,473	110,740
6. Price Escalation (F/C : 2.0%) (L/C : 6.0%)	4,206	10,507	14,713
Total (Item No.5 to 6)	9,867	14,914	24,781
GRAND TOTAL (P 1,000)	66,473	58,980	125,453
GRAND TOTAL (US$ 1,000)	2,557	2,268	4,825

Exchange Rate : US$1 = P26 = ¥108

Table I.2.6 Project Cost
(Water Supply Rehabilitation Project)

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	736	343	1,079
1.1 Rural Infrastructure Facilities	736	343	1,079
(1) Rural Water Supply Rehabilitation	736	343	1,079
2. Engineering Cost	81	27	108
3. Administration Cost	0	22	22
4. Land Acquisition and Compensation Cost	0	0	0
Total (Item No.1 to 4)	817	392	1,209
5. Physical contingency (10%)	82	39	121
Total (Item No.1 to 5)	899	431	1,330
6. Price Escalation (F/C : 2.0%) (L/C : 6.0%)	67	101	168
Total (Item No.5 to 6)	149	140	289
GRAND TOTAL (P 1,000)	966	532	1,498
GRAND TOTAL (US$ 1,000)	37	20	57

Exchange Rate : US$1 = P26 = ¥108

Table I.2.7 Project Cost
(Integrated Support Service Project)

(Unit : P 1,000)

Description	Foreign Currency	Local Currency	Total
1. Construction Cost	372	160	532
1.1 Municipal Agricultural services	372	160	532
(1) Municipal Training Center	372	160	532
2. Procurement of Equipment	5,739	1,435	7,174
3. Engineering Cost	40	13	53
4. Administration Cost	0	11	11
5. Land Acquisition and Compensation Cost	0	1	1
Total (Item No.1 to 5)	6,151	1,620	7,771
6. Physical contingency (10%)	615	162	777
Total (Item No.1 to 6)	6,766	1,782	8,548
7. Price Escalation (F/C : 2.0%) (L/C : 6.0%)	271	221	492
Total (Item No.6 to 7)	886	383	1,269
GRAND TOTAL (P 1,000)	7,037	2,003	9,040
GRAND TOTAL (US$ 1,000)	271	77	348

Exchange Rate : US$1 = P26 = ¥108

Table I.2.8 Direct Construction Cost (Civil Works)

Description	Direct Construction Cost (P 1,000)												
	Earth Works		Concrete Works		Stone Works		Metal Works		Other Works		Total		
	F/C	L/C	F/C	L/C	F/C	L/C	F/C	L/C	F/C	L/C	F/C	L/C	Total
I. Camalig Diversion Lowland													
Model Project													
A. Irrigation and Drainage													
1. Diversion Weir	108	78	2,747	1,534	0	0	116	29	119	30	3,090	1,671	4,761
2. Irrigation Canals	1,753	951	726	495	0	0	0	0	0	0	2,479	1,446	3,925
3. Drainage Canals	369	92	0	0	0	0	0	0	0	0	369	92	461
4. Canal Structures	2,053	568	607	402	21	5	212	53	275	93	3,168	1,121	4,289
B. Rural Road													
1. Rural Road Upgrading	1,550	2,401	3,388	2,292	1,951	488	0	0	15	5	6,904	5,186	12,090
2. Bridge-Rural Road Upgrading	156	98	1,599	948	117	29	0	0	57	74	1,929	1,149	3,078
3. Farm Roads	767	1,309	0	0	0	0	0	0	0	0	767	1,309	2,076
C. Rural Water Supply													
1. Rural Water Supply Rehabilitation	11	13	39	26	4	12	0	0	226	57	280	108	388
II. Dam No.2 Lowland													
Model Project													
A. Irrigation and Drainage													
1. Dam	22,732	6,098	7,489	4,398	2,197	6,119	41	10	66	16	32,525	16,641	49,166
2. Irrigation Canals	10,002	6,142	3,647	2,475	0	0	0	0	0	0	13,649	8,617	22,266
3. Drainage Canals	10,009	2,502	0	0	0	0	0	0	0	0	10,009	2,502	12,511
4. Canal Structures	260	295	6,373	4,015	413	103	309	77	484	163	7,839	4,653	12,492
B. Rural Road													
1. Rural Road Upgrading	1,195	1,873	2,541	1,711	1,750	437	0	0	28	10	5,514	4,031	9,545
2. Barangay Road and Farm Roads	2,599	4,220	0	0	0	0	0	0	0	0	2,599	4,220	6,819
C. Rural Water Supply													
1. Rural Water Supply Rehabilitation	39	46	97	86	13	41	0	0	743	140	892	313	1,205
III. Mayoyao Upland													
Model Project													
A. Rural Road													
1. Rural Road Upgrading	2,414	3,507	6,748	4,562	2,146	537	0	0	128	43	11,436	8,649	20,085
2. Bridge-Rural Road Upgrading	121	75	1,308	765	106	27	0	0	47	71	1,582	938	2,520
3. Barangay Road and Farm Roads	819	1,244	19	21	0	0	0	0	15	5	853	1,270	2,123
B. Rural Water Supply													
1. Deep Well for Rural water Supply	0.03	0.01	9	8	0.12	0.37	0	0	220	55	229	63	292
IV. San Ramon Upland													
Model Project													
A. Rural Road													
1. Rural Road Upgrading	2,215	3,600	5,722	3,848	1,808	452	0	0	77	26	9,822	7,926	17,748
2. Barangay Road and Farm Roads	798	1,216	0	0	0	0	0	0	0	0	798	1,216	2,014
3. Bridge-Barangay Road and Farm Roads	73	48	1,186	714	59	15	0	0	20	5	1,338	782	2,120
B. Rural Water Supply													
1. Deep Well for Rural water Supply	0.06	0.01	19	15	0.23	0.70	0	0	1,159	290	1,178	306	1,484
V. Rural Road Upgrading and Rural Water Supply Rehabilitation Projects													
A. Rural Road													
1. Rural Road Upgrading	11,402	18,383	26,400	17,838	9,777	2,444	0	0	254	87	47,833	38,752	86,585
2. Bridge-Rural Road Upgrading	207	110	1,605	935	176	44	0	0	52	72	2,040	1,161	3,201
B. Rural Water Supply													
1. Rural Water Supply Rehabilitation (Taladong)	30	35	55	48	10	30	0	0	384	97	479	210	689
2. Rural Water Supply Rehabilitation (Gabawan)	30	36	22	20	9	29	0	0	195	49	256	134	390
VI. River Improvement	1,475	1,347	26,281	14,500	59	15	0	0	0	0	27,815	15,862	43,677

Notes : F/C : Foreign Currency
L/C : Local Currency

Table I.2.9 Major Work Quantity of Irrigation and Drainage

Description	Unit	Camalig Model Project					Dam No.2 Model Project					River Improvement
		Diversion Dam	Major Irrigation Canals	Major Drainage Canals	Major Canal Structures	On-Farm Development	Dam & Spillway	Major Irrigation Canals	Major Drainage Canals	Major Canal Structures	On-Farm Development	
A. Earth Works												
Stripping	m3	-	3,610	-	8,300	-	-	16,220	-	-	-	-
Excavation	m3	2,316	21,350	16,020	565	3,016	172,300	72,040	250,220	3,058	9,164	18,774
Backfill	m3	523	-	-	333	13	2,200	-	-	1,767	40	13,542
Embankment	m3	-	17,970	-	10,124	4,160	148,080	127,670	-	1,409	12,640	534
Grading for Road	m2	-	-	-	3,250	-	4,050	-	-	-	-	-
Macadam Pavement	m3	-	-	-	-	-	-	-	-	-	-	-
Gravel Pavement	m3	-	-	-	-	-	714	-	-	-	-	-
Clearing and Grubbing	ha	-	-	-	-	-	5	-	-	-	-	-
B. Concrete Works												
Concrete	m3	863	362	-	178	11	2,900	2,084	-	1,835	32	8,048
Reinforcement Bar	t	65.0	4.5	-	13.0	0.8	130.0	-	-	155.2	2.5	640.8
Form	m2	1,353	1,054	-	624	39	4,350	2,210	-	5,981	117	12,295
C. Stone Works												
Grouted Riprap	m3	-	-	-	16	-	-	-	-	317	-	45
Dry Riprap	m3	-	-	-	-	-	12,200	-	-	-	-	-
Gabion Mattress	m3	-	-	-	-	-	40	-	-	-	-	-
D. Metal Works												
Steel Slide Gate												
- W 1.0 x H 1.0	set	1	-	-	-	-	-	-	-	-	-	-
- W 1.0 x H 0.5	set	1	-	-	-	-	-	-	-	-	-	-
- W 1.0 x H 0.3	set	-	-	-	-	-	3	-	-	-	-	-
- W 0.6 x H 0.6	set	2	-	-	4	-	-	-	-	22	-	-
- W 0.6 x H 0.4	set	2	-	-	-	-	-	-	-	-	-	-
Flap Gate												
- W 1.0 x H 1.0	set	-	-	-	3	-	-	-	-	-	-	-
E. Other Works												
RC Pipe	m	-	-	-	322	-	-	-	-	538	-	-
RC Pile	m	200	-	-	90	-	192	-	-	190	-	-

Table I.2.10 Major Work Quantity of Rural Road

Description	Unit	Camalig Model Project			Dam No.2 Model Project		Magogon Model			San Ramon Model			Rural Road Upgrading Project	
		Rural Road Upgrading	Farm Road	Ligban Bridge	Rural Road Upgrading	Barangay & Farm Roads	Rural Road Upgrading	Barangay & Farm Roads	Panoypoy Bridge	Rural Road Upgrading	Barangay & Farm Roads	Ogod Bridge	Rural Road Upgrading	Aguimit Bridge
		- Ilawod - Ligban - Gotob			- Comun - Cotmon	- Alobo	- Maopi - Magogon - Panoypoy			- Mayon - San Ramon				
A. Earth works														
Stripping	m3	1,305	-	-	720	-	1,890	1,530	-	1,620	1,440	-	8,910	-
Excavation	m3	4,397	-	1,260	3,985	-	5,173	45	1,000	4,256	-	684	22,576	1,260
Backfill	m3	1,761	-	819	1,603	-	2,155	27	616	1,744	-	415	9,157	819
Embankment	m3	-	440	1,309	-	1,750	3,780	-	1,017	-	-	534	-	2,147
Grading for Road	m2	26,100	29,590	-	17,600	139,680	37,800	24,300	-	36,800	23,200	-	193,400	-
Sub-base Course	m3	3,625	-	-	3,168	-	5,250	-	-	6,106	-	-	30,298	-
Base Course	m3	3,103	-	-	2,096	3,424	4,494	1,712	-	4,380	1,712	-	23,010	-
Gravel pavement	m3	-	3,658	-	-	8,224	-	1,628	-	-	1,568	-	-	-
Clearing and Grubbing	ha	0.9	-	-	0.5	-	1.3	1.0	-	1.1	1.0	-	5.9	-
B. Concrete works														
Concrete	m3	1,979	-	513	1,485	-	3,938	9	419	3,345	-	383	15,419	510
Reinforcement Bar	t	0.1	-	36.4	0.1	-	0.5	0.1	29.9	0.2	-	26.7	1.0	37.1
Form	m2	1,205	-	1,027	712	-	2,030	65	783	1,586	-	814	8,621	958
C. Stone works														
Grouted Riprap	m3	1,496	-	90	1,342	-	1,646	-	81	1,386	-	45	7,498	135
D. Other works														
Concrete Pipe	m	18	-	-	33	-	108	17	-	75	-	-	265	-
Demolition of Concrete	m3	-	-	60	-	-	-	-	60	-	-	-	-	60

Table I.2.11 Major Work Quantity of Rural Water Supply

Description	Unit	Camalig Model Project	Dam No.2 Model Project	Magogon Model Project	San Ramon Model Project	Rural Water Rehabilitation Project	
		Gotob	Inarado	Magogon	San Ramon	Taladong	Gabawan
		Level-II	Level-II	Level-I	Level-I	Level-II	Level-II
A. Earth Works							
Excavation	m3	166	594	0.7	1.4	446	452
Backfill	m3	140	504	-	-	380	390
B. Concrete Works							
Concrete	m3	16	37	4	8	21	9
Reinforcement Bar	t	0.6	1.4	0.1	0.2	0.8	0.3
Form	m2	32	197	14	28	110	44
C. Other Works							
PVC pipe	m	735	2,620	145	290	1,965	1,975
GI Pipe	m	-	2,150	-	-	-	-
Deep Well Construction	nos.	-	-	1	2	-	-
Stainless Water Tank (2 m3)	nos.	-	-	1	2	-	-
Pump (D=50mm, 1.4 kw, 1.0HP)	nos.	-	-	1	2	-	-
Electric Transmission Line	km	-	-	-	2	-	-

Table I.2.12 Direct Construction Cost (Building Works)

Item	Floor Area (m2)	Unit Rate (Pesos/m2)	Amount (Pesos '000)
I. Lowland Model Project			
1. Camalig Diversion Model Project			
(1) Irrigation and Drainage Facilities			95.0
- Gate Keeper House	25	3,800	95.0
(2) Production and Marketing Centers			784.4
- Warehouse, Rice Mill & Office			
Warehouse	93	3,800	353.4
Farm inputs and others	25	3,800	95.0
Rice Mill	50	1,900	95.0
Office	25	3,800	95.0
- House for Semi-Mechanical Dryer	30	200	6.0
- Sun-drying Floor	560	250	140.0
2. Dam No.2 Model Project			
(1) Irrigation and Drainage Facilities			95.0
- Gate Keeper House	25	3,800	95.0
(2) Production and Marketing Centers			1,505.0
- Warehouse, Rice Mill & Office			1,159.0
Warehouse	230	3,800	874.0
Farm inputs and others	25	3,800	95.0
Rice Mill	50	1,900	95.0
Office	25	3,800	95.0
- House for Semi-Mechanical Dryer	30	200	6.0
- Sun-drying Floor	1,360	250	340.0
II. Upland Model Project			
1. Magogon Model Project			
(1) Nucleus Facilities			1,581.4
- Warehouse, Mills and Office			714.4
Warehouse	113	3,800	429.4
Farm inputs and others	25	3,800	95.0
Feed and Rice Mills	50	1,900	95.0
Office	25	3,800	95.0
- House for Semi-Mechanical Dryer	30	200	6.0
- Sun-drying Floor	380	250	95.0
- Poultry Cage	47.4	12,152	576.0
- Handicraft Sub-Center	50	3,800	190.0
2. San Ramon Model Project			
(1) Nucleus Facilities			2,006.0
Production Farm			1,440.0
- Organic Fertilizer House	65	1,900	123.5
- Stripping House	80	1,900	152.0
- Fiber Classification/Warehouse	90	2,700	243.0
- Handicraft Center/Office	230	3,800	874.0
- Workshop	25	1,900	47.5
Nucleus Farm			566.0
- Stripping House	40	1,900	76.0
- Fiber Classification/Warehouse	90	2,700	243.0
- Handicraft Sub-Center/Office	65	3,800	247.0
III. Integrated Support Service Project			
1. Municipal Agricultural services			532.0
- Municipal Training Center	140	3,800	532.0

Table I.2.13 Procurement Cost of Equipment

Item	Capacity	Unit */ Cost (Pesos)	Number	Amount (Pesos'000)
I. Lowland Model Project				
1. Camalig Production and Marketing Center				245.0
- Semi-mechanical dryer	10 m2	68,000	1	68.0
- Rice Mill	0.6 tons/hour	100,000	1	100.0
- Hand Tractor	6 HP	22,500	2	45.0
- Thresher	6 HP	16,000	2	32.0
2. Dam No 2 Production and Marketing Center				426.5
- Semi-mechanical dryer	10 m2	68,000	1	68.0
- Rice Mill	1.0 tons/hour	166,000	1	166.0
- Hand Tractor	6 HP	22,500	5	112.5
- Thresher	6 HP	16,000	5	80.0
II. Upland Model Project				
1. Magogon Nucleus facility				269.8
Processing Facility				
- Semi-mechanical dryer	10 m2	68,000	1	68.0
- Rice Mill	0.2 tons/hour	29,000	1	29.0
- Corn Sheller	0.5 tons/hour	39,000	1	39.0
- Coffee Dehuller	0.2 tons/hour	49,000	1	49.0
- Feed Mill	0.5 tons/hour	49,000	1	49.0
Handicraft Sub-Center				
- Weaving loom		400	4	1.6
- Sewing machine		6,700	1	6.7
- Heavy-duty sewing machine		27,500	1	27.5
2. San Ramon Nucleus Facility				864.9
2.1 Production Farm				597.1
- Coconut husk crasher	63 kg/hour	55,000	2	110.0
- Decarbonizer		12,000	1	12.0
- Hand tractor	10 HP	70,000	1	70.0
- Defibering machine (DM)	12.5 kg/hour	100,000	1	100.0
- Spindle stripping machine (SS)	10.0 kg/hour	20,000	8	160.0
- Engine for DM	4.5 HP	17,000	1	17.0
- Engine for SS	23.0 HP	59,000	1	59.0
- Weighting scale		10,000	1	10.0
- Weaving loom		400	12	4.8
- Sewing machine		6,700	4	26.8
- Heavy-duty sewing machine		27,500	1	27.5
2.2 Nucleus Farm				267.8
- Defibering machine (DM)	12.5 kg/hour	100,000	1	100.0
- Spindle stripping machine (SS)	10.0 kg/hour	20,000	4	80.0
- Engine for DM	4.5 HP	17,000	1	17.0
- Engine for SS	12.0 HP	25,000	1	25.0
- Weighting scale		10,000	1	10.0
- Weaving loom		400	4	1.6
- Sewing machine		6,700	1	6.7
- Heavy-duty sewing machine		27,500	1	27.5
III. Integrated Support Service Project				7,174.0
1. Upgrading ATI/FTC/BUCAF Training Center including Soil Laboratory				3,449.0
1.1 Extension Communications Equipment		400,000	1 L.S.	400.0
1.2 Demonstration Farm Equipment		1,342,500	1 L.S.	1,342.5
1.3 Transport Equipment		1,651,000	1 L.S.	1,651.0
1.4 Furniture and Fixture		55,500	1 L.S.	55.5
2. Upgrading Provincial Agricultural Services				851.0
2.1 Extension Communications Equipment		200,000	1 L.S.	200.0
2.2 Transport Equipment		651,000	1 L.S.	651.0
3. Municipal Agricultural services				2,874.0
2.1 Extension Communications Equipment		960,000	1 L.S.	960.0
2.2 Transport Equipment		1,914,000	1 L.S.	1,914.0

Note : */ Unit Cost including Spare Parts and Transportation Cost

Table I.3.1 Procurement Cost of O&M Equipment

Equipment	Required Number	Unit Cost */ (P 1,000)	Amount (P 1,000)
Lowland Model Project			
1. Camalig Diversion Model Project			
- Irrigation and Drainage Facilities			
Motorcycle	2	60	120
2. Dam No.2 Model Project			
- Irrigation and Drainage Facilities			
Motorcycle	3	60	180
TOTAL			300

Note : */ Unit Cost including Spare Parts and Transportation Cost

Table I.4.1 Replacement Cost

Item	Financial Cost (P'000)	Useful Life (year)
1. Camalig Diversion Model Area		
1) Irrigation and Drainage Facilities		
Gates	316.0	25
O&M Equipment	120.0	15
2) Rural Road	4,362.0	20
3) Rural Water Supply	77.8	10
4) Production & Marketing Center		
Semi-Mechanical Dryer	68.0	10
Rice Mill	100.0	10
2. Dam No.2 Model Area		
1) Irrigation and Drainage Facilities		
Steel Slide Gate	336.0	25
O&M Equipment	180.0	15
2) Rural Road	5,706.0	20
3) Rural Water Supply	214.0	10
4) Production & Marketing Center		
Semi-Mechanical Dryer	68.0	10
Rice Mill	166.0	10
3. Magogon Model Area		
1) Rural Road	6,042.0	20
2) Rural Water Supply	58.2	10
3) Processing and Handicraft Center		
Semi-Mechanical Dryer	68.0	10
Rice Mill	29.0	10
Feed Mill	49.0	10
Poultry House and Facilities	576.0	10
4. San Ramon Model Area		
1) Rural Road	6,120.0	20
2) Rural Water Supply	116.6	10
3) Processing and Handicraft Center		
Weaving loom	6.4	10
Sewing machine	88.5	10
5. Rural Infrastructure Development		
1) Other Rout for Rural Road Upgrading	28,780.0	25
2) Rural Water Supply		
Taladong	137.8	10
Gabawan	78.2	10

Table I.5.1 Annual O&M Cost

Item	Financial Cost (P'000)	
1. Camalig Diversion Model Area		
1) Irrigation and Drainage Facilities	66.2	
2) Rural Road	129.0	
3) Rural Water Supply	8.0	
4) Production & Marketing Center		
Semi-Mechonical Dryer	14.5	1/
Rice Mill	28.9	1/
Management	216.0	
2. Dam No.2 Model Area		
1) Irrigation and Drainage Facilities	151.4	
2) Rural Road	350.0	
3) Rural Water Supply	14.0	
4) Production & Marketing Center		
Semi-Mechanical Dryer	28.2	1/
Rice Mill	65.2	1/
Management	216.0	
3. Magogon Model Area		
1) Rural Road	159.0	
2) Rural Water Supply	16.0	
3) Processing and Handicraft Center		
Semi-Mechanical Dryer	15.3	1/
Rice Mill	5.9	1/
Feed Mill	6.5	1/
Handicraft Sub-Center	332.1	2/
Cooperative Management	432.0	3/
4. San Ramon Model Area		
1) Rural Road	160.0	
2) Rural Water Supply	30.0	
3) Processing and Handicraft Center		
Handicraft Center & Sub-Center	1,377.8	2/
Production Farm Management	432.0	
5. Rural Infrastructure Development		
1) Other Rout for Rural Road Upgrading	536.0	
2) Rural Water Supply		
Taladong	11.0	
Gabawan	6.0	

Note : 1/; Valuable cost only

2/; Valuable costs including abaca fiber, machine and building as follows :

(Unit : P'000)

	Center	Sub-Center
Abaca Fiber	197.3	52.2
Other Materials	179.4	52.6
Labor	583.2	194.4
Machine	60.8	25.8
Building	25.0	7.1
Total	1,045.7	332.1

Other O&M costs for the Production and marketing Centers and the Nucleus Facilities are counted in the respective crop budget.

Table I.6.1 Land Acquisition and Compensation Costs

Item	Area (ha)	Unit Cost (P1,000/ha)	Amount (P1,000)	House (nos.)	Unit Cost (P1,000/nos)	Amount (P1,000)	Total (P1,000)
I. Camalig Diversion Model Area							
1) Irrigation and Drainage	8.0		386	10		2,000	2,386
a) Paddy Area	7.1	50	355				
b) Coconut Area	0.4	14	6				
c) Home Garden	0.5	50	25				
d) House				10	200	2,000	
2) Road	3.1		108				108
a) Paddy Area	1.5	50	75				
b) Coconut Area	1.3	14	18				
c) Home Garden	0.3	50	15				
3) River Improvement	2.7		135	20		4,000	4,135
a) Paddy Area	1.7	50	85				
b) Home Garden	1.0	50	50			0	
c) House				20	200	4,000	
Total	13.8		629	30		6,000	6,629
II. Dam No.2 Model Area							
1) Dam Reservoir	40.0		560	22		2,640	3,200
a) Coconut Area	40.0	14	560				
b) House				22	120	2,640	
2) Irrigation and Drainage	32.7		1,185				1,185
a) Paddy Area	20.1	50	1,005				
b) Coconut Area	12.5	14	175				
c) Home Garden	0.1	50	5				
3) Road	9.6		278				278
a) Paddy Area	3.9	50	195				
b) Coconut Area	5.6	14	78				
c) Home Garden	0.1	50	5				
Total	82.3		2,023	22		2,640	4,663
III. Magogon Model Area							
1) Road	2.2		34				
a) Coconut Area	2.1	14	29				
b) Home Garden	0.1	50	5				
2) Nucleus Facilities	0.3		4				
a) Coconut Area	0.3	14	4				
Total	2.5		38	0		0	38
IV. San Ramon Model Area							
1) Road	2.1		33				33
a) Coconut Area	2.0	14	28				
b) Home Garden	0.1	50	5				
2) Nucleus Facilities	0.3		4				4
a) Coconut Area	0.3	14	4				
Total	2.4		37	0		0	37
V. Other Rural Roads	6.1		111				111
a) Coconut Area	5.4	14	76				
b) Home Garden	0.7	50	35				
Total	6.1		111	0		0	111
V. Integrated Support Service Project							
1) Municipal Training Center	0.05		0.7				0.7
a) Coconut Area	0.05	14	0.7				
Total	0.05		0.7	0		0	0.7
Grand Total	107.15		2,838.7	52		8,640	11,478.7

ANNEX J

PROJECT EVALUATION

ANNEX J

PROJECT EVALUATION

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1. ECONOMIC EVALUATION

1.1 Basic Assumptions

The following assumptions were made in the economic evaluation of the different project components. It should be noted that no economic evaluation was made for the total project, and hence there is no single EIRR for the project. All prices were expressed in 1996 constant prices.

1) The economic life of the respective projects is assumed to be 50 years, beginning from detailed design and construction work.

2) In case of the lowland model rural development projects, the period from the commencement of the irrigation to achievement of full project benefit is assumed to be three years. The gestation period for the upland model projects is based on the increase in area and yield for the proposed perennial crops.

3) A standard conversion factor (SCF) of 0.8 was applied for adjustment of the trade distortion in order to reflect the opportunity cost of the items being shadow priced.

4) The economic farm gate prices of traded agricultural inputs and outputs were based on their export or import parity prices derived from the World Bank Commodity Price Forecasts of August 1996. The long-run projected prices in 2005 at 1996 constant price was used in the analysis. Paddy, corn and fertilizer were assumed to be import substitutes in view of their increasing import trends. Copra (coconut oil) and coffee were treated as export commodities. Mungbean, eggplant, abaca, pili nut were valued at their financial farm gate prices. The economic values of agro-chemicals were valued at farm gate prices by applying the SCF of 0.8 (Ref. Table J.1.1 and 1.1.2).

5) The SCF of 0.8 was multiplied for converting financial prices of non-traded commodities to get their economic prices.

6) The project area is regarded as a labor surplus economy. A shadow wage rate of 0.6 was applied to the financial cost of labor to get its economic price.

7) Transfer payment such as tax, duty, subsidy, interest, etc. were excluded in estimating the economic cost and benefits.

8) Financial construction costs were converted into economic values using the construction conversion factors (CCFs). For the estimation of CCFs, the SCF of 0.8, imported equipment conversion factor of 0.63, and imported material conversion factor of 0.7 were applied to the respective foreign and local currency costs.

9) The official exchange rate of US$ 1.0 = ₱ 26.0 = ¥ 108.0 was used. The shadow exchange rate for the Philippine peso was accounted for by applying the SCF.

