

3. Project Justification of the Ban Na San F/S Study Area

Table 3.14.1.1 Financial and Economic Price
(F/S area in Ban Na San)

Rambutan		1993		1994		1995		2000		
Item		Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	
Rambutan price, FOB, Bangkok, per tonne in 1993, 1995, 2000		(a)	32,500	32,500	32,620	32,620	33,500	33,500	38,720	38,720
Exporter's margin		(b)	6,500	6,110	6,520	6,130	6,700	6,300	7,745	7,280
Exporting cost		(c)	2,500	2,350	2,500	2,350	2,500	2,350	2,500	2,350
Office expenditures		(d)	1,625	1,525	1,630	1,530	1,675	1,575	1,935	1,820
Packageing cost		(e)	6,150	5,780	6,150	5,780	6,150	5,780	6,150	5,780
Labour cost		(f)	770	725	770	725	770	725	770	725
Transportation cost from company in Bangkok to airport		(g)	400	270	400	270	400	270	400	270
transportation cost from wholesale market to the company		(h)	400	270	400	270	400	270	400	270
Wholesale price, Bangkok		(i)	14,155	15,470	14,250	15,565	14,905	16,230	18,820	20,225
Wholesaler's margin		(j)	1,415	1,330	1,425	1,340	1,490	1,400	1,880	1,765
Transportation/container/handling cost from project area to market in Bangkok		(k)	480	335	480	335	480	335	480	335
Local market price		(l)	12,260	13,805	12,345	13,890	12,935	14,495	16,460	18,125
Local merchant's margin		(m)	1,225	1,150	1,235	1,160	1,290	1,450	1,645	1,545
Transportation/handling cost, from villages to local market		(n)	75	65	75	65	75	65	75	65
Price before merchandising		(o)	10,960	12,590	11,035	12,665	11,570	12,980	14,740	16,515
Adjusting grade to quality		(p)	2,740	3,150	2,755	3,165	2,890	3,240	3,680	4,125
Farm-gate price		(q)	8,220	9,440	8,280	9,500	8,680	9,740	11,060	12,390

remark:

- (a); Rambutan price FOB year 1993, Bangkok from Thailand Board of Trade, and estimated price in year 1995 and 2000 from World Bank issued June 1994
- (b); 20% of exporting price adjusted by standard conversion factor (SCF) of 0.94
- (c); 2.5 baht/kg, adjusted by SCF of 0.94
- (d); 5% of exporting price adjusted by SCF of 0.94
- (e); Foam price 5,750 baht/ton, foil paper and tape 400 baht/ton, adjusted by SCF of 0.94
- (f); Labour cost 10 persons, 115 baht/day/1.5 ton, adjusted by SCF of 0.94
- (g); Truck from company to airport loaded 1.5 ton/trip, transportation cost 600 baht, adjusted by CF of 0.67
- (h); Truck from wholesale market to the company loaded 1.5 ton, transportation cost 600 baht, adjusted by SCF 0.94
- (i); 10% of wholesale price, adjusted by SCF of 0.94
- (j); Truck from the Surat Thani to Bangkok approx. distance of 630 km, transportation cost i.e. 6,500 baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45 baht/ton, adjusted by SCF of 0.94
- (k); 10% of local market price, adjusted by SCF of 0.94
- (l); Truck from villages to local market with approx. distance of 40 km, transportation cost 0.8 baht/ton/km, adjusted by CF of 0.67, and handling cost 45 baht/ton, adjusted by SCF of 0.94
- (m); Consisted of 75% of exporting quality and 25% of non-exporting quality due to damage caused by handling and processing

Table 3.14.1.2 Financial and Economic Price
(F/S area in Ban Na San)