1.2 Economic Benefit

1.2.1 General

The economic benefits of the 4 model rural development projects comprise the following: (1) crop and poultry production accrued from new investments in irrigation, drainage, flood protection, improvement of farming practices and introduction of new production commodities such as mungbean, abaca, coffee, and poultry; (2) benefits from upgrading the rural road ; (3)

benefits from the rural water supply ; and (4) benefits in terms of improved quality of the product due to post-harvest improvement including enhancement of handicraft manufacturing:

1.2.2 Crop and Poultry Production Benefit

Crop production benefits are incremental net production values between the future with and without project conditions. Paddy and mungbean were considered as the major crops in the 130 ha and 395 ha in Camalig Diversion and Dam No.2 model project areas, respectively. In the upland model projects areas, corn, mungbean, paddy, coconut , coffee and pili nut were considered for Magogon model area, while abaca including the transition annual crops (upland rice, mungbean and eggplant), coconut and pili were applied for the San Ramon model project area. Economic crop budgets were prepared as shown in Table J.1.3 to J.2.11. The growing of poultry as shown in Table J.1.12 was considered in Magogon model area. The incremental benefits between with and without project conditions were estimated taking harvested area, crop yields and net production value as show in Table J.1.13 and J.1.14. Those are summarized as follows:

(Unit: ₱ '000)

Area	Net Production Value		Incremental
	Without Project	With Project	Benefit
I. Crop Production Benefit			
Camalig Diversion	967.4	6,071.6	5,104.2
Dam No.2	3,143.3	13,557.1	10,413.8
Magogon	1,024.1	7,371.1	6,347.0
San Ramon	3,036.9	42,884.1	39,847.2
II. Poultry Growing Benefit			
Magogon	0	359.5	359.5

Annual increase of incremental benefits in the upland model projects were assessed taking increase in area of perennial crops, those gestation periods and crop production values into consideration (Ref. Table J.1.15 and J.2.16).

1.2.3 Post-Harvest Improvement Benefit

The benefits accruing from the improvement of post-harvest handling comprise threshing, drying, storage and milling of rice, corn and coffee and the added value from processed abaca fiber. Based on the future volume of paddy, corn, coffee and abaca fibers in the lowland and upland model project areas, the benefits from post-harvest improvement were estimated as follows (Ref. Table J.1.17):

Area / Item	Handling Quantity (ton)	Benefit (₱ '000)
1.Camalig Diversion Area		
Paddy	305.6	365.7
2.Dam No.2 Area		
Paddy	714.5	850.5
3.Magogon Area		734.3
Paddy	67.7	67.7
Corn	144.0	49.0
Coffee	68.4	236.6
Abaca	1.8	381.0
2.San Ramon Area		
Abaca	8.5	1,660.6

1.2.4 Rural Road Upgrading Benefit

The volume of traffic in the future with project condition was estimated by taking the farm inputs, crops and other farm outputs, consumer, construction and other commodities that will be transported using the road network. Total transport cost saving was estimated at ₱ 29,475 thousand in the influence area covered by the rural road network of 32.1 km (Ref. Table J.1.18)

1.2.5 Rural Water Supply Benefit

The incremental revenues to be collected from the beneficiaries between the present and future with project conditions was considered as the economic benefit. Based on the present O&M cost and future beneficiaries' affordability to pay water charges, the economic benefits at the respective sites were estimated as follows (Ref. Table J.1.19):

(Unit: ₱ '000)

Item	Gotob (Camalig Area)	Inarado (Dam No.2)	Taladong	Gabawan	Magogon	San Ramon
R.W.S Benefit	32.2	88.7	60.4	24.2	26.1	52.2

1.2.6 Production Foregone

Existing farm lands will be acquired and will be used for the construction of the irrigation, drainage, and rural and farm roads. The agricultural production foregone defined as an annual net crop production value under without project condition, and the resettlement cost for the residents in the Camalig diversion site and the reservoir of Dam No.2 was accounted for negative benefit in the evaluation as follows (Ref. Table J.1.20):

Item	Unit	Quantity	Negative Benefit (₱ '000)
I. Lowland Model Project			
(1) Farm Land	ha		
Camalig Diversion		11.1	66.4
Dam No.2		82.3	420.6
(2) House	No.		
Camalig Diversion		10	1,600.0
Dam No.2		22	2,112.0
II. Upland Model Project			
(1) Farm Land	ha		
Magogon		2.5	6.8
San Ramon		2.4	6.5
III. Other Rural Roads		6.1	17.8

1.3 Economic Cost

1.3.1 Initial Project Cost

The economic project cost consists of: (1) construction cost, (2) procurement of machinery and equipment, (3) engineering and administration costs, and (4) physical contingency. The cost for the integrated support service project was excluded in the economic evaluation. The economic project costs were estimated applying construction conversion factors to the financial costs as shown in Table J.1.21 and those are summarized as follows:

Item	Economic Project Cost (₱ '000)
I. Camalig Diversion Project	29,697
Irrigation, drainage & flood protection	12,313
Rural road	15,998
Rural water supply	354
Production and marketing center	1,032
II. Lowland Model Project	103,703
Irrigation, drainage & flood protection	85,377
Rural road	15,288
Rural water supply	1,102
Production and marketing center	1,936
III. Magogon Model Project	25,046
Nucleus facilities	1,856
Rural road	22,923
Rural water supply	267
IV. San Ramon Model Project	23,747
Nucleus facilities	2,878
Rural road	20,335
Rural water supply	534

1.3.2 Operation and Maintenance Cost

The operation and maintenance costs covering irrigation and drainage, rural road, rural water supply, production and marketing centers, and nucleus facilities were converted into their economic values by applying the conversion factors to their respective components as shown in Table J.1.22. Economic O&M costs are summarized as follows:

(Unit: ₱ '000/year)

Item/Project	Camalig Diversion	Dam No.2	Magogon	San Ramon	Rural Infra. Develop.
Irrigation/Drainage	45.7	104.5	-	-	-
Rural Road	94.2	255.5	116.1	116.8	973.8*
Rural Water Supply	5.8	10.1	11.5	21.6	7.9 (Taladong) 4.3 (Gabawan)
Centers/	207.5	247.6	633.4	1,447.8	-

Note: * ; Included all rural road projects. N. Facilities ; Nucleus facilities in the upland projects

1.3.3 Replacement Cost

Machinery and equipment with shorter useful life than the project will be replaced after the assumed replacement period is over. The conversion of the financial prices to economic prices was made using the respective CCFs as shown in Table J.1.22. The useful life and replacement cost for the respective projects are summarized as follows:

(Unit: ₱ '000)

Item/Project	Useful Life (year)	Camalig Diversion	Dam No.2	Magogon	San Ramon	Rural Infra. Develop.
Irrigation/Drainage						
Gates	25	208.6	221.8	-	-	-
O&M Equipment	15	96.0	144.0	-	-	-
Rural Road	25	3,184.3	4,165.4	4,410.7	4,467.6	37,236.6*
Rural Water Supply	10	56.0	154.1	41.9	84.0	99.2 (Taladong) 56.3 (Gabawan)
Centers/N. Facilities	10	134.4	187.2	568.1	75.9	-

Note: * ; Included all rural road projects. N. Facilities ; Nucleus facilities in the upland projects

1.4 Economic Evaluation

The 4 model projects consisting of several components were evaluated depending on whether the respective project components were treated as self-contained project (stand alone) or considered as one integrated project. On the basis of the economic cost and benefit streams, the EIRRs were estimated as follows (Ref. Table J.1.23 to J.1.26):

(Unit: EIRR %)

Model Project	Total Project	Stand Alone			
		Irrigation/ Drainage	PMC ND	Rural Road	Rural Water Supply
4 Model Projects	19.8				
Camalig Diversion	19.9	25.8	13.6	14.3	5.9
Dam No.2	9.9	10.1	27.1	6.3	5.7
Magogon	24.0	-	62.4	15.8	3.4
San Ramon	34.2	-	64.0	15.2	3.7

Note: PMC ; Production and Marketing Center/Post-harvest improvement in Camalig and Dam No.2
ND ; Nucleus development in Magogon and San Ramon

The evaluation results of the whole rural road project and the rest of the rural water supply projects taken as independent investments are summarized as follows:

(Unit: EIRR %)

Whole Rural Road	Other Part* of Rural Road	Taladong Rural Water Supply	Gabawan Rural Water Supply
16.3	18.8	6.7	3.4

Note: * Other part of rural roads outside of the model projects

Some components of the model projects indicated low economic viability. In general, however, the implementation of the 4 model projects, as a package, showed a favorable EIRR of 19.8%. Dam No.2 model project has an EIRR of 9.9%, which is below the estimated opportunity cost of capital of 15%. This is mainly due to the prohibitive cost of the dam and reservoir. This should not be construed as a poor investment, however, if the equity consideration of providing irrigation water to the potential irritable area owned by small farm households become the decision criterion. The NPV and B/C ratio discounted at the opportunity cost of capital are summarized as follows:

Item	4 Model Projects	Camalig Diversion	Dam No.2	Magogon	San Ramon	Whole Rural Road
NPV (₱ '000 at 15% discount rate)						
Benefit	214,800	32,367	49,321	39,308	93,804	133,448
Cost	149,691	23,455	76,940	23,257	26,039	122,574
B - C	65,109	8,912	-27,619	16,051	67,765	10,874
B / C	1.43	1.38	0.64	1.69	3.60	1.09

The sensitivity of the 4 model projects from adverse economic changes was tested by using three assumptions: increasing the cost by 20% ; decreasing the benefit by 20% ; and increasing the cost by 10% and decreasing the benefit by 10%. In general, the model projects were insensitive to such changes. The results of the sensitivity test are summarized below:

Cases	Change in Variation	EIRR (%)	Sensitivity Indicator	Switching Value EIRR ; 15%
4 Model Projects				
Base Case		19.8		
1.Cost increased	+20%	17.4	0.60	50
2.Benefit reduced	-20%	16.7	0.78	31
3.Cost increased	+10%	17.1		
Benefit reduced	-10%			
Camalig Diversion				
Base Case		19.9		
1.Cost increased	+20%	17.2	0.69	42
2.Benefit reduced	-20%	16.2	0.93	27
3.Cost increased	+10%	16.7		
Benefit reduced	-10%			
Dam No.2				
Base Case		9.9		
1.Cost increased	+20%	8.3	0.81	-
2.Benefit reduced	-20%	7.7	1.10	-
3.Cost increased	+10%	8.0		
Benefit reduced	-10%			
Magogon				
Base Case		24.0		
1.Cost increased	+20%	20.9	0.66	84
2.Benefit reduced	-20%	19.8	0.89	41
3.Cost increased	+10%	20.4		
Benefit reduced	-10%			
San Ramon				
Base Case		34.2		
1.Cost increased	+20%	31.1	0.45	373
2.Benefit reduced	-20%	29.9	0.63	72
3.Cost increased	+10%	20.4		-
Benefit reduced	-10%	30.6		

2. FINANCIAL EVALUATION

2.1 Farm Budget Analysis

Farm budget analysis was made by assessing the anticipated change in income and expenses of 10 representative farm types in the 4 model projects. The future situation under the without and with project conditions was analyzed. Under the with project condition, non-farm incomes were assumed to be the same amount as those of the without project condition to be able to evaluate the direct impact on the farm income. Significant increase in income will be realized by every class of farm households at full project development. The household income for lowland owner cultivator was estimated to increase by 179 to 182% on average ; 32 to 64% for lowland lessees/share croppers; 71 to 152% for upland owner cultivators; and 59 to 79% for upland lessees/share croppers. The net budget reserve was estimated to increase from 3.1 to 10.4 folds of those of the without project condition. The results of the farm budget analysis are summarized below (Ref. Table J.2.1):

Item	Canalig Diversion Area			Dam No.2 Area		
	Owner Cultivator	Lessee/ Share Cropper	Care-Taker	Owner Cultivator	Lessee/ Share Cropper	Care-Taker
Without Project						
I. Income	41,948	38,241	39,930	34,298	40,378	41,760
II. Expenditure	38,443	35,119	38,970	31,765	37,920	40,850
III.Net Reserve (I - II)	3,505	3,122	960	2,533	2,458	910
With Project						
I. Income	116,935	62,896	57,210	96,745	62,018	55,330
II. Expenditure	84,768	52,082	51,840	70,345	52,763	50,900
III.Net Reserve (I - II)	32,168	10,815	5,370	26,400	9,255	4,430
Increment (%)						
I. Income	179	64	43	182	54	32
II. Expenditure	121	48	33	121	39	25
III.Net Reserve (I - II)	818	246	459	942	277	387
	Magogon Area			San Ramon Area		
Without Project						
I. Income	66,780	39,330	40,110	44,980	59,370	40,930
II. Expenditure	61,230	34,580	37,320	40,030	54,070	37,940
III.Net Reserve (I - II)	5,550	4,750	2,790	4,950	5,300	2,990
With Project						
I. Income	114,280	70,540	63,910	113,320	100,940	68,110
II. Expenditure	92,910	55,380	55,220	85,190	80,360	55,420
III.Net Reserve (I - II)	21,370	15,160	8,690	28,130	20,580	12,690
Change in Percent (%)						
I. Income	71	79	59	152	70	66
II. Expenditure	52	60	48	113	49	46
III.Net Reserve (I - II)	285	219	211	468	288	324

2.2 Farmers' Capacity to Pay for ISF and AF

The rate of irrigation service fee (ISF) and amortization fee (AF) collecting from the farmers were set at 2.5 cavans/year (125 kg of paddy), respectively, 5 cavans/year in total taking the prevailing rate of national irrigation systems in the Region V. The farmers' capacity to pay for ISF was assessed on the basis of the farm budget under with project condition. The ISF accounts for 5 to 16% of the net reserves in the future and each class of farmers will have a capacity to pay ISF as follows:

Item	Owner	Owner Cultivator				Lessee/Share Cropper			
	Non-Cultivator	Small	Medium	Large	Average	Small	Medium	Large	Average
I. Camalig Diversion Area									
Lowland Operating Area (ha)	0.78	0.35	0.48	1.65	0.70	0.25	0.55	1.38	0.70
Net Reserve/With	13,210	15,420	21,980	69,290	32,168	6,050	7,320	22,720	10,815
ISF & AF	1,660	740	1,020	3,510	1,490	530	1,170	2,930	1,490
(% to Net Reserve)	(13%)	(5%)	(5%)	(5%)	(5%)	(9%)	(16%)	(13%)	(14%)
II. Dam No.2 Area									
Lowland Operating Area (ha)	0.48	0.18	0.61	1.38	0.70	0.20	0.55	1.50	0.70
Net Reserve/With	6,190	7,470	24,320	49,490	26,400	3,460	6,650	20,260	9,255
ISF & AF	1,020	380	1,300	2,930	1,490	430	1,170	3,190	1,490
(% to Net Reserve)	(16%)	(5%)	(5%)	(6%)	(6%)	(12%)	(18%)	(16%)	(16%)

Applying amortization fee at 2.5 cavans/year/ha, the required number of years for the completion will be 14 years in Camalig area and 49 years in Dam No.2 area as follows:

Item	Unit	Camalig Area	Dam No.2 Area
Construction Cost/1	P'000	14,884	51,996
Annual AF Collected	P'000	138.1	201.9
Area Irrigated	ha	130	190
Unit Rate/2	P/ha	1,062.5	1,062.5
Amortizing Year	Year	14.0	48.9

1/ Direct cost and physical contingency without the cost of dam reservoir.
2/ 2.5 cavan x 50 kg x P8.5/kg

2.3 Management of Production and Marketing Centers and Nucleus Facilities

The cash flow statement for the production and marketing centers in the lowland model project and nucleus facilities in the upland model project was prepared by considering the respective investment and other costs vis-a-vis revenues. The following cash flow analysis shows that the facilities can be operated profitably. Agricultural credit in the form of fixed asset and working capital will have to be worked out with the LBP for the initial year to realize this projection. The farmers' organizations will be able to repay the loans and earn enough cash for future replacement of equipment and new agri-business investments. In this regard, an appropriate loan scheme with reasonable grace period vis-a-vis the gestation period of perennial crops and the facilities will have to be made. Long-term production loans for perennial crops will be indispensable for the successful implementation of the upland model projects (Ref. Table J.2.2 and J.2.3).

(UNIT: P '000)

Item/Year		1	2	3	4	5	6	7	8	9	10	11	12	13
(1) Camalig Production and Marketing Center														
I. Inflow		778	1,081	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249
II. Outflow		778	1,081	1,047	1,072	1,093	1,093	1,062	1,062	1,062	1,062	1,062	1,002	1,247
III. Balance	Annual Balance	0	0	202	177	155	155	187	187	187	187	187	247	2
	Cumulative	0	0	202	379	535	690	876	1,063	1,249	1,436	1,622	1,870	1,872
(2) Dam No.2 Production and Marketing Center														
I. Inflow		1,499	1,949	2,586	2,586	2,586	2,586	2,586	2,586	2,586	2,586	2,586	2,586	2,586
II. Outflow		1,499	1,949	1,884	1,933	1,960	1,960	1,929	1,929	1,929	1,929	1,929	1,852	2,163
III. Balance	Annual Balance	0	0	702	654	627	627	657	657	657	657	657	734	423
	Cumulative	0	0	702	1,356	1,983	2,609	3,267	3,924	4,582	5,239	5,896	6,631	7,054
(3) Magogon Nucleus Facilities														
I. Inflow		1,385	2,032	3,161	3,263	3,284	3,305	3,326	3,348	3,369	3,390	3,411	3,432	3,454
II. Outflow		1,385	2,032	3,074	3,144	3,176	3,187	3,145	3,156	3,168	3,179	3,190	3,143	3,388
III. Balance	Annual Balance	0	0	87	119	108	118	181	191	201	211	221	289	65
	Cumulative	0	0	87	206	314	432	614	805	1,006	1,218	1,439	1,728	1,793
(4) San Ramon, Production Farm														
I. Inflow		1,440	1,581	2,759	3,046	3,621	4,023	4,196	4,483	4,770	5,057	5,345	5,632	5,919
II. Outflow		1,440	1,581	2,324	2,607	3,091	3,303	3,412	3,624	3,836	4,048	4,260	4,324	5,133
III. Balance	Annual Balance	0	0	435	440	530	721	783	859	934	1,009	1,085	1,308	786
	Cumulative	0	0	435	874	1,405	2,125	2,908	3,767	4,701	5,710	6,795	8,103	8,889
(5) San Ramon, Nucleus Farm														
I. Inflow		566	557	745	773	859	911	917	945	974	1,002	1,031	1,060	1,088
II. Outflow		566	557	688	735	789	810	801	822	842	863	884	839	1,127
III. Balance	Annual Balance	0	0	57	38	71	102	116	124	131	139	147	221	-39
	Cumulative	0	0	57	95	166	267	383	507	638	777	924	1,146	1,107

THE FEASIBILITY STUDY ON
THE WESTERN LEGAZPI IRRIGATION AND
RURAL DEVELOPMENT PROJECT IN THE PHILIPPINES

TABLES

Table J.1.1 Summary for Financial and Economic Prices

Item Item	Unit Unit	Financial Price (1995/96)	Conversion	Economic Price (1996 Constant) (2005 Forecast)
		Crop/Goods	Crop/Goods	Crop/Goods
1. Crops	Pesos/ton			
Paddy		8,500	/1	5,610
Corn		6,000	/1	3,370
Mungbean		16,300	/2	16,300
Eggplant		8,000	/2	8,000
Abaca		29,000	/2	29,000
Coffee		26,100	/1	34,540
Coconut (Copra)		10,500	/1	7,550
Pili nut with shell		16,500	/2	16,500
without shell		27,300	/2	27,300
Rice (Wholesale Price)				
- 30% Broken		15,000	/1	8,100
- 10% Broken		18,000	/1	8,820
2. Farm Inputs				
Seed/Seedling				
Paddy	Pesos/kg	14.5	/3	11.6
Corn (Open Pollinated)	Pesos/kg	22.5	/3	18.0
Mungbean	Pesos/kg	25.0	/2	25.0
Eggplant	Pesos/kg	1,100.0	/2	1,100.0
Abaca	Pesos/piece	4.1	/2	4.1
Coffee	Pesos/piece	2.8	/3	2.2
Coconut	Pesos/piece	6.7	/3	5.4
Pili Nut	Pesos/piece	10.0	/2	10.0
Fertilizer	Pesos/kg			
N		17.2	/1	14.0
P		15.7	/1	12.1
K		10.0	/1	8.9
Organic Fertilizer		2.0	/3	1.6
Chemicals	Pesos/lit.			
For Paddy		375	/3	300.0
For Other Crops		522	/3	417.6
3. Labor and Animal Power	Pesos/day			
Skilled Labor		200	/3	160.0
Unskilled Labor		90	/4	54.0
Animal Power (excluding labor)		50	/4	30.0
4. Mechanical Power				
Land Preparation				
By Hand Tractor	Pesos/ha	1,000	/3	800.0
Threshing/Shelling /Dehulling	Pesos/ton			
Paddy		250	/3	200.0
Corn		700	/3	560.0
Coffee		960	/3	768.0
Stripping	Pesos/ton	3,900	/3	3,120.0

Remarks :

/1 Derived from the data of WB Commodity Price Forecasts

/2 Same as the financial prices

/3 Financial value is converted to economic value multiplying by SCF of 0.80

/4 Multiplied by shadow wage rate of 0.6

Table J.1.2 Economic Price Estimate for Tradable Goods

I. Farm Products (Unit : /ton)

Item	Unit		Import Substitution Value		
				Paddy	Corn
			Thai 5% broken rice		
1. Projected 2005 World Price (in 1990 price) /1	US$			241	87
2. Projected 2005 World Price (in 1996 price) /1	US$			286	103
3. Quality Adjustment	%	x	90	80	100
	(broken rice%)		(10%)	(30%)	
4. Projected Price Adjusted for Quality Difference	US$	=	257	229	103
5. International Shipping and Handling	US$	+	37	37	54
6. CIF Price at Manila Port	US$	=	294	266	157
Equivalent in Pesos/ton /2	Peso		7,640	6,920	4,080
7. Port Charge, Handling and Warehousing	Peso	+	250	250	250
8. Wholesale Price in Metro Manila	Peso	=	7,890	7,170	4,330
9. Transportation Cost (Manila-Legazpi) /3	Peso	+	930	930	930
10. Price at Market in Legazpi	Peso	=	8,820	8,100	3,400
11. Processing Cost /3	Peso	-	-	320	0
12. Mill Price	Peso	=	-	7,780	3,400
11. Processing Ratio	%	x	-	65	100
13. By-Product through processing /3	Peso	+	-	580	0
14. Transport/handling from Farmgate /3	Peso	-	-	30	30
15. Farmgate Price	Peso	=	-	5,610	3,370

(Unit : /ton)

Item	Unit		Export Parity Price		
			Copra		Coffee
1. Projected 2005 World Price (in 1990 price) /1	US$		489 (Oil)		1,340
2. Projected 2005 World Price (in 1996 price) /1	US$		580		1,588
3. Quality Adjustment	%	x	100	x	90
4. Projected Price Adjusted for Quality Difference	US$	=	580	=	1,429
5. International Shipping and Handling	US$	-	53	-	54
6. FOB Price at Manila Port	US$	=	527	=	1,375
Equivalent in Pesos/ton /2	Peso		13,700		35,750
7. Port Charge, Handling and Warehousing	Peso	-	250	-	250
8. Wholesale Price in Metro Manila	Peso	=	13,450	=	35,500
9. Transportation Cost (Manila-Legazpi) /3	Peso	-	0	-	930
10. Price in Legazpi	Peso	=	13,450	=	34,570
11. Processing Cost /3	Peso	-	900	-	0
12. Mill Price	Peso	=	12,550	=	34,570
11. Processing Ratio	%	x	60	x	100
13. By-Product through processing /3	Peso	+	50	+	0
14. Transport/Handling from Farmgate /3	Peso	-	30	-	30
15. Farmgate Price	Peso	=	7,550	=	34,540

II. Farm Inputs (Unit : /ton)

Item	Unit		Import Substitution Value		
			Urea	T.S.P	KCL
					/4
1. Projected 2005 World Price (in 1990 price) /1	US$		130	109	94
2. Projected 2005 World Price (in 1996 price) /1	US$		154	129	111
3. International Shipping and Handling	US$	+	53	54	54
4. CIF Price at Manila Port	US$	=	207	183	165
Equivalent in Pesos/ton /2	Pesos		5,380	4,760	4,290
5. Port Charge and Handling	Pesos	+	80	80	80
6. Wholesale Price in Metro Manila	Pesos	=	5,460	4,840	4,370
7. Transportation Cost (Manila-Legazpi) /3	Pesos	+	930	930	930
8. Price at Market in Legazpi	Pesos	=	6,390	5,770	5,300
9. Transport/Handling to Farmgate /3	Pesos	+	30	30	30
10. Farmgate Price	Pesos	=	6,420	5,800	5,330
11. Price of Nutrient Content /5	Pesos		13,960	12,080	8,880

Note : /1 Based on the World Bank, Commodity Markets and the Developing Countries, August 1996. The IBRD estimates are given in 1990 constant US$, in which have been adjusted by the factor of 1.1852 (MUV) to allow for price escalation between 1990 and 1996.

- Paddy : Rice : Thai, milled, 5% broken, FOB Bangkok
- Corn : US No.2, Yellow, FOB Gulf Ports
- Copra : Coconut oil : Bulk, CIF Rotterdam
- Coffee : Roustas : Bulk, Average New York and Le Havre/Marseilles markets
- Urea : Bagged, FOB N.W Europe
- T.S.P : Bulk, FOB US Gulf
- KCL : Bulk, FOB Vancouver

/2 Exchange rate : US$ 1.00 = Pesos 26.0

/3 Adjusted with SCF of 0.80

/4 Potassium Chloride (Muriate of Potash)

/5 Nutrient content is 46 %, 48 %, and 60 %, respectively for Urea, TSP and KCL.

Table J.1.3 Economic Crop Budget, Paddy

(1) Present /Without Project Condition

Item	Unit	Unit Price	Irrigated				Rainfed			
			1 st Cropping		2nd Cropping		1 st Cropping		2nd Cropping	
			Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)
A) Gross Income										
Unit Yield	ton	5,610	3.3	18,510	3.0	16,830	2.1	11,780	1.7	9,540
B) Production Cost (Rounding)				7,560		7,310		6,110		5,850
1) Farm Inputs										
- Seeds	kg	11.6	40	464	40	464	40	464	40	464
- Fertilizers										
N	kg	14.0	60	840	55	770	35	490	30	420
P	kg	12.1	35	424	30	363	18	218	15	182
K	kg	8.9	35	312	30	267	18	160	15	134
- Insecticides	lit	300.0	0.7	210	0.7	210	0.5	150	0.5	150
2) Labor Cost	man-day	54.0	81	4,374	80	4,320	70	3,780	68	3,672
3) Machinery Cost (10%)										
- Land Preparation (Hand-tractor)	ha	800.0	0.1	80	0.1	80	0.1	80	0.1	80
- Threshing	ton	200.0	0.33	66	0.30	60	0.21	42	0.17	34
4) Animal Power (90 %)	day	30.0	14.4	432	14.4	432	14.4	432	14.4	432
5) Miscellaneous (5%)				360		348		291		278
C) Net Production Value				10,950		9,520		5,670		3,690

(2) With Project Condition

Item	Unit	Unit Price (Pesos/ha)	Irrigated				Rainfed			
			1 st Cropping		2nd Cropping		1 st Cropping		2nd Cropping	
			Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)
A) Gross Income										
Unit Yield	ton	5,610	5.5	30,860	5.0	28,050	3.0	16,830	2.6	14,590
B) Production Cost				8,850		8,520		6,550		6,250
1) Farm Inputs										
- Seeds	kg	11.6	40	464	40	464	40	464	40	464
- Fertilizers										
N	kg	14.0	85	1,190	80	1,120	50	700	45	630
P	kg	12.1	45	545	40	484	22	266	18	218
K	kg	8.9	45	401	40	356	22	196	18	160
- Insecticides	lit	300.0	1.5	450	1.5	450	1.0	300	1.0	300
2) Labor Cost	man-day	54.0	84	4,536	82	4,428	67	3,618	65	3,510
3) Machinery Cost (30 %)										
- Land Preparation (Hand-tractor)	ha	800.0	0.3	240	0.3	240	0.3	240	0.3	240
- Threshing	ton	200.0	1.65	330	1.50	300	0.90	180	0.78	156
4) Animal Power (70 %)	day	30.0	9.1	273	9.1	273	9.1	273	9.1	273
5) Miscellaneous (5%)				421		406		312		298
C) Net Production Value				22,010		19,530		10,280		8,340

Table J.1.4 Economic Crop Budget, Mungbean

(1) Lowland Model Project Area

Item		Unit	Unit Price	Rainfed With Project Condition Q'ty	Amount
A) Gross Income					
Unit Yield		ton	16,300	1.20	19,560
B) Production Cost					4,640
1) Farm Inputs					
- Seed		kg	25.0	20	500
- Fertilizers	N	kg	14.0	30	420
	P	kg	12.1	18	218
	K	kg	8.9	18	160
- Agrochemicals		lit	417.6	0.5	209
2) Labor Cost		man-day	54.0	44	2,376
3) Machinery Cost					
- Land Preparation		(ha)	800.0	0.3	240
4) Animal Power		day	30.0	10	300
5) Miscellaneous (5 %)					221
C) Net Income					14,920

(2) Upland Model Project Area

Item		Unit	Unit Price	Rainfed With Project Condition Q'ty	Amount
A) Gross Income					
Unit Yield		ton	16,300	1.00	16,300
B) Production Cost					4,280
1) Farm Inputs					
- Seed		kg	25.0	20	500
- Fertilizers	N	kg	14.0	25	350
	P	kg	12.1	15	182
	K	kg	8.9	15	134
- Agrochemicals		lit	417.6	0.5	209
2) Labor Cost		man-day	54.0	40	2,160
3) Machinery Cost					
- Land Preparation		(ha)	800.0	0.3	240
4) Animal Power		day	30.0	10	300
5) Miscellaneous (5 %)					204
C) Net Income					12,020

Table J.1.5 Economic Crop Budget, Upland Corn

(1) Present Condition/Without Project

Item		Unit	Unit Price	Open Land				Inter-Crop with Coconut			
				1 st Cropping		2nd Cropping		1 st Cropping		2nd Cropping	
				Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	3,370	1.5	5,060	1.0	3,370	1.2	4,040	1.0	3,370
B) Production Cost					3,780		3,120		3,490		3,170
1) Farm Inputs											
- Seeds		kg	18.0	18	324	9	162	18	324	9	162
- Fertilizers	N	kg	14.0	25	350	17	238	20	280	17	238
	P	kg	12.1	12	145	8	97	10	121	8	97
	K	kg	8.9	12	107	8	71	10	89	8	71
- Insecticides		lit	417.6	0.5	209	0.5	209	0.5	209	0.5	209
2) Labor Cost		Man-day	54.0	40	2,160	35	1,890	37	1,998	36	1,944
3) Machinery Cost											
- Shelling		ton	560.0	0	0		0	0	0		0
4) Animal Power		day	30.0	10	300	10	300	10	300	10	300
5) Miscellaneous (5%)					180		148		166		151
C) Net Income					1,280		250		550		200

(2) With Project Condition

Item		Unit	Unit Price	Open Land				Inter-Crop with Coconut			
				1 st Cropping		2nd Cropping		1 st Cropping		2nd Cropping	
				Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)	Q'ty	Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	3,370	3.0	10,110	3.0	10,110	2.7	9,100	2.7	9,100
B) Production Cost					6,360		6,050		5,740		5,440
1) Farm Inputs											
- Seeds		kg	18.0	18	324	9	162	18	324	9	162
- Fertilizers	N	kg	14.0	45	630	41	574	41	574	37	518
	P	kg	12.1	20	242	18	218	18	218	16	194
	K	kg	8.9	20	178	18	160	18	160	16	142
- Insecticides		lit.	417.6	1	418	1	418	1	418	1	418
2) Labor Cost		Man-day	54.0	66	3,564	66	3,564	58	3,132	58	3,132
3) Machinery Cost											
- Shelling (20%)		ton	560.0	0.6	336	0.6	336	0.5	280	0.5	280
4) Animal Power		day	30.0	12	360	11	330	12	360	11	330
5) Miscellaneous (5%)					303		288		273		259
C) Net Income					3,750		4,060		3,360		3,660
Incremental Income					2,470		3,810		2,810		3,460

Table J.1.6 Economic Crop Budget, Upland Rice

	Item		Unit	Unit Price	Rainfed/With Project Condition 1st Cropping Q'ty	1st Cropping Amount	2nd Cropping Q'ty	2nd Cropping Amount
A)	Gross Income							
	Unit Yield		ton	5,610	2.1	11,780	1.8	10,100
B)	Production Cost					4,740		4,650
	1) Farm Inputs							
	- Seed		kg	11.6	55	638	55	638
	- Fertilizers	N	kg	14.0	18	252	16	224
		P	kg	12.1	15	182	12	145
		K	kg	8.9	15	134	12	107
	- Agrochemicals		lit	417.6	1	209	1	209
	2) Labor Cost		man-day	54.0	50	2,700	49	2,646
	3) Machinery Cost							
	- Land Preparation		ha	800.0	0.2	160	0.2	160
	4) Animal Power		day	30.0	8	240	10	300
	5) Miscellaneous (5 %)					226		221
C)	Net Income					7,040		5,450

Table J.1.7 Economic Crop Budget, Eggplant

	Item		Unit	Unit Price	Rainfed With Project Condition Q'ty	Amount
A)	Gross Income					
	Unit Yield		ton	8,000	7.0	56,000
B)	Production Cost					11,780
	1) Farm Inputs					
	- Seed		kg	1,100.0	0.2	220
	- Fertilizers	N	kg	14.0	80	1,120
		P	kg	12.1	50	605
		K	kg	8.9	50	445
	- Organic Fertilizer		kg	1.6	1,000	1,600
	- Agrochemicals		lit	417.6	3	1,253
	2) Labor Cost		man-day	54.0	111	5,994
	3) Machinery Cost					
	- Land Preparation		ha	800.0	0.3	240
	4) Animal Power		day	30.0	10	300
	5) Miscellaneous					589
C)	Net Income					44,220

Table J.1.8 Economic Crop Budget, Coconut

(1) Present/Without Project Condition

Item		Unit	Unit Price	Q'ty	Amount (Pesos/ha)
A) Gross Income					
Unit Yield		ton	7,550	1.0	7,550
B) Production Cost					2,310
1) Farm Inputs					
- Seedlings		Plants	5.4	0	0
- Fertilizers	N	kg	14.0	0	0
	P	kg	12.1	0	0
	K	kg	8.9	0	0
- Organic Fertilizers		ton	1,600	0	0
- Insecticides		lit	417.6	0.1	42
2) Labor Cost		man-day	54.0	40	2,160
3) Miscellaneous (5%)					110
C) Net Income					5,240

Note: Ages of coconut trees are ranging from 35 to 65 years old.

(2) With Project Condition

Item		Unit	Unit Price	1 st Year Q'ty	1 st Year Amount (Pesos/ha)	2nd Year Q'ty	2nd Year Amount (Pesos/ha)	3 rd Year Q'ty	3 rd Year Amount (Pesos/ha)	4 th Year Q'ty	4 th Year Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	7,550	0.6	4,530	0.8	6,040	1.0	7,550	1.5	11,330
B) Production Cost					4,920		4,660		4,950		5,120
1) Farm Inputs											
- Seedlings		Plants	5.4	125	675	10	54				
- Fertilizers	N	kg	14.0	10	140	15	210	20	280	25	350
	P	kg	12.1	0	0	0	0	5	61	5	61
	K	kg	8.9	30	267	35	312	45	401	50	445
- Organic Fertilizers		ton	1,600	0.2	320	0.5	800	0.5	800	0.5	800
- Insecticides		lit	417.6	0.1	42	0.1	42	0.1	42	0.2	84
2) Labor Cost		man-day	54.0	60	3,240	56	3,024	58	3,132	58	3,132
3) Miscellaneous (5%)					234		222		236		244
C) Net Income					-390		1,380		2,600		6,210
Incremental Benefit					-5,630		-3,860		-2,640		970

Item		Unit	Unit Price	5 th Year Q'ty	5 th Year Amount (Pesos/ha)	6 th Year Q'ty	6 th Year Amount (Pesos/ha)	7 th Year Q'ty	7 th Year Amount (Pesos/ha)	8 th - 60 th Year Q'ty	8 th - 60 th Year Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	7,550	2.0	15,100	2.3	17,370	3.0	22,650	3.5	26,430
B) Production Cost					5,650		5,880		6,090		6,300
1) Farm Inputs											
- Fertilizers	N	kg	14.0	30	420	30	420	30	420	30	420
	P	kg	12.1	5	61	5	61	5	61	8	97
	K	kg	8.9	75	668	80	712	90	801	90	801
- Organic Fertilizer		ton	1,600	0.5	800	0.5	800	0.5	800	0.5	800
- Insecticides		lit	417.6	0.2	84	0.5	209	0.5	209	0.5	209
2) Labor Cost		man-day	54.0	62	3,348	63	3,402	65	3,510	68	3,672
3) Miscellaneous (5%)					269		280		290		300
C) Net Income					9,450		11,490		16,560		20,130
Incremental Benefit					4,210		6,250		11,320		14,890

Table J.1.9 Economic Crop Budget, Abaca Production

Item		Unit	Unit Price	1 st Year Q'ty	1 st Year Amount (Pesos/ha)	2nd Year Q'ty	2nd Year Amount (Pesos/ha)	3 rd Year Q'ty	3 rd Year Amount (Pesos/ha)
A) Gross Income									
Unit Yield		ton	29,000	0	0	0.75	21,750	1.5	43,500
B) Production Cost					21,480		11,820		15,950
1) Farm Inputs									
- Seedlings		Plants	4.1	2,500	10,250	120	492		
- Fertilizers	N	kg	14.0	40	560	45	630	45	630
	P	kg	12.1	15	182	15	182	15	182
	K	kg	8.9	30	267	40	356	50	445
- Organic Fertilizers		ton	1,600	1	1,600	1	1,600	1	1,600
- Insecticides		lit	417.6	1	418	1	418	1	418
2) Labor Cost (hired)		man-day	54.0	133	7,182	97	5,238	134	7,236
3) Machinery Cost									
- Stripping		ton	3,120	0	0	0.75	2,340	1.50	4,680
4) Miscellaneous (5%)					1,023		563		760
C) Net Income					-21,480		9,930		27,550

Item		Unit	Unit Price	4 th Year Q'ty	4 th Year Amount (Pesos/ha)	5 th - 15 th Year Q'ty	5 th - 15 th Year Amount (Pesos/ha)
A) Gross Income							
Unit Yield		ton	29,000	2.30	66,700	2.60	75,400
B) Production Cost					19,820		22,560
1) Farm Inputs							
- Fertilizers	N	kg	14.0	50	700	50	700
	P	kg	12.1	20	242	20	242
	K	kg	8.9	60	534	60	534
Organic Fertilizer		ton	1,600	1	1,600	1	1,600
- Insecticides		lit	417.6	1	418	1	418
2) Labor Cost (hired)		man-day	54.0	152	8,208	183	9,882
3) Machinery Cost							
- Stripping		ton	3,120	2.30	7,176	2.60	8,112
5) Miscellaneous (5%)					944		1,074
C) Net Income					46,880		52,840

Note: From the 5th up to 15th year, the cost and benefit are assumed same.

Table J.1.10 Economic Crop Budget, Coffee

Item		Unit	Unit Price	1 st Year Q'ty	1 st Year Amount (Pesos/ha)	2nd Year Q'ty	2nd Year Amount (Pesos/ha)	3 rd Year Q'ty	3 rd Year Amount (Pesos/ha)	4 th Year Q'ty	4 th Year Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	34,540	0	0	0.25	8,640	0.5	17,270	0.7	24,180
B) Production Cost					10,510		5,830		6,260		7,930
1) Farm Inputs											
- Seedlings		Plants	2.2	1,100	2,420	100	220				
- Fertilizers	N	kg	14.0	45	630	50	700	50	700	60	840
	P	kg	12.1	20	242	20	242	25	303	25	303
	K	kg	8.9	20	178	20	178	25	223	25	223
- Organic Fertilizers		ton	1,600	0.5	800	0.5	800	0.5	800	0.5	800
- Insecticides		lit	417.6	0.3	125	0.5	209	1	418	1	418
2) Labor Cost		man-day	54.0	104	5,616	55	2,970	58	3,132	82	4,428
3) Machinery Cost											
- Dehulling		ton	768.0	0	0	0.30	230	0.50	384	0.70	538
4) Miscellaneous (5%)					501		277		298		378
C) Net Income					-10,510		2,810		11,010		16,250

Item		Unit	Unit Price	5 th Year Q'ty	5 th Year Amount (Pesos/ha)	6 th Year Q'ty	6 th Year Amount (Pesos/ha)	7 th Year Q'ty	7 th Year Amount (Pesos/ha)	8 th - 20 Year Q'ty	8 th - 20 Year Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	34,540	0.85	29,360	1.00	34,540	1.2	41,450	1.5	51,810
B) Production Cost					8,340		8,770		9,570		10,440
1) Farm Inputs											
- Fertilizers	N	kg	14.0	65	910	70	980	75	1,050	80	1,120
	P	kg	12.1	30	363	30	363	35	424	40	484
	K	kg	8.9	30	267	30	267	35	312	40	356
Organic Fertilizer		ton	1,600	0.5	800	0.5	800	0.5	800	0.5	800
- Insecticides		lit	417.6	1	418	1	418	1	418	1	418
2) Labor Cost		man-day	54.0	84	4,536	88	4,752	96	5,184	104	5,616
3) Machinery Cost											
- Dehulling		ton	768.0	0.85	653	1.00	768	1.20	922	1.50	1,152
5) Miscellaneous (5%)					397		417		456		497
C) Net Income					21,020		25,770		31,880		41,370

Note: From the 8th year the cost and benefit are assumed same.

Table J.1.11 Economic Crop Budget, Pili

Item		Unit	Unit Price	1 st Year Q'ty	1 st Year Amount (Pesos/ha)	2nd Year Q'ty	2nd Year Amount (Pesos/ha)	3 rd Year Q'ty	3 rd Year Amount (Pesos/ha)	4 th Year Q'ty	4 th Year Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	16,500	0.00	0	0.00	0	0.0	0	0.0	0
B) Production Cost					1,780		1,510		1,460		1,460
1) Farm Inputs											
- Seedlings		Plants	10.0	20	200	5	50				
- Fertilizers	N	kg	14.0	2	28	2	28	2	28	2	28
	P	kg	12.1	0	0	0	0	0	0	0	0
	K	kg	8.9	2	18	2	18	2	18	2	18
- Organic Fertilizers		ton	1,600	0.1	160	0.1	160	0.1	160	0.1	160
- Insecticides		lit	417.6	0.25	104	0.25	104	0.25	104	0.25	104
2) Labor Cost		man-day	54.0	22	1,188	20	1,080	20	1,080	20	1,080
3) Miscellaneous (5%)					85		72		70		70
C) Net Income					-1,780		-1,510		-1,460		-1,460

Item		Unit	Unit Price	5 th Year Q'ty	5 th Year Amount (Pesos/ha)	6 th Year Q'ty	6 th Year Amount (Pesos/ha)	7 rd Year Q'ty	7 rd Year Amount (Pesos/ha)	8 rd Year Q'ty	8 rd Year Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	16,500	0.0	0	0.2	3,300	0.4	6,600	0.7	11,550
B) Production Cost					1,900		2,110		2,390		2,680
1) Farm Inputs											
- Fertilizers	N	kg	14.0	3	42	4	56	4	56	4	56
	P	kg	12.1	1	12	2	24	2	24	2	24
	K	kg	8.9	2	18	3	27	3	27	3	27
- Organic Fertilizers		ton	1,600	0.2	320	0.2	320	0.2	320	0.2	320
- Insecticides		lit	417.6	0.3	125	0.3	125	0.3	125	0.3	125
2) Labor Cost		man-day	54.0	24	1,296	27	1,458	32	1,728	37	1,998
3) Miscellaneous (5%)					91		101		114		128
C) Net Income					-1,900		1,190		4,210		8,870

Item		Unit	Unit Price	9 th Year Q'ty	9 th Year Amount (Pesos/ha)	10 th Year Q'ty	10 th Year Amount (Pesos/ha)	11 th Year Q'ty	11 th Year Amount (Pesos/ha)	12 th to 75 th Year Q'ty	12 th to 75 th Year Amount (Pesos/ha)
A) Gross Income											
Unit Yield		ton	16,500	1.0	16,500	1.4	23,100	1.7	28,050	2.0	33,000
B) Production Cost					2,850		3,740		4,050		4,340
1) Farm Inputs											
- Fertilizers	N	kg	14.0	4	56	5	70	5	70	5	70
	P	kg	12.1	2	24	3	36	3	36	3	36
	K	kg	8.9	3	27	5	45	5	45	5	45
- Organic Fertilizers		ton	1,600	0.2	320	0.5	800	0.5	800	0.5	800
- Insecticides		lit	417.6	0.3	125	0.3	125	0.5	209	0.5	209
2) Labor Cost		man-day	54.0	40	2,160	46	2,484	50	2,700	55	2,970
3) Miscellaneous (5%)					136		178		193		207
C) Net Income					13,650		19,360		24,000		28,660

Table J.1.12 Economic Cost and Profit, Poultry Growing

Item	Unit	Unit Price			Quantity	Amount (Pesos)
		Financial	Conversion	Economic		
A) Gross Income	Bird	60.0 (1.6 kg/bird)	0.80	48.0	5,000	240,000
B) Production Cost						188,650
1) Cost of birds:	Bird	15.0	0.80	12.0	5,000	60,000
2) Cost of feeds:	Bag					93,250
Booster		620	0.56	347.2	45	15,620
Grower		530	0.56	296.8	117	34,730
Finisher		470	0.56	263.2	163	42,900
3) Vaccines:	Vial					5,400
1st Vaccines		110	0.80	90	35	3,150
Drinking Water		110	0.80	90	25	2,250
4) Vitamin/Antibiotics	Bird	1.5	0.80	1.2	5,000	6,000
5) Labor	man-day	90	0.60	54.0	200	10,800
6) Electricity	kwh	3.49	0.80	2.8	1,500	4,200
7) Water Supply	m3	4.0	0.80	3.2	6.4	20
8) Miscellaneous (5%)						8,980
C) Net Income						
Per Batch						51,350
Annual						359,450
		(No. of Batches per year, 365 days/50 days :				7)
Investment Cost						
Building	Unit	576,000	0.80	460,800	1	460,800

Note: Growing period; 35 - 45 days

Table J.1.13 Economic Irrigation, Drainage and Flood Protection Benefit, Lowland Model Project Areas

Item	Without Project			With Project			Incremental	
	Harvested Area (ha)	Net Production Value Per ha (P/ha)	Net Production Value Total (P'000)	Harvested Area (ha)	Net Production Value Per ha (P/ha)	Net Production Value Total (P'000)	Harvested Area (ha)	Net Production Value (P'000)
I. Camalig Diversion Model Area								
Irrigated Paddy								
1st Cropping Season	-	-	-	130	22,010	2,861.3	130	2,861.3
2nd Cropping Season	-	-	-	130	19,530	2,538.9	130	2,538.9
Rainfed Paddy								
1st Cropping Season	114	5,670	646.4	-	-	-	-114	-646.4
2nd Cropping Season	87	3,690	321.0	-	-	-	-87	-321.0
Mungbean	-	-	-	45	14,920	671.4	45	671.4
Total			967.4			6,071.6		5,104.2
							Per ha	
							(Pesos)	(39,263)
							(US$)	(1,510)
II. Dam No. 2 Model Area								
Irrigated Paddy								
1st Cropping Season	26	10,950	284.7	190	22,010	4,181.9	164	3,897.2
2nd Cropping Season	22	9,520	209.4	190	19,530	3,710.7	168	3,501.3
Rainfed Paddy								
1st Cropping Season	313	5,670	1,774.7	205	10,280	2,107.4	-108	332.7
2nd Cropping Season	237	3,690	874.5	185	8,340	1,542.9	-52	668.4
Mungbean	-			135	14,920	2,014.2	135	2,014.2
Total			3,143.3			13,557.1		10,413.8
							Per ha	
							(Pesos)	(26,364)
							(US$)	(1,014)

Table J.1.14 Economic Crop Production Benefit, Upland Model Projects

Item	Without Project			With Project			Incremental	
	Harvested Area (ha)	Net Production Value Per ha (P/ha)	Net Production Value Total (P'000)	Harvested Area (ha)	Net Production Value Per ha (P/ha)	Net Production Value Total (P'000)	Harvested Area (ha)	Net Production Value (P'000)
I. Magogon Area								
Corn			49.5			406.7		357.2
Corn/Open Land								
1st Cropping Season	23	1,280	29.4	35	3,750	131.3	12	101.9
2nd Cropping Season	23	250	5.8	35	4,060	142.1	12	136.3
Corn/Inter-Crop								
1st Cropping Season	19	550	10.5	19	3,360	63.8	0	53.3
2nd Cropping Season	19	200	3.8	19	3,660	69.5	0	65.7
Mungbean	0	0	0	54	12,020	649.1	54	649.1
Coconut	186	5,240	974.6	185	20,130	3,724.1	-1	2,749.5
Coffee	0	0	0	37	41,370	1,530.7	37	1,530.7
Pili	0	0	0	37	28,660	1,060.5	37	1,060.5
Total			1,024.1			7,371.1		6,347.0
II. San Ramon Area								
Corn			238.7			0		-238.7
Corn/Open Land								
1st Cropping Season	130	1,280	166.4	0	3,750	0	-130	-166.4
2nd Cropping Season	130	250	32.5	0	4,060	0	-130	-32.5
Corn/Inter-Crop								
1st Cropping Season	53	550	29.2	0	3,360	0	-53	-29.2
2nd Cropping Season	53	200	10.6	0	3,660	0	-53	-10.6
Coconut	534	5,240	2,798.2	529	20,130	10,648.8	-5	7,850.6
Abaca	0	5,240	0.0	507	52,840	26,789.9	507	26,789.9
Pili	0	0	0	190	28,660	5,445.4	190	5,445.4
Total			3,036.9			42,884.1		39,847.2

Table J.1.15 Annual Incremental Economic Benefit Stream, Magogon Model Project

1. Corn and Mungbean

Incremental Benefit (P/ha)	Corn		Mungbean	Net Income/With
	Open Land	Inter-Crop		Open Land (P/ha)
1st cropping	2,470	2,810	12,020	3,750
2nd cropping	3,810	3,460		4,060

Year in Order	Area Covered (ha)		Build-up	Benefit Build-Up (P'000)					
	Open Land	Inter-Crop	(%)	3rd Year Area	4th Year Area	5th Year Area	6th Year Area	Additional Area	Total Area
	35 ha	19 ha							
3	1.0	0.4	50%	12.8					12.8
4	11.0	6.2	80%	20.5	157.3				177.8
5	11.0	6.2	100%	25.6	251.8	157.3			434.7
6	12.0*	6.2		25.6	314.7	251.8	175.7		767.8
7				25.6	314.7	314.7	281.1		936.1
8				25.6	314.7	314.7	351.3		1,006.3
9				25.6	314.7	314.7	351.3		1,006.3
10				25.6	314.7	314.7	351.3		1,006.3

Note : To be newly expanded

2. Coconut

Year in Order	Area Covered (ha)		Incre. Benefit (P/ha)	Benefit Build-Up (P'000)					
	Re-planting	Ferti.-lizing		3rd Year Area	4th Year Area	5th Year Area	6th Year Area	7th Year Area	Total Area
	47 ha	138 ha							
3	9.0	27.0	-5,630	-24.5					-24.5
4	9.5	27.0	-3,860	78.9	-27.3				51.6
5	9.5	28.0	-2,640	145.0	77.0	-26.3			195.7
6	9.5	28.0	970	314.4	143.7	81.2	-26.3		513.0
7	9.5	28.0	4,210	439.9	314.9	149.9	81.2	-26.3	959.6
8			6,250	458.3	442.0	326.2	149.9	81.2	1,457.6
9			11,320	503.9	461.4	456.9	326.2	149.9	1,898.3
10			14,890	530.8	509.6	476.3	456.9	326.2	2,299.8
11			14,890	530.8	543.5	524.5	476.3	456.9	2,532.0
12			14,890	530.8	543.5	558.4	524.5	476.3	2,633.5
13			14,890	530.8	543.5	558.4	558.4	524.5	2,715.6
14			14,890	530.8	543.5	558.4	558.4	558.4	2,749.5
15			14,890	530.8	543.5	558.4	558.4	558.4	2,749.5