Durian		1993		1994		1995		2000		
Item		Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	
Durian price, FOB, Bangkok, per tonne in 1993, 1995, 2000		(a)	20,350	20,350	20,430	20,430	20,980	20,980	24,250	24,250
Exporter's margin		(b)	5,090	4,785	5,110	4,805	5,245	4,930	6,060	5,685
Port charges		(c)	190	180	190	180	190	180	190	180
Taxes and duties		(d)	0	0	0	0	0	0	0	0
Wholesale price, Bangkok		(e)	15,070	15,385	15,130	15,445	15,545	15,870	18,000	18,385
Wholesaler's margin		(f)	1,505	1,415	1,515	1,425	1,560	1,465	1,800	1,690
Transportation/container/handling cost from project area to company in Bangkok		(g)	480	335	480	335	480	335	480	335
Local market price		(h)	13,085	13,635	13,135	13,685	13,505	14,070	15,720	16,360
Local merchant's margin		(i)	1,310	1,230	1,310	1,230	1,350	1,265	1,575	1,485
Transportation/handling cost, from villages to local market		(j)	75	65	75	65	75	65	75	65
Farm-gate price		(k)	11,700	12,340	11,750	12,390	12,080	12,740	14,070	14,810

remark:

- (a); Rambutan price FOB year 1993, Bangkok from Thailand Board of Trade, and estimated price in year 1995 and 2000 from World Bank issued June 1994
- (b); 25% of exporting price, adjusted by standard conversion factor (SCF) of 0.94
- (c); Transportation/container/handling cost i.e. port charge of 190 baht, adjusted by SCF of 0.94
- (d); 2.2% of exporting price, but has been discontinued since Dec. 4 of 1991
- (e); 10% of wholesale price, adjusted by SCF of 0.94
- (f); Truck from the Surat Thani to Bangkok approx. distance of 630 km, transportation cost i.e. 6,500 baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45 baht/ton, adjusted by SCF of 0.94
- (g); 10% of local market price, adjusted by SCF of 0.94
- (h); Truck from villages to local market with approx. distance of 40 km, transportation cost 0.8 baht/ton/km, adjusted by CF of 0.67, and handling cost 45 baht/ton, adjusted by SCF of 0.94

Table 3.14.1.3 Financial and Economic Price
(F/S area in Ban Na San)

Fertilizer: 16-20-0 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
16-20-0 price, CIF, Bangkok, per tonne in 1994, 1995, 2000 (a)	3,860	3,860	3,930	3,930	4,475	4,475	5,030	5,030
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	385	360	395	370	450	425	505	475
Importer's price (e)	4,435	4,400	4,515	4,480	5,115	5,080	5,725	5,685
Wholesaler's margin (e)	195	185	200	190	225	210	250	235
Wholesale price, Bangkok	4,630	4,585	4,715	4,670	5,340	5,290	5,975	5,920
Transportation/container/handling cost from Bangkok to local market in project area (f)	480	335	480	335	480	335	480	335
Local market price (g)	5,110	4,920	5,195	5,005	5,820	5,625	6,455	6,255
Local merchant's margin (g)	255	235	260	240	295	280	320	300
Transportation/handling cost, from local market to villages (h)	75	65	75	65	75	65	75	65
Farm-gate price	5,440	5,220	5,530	5,310	6,190	5,970	6,850	6,320

remark:

- (a); 16-20-0 price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995, 2000, from World Bank issued June 1994
 (b); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c); 2.2% of CIF price, but has been abolished since Dec 4, 1990
 (d); 10% of CIF price, adjusted by SCF of 0.94
 (e); 5% of CIF price, adjusted by SCF of 0.94
 (f); Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g); 5% of local market price, adjusted by SCF of 0.94
 (h); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 3.14.1.4 Financial and Economic Price
(F/S area in Ban Na San)