3. Coffee and Pili

Year in Order	Area Covered (ha)	Incremental Benefit (P/ha)		Benefit Build-Up (P'000)					
		Coffee	Pili	3rd Year Area	4th Year Area	5th Year Area	6th Year Area	7th Year Area	Total Area
	37 ha								
3	1.0	-10,510	-1,780	-12.3					-12.3
4	9.0	2,810	-1,510	1.3	-110.6				-109.3
5	9.0	11,010	-1,460	9.6	11.7	-110.6			-89.3
6	9.0	16,250	-1,460	14.8	86.0	11.7	-110.6		1.9
7	9.0	21,020	-1,900	19.1	133.1	86.0	11.7	-110.6	139.3
8		25,770	1,190	27.0	172.1	133.1	86.0	11.7	429.9
9		31,880	4,210	36.1	242.6	172.1	133.1	86.0	669.9
10		41,370	8,870	50.2	324.8	242.6	172.1	133.1	922.8
11		41,370	13,650	55.0	452.2	324.8	242.6	172.1	1,246.7
12		41,370	19,360	60.7	495.2	452.2	324.8	242.6	1,575.5
13		41,370	24,000	65.4	546.6	495.2	452.2	324.8	1,884.2
14		41,370	28,660	70.0	588.3	546.6	495.2	452.2	2,152.3
15		41,370	28,660	70.0	630.3	588.3	546.6	495.2	2,330.4
16		41,370	28,660	70.0	630.3	630.3	588.3	546.6	2,465.5
17		41,370	28,660	70.0	630.3	630.3	630.3	588.3	2,549.2
18		41,370	28,660	70.0	630.3	630.3	630.3	630.3	2,591.2
19		41,370	28,660	70.0	630.3	630.3	630.3	630.3	2,591.2

Table J.1.16 Annual Incremental Economic Benefit Stream, San Ramon Model Project

1. Upland Rice, Mungbean and Eggplant

Benefit (P/ha)	Upland Rice	Egg-plant	Mung-bean
1st cropping	7,040	44,220	12,020
2nd cropping	5,450		

Year in Order	Area Covered (ha)			Benefit
	Upland Rice	Egg-plant	Mung-bean	(P'000)
3	4.0	1.0	4.0	142.3
4	4.0	1.0	4.0	142.3
5	3.0	1.0	3.0	117.8
6	28.0	7.0	28.0	995.8
7	28.0	7.0	28.0	995.8
8	28.0	7.0	28.0	995.8
9	28.0	7.0	28.0	995.8
10	29.0	7.0	29.0	1,020.3
11	0	0	0	0

2. Coconut

Year in Order	Area Covered (ha)		Incre. Benefit (P/ha)	Benefit Build-Up (P'000)					
	Re-planting	Ferti.-lizing		3rd Year Area	4th Year Area	5th Year Area	6th Year Area	7th Year Area	Total Area
	130 ha	399 ha							
3	12.0	34.0	-5,630	-34.6					-34.6
4	29.5	91.0	-3,860	96.8	-77.8				19.0
5	29.5	91.0	-2,640	180.8	269.2	-77.8			372.2
6	29.5	91.0	970	396.5	490.9	269.2	-77.8		1,078.8
7	29.5	92.0	4,210	556.8	1,058.7	490.9	269.2	-76.8	2,298.8
8			6,250	581.3	1,479.2	1,058.7	490.9	273.5	3,883.6
9			11,320	642.1	1,539.4	1,479.2	1,058.7	497.1	5,216.5
10			14,890	684.9	1,688.9	1,539.4	1,479.2	1,070.1	6,462.5
11			14,890	684.9	1,794.2	1,688.9	1,539.4	1,494.1	7,201.5
12			14,890	684.9	1,794.2	1,794.2	1,688.9	1,554.3	7,516.5
13			14,890	684.9	1,794.2	1,794.2	1,794.2	1,703.8	7,771.3
14			14,890	684.9	1,794.2	1,794.2	1,794.2	1,783.1	7,850.6
15			14,890	684.9	1,794.2	1,794.2	1,794.2	1,783.1	7,850.6

3. Abaca and Pili

Year in Order	Area Covered (ha)		Incremental Benefit (P/ha)		Benefit Build-Up (P'000)				
	Abaca	Pili	Abaca	Pili	3rd Year Area	4th Year Area	5th Year Area	6th Year Area	7th Year Area
	507 ha	190 ha							
3	5.0	5.0	-21,480	-1,780	-116.3				
4	27.0	5.0	9,930	-1,510	42.1	-588.9			
5	28.0	4.0	27,550	-1,460	130.5	260.6	-608.6		
6	89.0	35.0	16,250	-1,460	74.0	736.6	272.0	-1,974.0	
7	89.0	35.0	46,880	-1,900	224.9	431.5	765.6	830.9	-1,974.0
8	89.0	35.0	52,840	1,190	270.2	1,256.3	449.2	2,400.9	830.9
9	90.0	35.0	52,840	4,210	285.3	1,432.6	1,305.0	1,395.2	2,400.9
10	90.0	36.0	52,840	8,870	308.6	1,417.7	1,484.3	4,105.8	1,395.2
11			52,840	13,650	332.5	1,471.0	1,496.4	4,744.4	4,105.8
12			52,840	19,360	361.0	1,494.9	1,515.0	4,850.1	4,744.4
13			52,840	24,000	384.2	1,523.5	1,534.1	5,013.2	4,850.1
14			52,840	28,660	407.5	1,546.7	1,557.0	5,180.5	5,013.2
15			52,840	28,660	407.5	1,570.0	1,575.5	5,380.4	5,180.5
16			52,840	28,660	407.5	1,570.0	1,594.2	5,542.8	5,380.4
17			52,840	28,660	407.5	1,570.0	1,594.2	5,705.9	5,542.8
18			52,840	28,660	407.5	1,570.0	1,594.2	5,705.9	5,705.9
19			52,840	28,660	407.5	1,570.0	1,594.2	5,705.9	5,705.9

Year in Order	Area Covered (ha)		Incremental Benefit (P/ha)		Benefit Build-Up (P'000)				
	Abaca	Pili	Abaca	Pili	8th Year Area	9th Year Area	10th Year Area	Decrease of Corn	Total
	507 ha	190 ha							
3	5.0	5.0	-21,480	-1,780				-2.4	-118.7
4	27.0	5.0	9,930	-1,510				-15.1	-561.9
5	28.0	4.0	27,550	-1,460				-28.3	-245.8
6	89.0	35.0	16,250	-1,460				-70.2	-961.6
7	89.0	35.0	46,880	-1,900				-112.1	166.8
8	89.0	35.0	52,840	1,190	-1,974.0			-154.0	3,079.5
9	90.0	35.0	52,840	4,210	830.9	-1,995.5		-196.4	5,458.0
10	90.0	36.0	52,840	8,870	2,400.9	840.9	-1,997.3	-238.2	9,747.4
11			52,840	13,650	1,395.2	2,428.4	839.3	-238.7	16,574.3
12			52,840	19,360	4,105.8	1,411.4	2,426.9	-238.7	20,670.8
13			52,840	24,000	4,744.4	4,152.7	1,409.9	-238.7	23,373.4
14			52,840	28,660	4,850.1	4,797.3	4,150.8	-238.7	27,264.4
15			52,840	28,660	5,013.2	4,903.0	4,798.4	-238.7	28,589.8
16			52,840	28,660	5,180.5	5,066.1	4,907.2	-238.7	29,410.0
17			52,840	28,660	5,380.4	5,233.4	5,074.9	-238.7	30,270.4
18			52,840	28,660	5,542.8	5,433.2	5,247.0	-238.7	30,967.8
19			52,840	28,660	5,705.9	5,595.6	5,452.6	-238.7	31,498.9
20			52,840	28,660	5,705.9	5,758.7	5,619.6	-238.7	31,829.0
21			52,840	28,660	5,705.9	5,758.7	5,787.2	-238.7	31,996.6
22			52,840	28,660	5,705.9	5,758.7	5,787.2	-238.7	31,996.6

Note : Negative net production value of corn : Peso/900 -238.2

Table J.1.17 Economic Post-Harvest Improvement and Handicraft Benefits for Model Projects

Item	Unit	Quantity	Economic Benefit (P'000)
I. Camalig Diversion Model Area			
1) Paddy for Drying and Milling	ton	305.6	220.0 /_1
2) Paddy for Threshing	ton	273.0	60.1 /_2
3) Paddy for Storing	ton	305.6	85.6 /_3
Total			365.7
II. Dam No.2 Model Area			
1) Paddy for Drying and Milling	ton	714.5	514.4 /_1
2) Paddy for Threshing	ton	618.2	136.0 /_2
3) Paddy for Storing	ton	714.5	200.1 /_3
Total			850.5
III. Magogon Model Area			
1) Paddy for Drying and Processing	ton	67.7	48.7 /_1
2) Paddy for Storing	ton	67.7	19.0 /_3
3) Corn for Drying and Threshing	ton	144.0	24.5 /_4
4) Corn for Storing	ton	144.0	24.5 /_3
5) Coffee for Drying and Processing	ton	68.4	118.3 /_4
6) Coffee for Storing	ton	68.4	118.3 /_3
7) Abaca Fiber Processing (Handicraft Sub-center)	ton	1.8	381.0 /_5
Total			734.3
IV. San Ramon Model Area			
1) Abaca Fiber Processing			
Handicraft Center	ton	6.7	1,279.6 /_5
Handicraft Sub-center	ton	1.8	381.0 /_5
Total			1,660.6

Note : /_1 ; Economic Paddy Drying and Milling Improvement Benefit

	30% Broken Rice	10% Broken Rice	Improvement Benefit (Difference)
Economic Price (P/ton)	8,100	8,820	720

/_2 ; Economic Paddy Harvest Improvement Benefit

	Dry Paddy	Wet Paddy	Amount of Losses
Economic Price of Paddy (P/ton)	5,610	4,490 (80% of Dry Paddy)	220 (5%)

/_3 ; Economic Storage Improvement Benefit

	Economic Price (P/ton)	Amount of Losses (P)	
Paddy	5,610	280	(5%)
Corn	3,370	170	(5%)
Coffee	34,540	1,730	(5%)

/_4 ; Economic Processing Improvement Benefit of Corn and Coffee

	Economic Price (P/ton)	Amount of Losses (P)	
Corn	3,370	170	(5%)
Coffee	34,540	1,730	(5%)

/_5 ; Value added through hadicraft of abaca fiber

	Abaca Fiber		Handicraft	C.F	Value Added
	Q'ty(ton)	Value (P'000)	Value (P'000)		(P'000)
Center	6.7	194.3	2,327.0	0.6	1,279.6
Sub-Center	1.8	52.2	687.2	0.6	381.0

Table J.1.18 Economic Rural Road Upgrading Benefit (1/3)

Municipality / Barangay	Route No.	Area (ha)	Population Estimated 1995	Household Estimated 1995	Road Condition	Transportation Cost (P/ton/km)	Distance to Poblacion (km)	Land Use (ha) Paddy Field	Land Use (ha) Coconut	Land Use (ha) Corn	Production/Present (ton) Paddy	Production/Present (ton) Coconut	Production/Present (ton) Corn/ Others
Camalig													
C-1 Quirangay		651	2,047	379	G	2.0	2	62	375	5	188	375	6
C-2 Salugan		105	1,581	278	G	2.0	2	0	76	6	0	76	35
C-3 Gapo		88	1,280	261	G	2.0	1	21	50	8	64	50	23
C-4 Poblacion		36	3,730	666	G	2.0	0	1	1	0	30	1	0
C-5 Tinago		65	1,325	237	G	2.0	1	0	53	0	0	53	130
C-6 Ilawod	C-2	187	2,682	506	M	3.5	1	67	77	2	204	77	17
C-7 Libod		327	2,600	433	G	2.0	2	194	85	3	851	85	22
C-8 Ligban	C-2	91	636	125	B	6.0	2	34	45	1	103	45	25
C-9 Tagaytay		387	2,108	398	G	2.0	3	56	243	5	170	243	25
C-10 Gotob	C-2	91	491	96	B	7.5	3	38	37	4	116	37	40
C-11 Baligang		347	2,983	511	G	2.0	4	10	226	20	30	226	95
C-12 Tagoytoy		127	566	109	B	11.0	7	0	91	8	0	91	95
C-13 Taladong	C-2	203	1,010	206	B	6.0	6	8	158	4	24	158	50
C-14 Binitayan		69	418	75	B	7.5	10	16	41	2	49	41	30
C-15 Comun	C-1	157	1,185	224	B	6.5	8	37	89	4	112	89	35
C-16 Bongabong		316	685	109	B	10.0	5	21	218	10	64	218	120
C-17 Colmon	C-1	595	2,285	439	B	7.0	9	74	420	11	225	420	95
C-18 Del Rosario	C-1	246	780	159	B	9.0	11	3	212	0	9	212	31
C-19 Panoypoy	C-1&D-2	455	965	197	B	10.0	15	3	421	3	10	421	30
C-20 Magogon	C-1&D-1	240	496	89	B	12.0	16	5	190	20	15	190	120
							17						
Mina	C-2	270	565	101	B	6.0	6	11	210	5	32	210	67
Sub total		5,053	30,351	5,598				661	3,318	121	2,296	3,318	1,091
Daraga													
D-1 Inarado		682	1,503	301	M	6.8	9	109	467	7	309	467	7
D-2 Gapo		389	1,608	322	M	6.5	8	16	285	12	49	285	20
D-3 De La Paz		73	522	107	M	7.3	6	0	62	2	0	62	11
D-4 Dinoronan		61	295	66	M	7.0	5	18	30	2	55	30	24
D-5 Peña Francia		194	1,628	258	M	6.5	4	7	124	7	21	124	33
D-6 Alobo		161	559	100	B	9.3	12	86	60	2	261	60	266
D-7 Tabon-Tabon		208	1,322	259	M	5.0	5	61	113	0	185	113	10
D-8 Gabawan		93	1,233	224	B	11.5	6	24	46	3	73	46	41
D-9 Mabini	D-2	124	452	94	B	9.3	11	23	89	0	70	89	20
D-10 Kinawitan	D-2	79	435	95	B	9.6	12	0	63	5	0	63	40
D-11 Burgos	D-2	149	841	162	B	9.0	10	47	84	2	143	84	46
D-12 Bascaran	D-2	424	2,655	521	B	8.0	7	63	289	8	192	289	18
D-13 Talahib		432	526	103	B	11.5	10	11	370	9	33	370	17
D-14 Namantao		363	1,169	216	M	6.5	8	36	279	6	109	279	317
D-15 San Vicente Pequeño		64	192	39	B	12.5	15	49	12	0	148	12	32
D-16 Maopi	D-1	253	817	163	B	9.3	13	22	199	3	67	199	30
D-17 Anislag	D-1	659	2,804	519	M	6.0	11	46	442	55	140	442	10
D-18 Canaroan		247	418	80	B	11.0	17	29	190	11	88	190	45
D-19 San Ramon	D-3	785	1,337	257	B	12.0	15	21	534	130	64	534	452
D-20 Mayon	D-3	357	1,171	209	M	5.6	13	32	216	40	97	216	187
D-21 San Rafael		33	260	46	B	12.0	19	0	28	0	0	28	45
Bigao	D-3	296	777	149	B	23.0	18	9	201	50	24	201	170
San Vincente Grande	D-3	346	741	137	B	23.0	21	10	235	59	28	235	199
Ibaugan	D-3	179	398	65	B	23.0	21	5	122	30	15	122	103
Nabasan	D-3	552	413	83	B	23.0	21	17	375	94	45	376	318
Sub total		7,203	24,106	4,575				741	4,915	537	2,306	4,916	2,461
Total		12,256	54,457	10,173				1,402	8,233	658	4,602	8,234	3,552

Note : Road condition : G (good), M (normal condition), B (bad condition)
1/ ; To Daraga Poblacion

Table J.1.18 Economic Rural Road Upgrading Benefit (2/3)

Municipality / Barangay	Volume of Transportation/Present (ton)					Transportation Benefit (P'000)			
	Farm Input	Farm Output		Others Goods	Total Goods	Goods		Passenger	Total
		Crops	Others			Present	Future		
	2/	3/	4/	5/		6/	7/	8/	
Camalig									
C-1 Quirangay	57	419	838	2,047	3,361	14.9	48.4	48.4	96.8
C-2 Salugan	15	111	222	1,584	1,932	8.6	28.0	28.0	56.0
C-3 Gapo	16	86	172	1,280	1,554	3.4	11.1	11.1	22.2
C-4 Poblacion	0	7	14	3,730	3,751	0	0	0	0
C-5 Tinago	31	183	366	1,325	1,905	4.2	13.7	13.7	27.4
C-6 Bawod	31	135	270	2,682	3,118	23.1	75.1	75.1	150.2
C-7 Libod	71	277	554	2,600	3,502	15.5	50.4	50.4	100.8
C-8 Ligban	20	91	182	636	929	13.7	44.5	44.5	89.0
C-9 Tagaytay	46	302	604	2,108	3,060	20.4	66.3	66.3	132.6
C-10 Colob	73	100	200	921	814	18.1	58.8	58.8	117.6
C-11 Baligang	45	327	654	2,913	3,939	35.0	113.8	113.8	227.6
C-12 Tagoytoy	28	186	372	566	1,152	17.9	58.2	58.2	116.4
C-13 Taladong	28	213	426	1,010	1,677	74.5	242.1	242.1	484.2
C-14 Binitayan	15	81	162	418	676	15.0	48.8	48.8	97.6
C-15 Comun	22	146	292	1,185	1,650	97.7	317.5	317.5	635.0
C-16 Bongabong	52	351	702	685	1,790	19.9	64.7	64.7	129.4
C-17 Comon	83	560	1,120	2,285	4,048	269.6	876.2	876.2	1,752.4
C-18 Del Rosario	28	235	490	790	1,543	125.6	408.2	408.2	816.4
C-19 Panoypoy	49	453	906	965	2,373	263.4	856.1	856.1	1,712.2
C-20 Magogon	45	313	626	496	1,480	175.2	569.4	569.4	1,138.8
Mina	38	283	566	565	1,452	64.5	209.6	209.6	419.2
Sub-total	748	4,869	9,738	30,351	45,706	1,280.2	4,160.9	4,160.9	8,321.8
Daraga									
D-1 Inarado	81	554	1,108	1,503	3,246	64.9	210.9	210.9	421.8
D-2 Gapo	37	315	630	1,608	2,590	46.0	149.5	149.5	299.0
D-3 De La Paz	8	73	146	522	749	10.0	32.5	32.5	65.0
D-4 Dinoronan	13	65	130	295	503	5.6	18.2	18.2	36.4
D-5 Peña Francia	21	161	322	1,628	2,132	18.9	61.4	61.4	122.8
D-6 Alobo	85	378	756	559	1,778	47.4	154.1	154.1	308.2
D-7 Tabon-Tabon	32	160	320	1,322	1,834	20.4	66.3	66.3	132.6
D-8 Gabawan	20	102	204	1,233	1,559	20.8	67.6	67.6	135.2
D-9 Mabini	20	123	246	452	841	68.5	222.6	222.6	445.2
D-10 Kinawitan	14	103	206	435	758	67.3	218.7	218.7	437.4
D-11 Burgos	32	159	318	841	1,350	99.9	324.7	324.7	649.4
D-12 Bascaran	51	345	690	2,655	3,741	193.8	629.9	629.9	1,259.8
D-13 Tafabib	44	394	788	526	1,752	38.9	126.4	126.4	252.8
D-14 Namantao	102	618	1,236	1,169	3,125	55.5	180.4	180.4	360.8
D-15 San Vicente Pequeño	22	74	148	192	436	14.5	47.1	47.1	94.2
D-16 Mapi	33	242	484	817	1,576	151.6	492.7	492.7	985.4
D-17 Anislag	60	480	960	2,804	4,304	350.3	1,138.5	1,138.5	2,277.0
D-18 Canarom	37	253	506	448	1,244	46.9	152.4	152.4	304.8
D-19 San Ramon	150	999	1,998	1,337	4,484	492.7	1,617.5	1,617.5	3,235.0
D-20 Mayon	69	422	844	1,171	2,506	241.1	783.6	783.6	1,567.2
D-21 San Rafael	12	73	146	260	491	20.7	67.3	67.3	134.6
Bigao	52	376	752	772	1,962	261.3	849.2	849.2	1,698.4
San Vincente Grande	66	440	880	741	2,127	330.5	1,074.1	1,074.1	2,148.2
Busgan	34	228	456	398	1,116	173.4	563.6	563.6	1,127.2
Nabasan	106	703	1,406	413	2,628	408.4	1,327.3	1,327.3	2,654.6
Sub-total	1,206	7,840	15,680	24,106	48,832	3,254.3	10,576.5	10,576.5	21,153.0
Total	1,954	12,709	25,418	54,457	94,538	4,534.5	14,737.4	14,737.4	29,474.8

Note : 2/ ; Paddy (0.3 ton/ha/year), Corn/Others (0.2 ton/ha/year), Coconut (0 ton/ha/year)
3/ ; Paddy (20% of the production), Corn, Coconut and others(100%)
4/ ; Livestock, lumber, bamboo, fire wood, etc. (200% of crops)
5/ ; Consumer, construction, and other goods (1.0 ton/capita/year)

6/ ; Unit economic benefit

	Good	Medium	Bad	Difference
Total	16.0	60.7	315.5	
No.	8	10	28	46
Average (P/ton/km)	2.0	6.1	11.3	9.3
Economic Value				2.4

Benefit for the barangays outside the routes is estimated at 30% of those on the routes.
7/ ; Ref. the next page
8/ : 100% of good transportation benefit

Table J.1.18 Economic Rural Road Upgrading Benefit (3/3)

5/ and 8/ : Estimated as follows :

Traffic Estimation (By Jeepny)							
Origin		Panoypoy	Canarom	Kinawitan	Burgos	Magogon	Comon
Destination		Daraga	Daraga	Daraga	Daraga	Daraga	Legazpi
No. of Registered Jeepny		4	1	1	1	1	14
Daily round		8	2	3	3	2	49
No. of Daily Passenger		240	60	90	90	60	1,470
Population		1,745	418	887	844	496	8,078
Annual Good Traffic	(ton, 35% of Passenger Tr	1,830	460	690	690	460	11,270
Per Capita Good Traffic	(ton)	1.05	1.03	0.78	0.82	0.93	1.40
I. Good Transportation							
Transportation Cost	(P/ton/km)	10.0	11.0	9.6	9.0	12.0	7.0
Distance	(km)	15.0	17.0	12.0	10.0	16.0	9.0
Annual Quantity	(ton)	4,600	1,150	1,730	1,730	1,150	28,180
By Jeepney	(35% of passenger traffic)	1,840	460	690	690	460	11,270
By Truck	(150% of Jeepny)	2,760	690	1,040	1,040	690	16,910
Annual Cost	(P'000)	690	220	200	160	220	1,780
II.Annual Passenger Traffic	(Person)	87,600	21,900	32,850	32,850	21,900	536,550
Fare Rate							
Unit	(P/trip)	7.5	10.0	4.5	4.0	12.0	9.0
Annual	(P'000)	660	220	150	130	260	4,830
III.Cost Comparison (Good and Passenger Traffic)							
Passenger/Good		96	100	75	81	118	271

7/ : Future transportation volume (With agricultural development)

Crop Production (ton)

	Project Area (ha)	Present/ Without	With	Ratio (With/Without)
Lowland / Paddy Field				
Camalig Diversion Area	130			
- Paddy		387	1,365	
- Mungbean		0	54	
Dam No.2 Area	395			
- Paddy		1,212	3,091	
- Mungbean		0	162	
Upland/Corn & Coconut Area				
Magogon Area				
- Corn		99	313	
- Paddy		19	28	
- Mungbean		0	53	
- Coconut		190	744	
- Coffee		0	74	
San Ramon Area				
- Corn		434	0	
- Paddy		80	137	
- Coconut		534	2,116	
- Abaca		0	1,622	
Total		3,005	9,759	325

Economic Benefit by Project

	Road Length (km)	Project Benefit (P'000)
Camalig Diversion	2.9	2,662.8
Dam No 2	1.6	1,469.1
Magogon	4.2	3,856.5
San Ramon	3.6	3,305.6
Others	19.8	18,180.8
Total	32.1	29,474.8

Table J.1.19 Economic Rural Water Supply Benefit

Item	Unit	Gotob (Camalig Diversion Area)	Inarado (Dam No.2 Area)	Taladong	Gabawan	Magogon	San Ramon
1. No of Beneficiary	No.						
a) Household							
Present		27	67	52	17	0	0
With Project Condition		62	162	107	42	31	61
b) Population							
Present		149	369	286	94	0	0
With Project Condition		345	901	594	234	168	336
2. Water Consumtion	m3/month						
Present		267	663	515	0	0	0
With Project Condition		621	1,662	1,170	421	302	605
3. O&M Cost	Peso/m3						
Present (Actual)		1.4	1.1	1.4	0	0	0
With Project Condition (Minimum)		2.0	1.8	1.7	2.4	4.4	4.1
Capacity to pay		6.0	6.0	6.0	6.0	9.0	9.0
4.Incremental Revenue to be Collected							
a) Financial	Pesos/year						
Present O&M Cost		4,500	8,800	8,700	0	0	0
With Project Condition (Minimum)		14,900	35,900	23,900	12,100	16,000	30,000
Capacity to Pay		44,700	119,700	84,200	30,300	32,600	65,300
Increment (Capacity - Present)		40,200	110,900	75,500	30,300	32,600	65,300
b) Ecocnomic							
Increment		32,200	88,700	60,400	24,200	26,100	52,200

Table J.1.20 Economic Negative Benefit Estimate

Item	Unit	Quantity	Unit Value (Peso/)	Amount (P'000)
I. Camalig Diversion Model Area				
1) Irrigation and Drainage	ha	8.0		1,655.9
a) Paddy Area		7.1	7,370 1/	52.3
b) Coconut Area		0.4	2,620 4/	1.0
c) Home Garden		0.5	5,240 3/	2.6
d) House	No.	10	160,000 5/	1,600.0
2) Road	ha	3.1		10.5
a) Paddy Area		1.5	3,690 2/	5.5
b) Coconut Area		1.3	2,620 4/	3.4
c) Home Garden		0.3	5,240 3/	1.6
Total	ha	11.1		1,666.4
II. Dam No.2 Model Area				
1) Dam Reservoir				2,321.6
a) Coconut Area	ha	40.0	5,240 3/	209.6
b) House	No.	22	96,000 5/	2,112.0
2) Irrigation and Drainage	ha	32.7		181.4
a) Paddy Area		20.1	7,370 1/	148.1
b) Coconut Area		12.5	2,620 4/	32.8
c) Home Garden		0.1	5,240 3/	0.5
3) Road	ha	9.6		29.6
a) Paddy Area		3.9	3,690 2/	14.4
b) Coconut Area		5.6	2,620 4/	14.7
c) Home Garden		0.1	5,240 3/	0.5
Total	ha	82.3		2,532.6
III Magogon Model Area				
1) Road	ha	2.2		6.0
a) Coconut Area		2.1	2,620 4/	5.5
b) Home Garden		0.1	5,240 3/	0.5
2) Nucleus Facilities	ha			
a) Coconut Area		0.3	2,620 4/	0.8
Total	ha	2.5		6.8
IV San Ramon Model Area				
1) Road	ha	2.1		5.7
a) Coconut Area		2.0	2,620 4/	5.2
b) Home Garden		0.1	5,240 3/	0.5
2) Nucleus Facilities				
a) Coconut Area	ha	0.3	2,620 4/	0.8
Total	ha	2.4		6.5
V. Other Rural Roads		6.1		17.8
a) Coconut Area		5.4	2,620 4/	14.1
b) Home Garden		0.7	5,240 3/	3.7
Total		6.1		17.8

Note : /_1 ; Net income of raifed paddy production

	NPV/Cultivated (P/ha)	Cropping Intensity	NPV/Physical (P/ha)
1st Cropping	5,670	87%	4,930
2nd Cropping	3,690	66%	2,440

/_2 ; A half of net income of raifed paddy production

/_3 ; Net income of present coconut production ; Pesos 5,240

/_4 ; A half of net income of present coconut production

/_5 ; Adjusted by SCF of 0.8

Table J.1.21 Economic Project Cost Estimate (1/4)

I. Camalig Diversion Lowland Model Project

(1) Irrigation and Drainage

(Unit : P'000)

Description	Financial Cost F/C	L/C	Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	9,172	4,359	13,531		9,596	0	0	5,278	4,318	0
1.1 Irrigation and Drainage Facilities	9,172	4,359	13,531		9,596	0	0	5,278	4,318	0
(1) Diversion Weir	3,157	1,699	4,856	0.72	3,496	0	0	1,923	1,573	0
(2) Irrigation and Drainage Canals	6,015	2,660	8,675		6,100	0	0	3,355	2,745	0
- Irrigation Canals	2,479	1,446	3,925	0.69	2,708					
- Drainage Canals	369	92	461	0.68	313					
- Canal Structures	3,167	1,122	4,289	0.72	3,079					
2. O & M Equipment	96	24	120	0.80	96	0	0	96	0	0
3. Engineering Cost	1,015	338	1,353	0.95	1,285	0	912	373	0	0
4. Administration Cost	0	271	271	0.80	217	0	85	85	47	0
Total (Item No.1 to 4)	10,283	4,992	15,275		11,194	0	997	5,832	4,365	0
5. Physical contingency (10%)	1,028	499	1,527		1,119	0	100	583	436	0
Total (Item No.1 to 5)	11,311	5,491	16,802		12,313	0	1,097	6,415	4,801	0

(2) Rural Road & Farm Road

(Unit : P1000)

Description	Financial Cost F/C	L/C	Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	9,600	7,644	17,244		12,630	0	0	6,946	5,684	0
1.2 Rural Infrastructure Facilities	9,600	7,644	17,244		12,630	0	0	6,946	5,684	0
(1) Rural Road Upgrading	8,833	6,335	15,168	0.73	11,073	0	0	6,090	4,983	0
(2) Farm Roads	767	1,309	2,076	0.75	1,557	0	0	856	701	0
2. Engineering Cost	1,293	431	1,724	0.95	1,638	0	1,163	475	0	0
3. Administration Cost	0	345	345	0.80	276	0	108	108	60	0
Total (Item No.1 to 3)	10,893	8,420	19,313		14,544	0	1,271	7,529	5,744	0
4. Physical contingency (10%)	1,089	842	1,931		1,454	0	127	753	574	0
Total (Item No.1 to 4)	11,982	9,262	21,244		15,998	0	1,398	8,282	6,318	0

(3) Rural Water Supply

(Unit : P1000)

Description	Financial Cost F/C	L/C	Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	280	108	388		279	0	0	279	0	0
1.1 Rural Infrastructure Facilities	280	108	388		279	0	0	279	0	0
(1) Rural Water Supply Rehabilitation	280	108	388	0.72	279	0	0	279	0	0
2. Engineering Cost	29	10	39	0.95	37	0	26	11	0	0
3. Administration Cost	0	8	8	0.80	6	0	2	2	2	0
Total (Item No.1 to 3)	309	126	435		322	0	28	292	2	0
4. Physical contingency (10%)	31	13	44		32	0	3	29	0	0
Total (Item No.1 to 4)	340	139	479		354	0	31	321	2	0

(4) Production and Marketing Center

(Unit : P1000)

Description	Financial Cost F/C	L/C	Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	720	309	1,029		823	0	0	823	0	0
1.1 Production and Marketing Center	720	309	1,029	0.80	823	0	0	823	0	0
2. Engineering Cost	77	26	103	0.95	98	0	70	28	0	0
3. Administration Cost	0	21	21	0.80	17	0	7	7	3	0
Total (Item No.1 to 3)	797	356	1,153		938	0	77	858	3	0
4. Physical contingency (10%)	80	36	116		94	0	8	86	0	0
Total (Item No.1 to 4)	877	392	1,269		1,032	0	85	944	3	0

Table J.1.21 Economic Project Cost Estimate (2/4)

II. Dam No.2 Lowland Model Project

(1) Irrigation and Drainage

(Unit : P'000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	64,088	32,442	96,530		66,756	0	0	22,030	44,726	0
1.1 Irrigation and Drainage Facilities	64,088	32,442	96,530		66,756	0	0	22,030	44,726	0
(1) Dam	32,591	16,670	49,261	0.69	33,990	0	0	11,217	22,773	0
(2) Irrigation and Drainage Canals	31,497	15,772	47,269		32,766	0	0	10,813	21,953	0
- Irrigation Canals	13,649	8,617	22,266	0.69	15,364					
- Drainage Canals	10,009	2,502	12,511	0.68	8,507					
- Canal Structures	7,839	4,653	12,492	0.72	8,895					
2. O & M Equipment	144	36	180	0.80	144	0	0	144	0	0
3. Engineering Cost	7,240	2,413	9,653	0.95	9,170	0	6,511	2,659	0	0
4. Administration Cost	0	1,931	1,931	0.80	1,545	0	525	510	510	0
Total (Item No.1 to 4)	71,472	36,822	108,294		77,615	0	7,036	25,343	45,236	0
5. Physical contingency (10%)	7,147	3,682	10,829		7,762	0	704	2,534	4,524	0
Total (Item No.1 to 5)	78,619	40,504	119,123		85,377	0	7,740	27,877	49,760	0

(2) Rural Road & Farm Road

(Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	8,113	8,251	16,364		12,082	0	0	8,039	4,043	0
1.1 Rural Infrastructure Facilities	8,113	8,251	16,364		12,082	0	0	8,039	4,043	0
(1) Rural Road Upgrading	5,514	4,031	9,545	0.73	6,968	0	0	5,226	1,742	0
					(1.00)			(0.75)	(0.25)	
(2) Barangay Road and Farm Roads	2,599	4,220	6,819	0.75	5,114	0	0	2,813	2,301	0
					(1.00)			(0.55)	(0.45)	
2. Engineering Cost	1,227	409	1,636	0.95	1,554	0	1,103	451	0	0
					(1.00)		(0.71)	(0.29)		
3. Administration Cost	0	327	327	0.80	262	0	90	86	86	0
					(1.00)		(0.34)	(0.33)	(0.33)	
Total (Item No.1 to 3)	9,340	8,987	18,327		13,898	0	1,193	8,576	4,129	0
4. Physical contingency (10%)	934	899	1,833		1,390	0	119	858	413	0
Total (Item No.1 to 4)	10,274	9,886	20,160		15,288	0	1,312	9,434	4,542	0

(3) Rural Water Supply

(Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	893	312	1,205		868	0	0	868	0	0
1.1 Rural Infrastructure Facilities	893	312	1,205		868	0	0	868	0	0
(1) Rural Water Supply Rehabilitation	893	312	1,205	0.72	868	0	0	868	0	0
2. Engineering Cost	91	30	121	0.95	115	0	82	33	0	0
3. Administration Cost	0	24	24	0.80	19	0	7	6	6	0
Total (Item No.1 to 3)	984	366	1,350		1,002	0	89	907	6	0
4. Physical contingency (10%)	98	37	135		100	0	8	91	1	0
Total (Item No.1 to 4)	1,082	403	1,485		1,102	0	97	998	7	0

(4) Production and Marketing Center

(Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	1,352	580	1,932		1,546	0	0	1,546	0	0
1.2 Production and Marketing Center	1,352	580	1,932	0.80	1,546	0	0	1,546	0	0
2. Engineering Cost	145	48	193	0.95	183	0	130	53	0	0
3. Administration Cost	0	39	39	0.80	31	0	11	10	10	0
Total (Item No.1 to 3)	1,497	667	2,161		1,760	0	141	1,609	10	0
4. Physical contingency (10%)	150	67	217		176	0	14	161	1	0
Total (Item No.1 to 4)	1,647	734	2,381		1,936	0	155	1,770	11	0

Table J.1.21 Economic Project Cost Estimate (3/4)

III. Magogon Upland Model Project

(1) Rural Road, Barangay Road and Farm Roads (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	13,872	10,856	24,728		18,094	0	0	18,094	0	0
1.1 Rural Infrastructure Facilities	13,872	10,856	24,728		18,094	0	0	18,094	0	0
(1) Rural Road Upgrading	13,019	9,586	22,605	0.73	16,502	0	0	16,502	0	0
(2) Barangay Road and Farm Roads	853	1,270	2,123	0.75	1,592	0	0	1,592	0	0
2. Engineering Cost	1,855	618	2,473	0.95	2,349	0	2,349	0	0	0
3. Administration Cost	0	495	495	0.80	396	0	249	147	0	0
Total (Item No.1 to 3)	15,727	11,969	27,696		20,839	0	2,598	18,241	0	0
4. Physical contingency (10%)	1,573	1,197	2,770		2,084	0	260	1,824	0	0
Total (Item No.1 to 4)	17,300	13,166	30,466		22,923	0	2,858	20,065	0	0

(2) Rural Water Supply (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	229	63	292		210	0	0	210	0	0
1.1 Rural Infrastructure Facilities	229	63	292		210	0	0	210	0	0
(1) Deep Well for Rural Water Supply	229	63	292	0.72	210	0	0	210	0	0
2. Engineering Cost	22	7	29	0.95	28	0	28	0	0	0
3. Administration Cost	0	6	6	0.80	5	0	3	2	0	0
Total (Item No.1 to 3)	251	76	327		243	0	31	212	0	0
4. Physical contingency (10%)	25	8	33		24	0	3	21	0	0
Total (Item No.1 to 4)	276	84	360		267	0	34	233	0	0

(3) Nucleus Facilities (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	1,296	555	1,851		1,481	0	0	1,481	0	0
1.1 Nucleus Facilities	1,296	555	1,851	0.80	1,481	0	0	1,481	0	0
2. Engineering Cost	139	46	185	0.95	176	0	176	0	0	0
3. Administration Cost	0	37	37	0.80	30	0	19	11	0	0
Total (Item No.1 to 3)	1,435	638	2,073		1,687	0	195	1,492	0	0
4. Physical contingency (10%)	144	64	208		169	0	20	149	0	0
Total (Item No.1 to 4)	1,579	702	2,281		1,856	0	215	1,641	0	0

IV. San Ramon Model Project

(1) Rural Road, Barangay Road and Farm Roads (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	11,957	9,925	21,882		16,057	0	0	16,057	0	0
1.1 Rural Infrastructure Facilities	11,957	9,925	21,882		16,057	0	0	16,057	0	0
(1) Rural Road Upgrading	9,821	7,927	17,748	0.73	12,956	0	0	12,956	0	0
(2) Barangay Road and Farm Roads	2,136	1,998	4,134	0.75	3,101	0	0	3,101	0	0
2. Engineering Cost	1,641	547	2,188	0.95	2,079	0	2,079	0	0	0
3. Administration Cost	0	438	438	0.80	350	0	220	130	0	0
Total (Item No.1 to 3)	13,598	10,910	24,508		18,486	0	2,299	16,187	0	0
4. Physical contingency (10%)	1,360	1,091	2,451		1,849	0	230	1,619	0	0
Total (Item No.1 to 4)	14,958	12,001	26,959		20,335	0	2,529	17,806	0	0

(2) Rural Water Supply (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	467	117	584		420	0	0	420	0	0
1.1 Rural Infrastructure Facilities	467	117	584		420	0	0	420	0	0
(1) Deep Well for Rural Water Supply	467	117	584	0.72	420	0	0	420	0	0
2. Engineering Cost	44	14	58	0.95	55	0	55	0	0	0
3. Administration Cost	0	12	12	0.80	10	0	6	4	0	0
Total (Item No.1 to 3)	511	143	654		485	0	61	424	0	0
4. Physical contingency (10%)	51	14	65		49	0	5	42	0	0
Total (Item No.1 to 4)	562	157	719		534	0	66	466	0	0

Note : Excluded the cost for electric transmission line

(3) Nucleus Facilities (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	2,010	861	2,871		2,297	0	0	2,297	0	0
1.1 Nucleus Facilities	2,010	861	2,871	0.80	2,297	0	0	2,297	0	0
2. Engineering Cost	215	72	287	0.95	273	0	273	0	0	0
3. Administration Cost	0	57	57	0.80	46	0	29	17	0	0
Total (Item No.1 to 3)	2,225	990	3,215		2,616	0	302	2,314	0	0
4. Physical contingency (10%)	223	99	322		262	0	30	232	0	0
Total (Item No.1 to 4)	2,448	1,089	3,537		2,878	0	332	2,546	0	0

Table J.1.21 Economic Project Cost Estimate (4/4)

(1) Rural Road Upgrading, Other Route except Model Projects (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	49,872	39,914	89,786		65,544	0	0	36,049	29,495	0
1.1 Rural Infrastructure Facilities	49,872	39,914	89,786		65,544	0	0	36,049	29,495	0
(1) Rural Road Upgrading	49,872	39,914	89,786	0.73	65,544	0	0	36,049	29,495	0
2. Engineering Cost	6,734	2,245	8,979		8,530	0	6,056	2,474	0	0
3. Administration Cost	0	1,796	1,796	0.80	1,437	0	589	589	259	0
Total (Item No.1 to 3)	56,606	43,955	100,561		75,511	0	6,645	39,112	29,754	0
4. Physical contingency (10%)	5,661	4,396	10,057		7,551	0	665	3,911	2,975	0
Total (Item No.1 to 4)	62,267	48,351	110,618		83,062	0	7,310	43,023	32,729	0

(2) Taladong Water Supply Rehabilitation (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	479	210	689		496	0	0	124	372	0
1.1 Rural Infrastructure Facilities	479	210	689		496	0	0	124	372	0
(1) Rural Water Supply Rehabilitation	479	210	689	0.72	496	0	0	124	372	0
2. Engineering Cost	52	17	69	0.95	66	0	47	19	0	0
3. Administration Cost	0	14	14	0.80	11	0	5	4	2	0
Total (Item No.1 to 3)	531	241	772		573	0	52	147	374	0
4. Physical contingency (10%)	53	24	77		57	0	5	15	37	0
Total (Item No.1 to 4)	584	265	849		630	0	57	162	411	0

(3) Gabawan Water Supply Rehabilitation (Unit : P1000)

Description	Financial Cost F/C	Financial Cost L/C	Financial Cost Total	Conversion Factor	Economic Cost Total	1	2	3	4	5
1. Construction Cost	257	133	390		281	0	0	70	211	0
1.1 Rural Infrastructure Facilities	257	133	390		281	0	0	70	211	0
(1) Rural Water Supply Rehabilitation	257	133	390	0.72	281	0	0	70	211	0
2. Engineering Cost	29	10	39	0.95	37	0	26	11	0	0
3. Administration Cost	0	8	8	0.80	6	0	2	2	2	0
Total (Item No.1 to 3)	286	151	437		324	0	28	83	213	0
4. Physical contingency (10%)	29	15	44		32	0	3	8	21	0
Total (Item No.1 to 4)	315	166	481		356	0	31	91	234	0

Table J.1.22 Economic O&M and Replacement Costs (1/2)

I. O&M Cost

Item	Financial Cost (P'000)	Conversion Factor	Economic Cost (P'000)
1. Camatig Diversion Model Area			
1) Irrigation and Drainage Facilities	66.2	0.69	45.7
2) Rural Road	129.0	0.73	94.2
3) Rural Water Supply	8.0	0.72	5.8
4) Production & Marketing Center			207.5
Semi-Mechanical Dryer	14.5 1/	0.80	11.6
Rice Mill	28.9 1/	0.80	23.1
Management	216.0	0.80	172.8
2. Dam No.2 Model Area			
1) Irrigation and Drainage Facilities	151.4	0.69	104.5
2) Rural Road	350.0	0.73	255.5
3) Rural Water Supply	14.0	0.72	10.1
4) Production & Marketing Center			247.6
Semi-Mechanical Dryer	28.2 1/	0.80	22.6
Rice Mill	65.2 1/	0.80	52.2
Management	216.0	0.80	172.8
3. Magogon Model Area			
1) Rural Road	159.0	0.73	116.1
2) Rural Water Supply	16.0	0.72	11.5
3) Processing and Handicraft Center			633.4
Semi-Mechanical Dryer	15.3 1/	0.80	12.2
Rice Mill	5.9 1/	0.80	4.7
Feed Mill	6.5 1/	0.80	5.2
Handicraft Sub-Center	332.1 2/	0.80	265.7
Cooperative Management	432.0 3/	0.80	345.6
4. San Ramon Model Area			
1) Rural Road	160.0	0.73	116.8
2) Rural Water Supply	30.0	0.72	21.6
3) Processing and Handicraft Center			1,447.8
Handicraft Center & Sub-Center	1,377.8 2/	0.80	1,102.2
Production Farm Management	432.0	0.80	345.6
5. Rural Infrastructure Development			
1) Other Rout for Rural Road Upgrading	536.0	0.73	391.3
2) Rural Water Supply			
Taladong	11.0	0.72	7.9
Gabawan	6.0	0.72	4.3

Note : 1/; Valuable cost only

2/; Valuable costs including abaca fiber, machine and building as follws :

(Unit:P'000)

	Center	Sub-Center
Abaca Fiber	197.3	52.2
Other Materials	179.4	52.6
Labor	583.2	194.4
Machine	60.8	25.8
Building	25.0	7.1
Total	1,045.7	332.1

Other O&M costs for the Production and Marketing Centers and the Nucleus Facilities are counted in the respective crop budget.

Table J.1.22 Economic O&M and Replacement Costs (2/2)

II. Replacement Cost

Item	Financial Cost (P'000)	Useful Life (year)	Conversion Factor	Economic Cost (P'000)
1. Camalig Diversion Model Area				
1) Irrigation and Drainage Facilities				
Gates	316.0	25	0.66	208.6
O&M Equipment	120.0	15	0.80	96.0
2) Rural Road	4,362.0	20	0.73	3,184.3
3) Rural Water Supply	77.8	10	0.72	56.0
4) Production & Marketing Center				134.4
Semi-Mechanical Dryer	68.0	10	0.80	54.4
Rice Mill	100.0	10	0.80	80.0
2. Dam No.2 Model Area				
1) Irrigation and Drainage Facilities				
Gates	336.0	25	0.66	221.8
O&M Equipment	180.0	15	0.80	144.0
2) Rural Road	5,706.0	20	0.73	4,165.4
3) Rural Water Supply	214.0	10	0.72	154.1
4) Production & Marketing Center				187.2
Semi-Mechanical Dryer	68.0	10	0.80	54.4
Rice Mill	166.0	10	0.80	132.8
3. Magogon Model Area				
1) Rural Road	6,042.0	20	0.73	4,410.7
2) Rural Water Supply	58.2	10	0.72	41.9
3) Processing and Handicraft Center				568.1
Semi-Mechanical Dryer	68.0	10	0.66	44.9
Rice Mill	29.0	10	0.80	23.2
Feed Mill	49.0	10	0.80	39.2
Poultry House and Facilities	576.0	10	0.80	460.8
4. San Ramon Model Area				
1) Rural Road	6,120.0	20	0.73	4,467.6
2) Rural Water Supply	116.6	10	0.72	84.0
3) Processing and Handicraft Center				75.9
Weaving loom	6.4	10	0.80	5.1
Sewing machine	88.5	10	0.80	70.8
5. Rural Infrastructure Development				
1) Other Rout for Rural Road Upgrading	28,780.0	25	0.73	21,009.4
2) Rural Water Supply				
Taladong	137.8	10	0.72	99.2
Gabawan	78.2	10	0.72	56.3

Table J.1.23 Economic Cost and Benefit Stream, Model Projects (1/4)

EIRR : 25.8% 14.3% 5.9% 13.6% 19.9%

(1) Canalig Diversion Model Project

(Unit : Pesos'000)

Year in Order	Year	Cost Stream: Investment: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Total	O&M: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Replacement: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Total
1	1998	1,097.0	1,398.0	31.0	85.0	2,611.0									2,611.0
2	1999	6,415.0	8,282.0	321.0	944.0	15,962.0									15,962.0
3	2000	4,801.0	6,318.0	2.0	3.0	11,124.0			5.8	103.8					11,235.6
4	2001						45.7	94.2	5.8	207.5					353.2
5	2002						45.7	94.2	5.8	207.5					353.2
6	2003						45.7	94.2	5.8	207.5					353.2
7	2004						45.7	94.2	5.8	207.5					353.2
8	2005						45.7	94.2	5.8	207.5					353.2
9	2006						45.7	94.2	5.8	207.5					353.2
10	2007						45.7	94.2	5.8	207.5					353.2
11	2008						45.7	94.2	5.8	207.5					353.2
12	2009						45.7	94.2	5.8	207.5			28.0	54.4	435.6
13	2010						45.7	94.2	5.8	207.5			28.0	80.0	461.2
14	2011						45.7	94.2	5.8	207.5					353.2
15	2012						45.7	94.2	5.8	207.5					353.2
16	2013						45.7	94.2	5.8	207.5					353.2
17	2014						45.7	94.2	5.8	207.5					353.2
18	2015						45.7	94.2	5.8	207.5	48.0				401.2
19	2016						45.7	94.2	5.8	207.5	48.0				401.2
20	2017						45.7	94.2	5.8	207.5					353.2
21	2018						45.7	94.2	5.8	207.5					353.2
22	2019						45.7	94.2	5.8	207.5			28.0	54.4	435.6
23	2020						45.7	94.2	5.8	207.5		1,592.2	28.0	80.0	2,053.4
24	2021						45.7	94.2	5.8	207.5		1,592.2			1,945.4
25	2022						45.7	94.2	5.8	207.5					353.2
26	2023						45.7	94.2	5.8	207.5					353.2
27	2024						45.7	94.2	5.8	207.5					353.2
28	2025						45.7	94.2	5.8	207.5	104.3				457.5
29	2026						45.7	94.2	5.8	207.5	104.3				457.5
30	2027						45.7	94.2	5.8	207.5					353.2
31	2028						45.7	94.2	5.8	207.5					353.2
32	2029						45.7	94.2	5.8	207.5			28.0	54.4	435.6
33	2030						45.7	94.2	5.8	207.5	48.0		28.0	80.0	509.2
34	2031						45.7	94.2	5.8	207.5	48.0				401.2
35	2032						45.7	94.2	5.8	207.5					353.2
36	2033						45.7	94.2	5.8	207.5					353.2
37	2034						45.7	94.2	5.8	207.5					353.2
38	2035						45.7	94.2	5.8	207.5					353.2
39	2036						45.7	94.2	5.8	207.5					353.2
40	2037						45.7	94.2	5.8	207.5					353.2
41	2038						45.7	94.2	5.8	207.5					353.2
42	2039						45.7	94.2	5.8	207.5			28.0	54.4	435.6
43	2040						45.7	94.2	5.8	207.5		1,592.2	28.0	80.0	2,053.4
44	2041						45.7	94.2	5.8	207.5		1,592.2			1,945.4
45	2042						45.7	94.2	5.8	207.5					353.2
46	2043						45.7	94.2	5.8	207.5					353.2
47	2044						45.7	94.2	5.8	207.5					353.2
48	2045						45.7	94.2	5.8	207.5	48.0				401.2
49	2046						45.7	94.2	5.8	207.5	48.0				401.2
50	2047						45.7	94.2	5.8	207.5					353.2

Year in Order	Year	Benefit Stream: Irri. & Drainage: Positive	Irri. & Drainage: Negative	Road: Positive	Road: Negative	Rural Water Supply	Pro. & Market Center	Total	Net Cash Flow: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Total
1	1998							0	-1,097.0	-1,398.0	-31.0	-85.0	-2,611.0
2	1999		-1,600.0		-5.3			-1,605.3	-8,015.0	-8,287.3	-321.0	-944.0	-17,567.3
3	2000		-55.9		-10.5	32.2	182.9	148.7	-4,856.9	-6,328.5	24.4	76.1	-11,084.9
4	2001	2,552.1	-55.9	2,662.8	-10.5	32.2	365.7	5,546.4	2,450.5	2,558.1	26.4	158.2	5,193.2
5	2002	4,083.4	-55.9	2,662.8	-10.5	32.2	365.7	7,077.7	3,981.8	2,558.1	26.4	158.2	6,724.5
6	2003	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
7	2004	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
8	2005	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
9	2006	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
10	2007	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
11	2008	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
12	2009	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	-1.6	103.8	7,662.9
13	2010	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	-1.6	78.2	7,637.3
14	2011	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
15	2012	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
16	2013	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
17	2014	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
18	2015	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,954.6	2,558.1	26.4	158.2	7,697.3
19	2016	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,954.6	2,558.1	26.4	158.2	7,697.3
20	2017	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
21	2018	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
22	2019	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	-1.6	103.8	7,662.9
23	2020	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	965.9	-1.6	78.2	6,045.1
24	2021	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	965.9	26.4	158.2	6,153.1
25	2022	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
26	2023	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
27	2024	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
28	2025	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,898.3	2,558.1	26.4	158.2	7,641.0
29	2026	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,898.3	2,558.1	26.4	158.2	7,641.0
30	2027	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
31	2028	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
32	2029	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	-1.6	103.8	7,662.9
33	2030	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,954.6	2,558.1	-1.6	78.2	7,589.3
34	2031	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,954.6	2,558.1	26.4	158.2	7,697.3
35	2032	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
36	2033	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
37	2034	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
38	2035	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
39	2036	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
40	2037	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
41	2038	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
42	2039	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	-1.6	103.8	7,662.9
43	2040	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	965.9	-1.6	78.2	6,045.1
44	2041	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	965.9	26.4	158.2	6,153.1
45	2042	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
46	2043	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
47	2044	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3
48	2045	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,954.6	2,558.1	26.4	158.2	7,697.3
49	2046	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	4,954.6	2,558.1	26.4	158.2	7,697.3
50	2047	5,104.2	-55.9	2,662.8	-10.5	32.2	365.7	8,098.5	5,002.6	2,558.1	26.4	158.2	7,745.3

Table J.1.23 Economic Cost and Benefit Stream, Model Projects (2/4)

EIRR : 10.1% 6.3% 5.7% 27.1% 9.9%

(2) Dam No.2 Model Project (Unit : Pesos '000)

Year in Order	Year	Cost Stream: Investment: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Total	O&M: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Replacement: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Total
1	1998	3,340.0	5,312.0	97.0	155.0	9,304.0									9,304.0
2	1999	27,877.0	9,434.0	998.0	1,770.0	40,079.0									40,079.0
3	2000	49,760.0	4,542.0	7.0	11.0	54,320.0			10.1	123.8					54,453.9
4	2001						104.5	255.5	10.1	247.6					617.7
5	2002						45.7	255.5	10.1	247.6					558.9
6	2003						45.7	255.5	10.1	247.6					558.9
7	2004						45.7	255.5	10.1	247.6					558.9
8	2005						45.7	255.5	10.1	247.6					558.9
9	2006						45.7	255.5	10.1	247.6					558.9
10	2007						45.7	255.5	10.1	247.6					558.9
11	2008						45.7	255.5	10.1	247.6					558.9
12	2009						45.7	255.5	10.1	247.6			77.1	54.4	690.4
13	2010						45.7	255.5	10.1	247.6			77.1	132.8	768.8
14	2011						45.7	255.5	10.1	247.6					558.9
15	2012						45.7	255.5	10.1	247.6					558.9
16	2013						45.7	255.5	10.1	247.6					558.9
17	2014						45.7	255.5	10.1	247.6					558.9
18	2015						45.7	255.5	10.1	247.6	72.0				630.9
19	2016						45.7	255.5	10.1	247.6	72.0				630.9
20	2017						45.7	255.5	10.1	247.6					558.9
21	2018						45.7	255.5	10.1	247.6					558.9
22	2019						45.7	255.5	10.1	247.6			77.1	54.4	690.4
23	2020						45.7	255.5	10.1	247.6		2,082.7	77.1	132.8	2,851.5
24	2021						45.7	255.5	10.1	247.6		2,082.7			2,641.6
25	2022						45.7	255.5	10.1	247.6					558.9
26	2023						45.7	255.5	10.1	247.6					558.9
27	2024						45.7	255.5	10.1	247.6					558.9
28	2025						45.7	255.5	10.1	247.6	110.9				669.8
29	2026						45.7	255.5	10.1	247.6	110.9				669.8
30	2027						45.7	255.5	10.1	247.6					558.9
31	2028						45.7	255.5	10.1	247.6					558.9
32	2029						45.7	255.5	10.1	247.6			77.1	54.4	690.4
33	2030						45.7	255.5	10.1	247.6	72.0		77.1	132.8	840.8
34	2031						45.7	255.5	10.1	247.6	72.0				630.9
35	2032						45.7	255.5	10.1	247.6					558.9
36	2033						45.7	255.5	10.1	247.6					558.9
37	2034						45.7	255.5	10.1	247.6					558.9
38	2035						45.7	255.5	10.1	247.6					558.9
39	2036						45.7	255.5	10.1	247.6					558.9
40	2037						45.7	255.5	10.1	247.6					558.9
41	2038						45.7	255.5	10.1	247.6					558.9
42	2039						45.7	255.5	10.1	247.6			77.1	54.4	690.4
43	2040						45.7	255.5	10.1	247.6		2,082.7	77.1	132.8	2,851.5
44	2041						45.7	255.5	10.1	247.6		2,082.7			2,641.6
45	2042						45.7	255.5	10.1	247.6					558.9
46	2043						45.7	255.5	10.1	247.6					558.9
47	2044						45.7	255.5	10.1	247.6					558.9
48	2045						45.7	255.5	10.1	247.6	72.0				630.9
49	2046						45.7	255.5	10.1	247.6	72.0				630.9
50	2047						45.7	255.5	10.1	247.6					558.9

Year in Order	Year	Benefit Stream: Irri. & Drainage: Positive	Irri. & Drainage: Negative	Road: Positive	Road: Negative	Rural Water Supply	Pro. & Market Center	Total	Net Cash Flow: Irri. & Drainage	Road	Rural Water Supply	Pro. & Market Center	Total
1	1998							0	-3,340.0	-5,312.0	-97.0	-155.0	-9,304.0
2	1999		-2,112.0		-14.8			-2,126.8	-29,989.0	-9,448.8	-998.0	-1,770.0	-42,205.8
3	2000		-391.0		-29.6	88.7	425.3	93.4	-50,151.0	-4,571.6	91.6	290.5	-54,369.5
4	2001	6,248.3	-391.0	1,469.1	-29.6	88.7	850.5	8,236.0	5,752.8	1,184.0	78.6	602.9	7,618.3
5	2002	8,331.0	-391.0	1,469.1	-29.6	88.7	850.5	10,318.7	7,894.3	1,184.0	78.6	602.9	9,759.8
6	2003	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
7	2004	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
8	2005	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
9	2006	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
10	2007	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
11	2008	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
12	2009	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	1.5	548.5	11,711.1
13	2010	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	1.5	470.1	11,632.7
14	2011	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
15	2012	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
16	2013	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
17	2014	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
18	2015	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,905.1	1,184.0	78.6	602.9	11,770.6
19	2016	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,905.1	1,184.0	78.6	602.9	11,770.6
20	2017	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
21	2018	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
22	2019	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	1.5	548.5	11,711.1
23	2020	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	-898.7	1.5	470.1	9,550.0
24	2021	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	-898.7	78.6	602.9	9,759.9
25	2022	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
26	2023	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
27	2024	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
28	2025	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,866.2	1,184.0	78.6	602.9	11,731.7
29	2026	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,866.2	1,184.0	78.6	602.9	11,731.7
30	2027	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
31	2028	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
32	2029	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	1.5	548.5	11,711.1
33	2030	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,905.1	1,184.0	1.5	470.1	11,560.7
34	2031	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,905.1	1,184.0	78.6	602.9	11,770.6
35	2032	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
36	2033	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
37	2034	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
38	2035	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
39	2036	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
40	2037	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
41	2038	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
42	2039	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	1.5	548.5	11,711.1
43	2040	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	-898.7	1.5	470.1	9,550.0
44	2041	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	-898.7	78.6	602.9	9,759.9
45	2042	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
46	2043	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
47	2044	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6
48	2045	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,905.1	1,184.0	78.6	602.9	11,770.6
49	2046	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,905.1	1,184.0	78.6	602.9	11,770.6
50	2047	10,413.8	-391.0	1,469.1	-29.6	88.7	850.5	12,401.5	9,977.1	1,184.0	78.6	602.9	11,842.6

Table J.1.23 Economic Cost and Benefit Stream, Model Projects (3/4)

									62.4%	15.8%	3.4%	24.0%	

(3) Magogon Model Project

(Unit : Pesos '000)

Year in Order	Year	Cost Stream: Investment				O&M			Replacement			Total
		Nucleus Facilities	Road	Rural Water Supply	Total	Nucleus Facilities	Road	Rural Water Supply	Nucleus Facilities	Road	Rural Water Supply	
1	1998	215.0	2,858.0	34.0	3,107.0							3,107.0
2	1999	1,641.0	20,065.0	233.0	21,939.0							21,939.0
3	2000					316.7	116.1	11.5				444.3
4	2001					633.4	116.1	11.5				761.0
5	2002					633.4	116.1	11.5				761.0
6	2003					633.4	116.1	11.5				761.0
7	2004					633.4	116.1	11.5				761.0
8	2005					633.4	116.1	11.5				761.0
9	2006					633.4	116.1	11.5				761.0
10	2007					633.4	116.1	11.5				761.0
11	2008					633.4	116.1	11.5				761.0
12	2009					633.4	116.1	11.5	284.1		21.0	1,066.1
13	2010					633.4	116.1	11.5	284.1		21.0	1,066.1
14	2011					633.4	116.1	11.5				761.0
15	2012					633.4	116.1	11.5				761.0
16	2013					633.4	116.1	11.5				761.0
17	2014					633.4	116.1	11.5				761.0
18	2015					633.4	116.1	11.5				761.0
19	2016					633.4	116.1	11.5				761.0
20	2017					633.4	116.1	11.5				761.0
21	2018					633.4	116.1	11.5				761.0
22	2019					633.4	116.1	11.5	284.1	2,205.4	21.0	3,271.5
23	2020					633.4	116.1	11.5	284.1	2,205.4	21.0	3,271.5
24	2021					633.4	116.1	11.5				761.0
25	2022					633.4	116.1	11.5				761.0
26	2023					633.4	116.1	11.5				761.0
27	2024					633.4	116.1	11.5				761.0
28	2025					633.4	116.1	11.5				761.0
29	2026					633.4	116.1	11.5				761.0
30	2027					633.4	116.1	11.5				761.0
31	2028					633.4	116.1	11.5				761.0
32	2029					633.4	116.1	11.5	284.1		21.0	1,066.1
33	2030					633.4	116.1	11.5	284.1		21.0	1,066.1
34	2031					633.4	116.1	11.5				761.0
35	2032					633.4	116.1	11.5				761.0
36	2033					633.4	116.1	11.5				761.0
37	2034					633.4	116.1	11.5				761.0
38	2035					633.4	116.1	11.5				761.0
39	2036					633.4	116.1	11.5				761.0
40	2037					633.4	116.1	11.5				761.0
41	2038					633.4	116.1	11.5				761.0
42	2039					633.4	116.1	11.5	284.1	2,205.4	21.0	3,271.5
43	2040					633.4	116.1	11.5	284.1	2,205.4	21.0	3,271.5
44	2041					633.4	116.1	11.5				761.0
45	2042					633.4	116.1	11.5				761.0
46	2043					633.4	116.1	11.5				761.0
47	2044					633.4	116.1	11.5				761.0
48	2045					633.4	116.1	11.5				761.0
49	2046					633.4	116.1	11.5				761.0
50	2047					633.4	116.1	11.5				761.0

Year in Order	Year	Benefit Stream: Nucleus Development: Crop Production	Poultry	Post Harvest & Processing	Road: Negative	Positive	Negative	Rural Water Supply	Total	Net Cash Flow: Nucleus Develop.	Road	Rural Water Supply	Total
1	1998								0	-215.0	-2,858.0	-34.0	-3,107.0
2	1999				-0.8		-3.0		-3.8	-1,641.8	-20,068.0	-233.0	-21,942.8
3	2000	-24.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	6,945.6	752.3	3,734.4	14.6	4,501.3
4	2001	120.1	359.5	234.3	-0.8	3,856.5	-6.0	26.1	5,089.7	579.7	3,734.4	14.6	4,328.7
5	2002	541.1	359.5	234.3	-0.8	3,856.5	-6.0	26.1	5,510.7	1,000.7	3,734.4	14.6	4,749.7
6	2003	1,282.7	359.5	234.3	-0.8	3,856.5	-6.0	26.1	6,252.3	1,742.3	3,734.4	14.6	5,491.3
7	2004	2,035.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	7,004.6	2,494.6	3,734.4	14.6	6,243.6
8	2005	2,893.8	359.5	234.3	-0.8	3,856.5	-6.0	26.1	7,863.4	3,353.4	3,734.4	14.6	7,102.4
9	2006	3,574.5	359.5	234.3	-0.8	3,856.5	-6.0	26.1	8,544.1	4,034.1	3,734.4	14.6	7,783.1
10	2007	4,228.9	359.5	234.3	-0.8	3,856.5	-6.0	26.1	9,198.5	4,688.5	3,734.4	14.6	8,437.5
11	2008	4,785.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	9,754.6	5,244.6	3,734.4	14.6	8,993.6
12	2009	5,215.3	359.5	234.3	-0.8	3,856.5	-6.0	26.1	10,184.9	5,390.8	3,734.4	-6.4	9,118.8
13	2010	5,606.1	359.5	234.3	-0.8	3,856.5	-6.0	26.1	10,575.7	5,781.6	3,734.4	-6.4	9,509.6
14	2011	5,908.1	359.5	234.3	-0.8	3,856.5	-6.0	26.1	10,877.7	6,367.7	3,734.4	14.6	10,116.7
15	2012	6,086.2	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,055.8	6,545.8	3,734.4	14.6	10,294.8
16	2013	6,221.3	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,190.9	6,680.9	3,734.4	14.6	10,429.9
17	2014	6,305.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,274.6	6,764.6	3,734.4	14.6	10,513.6
18	2015	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
19	2016	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
20	2017	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
21	2018	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
22	2019	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,522.5	1,529.0	-6.4	8,045.1
23	2020	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,522.5	1,529.0	-6.4	8,045.1
24	2021	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
25	2022	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
26	2023	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
27	2024	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
28	2025	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
29	2026	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
30	2027	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
31	2028	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
32	2029	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,522.5	3,734.4	-6.4	10,250.5
33	2030	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,522.5	3,734.4	-6.4	10,250.5
34	2031	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
35	2032	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
36	2033	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
37	2034	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
38	2035	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
39	2036	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
40	2037	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
41	2038	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
42	2039	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,522.5	1,529.0	-6.4	8,045.1
43	2040	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,522.5	1,529.0	-6.4	8,045.1
44	2041	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
45	2042	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
46	2043	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
47	2044	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
48	2045	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
49	2046	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6
50	2047	6,347.0	359.5	234.3	-0.8	3,856.5	-6.0	26.1	11,316.6	6,806.6	3,734.4	14.6	10,555.6

Table J.1.23 Economic Cost and Benefit Stream, Model Projects (4/4)

EIRR : 64.0% 15.2% 3.7% 34.2%

(4) San Ramon Model Project (Unit : Pesos '000)

Year in Order	Year	Cost Stream: Investment: Nucleus Facilities	Investment: Road	Investment: Rural Water Supply	Investment: Total	O&M: Nucleus Facilities/ Land Cons.	O&M: Road	O&M: Rural Water Supply	Replacement: Nucleus Facilities	Replacement: Road	Replacement: Rural Water Supply	Total
1	1991	332.0	2,529.0	66.0	2,927.0							2,927.0
2	1992	2,546.0	17,806.0	466.0	20,818.0							20,818.0
3	2000					723.9	116.8	21.6				862.3
4	2001					1,447.8	116.8	21.6				1,586.2
5	2002					1,447.8	116.8	21.6				1,586.2
6	2003					1,447.8	116.8	21.6				1,586.2
7	2004					1,447.8	116.8	21.6				1,586.2
8	2005					1,447.8	116.8	21.6				1,586.2
9	2006					1,447.8	116.8	21.6				1,586.2
10	2007					1,447.8	116.8	21.6				1,586.2
11	2008					1,447.8	116.8	21.6				1,586.2
12	2009					1,447.8	116.8	21.6	38.0		42.0	1,666.2
13	2010					1,447.8	116.8	21.6	38.0		42.0	1,666.2
14	2011					1,447.8	116.8	21.6				1,586.2
15	2012					1,447.8	116.8	21.6				1,586.2
16	2013					1,447.8	116.8	21.6				1,586.2
17	2014					1,447.8	116.8	21.6				1,586.2
18	2015					1,447.8	116.8	21.6				1,586.2
19	2016					1,447.8	116.8	21.6				1,586.2
20	2017					1,447.8	116.8	21.6				1,586.2
21	2018					1,447.8	116.8	21.6				1,586.2
22	2019					1,447.8	116.8	21.6	38.0	2,233.8	42.0	3,900.0
23	2020					1,447.8	116.8	21.6	38.0	2,233.8	42.0	3,900.0
24	2021					1,447.8	116.8	21.6				1,586.2
25	2022					1,447.8	116.8	21.6				1,586.2
26	2023					1,447.8	116.8	21.6				1,586.2
27	2024					1,447.8	116.8	21.6				1,586.2
28	2025					1,447.8	116.8	21.6				1,586.2
29	2026					1,447.8	116.8	21.6				1,586.2
30	2027					1,447.8	116.8	21.6				1,586.2
31	2028					1,447.8	116.8	21.6				1,586.2
32	2029					1,447.8	116.8	21.6	38.0		42.0	1,666.2
33	2030					1,447.8	116.8	21.6	38.0		42.0	1,666.2
34	2031					1,447.8	116.8	21.6				1,586.2
35	2032					1,447.8	116.8	21.6				1,586.2
36	2033					1,447.8	116.8	21.6				1,586.2
37	2034					1,447.8	116.8	21.6				1,586.2
38	2035					1,447.8	116.8	21.6				1,586.2
39	2036					1,447.8	116.8	21.6				1,586.2
40	2037					1,447.8	116.8	21.6				1,586.2
41	2038					1,447.8	116.8	21.6				1,586.2
42	2039					1,447.8	116.8	21.6	38.0	2,233.8	42.0	3,900.0
43	2040					1,447.8	116.8	21.6	38.0	2,233.8	42.0	3,900.0
44	2041					1,447.8	116.8	21.6				1,586.2
45	2042					1,447.8	116.8	21.6				1,586.2
46	2043					1,447.8	116.8	21.6				1,586.2
47	2044					1,447.8	116.8	21.6				1,586.2
48	2045					1,447.8	116.8	21.6				1,586.2
49	2046					1,447.8	116.8	21.6				1,586.2
50	2047					1,447.8	116.8	21.6				1,586.2

Year in Order	Year	Benefit Stream: Nucleus Development: Crop Production	Nucleus Development: Post-Harvest & Processing	Nucleus Development: Negative	Nucleus Development: Sub-total	Road: Positive	Road: Negative	Rural Water Supply	Total	Net Cash Flow: Nucleus Develop.	Road	Rural Water Supply	Total
1	1991				0				0	-332.0	-2,529.0	-66.0	-2,927.0
2	1992			0.8	0.8		-2.9		-2.1	-2,545.2	-17,808.9	-466.0	-20,820.1
3	2000	-11.0	1,660.6	0.8	1,650.4	3,305.6	-5.2	52.2	5,002.5	926.5	3,183.1	30.6	4,140.2
4	2001	-400.6	1,660.6	0.8	1,260.8	3,305.6	-5.7	52.2	4,612.9	-187.0	3,183.1	30.6	3,026.7
5	2002	234.2	1,660.6	0.8	1,905.6	3,305.6	-5.7	52.2	5,257.7	457.8	3,183.1	30.6	3,671.5
6	2003	3,113.0	1,660.6	0.8	2,774.4	3,305.6	-5.7	52.2	6,126.5	1,326.6	3,183.1	30.6	4,540.3
7	2004	3,461.4	1,660.6	0.8	5,122.8	3,305.6	-5.7	52.2	8,474.9	3,675.0	3,183.1	30.6	6,888.7
8	2005	7,958.9	1,660.6	0.8	9,620.3	3,305.6	-5.7	52.2	12,972.4	8,172.5	3,183.1	30.6	11,386.2
9	2006	11,670.3	1,660.6	0.8	13,331.7	3,305.6	-5.7	52.2	16,683.8	11,883.9	3,183.1	30.6	15,097.6
10	2007	17,230.2	1,660.6	0.8	18,891.6	3,305.6	-5.7	52.2	22,243.7	17,443.8	3,183.1	30.6	20,657.5
11	2008	23,735.8	1,660.6	0.8	25,417.2	3,305.6	-5.7	52.2	28,789.3	23,989.4	3,183.1	30.6	27,203.1
12	2009	28,187.3	1,660.6	0.8	29,848.7	3,305.6	-5.7	52.2	33,200.8	28,362.9	3,183.1	-11.4	31,534.6
13	2010	31,344.7	1,660.6	0.8	32,806.1	3,305.6	-5.7	52.2	36,158.2	31,320.3	3,183.1	-11.4	34,492.0
14	2011	35,315.0	1,660.6	0.8	36,776.4	3,305.6	-5.7	52.2	40,128.5	35,328.6	3,183.1	30.6	38,542.3
15	2012	36,440.4	1,660.6	0.8	38,101.8	3,305.6	-5.7	52.2	41,453.9	36,654.0	3,183.1	30.6	39,867.7
16	2013	37,260.6	1,660.6	0.8	38,922.0	3,305.6	-5.7	52.2	42,274.1	37,474.2	3,183.1	30.6	40,687.9
17	2014	38,121.0	1,660.6	0.8	39,782.4	3,305.6	-5.7	52.2	43,134.5	38,334.6	3,183.1	30.6	41,548.3
18	2015	38,818.4	1,660.6	0.8	40,479.8	3,305.6	-5.7	52.2	43,831.9	39,032.0	3,183.1	30.6	42,245.7
19	2016	39,349.5	1,660.6	0.8	41,010.9	3,305.6	-5.7	52.2	44,363.0	39,563.1	3,183.1	30.6	42,776.8
20	2017	39,679.6	1,660.6	0.8	41,341.0	3,305.6	-5.7	52.2	44,693.1	39,893.2	3,183.1	30.6	43,106.9
21	2018	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
22	2019	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,022.8	949.3	-11.4	40,960.7
23	2020	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,022.8	949.3	-11.4	40,960.7
24	2021	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
25	2022	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
26	2023	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
27	2024	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
28	2025	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
29	2026	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
30	2027	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
31	2028	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
32	2029	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,022.8	3,183.1	-11.4	43,194.5
33	2030	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,022.8	3,183.1	-11.4	43,194.5
34	2031	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
35	2032	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
36	2033	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
37	2034	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
38	2035	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
39	2036	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
40	2037	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
41	2038	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
42	2039	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,022.8	949.3	-11.4	40,960.7
43	2040	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,022.8	949.3	-11.4	40,960.7
44	2041	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
45	2042	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
46	2043	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
47	2044	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
48	2045	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
49	2046	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5
50	2047	39,847.2	1,660.6	0.8	41,508.6	3,305.6	-5.7	52.2	44,860.7	40,060.8	3,183.1	30.6	43,274.5

Table J.1.24 Economic Cost and Benefit Stream, Rural Road Upgrading Project

EIRR 14.3% 6.3% 15.8% 15.2% 18.8% 16.3%

(Unit : Pesos '000)

Cost Stream

Year in Order	Year	Investment						O&M					Replacement					Total
		Camalig Diversion	Dam No.2	Magapon	San Ramon	Others	Total	Camalig Diversion	Dam No.2	Magapon	San Ramon	Others	Total	Camalig Diversion	Dam No.2	Magapon	San Ramon	Others	Total	
1	1999	8,398.0	1,312.0	2,858.0	2,529.0	7,310.0	15,407.0													15,407.0
2	2000	8,282.0	9,434.0	20,065.0	17,850.0	43,023.0	98,630.0													98,630.0
3	2001	6,318.0	4,542.0			32,729.0	43,589.0			116.1	116.8		232.9							43,821.9
4	2001							94.2	255.5	116.1	116.8	391.3	973.9							973.9
5	2002							94.2	255.5	116.1	116.8	391.3	973.9							973.9
6	2003							94.2	255.5	116.1	116.8	391.3	973.9							973.9
7	2004							94.2	255.5	116.1	116.8	391.3	973.9							973.9
8	2005							94.2	255.5	116.1	116.8	391.3	973.9							973.9
9	2006							94.2	255.5	116.1	116.8	391.3	973.9							973.9
10	2007							94.2	255.5	116.1	116.8	391.3	973.9							973.9
11	2008							94.2	255.5	116.1	116.8	391.3	973.9							973.9
12	2009							94.2	255.5	116.1	116.8	391.3	973.9							973.9
13	2010							94.2	255.5	116.1	116.8	391.3	973.9							973.9
14	2011							94.2	255.5	116.1	116.8	391.3	973.9							973.9
15	2012							94.2	255.5	116.1	116.8	391.3	973.9							973.9
16	2013							94.2	255.5	116.1	116.8	391.3	973.9							973.9
17	2014							94.2	255.5	116.1	116.8	391.3	973.9							973.9
18	2015							94.2	255.5	116.1	116.8	391.3	973.9							973.9
19	2016							94.2	255.5	116.1	116.8	391.3	973.9							973.9
20	2017							94.2	255.5	116.1	116.8	391.3	973.9							973.9
21	2018							94.2	255.5	116.1	116.8	391.3	973.9							973.9
22	2019							94.2	255.5	116.1	116.8	391.3	973.9			2,205.4	2,233.8		4,439.2	5,413.1
23	2020							94.2	255.5	116.1	116.8	391.3	973.9	1,592.2	2,062.7	2,205.4	2,233.8	10,504.7	18,618.8	19,592.7
24	2021							94.2	255.5	116.1	116.8	391.3	973.9	1,592.2	2,062.7			10,504.7	14,179.6	15,153.5
25	2022							94.2	255.5	116.1	116.8	391.3	973.9							973.9
26	2023							94.2	255.5	116.1	116.8	391.3	973.9							973.9
27	2024							94.2	255.5	116.1	116.8	391.3	973.9							973.9
28	2025							94.2	255.5	116.1	116.8	391.3	973.9							973.9
29	2026							94.2	255.5	116.1	116.8	391.3	973.9							973.9
30	2027							94.2	255.5	116.1	116.8	391.3	973.9							973.9
31	2028							94.2	255.5	116.1	116.8	391.3	973.9							973.9
32	2029							94.2	255.5	116.1	116.8	391.3	973.9							973.9
33	2030							94.2	255.5	116.1	116.8	391.3	973.9							973.9
34	2031							94.2	255.5	116.1	116.8	391.3	973.9							973.9
35	2032							94.2	255.5	116.1	116.8	391.3	973.9							973.9
36	2033							94.2	255.5	116.1	116.8	391.3	973.9							973.9
37	2034							94.2	255.5	116.1	116.8	391.3	973.9							973.9
38	2035							94.2	255.5	116.1	116.8	391.3	973.9							973.9
39	2036							94.2	255.5	116.1	116.8	391.3	973.9							973.9
40	2037							94.2	255.5	116.1	116.8	391.3	973.9							973.9
41	2038							94.2	255.5	116.1	116.8	391.3	973.9							973.9
42	2039							94.2	255.5	116.1	116.8	391.3	973.9			2,205.4	2,233.8		4,439.2	5,413.1
43	2040							94.2	255.5	116.1	116.8	391.3	973.9	1,592.2	2,062.7	2,205.4	2,233.8	10,504.7	18,618.8	19,592.7
44	2041							94.2	255.5	116.1	116.8	391.3	973.9	1,592.2	2,062.7			10,504.7	14,179.6	15,153.5
45	2042							94.2	255.5	116.1	116.8	391.3	973.9							973.9
46	2043							94.2	255.5	116.1	116.8	391.3	973.9							973.9
47	2044							94.2	255.5	116.1	116.8	391.3	973.9							973.9
48	2045							94.2	255.5	116.1	116.8	391.3	973.9							973.9
49	2046							94.2	255.5	116.1	116.8	391.3	973.9							973.9
50	2047							94.2	255.5	116.1	116.8	391.3	973.9							973.9

Benefit Stream

Year in Order	Year	Positive Benefits						Negative Benefit						Net Cash Flow / Nucleus Development					
		Camalig Diversion	Dam No.2	Magapon	San Ramon	Others	Total	Camalig Diversion	Dam No.2	Magapon	San Ramon	Others	Total	Camalig Diversion	Dam No.2	Magapon	San Ramon	Others	Total
1	1999						0							0	-1,312.0	-2,858.0	-2,529.0	-7,310.0	-15,407
2	2000						0	-5.8	-14.8	-1.0	-2.0		-26.0	-8,287.8	-9,448.8	-20,066.0	-17,850.8	-43,023.0	-98,676.0
3	2001			3,856.5	3,305.6		7,162.1	-10.5	-29.6	-6.0	-5.7		-51.8	-6,328.5	-4,571.6	3,734.4	3,183.1	-32,729.0	-36,711.6
4	2001	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
5	2002	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
6	2003	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
7	2004	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
8	2005	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
9	2006	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
10	2007	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
11	2008	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
12	2009	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
13	2010	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
14	2011	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
15	2012	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
16	2013	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
17	2014	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
18	2015	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
19	2016	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
20	2017	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
21	2018	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
22	2019	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,529.0	949.3	32,789.5	24,009.9
23	2020	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	965.9	-898.7	3,529.0	949.3	7,294.8	9,830.3
24	2021	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	965.9	-898.7	3,734.4	3,183.1	7,294.8	14,269.5
25	2022	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
26	2023	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
27	2024	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
28	2025	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
29	2026	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
30	2027	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
31	2028	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
32	2029	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
33	2030	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
34	2031	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
35	2032	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
36	2033	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
37	2034	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
38	2035	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
39	2036	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
40	2037	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
41	2038	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
42	2039	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,529.0	949.3	32,789.5	24,009.9
43	2040	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	965.9	-898.7	3,529.0	949.3	7,294.8	9,830.3
44	2041	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	965.9	-898.7	3,734.4	3,183.1	7,294.8	14,269.5
45	2042	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
46	2043	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
47	2044	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
48	2045	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
49	2046	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3
50	2047	2,662.8	1,469.1	3,856.5	3,305.6	18,190.6	29,474.8	-10.5	-29.6	-6.0	-5.7		-51.8	2,558.1	1,184.0	3,734.4	3,183.1	32,789.5	28,449.3

Table J.1.25 Economic Cost and Benefit Stream, Other Rural Water Supply Project

EIRR : 6.7% 3.4%

(Unit : Pesos '000)

Year in Order	Year	Cost Stream: Investment Tafadang	Investment Gahawan	O&M Tafadang	O&M Gahawan	Replacement Tafadang	Replacement Gahawan	Total Tafadang	Total Gahawan
1	1998	57.0	31.0					57.0	31.0
2	1999	162.0	91.0					162.0	91.0
3	2000	411.0	234.0					411.0	234.0
4	2001			7.9	4.3			7.9	4.3
5	2002			7.9	4.3			7.9	4.3
6	2003			7.9	4.3			7.9	4.3
7	2004			7.9	4.3			7.9	4.3
8	2005			7.9	4.3			7.9	4.3
9	2006			7.9	4.3			7.9	4.3
10	2007			7.9	4.3			7.9	4.3
11	2008			7.9	4.3			7.9	4.3
12	2009			7.9	4.3			7.9	4.3
13	2010			7.9	4.3	49.6	28.2	57.5	32.5
14	2011			7.9	4.3	49.6	28.2	57.5	32.5
15	2012			7.9	4.3			7.9	4.3
16	2013			7.9	4.3			7.9	4.3
17	2014			7.9	4.3			7.9	4.3
18	2015			7.9	4.3			7.9	4.3
19	2016			7.9	4.3			7.9	4.3
20	2017			7.9	4.3			7.9	4.3
21	2018			7.9	4.3			7.9	4.3
22	2019			7.9	4.3			7.9	4.3
23	2020			7.9	4.3	49.6	28.2	57.5	32.5
24	2021			7.9	4.3	49.6	28.2	57.5	32.5
25	2022			7.9	4.3			7.9	4.3
26	2023			7.9	4.3			7.9	4.3
27	2024			7.9	4.3			7.9	4.3
28	2025			7.9	4.3			7.9	4.3
29	2026			7.9	4.3			7.9	4.3
30	2027			7.9	4.3			7.9	4.3
31	2028			7.9	4.3			7.9	4.3
32	2029			7.9	4.3			7.9	4.3
33	2030			7.9	4.3	49.6	28.2	57.5	32.5
34	2031			7.9	4.3	49.6	28.2	57.5	32.5
35	2032			7.9	4.3			7.9	4.3
36	2033			7.9	4.3			7.9	4.3
37	2034			7.9	4.3			7.9	4.3
38	2035			7.9	4.3			7.9	4.3
39	2036			7.9	4.3			7.9	4.3
40	2037			7.9	4.3			7.9	4.3
41	2038			7.9	4.3			7.9	4.3
42	2039			7.9	4.3			7.9	4.3
43	2040			7.9	4.3	49.6	28.2	57.5	32.5
44	2041			7.9	4.3	49.6	28.2	57.5	32.5
45	2042			7.9	4.3			7.9	4.3
46	2043			7.9	4.3			7.9	4.3
47	2044			7.9	4.3			7.9	4.3
48	2045			7.9	4.3			7.9	4.3
49	2046			7.9	4.3			7.9	4.3
50	2047			7.9	4.3			7.9	4.3

Year in Order	Year	Benefit Stream Tafadang	Benefit Stream Gahawan	Net Cash Flow Tafadang	Net Cash Flow Gahawan
1	1998			-57.0	-31.0
2	1999			-162.0	-91.0
3	2000			-411.0	-234.0
4	2001	60.4	24.2	52.5	19.9
5	2002	60.4	24.2	52.5	19.9
6	2003	60.4	24.2	52.5	19.9
7	2004	60.4	24.2	52.5	19.9
8	2005	60.4	24.2	52.5	19.9
9	2006	60.4	24.2	52.5	19.9
10	2007	60.4	24.2	52.5	19.9
11	2008	60.4	24.2	52.5	19.9
12	2009	60.4	24.2	52.5	19.9
13	2010	60.4	24.2	2.9	-8.3
14	2011	60.4	24.2	2.9	-8.3
15	2012	60.4	24.2	52.5	19.9
16	2013	60.4	24.2	52.5	19.9
17	2014	60.4	24.2	52.5	19.9
18	2015	60.4	24.2	52.5	19.9
19	2016	60.4	24.2	52.5	19.9
20	2017	60.4	24.2	52.5	19.9
21	2018	60.4	24.2	52.5	19.9
22	2019	60.4	24.2	52.5	19.9
23	2020	60.4	24.2	2.9	-8.3
24	2021	60.4	24.2	2.9	-8.3
25	2022	60.4	24.2	52.5	19.9
26	2023	60.4	24.2	52.5	19.9
27	2024	60.4	24.2	52.5	19.9
28	2025	60.4	24.2	52.5	19.9
29	2026	60.4	24.2	52.5	19.9
30	2027	60.4	24.2	52.5	19.9
31	2028	60.4	24.2	52.5	19.9
32	2029	60.4	24.2	52.5	19.9
33	2030	60.4	24.2	2.9	-8.3
34	2031	60.4	24.2	2.9	-8.3
35	2032	60.4	24.2	52.5	19.9
36	2033	60.4	24.2	52.5	19.9
37	2034	60.4	24.2	52.5	19.9
38	2035	60.4	24.2	52.5	19.9
39	2036	60.4	24.2	52.5	19.9
40	2037	60.4	24.2	52.5	19.9
41	2038	60.4	24.2	52.5	19.9
42	2039	60.4	24.2	52.5	19.9
43	2040	60.4	24.2	2.9	-8.3
44	2041	60.4	24.2	2.9	-8.3
45	2042	60.4	24.2	52.5	19.9
46	2043	60.4	24.2	52.5	19.9
47	2044	60.4	24.2	52.5	19.9
48	2045	60.4	24.2	52.5	19.9
49	2046	60.4	24.2	52.5	19.9
50	2047	60.4	24.2	52.5	19.9

Table J.1.26 Economic Cost and Benefit Stream, All Model Projects

EIRR : 19.8%

(Unit : Pesos '000)

Year in Order	Year	Cost Stream										Benefit Stream					Net Cash Flow
		Investment					O & M and Replacement										
		Camalig Diversion	Dam No 2	Magogon	San Ramon	Total	Camalig Diversion	Dam No 2	Magogon	San Ramon	Total		Camalig Diversion	Dam No 2	Magogon	San Ramon	Total	
1	1998	2,611.0	9,368.0	3,107.0	2,927.0	17,949.0	0	0	0	0	0	17,949.0	0	0	0	0	0	-17,949.0
2	1999	15,962.0	49,079.0	21,939.0	20,818.0	98,798.0	0	0	0	0	0	98,798.0	-1,605.3	-2,126.8	-3.8	-2.1	-3,738.0	-102,536.0
3	2000	11,124.0	54,320.0			65,444.0	109.6	133.9	444.3	862.3	1,550.1	66,994.1	148.7	93.4	4,945.6	5,002.5	10,190.2	-56,803.9
4	2001						353.2	617.7	761.0	1,586.2	3,318.1	3,318.1	5,546.4	8,236.0	5,089.7	4,612.9	23,485.0	20,166.9
5	2002						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	7,077.7	10,318.7	5,510.7	5,257.7	28,164.8	24,905.5
6	2003						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	6,252.3	6,126.5	32,878.8	29,619.5
7	2004						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	7,003.6	8,474.9	35,979.5	32,720.2
8	2005						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	7,863.4	12,922.4	41,335.8	38,076.5
9	2006						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	8,541.1	16,683.8	45,727.9	42,468.6
10	2007						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	9,198.5	22,243.7	51,942.2	48,682.9
11	2008						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	9,754.6	28,789.3	59,043.9	55,784.6
12	2009						435.6	690.4	1,066.1	1,666.2	3,858.3	3,858.3	8,098.5	12,401.5	10,184.9	33,200.8	63,885.7	60,027.4
13	2010						461.2	768.8	1,066.1	1,666.2	3,962.3	3,962.3	8,098.5	12,401.5	10,575.7	36,158.2	67,233.9	63,271.6
14	2011						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	10,877.7	40,128.5	71,506.2	68,246.9
15	2012						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,055.8	41,453.9	73,009.7	69,750.4
16	2013						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,190.9	42,274.1	73,965.0	70,705.7
17	2014						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,274.6	43,134.5	74,909.1	71,649.8
18	2015						401.2	630.9	761.0	1,586.2	3,379.3	3,379.3	8,098.5	12,401.5	11,316.6	43,831.9	75,648.5	72,269.2
19	2016						401.2	630.9	761.0	1,586.2	3,379.3	3,379.3	8,098.5	12,401.5	11,316.6	44,363.0	76,179.6	72,800.3
20	2017						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,693.1	76,509.7	73,250.4
21	2018						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
22	2019						435.6	690.4	3,271.5	3,900.0	8,297.5	8,297.5	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	68,379.8
23	2020						2,053.4	2,851.5	3,271.5	3,900.0	12,076.4	12,076.4	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	64,600.9
24	2021						1,945.4	2,641.6	761.0	1,586.2	6,934.2	6,934.2	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	69,743.1
25	2022						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
26	2023						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
27	2024						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
28	2025						457.5	669.8	761.0	1,586.2	3,474.5	3,474.5	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,202.8
29	2026						457.5	669.8	761.0	1,586.2	3,474.5	3,474.5	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,202.8
30	2027						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
31	2028						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
32	2029						435.6	690.4	1,066.1	1,666.2	3,858.3	3,858.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	72,819.0
33	2030						509.2	840.8	1,066.1	1,666.2	4,082.3	4,082.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	72,595.0
34	2031						401.2	630.9	761.0	1,586.2	3,379.3	3,379.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,298.0
35	2032						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
36	2033						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
37	2034						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
38	2035						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
39	2036						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
40	2037						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
41	2038						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
42	2039						435.6	690.4	3,271.5	3,900.0	8,297.5	8,297.5	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	68,379.8
43	2040						2,053.4	2,851.5	3,271.5	3,900.0	12,076.4	12,076.4	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	64,600.9
44	2041						1,945.4	2,641.6	761.0	1,586.2	6,934.2	6,934.2	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	69,743.1
45	2042						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
46	2043						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
47	2044						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0
48	2045						401.2	630.9	761.0	1,586.2	3,379.3	3,379.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,298.0
49	2046						401.2	630.9	761.0	1,586.2	3,379.3	3,379.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,298.0
50	2047						353.2	558.9	761.0	1,586.2	3,259.3	3,259.3	8,098.5	12,401.5	11,316.6	44,860.7	76,677.3	73,418.0

Table J.2.1 Project Effect on Future Farm Economy in the Model Project Areas (1/2)

(Unit : Pesos)

Item	Owner	Owner Cultivator				Lessee/Share Cropper				Care-Taker
	Non Cultivator	Small	Medium	Large	Average	Small	Medium	Large	Average	
Camalig Diversion Area										
Sampling Number	8	10	20	10		23	47	23		25
Average Operating Size (ha)	0.78	0.85	1.96	5.07	2.50 1/	0.75	1.37	1.88	1.30 1/	1.47
Lowland	0.78	0.35	0.48	1.65	0.70	0.25	0.55	1.38	0.70	0.84
Upland	0	0.50	1.48	3.42	1.70	0.50	0.82	0.50	0.70	0.63
Without Project										
I. Income	31,420	31,990	38,190	59,420	41,948	33,580	37,830	43,740	38,241	39,930
Farm Income	13,800	13,980	12,800	35,000	21,145	11,370	21,270	21,200	18,803	18,850
Crop Sales	7,830	4,530	11,000	30,230	14,190	4,730	15,640	16,540	13,164	14,220
Others	5,970	9,450	6,800	4,770	6,955	6,640	5,630	4,660	5,640	4,630
Non-Farm Income	17,670	18,010	20,390	24,420	20,803	22,210	16,560	22,540	19,436	21,080
II. Expenditure	27,980	29,060	35,420	53,870	38,443	32,310	34,330	39,510	35,119	38,970
Farming Expenses	6,890	6,090	7,740	13,330	8,725	4,670	7,280	11,360	7,644	2,560
Others	21,090	22,970	27,680	40,540	29,718	27,670	27,050	28,150	27,475	36,410
III.Net Reserve (I - II)	3,490	2,930	2,770	5,550	3,505	1,240	3,500	4,230	3,122	960
With Project										
I. Income	61,120	66,350	88,860	223,670	116,935	46,810	54,050	97,060	62,896	57,210
Farm Income	43,450	48,340	68,470	199,250	96,133	24,600	37,490	74,520	43,460	36,130
Crop Sales	37,480	38,890	61,670	194,480	89,178	14,640	30,730	68,930	36,198	30,570
Others	5,970	9,450	6,800	4,770	6,955	9,960 2/	6,760	5,590	7,262	5,560
Non-Farm Income	17,670	18,010	20,390	24,420	20,803	22,210	16,560	22,540	19,436	21,080
II. Expenditure	47,910	50,930	66,880	154,380	84,768	40,760	46,730	74,340	52,082	51,830
Farming Expenses	13,610	12,530	17,210	44,550	22,875	7,030	12,350	23,460	13,782	10,060
Others 3/	34,300	38,400	49,670	109,830	61,893	33,730	34,380	50,880	38,300	41,780
III Net Reserve (I - II)	13,210	15,420	21,980	69,290	32,168	6,050	7,320	22,720	10,815	5,380
Difference (With - Without)										
I. Income	29,650	34,360	50,670	164,250	74,988	13,230	16,220	53,320	24,656	17,280
II. Expenditure	19,930	21,870	31,460	100,510	46,325	8,420	12,400	34,830	16,963	12,870
III Net Reserve (I - II)	9,720	12,490	19,210	63,740	28,663	4,810	3,820	18,490	7,693	4,410
Change in Percent (%)										
I. Income	94	107	133	276	179	39	43	122	64	43
II. Expenditure	71	75	89	187	121	26	36	88	48	33
III Net Reserve (I - II)	279	426	691	1,148	818	388	109	437	246	459
Dam No.2 Area										
Item	Owner	Owner Cultivator				Lessee/Share Cropper				Care-Taker
	Non Cultivator	Small	Medium	Large	Average	Small	Medium	Large	Average	
Sampling Number	11	11	22	11		21	42	21		27
Average Operating Size (ha)	0.61	1.16	2.23	3.51	2.30 1/	0.55	1.61	4.19	2.00 1/	1.40
Lowland	0.48	0.18	0.61	1.38	0.70	0.20	0.55	1.50	0.70	0.68
Upland	0.13	0.98	1.62	2.13	1.60	0.35	1.06	2.69	1.30	0.72
Without Project										
I. Income	23,790	26,020	34,240	42,690	34,298	30,910	39,430	51,740	40,378	41,760
Farm Income	12,270	15,830	16,950	22,750	18,120	15,230	19,620	29,030	20,825	20,890
Crop Sales	5,510	7,820	7,290	14,380	9,195	7,710	13,440	23,950	14,635	15,180
Others	6,760	8,010	9,660	8,370	8,925	7,520	6,180	5,080	6,240	5,710
Non-Farm Income	11,520	10,190	17,290	19,940	16,178	15,680	19,810	22,710	19,503	20,870
II. Expenditure	21,760	24,180	32,690	37,500	31,765	29,790	36,500	48,890	37,920	40,850
Farming Expenses	2,700	3,030	5,640	8,050	5,590	6,960	7,740	11,130	8,393	15,060
Others	19,060	21,150	27,050	29,450	26,175	22,830	28,760	37,760	29,528	25,790
III.Net Reserve (I - II)	2,030	1,840	1,550	5,190	2,533	1,120	2,930	2,850	2,458	910
With Project										
I. Income	37,950	42,230	92,210	159,830	96,745	36,710	54,550	102,260	62,018	55,330
Farm Income	26,430	32,540	74,920	139,890	80,568	21,030	34,740	79,550	42,515	34,460
Crop Sales	19,670	24,530	65,260	131,520	71,643	9,750	27,320	73,450	34,460	27,610
Others	6,760	8,010	9,660	8,370	8,925	11,280 2/	7,420	6,100	8,055	6,850
Non-Farm Income	11,520	10,190	17,290	19,940	16,178	15,680	19,810	22,710	19,503	20,870
II. Expenditure	31,760	35,260	67,890	110,340	70,345	33,250	47,900	82,000	52,763	50,900
Farming Expenses	6,510	6,640	16,510	31,400	17,765	6,960	12,480	23,970	13,973	20,680
Others 3/	25,250	28,620	51,380	78,940	52,580	26,290	35,420	58,030	38,790	30,220
III.Net Reserve (I - II)	6,190	7,470	24,320	49,490	26,400	3,460	6,650	20,260	9,255	4,430
Difference (With - Without)										
I. Income	14,160	16,710	57,970	117,140	62,448	5,800	15,120	50,520	21,640	13,570
II. Expenditure	10,000	11,080	35,200	72,840	38,580	3,460	11,400	33,110	14,843	10,050
III Net Reserve (I - II)	4,160	5,630	22,770	44,300	23,868	2,340	3,720	17,410	6,798	3,520
Change in Percent (%)										
I. Income	60	64	169	274	182	19	38	98	54	32
II. Expenditure	46	46	108	194	121	12	31	68	39	25
III Net Reserve (I - II)	205	306	1,469	854	942	209	127	611	277	387

Note : 1/ Weighted average. 2/ Increased 50% of without conditions due to marginal size of farm land (Increased 20% for other lessees and care-takers)
3/ Increased at 50% of net reserve under with project condition.
Crop sales income and expenditure under with condition were based on the respective crop budgets.

Table J.2.1 Project Effect on Future Farm Economy in the Model Project Areas (2/2)

(Unit : Pesos)

Magogon Area

Item	Owner	Owner Cultivator				Lessee/Share Cropper				Care-Taker
	Non-Cultivator	Small	Medium	Large	Average	Small	Medium	Large	Average	
Sampling Number	0	2	5	2		2	4	2		5
Average Operating Size (ha)	0	0.45	1.25	4.00	1.70 1/	0.58	1.59	4.88	2.20 1/	3.75
Lowland	0	0.25	0.25	0.50	0.30	0.00	0.25	0.13	0.20	0.63
Upland	0	0.20	1.00	3.50	1.40	0.58	1.34	4.75	2.00	3.13
Without Project										
I. Income	0	34,240	75,590	77,270	66,780	40,730	36,670	43,240	39,330	40,110
Farm Income	0	24,360	64,830	42,270	50,820	35,730	28,440	20,840	28,360	34,150
Crop Sales	0	0	600	3,600	1,130	0	7,010	6,500	5,130	4,000
Others		24,360	64,230	38,670	49,690	35,730	21,430	14,340	23,230	30,150
Non-Farm Income	0	9,880	10,760	35,000	15,960	5,000	8,230	22,400	10,970	5,960
II. Expenditure	0	30,060	70,590	69,030	61,230	37,500	32,050	36,720	34,580	37,320
Farming Expenses	0	10,960	15,230	21,980	15,780	3,260	4,080	4,630	4,010	0
Living Expenses		19,100	55,360	47,050	45,450	34,240	27,970	32,090	30,570	37,320
III.Net Reserve (I - II)	0	4,180	5,000	8,240	5,550	3,230	4,620	6,520	4,750	2,790
With Project										
I. Income	0	46,540	111,010	190,160	114,280	56,480	57,000	111,660	70,540	63,910
Farm Income	0	36,660	100,250	155,160	98,320	51,480	48,770	89,260	59,570	52,950
Crop Sales	0	12,300	36,020	116,490	48,630	8,600	23,050	72,050	31,690	21,770
Others 2/		24,360	64,230	38,670	49,690	42,880	25,720	17,210	27,880	36,180
Non-Farm Income	0	9,880	10,760	35,000	15,960	5,000	8,230	22,400	10,970	5,960
II. Expenditure	0	39,620	94,630	141,830	92,910	47,880	45,990	81,640	55,380	55,220
Farming Expenses	0	13,740	22,890	46,440	26,090	5,030	7,000	19,520	9,640	9,200
Others 3/	0	25,950	71,740	95,390	66,820	42,850	38,990	62,120	45,740	46,020
III.Net Reserve (I - II)	0	6,850	16,380	48,330	21,370	8,600	11,010	30,020	15,160	8,690
Difference (With - Without)										
I. Income	0	12,300	35,420	112,890	47,500	15,750	20,330	68,420	31,210	23,800
II. Expenditure	0	9,630	24,040	72,800	31,680	10,380	13,940	44,920	20,800	17,900
III.Net Reserve (I - II)	0	2,670	11,380	40,090	15,820	5,370	6,390	23,500	10,410	5,900
Change in Percent (%)										
I. Income	-	36	47	146	71	39	55	158	79	59
II. Expenditure	-	32	34	105	52	28	43	122	60	48
III.Net Reserve (I - II)	-	64	228	487	285	166	138	360	219	211

San Ramon

Item	Owner	Owner Cultivator				Lessee/Share Cropper				Care-Taker
	Non-Cultivator	Small	Medium	Large	Average	Small	Medium	Large	Average	
Sampling Number	5	3	7	3		6	12	6		4
Average Operating Size (ha)	3.31	1.08	1.48	2.17	1.55 1/	0.58	1.98	4.00	2.20 1/	1.56
Lowland	0.50	0.50	0.25	0	0.25	0.25	1.00	0.38	0.66	0
Upland	2.81	0.58	1.23	2.17	1.30	0.58	0.98	3.63	1.54	1.56
Without Project										
I. Income	38,450	38,650	47,640	45,070	44,980	59,130	60,240	52,790	59,370	40,930
Farm Income	24,010	29,060	39,300	30,420	34,890	47,090	42,360	35,440	41,570	33,030
Crop Sales	0	2,000	540	7,530	2,490	930	2,870	4,870	2,890	450
Others	24,010	27,060	38,760	22,890	32,400	46,160	39,490	29,570	38,680	32,580
Non-Farm Income	14,440	9,590	8,340	14,650	10,090	12,040	17,880	23,350	17,800	7,900
II. Expenditure	31,640	34,800	43,410	37,250	40,030	56,350	54,500	50,900	54,070	37,940
Farming Expenses	6,860	10,930	5,450	7,020	7,080	12,300	12,310	8,440	11,340	2,440
Living Expenses	24,780	23,870	37,990	30,230	32,950	44,050	42,190	42,460	42,730	35,500
III.Net Reserve (I - II)	6,810	3,850	4,200	7,820	4,950	2,780	5,740	6,890	5,300	2,990
With Project										
I. Income	127,760	83,640	113,290	143,050	113,320	78,510	99,040	127,130	100,940	68,110
Farm Income	113,320	74,050	104,950	128,400	103,230	66,470	81,160	103,780	83,140	60,210
Crop Sales	16,210	16,810	14,990	15,190	15,460	5,220	16,180	17,550	13,780	3,280
Others 4/	97,110	57,240	89,960	113,210	87,770	61,250	64,980	86,230	69,360	56,930
Non-Farm Income	14,440	9,590	8,340	14,650	10,090	12,040	17,880	23,350	17,800	7,900
II. Expenditure	91,330	65,260	85,920	103,410	85,190	70,060	75,960	99,410	80,360	55,420
Farming Expenses	30,120	23,000	20,560	33,530	24,120	17,560	10,680	29,220	17,040	7,230
Others 3/	61,210	42,260	65,360	69,880	61,070	52,500	65,280	70,190	63,320	48,190
III.Net Reserve (I - II)	36,430	18,380	27,370	39,640	28,130	8,450	23,080	27,720	20,580	12,690
Difference (With - Without)										
I. Income	89,310	44,990	65,650	97,980	68,340	19,380	38,800	69,340	41,570	27,180
II. Expenditure	59,690	30,460	42,490	66,160	45,160	13,710	21,460	48,510	26,290	17,480
III.Net Reserve (I - II)	29,620	14,530	23,170	31,820	23,180	5,670	17,340	20,830	15,280	9,700
Change in Percent (%)										
I. Income	232	116	138	217	152	33	64	120	70	66
II. Expenditure	189	88	98	178	113	24	39	95	49	46
III.Net Reserve (I - II)	435	377	552	407	468	204	302	302	288	324

Note : 1/ Weighted average. 2/ Increased 20% for lessees and care-takers
3/ Increased at 50% of net reserve under with proj. 4/ Included abaca income

Table J.2.2 Financial Cashflow Statement for Production and Marketing Center (1/2)

(1) Canalig Production and Marketing Center

Item / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
I. Inflow																
1. Irrigation O&M Activities																
(1) Irrigation O&M Fee		66.3	110.5	110.5	110.5	110.5	110.5	110.5	110.5	110.5	110.5	110.5	110.5	110.5	110.5	110.5
(2) ISF & AF Collection Charges		16.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
(3) ISF & AF (Balance)		82.9	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2
2. Service Activities																
(4) Land Preparation		42.1	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2	70.2
(5) Threshing		41.0	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3	68.3
(6) Other Farming		164.3	273.8	273.8	273.8	273.8	273.8	273.8	273.8	273.8	273.8	273.8	273.8	273.8	273.8	273.8
(7) Farm Input Delivery		10.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
(8) Paddy Drying		126.5	210.9	210.9	210.9	210.9	210.9	210.9	210.9	210.9	210.9	210.9	210.9	210.9	210.9	210.9
(9) Paddy Custom Milling		122.9	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8	204.8
3. Commercial Activities																
(10) Milling and Sales of ISF & AF Paddy		76.1	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9	126.9
4. Loan																
(11) Building/Drying Floor	778.4															
(12) Machinery		245.0														
(13) Working Capital		87.0														
Total	778.4	1,081.2	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7	1,248.7
II. Outflow																
1. Investment																
(14) Building	778.4															
(15) Machinery		245.0											245.0			
2. Irrigation Amortization																
(16) AF Payment		82.9	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2	138.2
3. Operation Cost																
(17) Hand Tractor		30.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
(18) Thresher		30.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
(19) Drying		24.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
(20) Rice Mill		30.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
(20) Building		13.0	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
(21) Manpower																
• Center Management		216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0	216.0
• Water Mamagement		49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1
• ISF & AF Collection		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
• Other Farming		210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6	210.6
• Farm Input Delivery		3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
(22) Other Cost for Irri. O&M																
• Civil Work		13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
• Others		3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
(23) Repayment																
• Building/Drying Floor		124.5	124.5	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	149.8	
• Machinery			39.2	39.2	60.2	60.2	60.2	60.2	60.2	60.2	60.2					
• Working Capital			31.1	31.1	31.1	31.1										
Total	778.4	1,081.2	1,046.5	1,071.8	1,093.3	1,093.3	1,062.2	1,062.2	1,062.2	1,062.2	1,062.2	1,001.5	1,246.5	1,001.5	1,001.5	851.7
III. Balance																
(24) Annual Balance (I - II)	0	0	202.2	176.9	155.4	155.4	186.5	186.5	186.5	186.5	186.5	247.2	2.2	247.2	247.2	397.0
(25) Cumulative	0	0	202.2	379.1	534.5	689.9	876.4	1,062.9	1,249.4	1,435.9	1,622.4	1,869.6	1,871.8	2,119.0	2,366.2	2,763.2

Note/Cannalig Diversion Production and Marketing Center :

(1) Irrigation O&M Fee

Area (ha)		Rate	Unit Price	Amount
1st Crop	2nd Crop	(kg/ha/year)	(P/kg)	(P'000)
130	130	100 (2 cav.)	8.5	110.5

(2) ISF & AF Collection Charges

Quantity of Paddy Procured (ton)*	Unit Price (P/kg)	Value (P'000)	Commission (%)	Collection Charge (P'000)
32.5	8.5	276.3	10	27.6

* 5 cavans (250 kg) /ha/year

(3) ISF & AF (Balance)

Irrigation O&M Fee	Collection Charge	ISF & AF	Balance (P'000)
110.5	27.6	276.3	138.2

(4) Land Preparation

	Area Covered (ha)	Basic Cost (P/ha)	O/H (%)	Unit Rate (P/ha)	Service Charge (P'000)
	52	1,040	30	1,350	70.2

(5) Threshing

Quantity of Paddy Threshed (ton)	Basic Cost (P/ton)	O/H (%)	Unit Rate (P/ton)	Service Charge (P'000)
273	190	30	250	68.3

(6) Other Farming

Hired Labor Requirement (man day)			Under Services		Unit Rate (Pesos/day)			Service Charge
Per ha	Area	Total	Coverage (%)	Man day	Basic	O/H	Total	(P'000)
45	260	11,700	20	2,340	90	30	117	273.8

(7) Farm Input Delivery

Amount per ha (P/ha)			Under Services		Value	Commission	Service Charge
Fertilizer	Insecticides	Total	Coverage (%)	ha	(P'000)	(%)	(P'000)
2,940	560	3,500	20	50	175.0	10	17.5

(8) Paddy Drying (Paddy of ISF, AF and custom milling)

Paddy for	Basic Cost (P/ton)			O/H	Unit Rate	Service
Drying (ton)	Drying	Others*	Total	(%)	(P/ton)	Charge (P'000)
305.6	220	310	530	30	690	210.9

* : Building O&M cost

(9) Paddy Custom Milling

Paddy for	Basic Cost (P/ton)			O/H	Unit Rate	Service
Milling (ton)	Milling	Others*	Total	(%)	(P/ton)	Charge (P'000)
273	220	155	375	100	750	204.8

Private milling rate is Pesos 770 - 930/ton of paddy.

(10) Milling and Sales of ISF & AF Paddy

ISF & AF (ton)			Selling Price (P/kg)		Sales Amount (P'000)			Value of ISF &	Balance
Paddy	Rice	Bran	Rice	Bran	Rice 100%	Bran 100%	Total	AF (Paddy) (P'000)	(P'000)
32.5	21.1	3.9	18.0	6.0	379.8	23.4	403.2	276.3	126.9

(11) Building (warehouse, office, others) : Peso 638,400 Sun drying floor ; Peso 140,000

(12) Rice mill) ; Peso 100,000 Hand Tractor ; Peso 22,500 x 2 Thresher ; Peso 16,000 x 2
Semi mechanical dryer ; Peso 68,000

(13) Working Capital ; Supplement for the negative balance.

(16) Amortization Fee : 138,125 (2.5 cav./125 kg x P 8.5/kg x 130 ha)

(17 to 20) : Ref Tables of Operation Plan, Production and Marketing Center
(Valuable costs covering spare parts, fuel, lubricants and labor are counted.)

(21) Center Management : 6,000 / month x 3 persons
Irrigation O&M : 49,050 (545 man-day x P 90)
ISF & AF Collection : 5,400 (6 persons x 5 days x 2 seasons, one person/10 ha)
Other Farming : 210,600 (Pesos 90/day x 2,340 man-days)
Farm Input Delivery : 3,600 (Pesos 90/day x 4 persons x 5 days x 2 seasons)

(22) Civil Work : 13,500
Others : 3,600

(23) Terms and Condition

	Interest Rate (%/year)	Grace Period (year)	Maturity (year)
Building (Fixed asset loan)	16	3	15
Machinery (Fixed asset loan)	16	3	10
Working Capital	14	1	5

Table J.2.2 Financial Cashflow Statement for Production and Marketing Center (2/2)

(2) Dam No.2 Production and Marketing Center

Item / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
I. Inflow																
1. Irrigation O&M Activities																
(1) Irrigation O&M Fee		96.9	161.5	161.5	161.5	161.5	161.5	161.5	161.5	161.5	161.5	161.5	161.5	161.5	161.5	161.5
(2) ISF & AF Collection Charges		24.2	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
(3) ISF & AF (Balance)		121.4	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9
2. Service Activities																
(4) Land Preparation		108.1	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2	180.2
(5) Threshing		100.1	166.9	166.9	166.9	166.9	166.9	166.9	166.9	166.9	166.9	166.9	166.9	166.9	166.9	166.9
(6) Other Farming		486.5	810.8	810.8	810.8	810.8	810.8	810.8	810.8	810.8	810.8	810.8	810.8	810.8	810.8	810.8
(7) Farm Input Delivery		31.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5
(8) Paddy Drying		227.7	379.5	379.5	379.5	379.5	379.5	379.5	379.5	379.5	379.5	379.5	379.5	379.5	379.5	379.5
(9) Paddy Custom Milling		243.7	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1	406.1
3. Commercial Activities																
(10) Milling and Sales of ISF & AF Paddy		112.0	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6
4. Loan																
(11) Building/Drying Floor	1,499.0															
(12) Machinery		311.0														
(13) Working Capital		86.1														
Total	1,499.0	1,948.9	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4	2,586.4
II. Outflow																
1. Investment																
(14) Building	1,499.0															
(15) Machinery		311.0											311.0			
2. Irrigation Amortization																
(16) AF Payment		121.4	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9	201.9
3. Operation Cost																
(17) Hand Tractor		30.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
(18) Thresher		30.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
(19) Drying		24.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
(20) Rice Mill		30.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
(20) Building		13.0	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
(21) Manpower																
• Center Management		360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0
• Water Management		49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1	49.1
• ISF & AF Collection		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
• Other Farming		623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7	623.7
• Farm Input Delivery		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
(22) Other Cost for Irri. O&M																
• Civil Work		96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5	96.5
• Others		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
(23) Repayment																
• Building/Drying Floor		239.8	239.8	288.4	288.4	288.4	288.4	288.4	288.4	288.4	288.4	288.4	288.4	288.4	288.4	
• Machinery			49.8	49.8	77.0	77.0	77.0	77.0	77.0	77.0	77.0					
• Working Capital			30.8	30.8	30.8	30.8										
Total	1,499.0	1,948.9	1,884.0	1,932.6	1,959.8	1,959.8	1,929.0	1,929.0	1,929.0	1,929.0	1,929.0	1,852.0	2,163.0	1,852.0	1,852.0	1,563.6
III. Balance																
(24) Annual Balance (I - II)	0	0	702.4	653.8	626.6	626.6	657.4	657.4	657.4	657.4	657.4	734.4	423.4	734.4	734.4	1,022.8
(25) Cumulative	0	0	702.4	1,356.2	1,982.8	2,609.4	3,266.8	3,924.2	4,581.6	5,239.0	5,896.4	6,630.8	7,054.2	7,788.6	8,523.0	9,545.8

Note/Dam No.2 Production and Marketing Center :

(1) Irigation O&M Fee

Area (ha)		Rate	Unit Price	Amount
1st Crop	2nd Crop	(kg/ha/year)	(P/kg)	(P'000)
190	190	100 (2 cav.)	8.5	161.5

(2) ISF & AF Collection Charges

Quantity of Paddy Procured (ton)*	Unit Price (P/kg)	Value (P'000)	Commission (%)	Collection Charge (P'000)
47.5	8.5	403.8	10	40.4

* 5 cavans (250 kg) /ha/year

(3) ISF & AF (Balance)

Irrigation O&M Fee	Collection Charge	ISF & AF	Balance (P'000)
161.5	40.4	403.8	201.9

(4) Land Preparation

Area Covered (ha)	Basic Cost (P/ha)	O.H (%)	Unit Rate (P/ha)	Service Charge (P'000)
154	900	30	1,170	180.2

(5) Threshing

Quantity of Paddy Threshed (ton)	Basic Cost (P/ton)	O.H (%)	Unit Rate (P/ton)	Service Charge (P'000)
618.2	210	30	270	166.9

(6) Other Farming

Hired Labor Requirement (man-day)			Under Services		Unit Rate (Pesos/day)			Service Charge
Per ha	Area	Total	Coverage (%)	Man-day	Basic	O.H	Total	(P'000)
45	770	34,650	20	6,930	90	30	117	810.8

(7) Farm Input Delivery

Amount per ha (P/ha)			Under Services		Value	Commission	Service Charge
Fertilizer	Insecticides	Total	Coverage (%)	ha	(P'000)	(%)	(P'000)
2,940	560	3,500	20	150	525.0	10	52.5

(8) Paddy Drying (Paddy of ISF, AF and custom milling)

Paddy for	Basic Cost (P/ton)			O.H	Unit Rate	Service
Drying (ton)	Drying	Others*	Total	(%)	(P/ton)	Charge (P'000)
665.8	190	250	440	30	570	379.5

* ; Building O&M cost

(9) Paddy Custom Milling

Paddy for	Basic Cost (P/ton)			O.H	Unit Rate	Service
Milling (ton)	Milling	Others*	Total	(%)	(P/ton)	Charge (P'000)
665.8	180	125	305	100	610	406.1

Private milling rate is Pesos 770 - 930/ton of paddy.

(10) Milling and Sales of ISF & AF Paddy

ISF&AF (ton)			Selling Price (P/kg)		Sales Amount(P'000)			Value of ISF &	Balance
Paddy	Rice	Bran	Rice	Bran	Rice 100%	Bran 100%	Total	AF (Paddy) (P'000)	(P'000)
47.5	30.9	5.7	18.0	6.0	556.2	34.2	590.4	403.8	186.6

(11) Building (warehouse, office, others) ; Peso 1,159,000 Sun-drying floor ; Peso 340,000

(12) Rice mill ; Peso 166,000 Hand Tractor ; Peso 22,500 x 5 Thresher ; Peso 16,000 x 5
Semi-mechanical dryer ; Peso 68,000

(13) Working Capital ; Supplement for the negative balance.

(16) Amortization Fee : 201,875 (2.5 cav./125 kg x P 8.5/kg x 190 ha)

(17 to 20) ; Ref. Tables of Operation Plan, Production and Marketing Center
(Valuable costs covering spare parts, fuel, lubricants and labor are counted)

(21) Center Management : 6,000 / month x 5 persons
Irrigation O&M : 49,050 (545 man-day x P 90)
ISF & AF Collection : 9,000 (10 persons x 5 days x 2 seasons, one person/10 ha)
Other Farming : 623,700 (Pesos 90/day x 6,930 man-days)
Farm Input Delivery : 5,400 (Pesos 90/day x 6 persons x 5 days x 2 seasons)

(22) Civil Work ; 96,500
Others ; 6,300

(23) Terms and Condition

	Interest Rate (%/year)	Grace Period (year)	Maturity (year)
Building (Fixed asset loan)	16	3	15
Machinery (Fixed asset loan)	16	3	10
Working Capital	14	1	5

Table J.2.3 Financial Cashflow Statement for Upland Nucleus Facilities (1/3)

(1) Magogon Nucleus Facilities

Item / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
I. Inflow																		
1. Service Activities																		
(1) Sales of Coffee/Fish Seedling			16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
(2) Farming		12.8	25.6	38.4	51.2	64.0	76.8	89.6	102.4	115.2	128.0	140.8	153.6	166.4	179.2	192.0	204.8	218.2
(3) Farm Input Delivery		0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0	9.9	10.8	11.7	12.6	13.5	14.4	15.9
(4) Drying																		
Corn		48.4	64.6	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7
Coffee			1.3	2.6	3.9	5.2	6.5	7.8	9.1	10.4	11.7	13.0	14.3	15.6	16.9	18.2	19.5	21.5
Paddy		17.5	23.3	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
(5) Processing																		
Corn Shelling/Milling		112.6	150.1	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6	187.6
Coffee Dehulling			2.9	5.8	8.7	11.6	14.5	17.4	20.3	23.2	26.1	29.0	31.9	34.8	37.7	40.6	43.5	46.0
Rice Milling		22.7	30.3	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9
2. Commercial Activities																		
(6) Crop Trading																		
Corn/Corn Grits		40.5	54.0	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5	67.5
Coffee			3.3	6.6	9.9	13.2	16.5	19.8	23.1	26.4	29.7	33.0	36.3	39.6	42.9	46.2	49.5	53.0
(7) Poultry Growing		1,050.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0	2,100.0
(8) Handicraft Manufacturing		343.6	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2
3. Loan																		
(9) Building/Drying Floor	1,385.4																	
(10) Machinery		234.0																
(11) Working Capital		148.6																
Total	1,385.4	2,031.6	3,161.1	3,262.8	3,294.0	3,305.2	3,326.4	3,347.6	3,368.8	3,390.0	3,411.2	3,432.4	3,453.6	3,474.8	3,496.0	3,517.2	3,538.4	3,561.3
II. Outflow																		
1. Investment																		
(12) Building	1,385.4																	
(13) Machinery		234.0											234.0					
2. Operation Cost																		
(14) Seedling Production		8.2	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
(15) Dryer																		
Corn		15.2	20.2	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3	25.3
Coffee			0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.4
Paddy		2.8	3.7	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
(16) Processing																		
Corn Shelling/Milling		16.9	22.5	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
Coffee Dehulling			0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.8	9.6	10.4	11.2	12.0	13.1
Rice Milling		7.8	10.4	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
(17) Poultry Growing		976.1	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2	1,952.2
(18) Handicraft Manufacturing		166.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1
(19) Building		12.6	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
(20) Manpower																		
• Center Management		360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0
• Farming		9.9	19.8	29.7	39.6	49.5	59.4	69.3	79.2	89.1	99.0	108.9	118.8	128.7	138.6	148.5	158.4	167.9
• Farm Input Delivery		0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.4
(21) Repayment																		
• Building/Drying Floor		228.7	221.3	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6	266.6			
• Machinery			37.4	37.4	52.9	52.9	52.9	52.9	52.9	52.9	52.9							
• Working Capital			53.1	53.1	53.1	53.1												
Total	1,385.4	2,031.6	3,073.8	3,144.1	3,175.8	3,187.0	3,145.1	3,156.3	3,167.5	3,178.7	3,189.9	3,143.2	3,388.4	3,165.6	3,176.8	2,921.4	2,932.6	2,944.2
III. Balance																		
(22) Annual Balance (I - II)	0	0	87.3	118.7	118.2	118.2	181.3	191.3	201.3	211.3	221.3	289.2	65.2	309.2	319.2	595.8	605.8	617.1
(23) Cumulative	0	0	87.3	206.0	324.2	442.4	623.7	815.0	1,016.3	1,227.6	1,448.9	1,738.1	1,793.3	2,102.5	2,421.7	3,017.5	3,623.3	4,240.4

Note/Magogon Nucleus Facilities :

(1) Sales of Coffee/Pili Seedling

No. of Seedling (no./year)			Basic Price (P/seedling)			Commission	Amount of
Coffee	Coconut	Pili	Coffee	Coconut	Pili	(%)	Sales
1,170	1,188	270	2.8	6.7	10.0	20	16.7

(2) Farming Services/Coffee & Pili

Hired Labor Requirement (man-day)			Under Services		Unit Rate (Pesos/day)			Service Charge
Per ha	Area	Total	Coverage (%)	Man-day	Basic	O/H	Total	(P'000)
63	37	2,331	80	1,865	90	30	117	218.2

(3) Farm Input Delivery

Amount per ha (P/ha)			Total	Under Services		Value	Commission	Service Charge
Fertilizer	Insecticides	Total	Area (ha)	Coverage (%)	ha	(P'000)	(%)	(P'000)
4,587	783	5,370	37	80	30	159.0	10	15.9

(4) Drying

Crop	Quantity	Basic Cost (P/ton)			O/H	Unit Rate	Service
	(ton)	Drying	Others*	Total	(%)	(P/ton)	Charge (P'000)
Corn	187.6	120	210	330	30	430	80.7
Coffee	50.0	120	210	330	30	430	21.5
Paddy	67.7	120	210	330	30	430	29.1

* : Building O&M cost

(5) Processing

Crop	Quantity	Basic Cost (P/ton)			O/H	Unit Rate	Service
	(ton)	Processing	Others*	Total	(%)	(P/ton)	Charge (P'000)
Corn	375.2	250	105	250	100	500	187.6
Coffee	50.0	460	105	460	100	920	46.0
Paddy	67.7	280	105	280	100	560	37.9

Private rice milling rate is Pesos 770 - 930/ton of paddy.

(6) Feed (Corn Grits) and Coffee Trading

Crop	Quantity	Sale Price (P/ton)	Commission	Service
	(ton)		(%)	Charge (P'000)
Corn/Grits	375.2	6,000	3	67.5
Coffee	67.7	26,100	3	53.0

(7) Poultry Growing

Item	No. of Bird Grown	Sale Price (P/bird)	Sale Amount (P'000)
Per Batch	5,000		
Annual (7 batch)	35,000	60	2,100.0

(8) Handicraft Manufacturing

Item	Quantity	Unit Price (P)	Sale Amount (P'000)
Sinamay	10,200 m	13	135.2
Abaca Bag	1,920 p.c	130	249.6
Abaca Placemat	10,680 p.c	30	302.4
Total			687.2

(9) Building (warehouse, office, others) 714,400
Sun-drying floor ; Peso 95,000
Poultry Building 576,000

(10) Machinery

Semi-Mechanical Dryer	Corn Sheller	Feed Mill	Rice Mill	Coffee Dehuller	Total
68,000	39,000	49,000	29,000	49,000	234,000

(11) Working Capital ; Supplement for the negative balance.

(14) Seedling Production (P)

Cost Per Seedling			Total Production Cost (000)			
Coffee	Coconut	Pili	Coffee	Coconut	Pili	Total
2.8	6.7	10.0	3.3	8.0	2.7	14.0

(15,16, 18 &19) : Ref. Tables of Operation Plan, Production and Marketing Center
(Valuable costs covering spare parts, fuel, lubricants and labor are counted)

(17) Production Cost of Poultry (P'000)

Per Batch (P)	No. of Batch Per Year	Annual Cost
278.890	7	1952.2

(20) Center Management : P 6,000 / month x 5 persons
Farming : P 167,850 (1,865 man-day x P 90)
Farm Input Delivery : P 5,400 (Pesos 90/day x 6 persons x 5 days x 2 times)

(21) Terms and Condition

	Interest Rate (%/year)	Grace Period (year)	Maturity (year)
Building (Fixed asset loan)	16	3	15
Machinery (Fixed asset loan)	16	3	10
Working Capital	14	1	5

Table J.2.3 Financial Cashflow Statement for Upland Nucleus Facilities (2/3)

(1) San Ramon, Production Farm

Item / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
I. Inflow																					
1. Service Activities																					
(1) Sales of Seedling			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(2) Farming			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(3) Farm Input Delivery			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(4) Fiber Stripping/Drying/Classification				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2. Commercial Activities																					
(5) Sales of Organic Fertilizer			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(6) Handicraft Manufacturing		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3. Loan																					
(7) Building/Drying Floor	1,440.0																				
(8) Machinery		597.4																			
(9) Working Capital		[illegible]																			
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
II. Outflow																					
1. Investment																					
(10) Building	1,440.0																				
(11) Machinery		597.4											597.4								
2. Operation Cost																					
(11) Production of Organic Fertilizer		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) Seedling Production		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(13) Fiber Stripping/Drying/Classification			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(14) Handicraft Manufacturing		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(15) Building		[illegible]	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2	43.2
(16) Manpower																					
• Center Management		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
• Farming			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
• Farm Input Delivery			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(17) Repayment																					
• Building/Drying Floor		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]						
• Machinery			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]									
• Working Capital			[illegible]	[illegible]	[illegible]	[illegible]															
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
III. Balance																					
(18) Annual Balance (I - II)	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(19) Cumulative	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Note/San Ramon Nucleus Facilities :

(1) Sales of Abaca/Pili Seedling

[illegible]

(2) Farming Services/Abaca & Pili

[illegible]

(3) Farm Input Delivery

[illegible]

(4) Fiber Stripping/Drying/Classification

[illegible]

(5) Sale of Organic Fertilizer

[illegible]

(6) Handicraft Manufacturing

[illegible]

(7) Building [illegible] (P'000) 1,440.0

(8) Machinery [illegible]

(9) Working Capital : [illegible]

(11) Production of Organic Fertilizer

[illegible]

(12) Seedling Production (P)

[illegible]

(13) Fiber Stripping/Drying/Classification

[illegible]

(14)-(15) : [illegible]

(16) Center Management : P [illegible]
Farming : P [illegible]
Farm Input Delivery : P [illegible]

(17) Terms and Condition

[illegible]

Table J.2.3 Financial Cashflow Statement for Upland Nucleus Facilities (3/3)

(2) San Ramon, Nucleus Farm

Item / Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
I. Inflow																					
1. Service Activities																					
(1) Sales of Seedling			52.5	52.5	115.0	138.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0
(2) Fiber Stripping/Drying/Classification				29.6	53.2	85.8	124.4	143.0	171.6	200.2	228.8	257.4	286.0	314.6	343.2	371.8	400.4	429.0	457.6	486.2	514.8
2. Commercial Activities																					
(3) Handicraft Manufacturing		206.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2	687.2
3. Loan																					
(4) Building/Drying Floor	566.0																				
(5) Machinery		267.8																			
(6) Working Capital		82.5																			
Total	566.0	556.5	744.7	773.3	859.4	911.0	916.6	945.2	973.8	1,002.4	1,031.0	1,059.6	1,088.2	1,116.8	1,145.4	1,174.0	1,202.6	1,231.2	1,259.8	1,288.4	1,316.2
II. Outflow																					
1. Investment																					
(7) Building	566.0																				
(8) Machinery		267.8											267.8								
2. Operation Cost																					
(9) Seedling Production		15.7	76.5	86.4	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9
(10) Fiber Stripping/Drying/Classification			29.8	41.6	62.4	83.2	104.0	124.8	145.6	166.4	187.2	208.0	228.8	249.6	270.4	291.2	312.0	332.8	353.6	374.4	395.2
(11) Handicraft Manufacturing		99.8	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1	332.1
(12) Building		10.8	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6
(13) Manpower																					
• Center Management		32.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0
(14) Repayment																					
• Building/Drying Floor		90.6	90.6	106.9	106.9	106.9	106.9	106.9	106.9	106.9	106.9	106.9	106.9	106.9	106.9						
• Machinery			42.8	42.8	66.3	66.3	66.3	66.3	66.3	66.3	66.3										
• Working Capital			29.5	29.5	29.5	29.5															
Total	566.0	556.5	687.0	734.9	788.7	809.5	830.8	821.6	842.4	863.2	884.0	838.5	1,027.1	880.1	908.9	812.8	833.6	854.4	875.2	896.0	917.0
III. Balance																					
(15) Annual Balance (I - II)	0	0	56.8	38.4	70.7	101.5	115.8	123.6	131.4	139.2	147.0	221.1	-38.9	236.7	244.5	361.2	369.0	376.8	384.6	392.4	399.2
(16) Cumulative	0	0	56.8	95.2	165.9	267.4	383.2	506.8	638.2	777.4	924.4	1,145.5	1,106.6	1,343.3	1,587.8	1,949.0	2,318.0	2,694.8	3,079.4	3,471.8	3,871.0

Note/San Ramon Nucleus Facilities :

(1) Sales of Abaca/Pili Seedling

No. Seedling (no./peak year)		Coverage	Basic Price (P/seedling)			Commission	Sales
Abaca	Coconut	Pili	(%)	Abaca	Coconut	Pili	(%)	Amount
225,000	3,688	1,980	10%	4.1	6.7	10.0	20%	115.0

(2) Fiber Stripping/Drying/Classification

Crop	Quantity (ton)		Basic Cost	O/H	Unit Rate	Service
	Total	Covered	(P/ton)	(%)	(P/ton)	Charge (P'000)
Abaca	1,318.2	131.8 (10%)	3,000	30	3,900	514.0

(3) Handicraft Manufacturing

Item	Quantity	Unit Price (P)	Sale Amount (P'000)
Sinamay	10,200 m	13	135.2
Abaca Bag	8,920 p.c.	130	249.6
Abaca Placemat	10,080 p.c.	30	302.4
Total			687.2

(4) Building (warehouse, office, others) (P'000) 566.0

(5) Machinery for coconut husk crusher, decorticator, hand tractor, stripping machine and engine, sewing machine, etc

(6) Working Capital : Supplement for the negative balance

(9) Seedling Production (P)

Cost Per Seedling			Total Production Cost ('000)			
Abaca	Coconut	Pili	Abaca	Coconut	Pili	Total
4.1	6.7	10.0	92.3	2.5	1.1	95.9

(10) Fiber Stripping/Drying/Classification

Crop	Quantity (ton)		Basic Cost	Total Cost
	Total	Covered	(P/ton)	(P'000)
Abaca	1,318.2	131.8 (10%)	3,000	395.4

* : Building O&M cost

(13) Management : P 6,000 / month x 1 persons

(14) Terms and Condition

	Interest Rate (%/year)	Grace Period (year)	Maturity (year)
Building (Fixed asset loan)	16	3	15
Machinery (Fixed asset loan)	16	3	10
Working Capital	14	1	5