Fertilizer: 15-15-15 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
16-20-0 price, CIF, Bangkok, per tonne in 1994, 1995, 2000 (a)	5,120	5,120	5,220	5,200	5,940	5,940	6,680	6,680
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	510	480	520	490	595	560	670	630
Importer's price (e)	5,820	5,780	5,930	5,870	6,725	6,680	7,540	7,490
Wholesaler's margin (e)	510	480	520	490	595	560	755	710
Wholesale price, Bangkok	6,330	6,260	6,450	6,360	7,320	7,240	8,295	8,200
Transportation/container/handling cost from Bangkok to local market in project area (f)	480	335	480	335	480	335	480	335
Local market price (g)	6,810	6,595	6,930	6,695	7,800	7,575	8,775	8,535
Local merchant's margin (g)	405	580	415	390	465	440	530	500
Transportation/handling cost, from local market to villages (h)	75	65	75	65	75	65	75	65
Farm-gate price	7,290	7,240	7,420	7,150	8,340	8,080	9,380	9,100

remark:

- (a); 16-20-0 price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995, 2000, from World Bank issued June 1994
 (b); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c); 2.2% of CIF price, but has been abolished since Dec 4, 1990
 (d); 10% of CIF price, adjusted by SCF of 0.94
 (e); 10% of CIF price, adjusted by SCF of 0.94
 (f); Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g); 6% of local market price, adjusted by SCF of 0.94
 (h); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 3.14.1.5 Financial and Economic Price
(F/S area in Ban Na San)

Fertilizer: 16-16-8 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
16-20-0 price, CIF, Bangkok, per tonne in 1994, 1995, 2000 (a)	4,155	4,155	4,240	4,240	4,820	4,820	5,420	5,420
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	415	390	425	400	480	450	540	510
Importer's price (e)	4,760	4,725	4,855	4,820	5,490	5,450	6,150	6,110
Wholesaler's margin (e)	415	390	425	400	480	450	540	510
Wholesale price, Bangkok	5,175	5,115	5,280	5,220	5,970	5,900	6,690	6,620
Transportation/container/handling cost from Bangkok to local market in project area (f)	480	335	480	335	480	335	480	335
Local market price (f)	5,655	5,450	5,760	5,555	6,450	6,235	7,170	6,955
Local merchant's margin (g)	280	265	285	270	325	300	355	330
Transportation/handling cost, from local market to villages (h)	75	65	75	65	75	65	75	65
Farm-gate price	6,010	5,780	6,120	5,890	6,850	6,600	7,600	7,350

remark:

- (a):16-20-0 price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995 2000, from World Bank issued June 1994
 (b):Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c):2.2% of CIF price, but has been abolished since Dec 4, 1990
 (d):10% of CIF price, adjusted by SCF of 0.94
 (e):10% of CIF price, adjusted by SCF of 0.94
 (f):Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g):5% of local market price, adjusted by SCF of 0.94
 (h):Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 3.14.1.6 Financial and Economic Price
(F/S area in Ban Na San)

Fertilizer: 12-24-12 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
12-24-12 price, CIF, Bangkok, per tonne in 1994, 1995, 2000 (a)	6,355	6,355	6,480	6,480	7,375	7,375	8,290	8,290
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	635	600	650	610	740	695	830	780
Importer's price (e)	7,180	7,135	7,320	7,270	8,305	8,250	9,310	9,250
Wholesaler's margin (e)	510	480	520	490	590	555	665	625
Wholesale price, Bangkok	7,690	7,615	7,840	7,760	8,895	8,805	9,975	9,875
Transportation/container/handling cost from Bangkok to local market in project area (f)	480	335	480	335	480	335	480	335
Local market price (f)	8,170	7,950	8,320	8,095	9,375	9,140	10,455	10,210
Local merchant's margin (g)	405	385	415	390	470	445	520	485
Transportation/handling cost, from local market to villages (h)	75	65	75	65	75	65	75	65
Farm-gate price	8,650	8,400	8,810	8,550	9,920	9,650	11,050	10,760

remark:

- (a):16-20-0 price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995 2000, from World Bank issued June 1994
 (b):Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c):2.2% of CIF price, but has been abolished since Dec 4, 1990
 (d):10% of CIF price, adjusted by SCF of 0.94
 (e):8% of CIF price, adjusted by SCF of 0.94
 (f):Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g):5% of local market price, adjusted by SCF of 0.94
 (h):Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 3.14.1.7 Financial and Economic Price
(F/S area in Ban Na San)

Fertilizer: Urea		(unit : baht)							
Item		1994		1995		2000		2005	
		Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
Projected world market price at 1990 constant price Us s/tonne any origin, Bagged, FOB N.W Europe (a)									
	(a)	120	120	129	129	144	144	140	140
Ocean freight and insurance									
		50	50	50	50	50	50	50	50
Urea price, CIF, Bangkok, per Us s/tonne									
Multiplier to 1994 constant price (x 1.0605) (b)									
	(b)	170	170	179	179	194	194	190	190
Baht equivalent, CIF, Bangkok (c)									
	(c)	4,480	4,480	4,725	4,725	5,125	5,125	5,025	5,025
Port charge (d)									
	(d)	190	180	190	180	190	180	190	180
Taxes and duties (e)									
	(e)	0	0	0	0	0	0	0	0
Importer's margin (f)									
	(f)	450	425	470	440	510	480	500	470
Importer's price									
		5,120	5,085	5,385	5,345	5,825	5,785	5,715	5,675
Wholesaler's margin (g)									
	(g)	450	425	470	440	510	480	500	470
Wholesale price, Bangkok									
		5,570	5,510	5,855	5,785	6,335	6,265	6,215	6,145
Transportation/container/handling cost from Bangkok to local market in project area (h)									
	(h)	480	335	480	335	480	335	480	335
Local market price									
		6,050	5,845	6,335	6,120	6,815	6,600	6,695	6,480
Local merchant's margin (i)									
	(i)	305	280	320	315	340	315	330	315
Transportation/handling cost, from local market to villages (j)									
	(j)	75	65	75	65	75	65	75	65
Farm-gate price									
		6,430	6,190	6,730	6,500	7,230	6,980	7,100	6,860

remark:

(a); From World Bank Commodity Price Forecasts, June 1994

(b); From World Bank international inflation indices on the above World Bank Quarterly

(c); us s = 24.88 baht, 1994

(d); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94

(e); 2.2% of CIF price, but has been abolished since Dec 4, 1990

(f); 10% of CIF price, adjusted by SCF of 0.94

(g); 10% of CIF price, adjusted by SCF of 0.94

(h); Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94

(i); 5% of local market price, adjusted by SCF of 0.94

(j); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 3.14.1.8 Financial and Economic Price
(F/S area in Ban Na San)

Fertilizer: 46-0-0		(unit : baht)							
Item		1994		1995		2000		2005	
		Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
46-0-0 price, CIF, Bangkok, per tonne in 1994, 1995, 2000 (a)									
	(a)	3,970	3,970	4,050	4,050	4,610	4,610	5,180	5,180
Port charge (b)									
	(b)	190	180	190	180	190	180	190	180
Taxes and duties (c)									
	(c)	0	0	0	0	0	0	0	0
Importer's margin (d)									
	(d)	795	745	810	760	920	865	1,035	970
Importer's price									
		4,955	4,895	5,050	4,990	5,720	5,655	6,405	6,330
Wholesaler's margin (e)									
	(e)	495	465	505	475	570	535	640	600
Wholesale price, Bangkok									
		5,450	5,360	5,555	5,465	6,290	6,190	7,045	6,930
Transportation/container/handling cost from Bangkok to local market in project area (f)									
	(f)	480	335	480	335	480	335	480	335
Local market price									
		5,930	5,695	6,035	5,800	6,770	6,525	7,525	7,265
Local merchant's margin (g)									
	(g)	595	560	600	565	675	630	750	710
Transportation/handling cost, from local market to villages (h)									
	(h)	75	65	75	65	75	65	75	65
Farm-gate price									
		6,600	6,320	6,710	6,430	7,520	7,220	8,350	8,040

remark:

(a); 16-20% price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995 2000, from World Bank issued June 1994

(b); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94

(c); 2.2% of CIF price, but has been abolished since Dec 4, 1990

(d); 20% of CIF price, adjusted by SCF of 0.94

(e); 10% of CIF price, adjusted by SCF of 0.94

(f); Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94

(g); 10% of local market price, adjusted by SCF of 0.94

(h); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 3.14.1.9 Financial and Economic Price
(P/S area in Ban Na San)

Fertilizer: 13-13-21

(unit : baht)

Item	1994		1995		2000		2005		
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	
46-0-0 price, CIF, Bangkok, per tonne in 1994, 1995, 2000	(a)	3,050	3,050	3,110	3,100	3,540	3,540	3,980	3,980
Port charge	(b)	190	180	190	180	190	180	190	180
Taxes and duties	(c)	0	0	0	0	0	0	0	0
Importer's margin	(d)	615	580	620	580	710	665	795	745
Importer's price		3,855	3,810	3,920	3,860	4,440	4,385	4,965	4,905
Wholesaler's margin	(e)	385	360	390	365	440	415	495	465
Wholesale price, Bangkok		4,240	4,170	4,310	4,225	4,880	4,800	5,460	5,370
Transportation/container/handling cost from Bangkok to local market in project area	(f)	480	335	480	335	480	335	480	335
Local market price		4,720	4,505	4,790	4,560	5,360	5,135	5,940	5,705
Local merchant's margin	(g)	475	450	475	445	535	500	595	560
Transportation/handling cost, from local market to villages	(h)	75	65	75	65	75	65	75	65
Farm-gate price		5,270	5,020	5,340	5,070	5,970	5,700	6,610	6,330

Remark:

- (a); 16-2070 price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995 2000, from World Bank issued June 1994
- (b); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
- (c); 2.2% of CIF price, but has been abolished since Dec 4, 1990
- (d); 20% of CIF price, adjusted by SCF of 0.94
- (e); 10% of CIF price, adjusted by SCF of 0.94
- (f); Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
- (g); 10% of local market price, adjusted by SCF of 0.94
- (h); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 3.14.2.1 Initial Project Cost for Ban Ma San F/S area

Case-1

(Unit Price: Thousand Bahts)

Description	Materials						Labor						Machinery Cost						Total								
	Financial		Economic		F.C.		Financial		Economic		F.C.		Financial		Economic		F.C.		Financial		Economic		F.C.		Total		
	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	Total
1. Drainage improvement																											
1.1 Dike	14,599	921	13,723	921	1,054	921	1,622	921	268	742	204	742	16,489	1,663	14,981	1,663	18,152	1,663	1,663	1,663	14,981	1,663	1,663	1,663	18,152	1,663	16,644
1.2 Drainage canal	29		27		68		257		18	50	14	50	304	50	208	50	354	50	354	50	208	50	354	50	354	50	258
1.3 Appurtenant structure	427	337	401	337	104	337	104	337	10	23	8	23	541	360	477	360	901	477	901	477	477	360	901	477	901	477	837
Sub-total	15,055	1,258	14,152	1,258	1,289	1,258	1,983	1,258	236	815	225	815	17,334	2,073	15,666	2,073	19,407	2,073	2,073	2,073	15,666	2,073	2,073	2,073	19,407	2,073	17,734
O/M and benefit	2,569	214	2,406	214	219	214	337	214	50	138	38	138	2,947	352	2,663	352	3,299	352	3,299	352	2,663	352	3,299	352	3,299	352	3,015
Tax	1,409	118			186		186		28	76		76	1,622	194	1,412	194	1,816	194	1,816	194	1,412	194	1,816	194	1,816	194	0
Total	19,023	1,590	16,557	1,472	1,508	1,472	2,506	1,472	374	1,029	263	953	21,903	2,619	18,329	2,619	24,522	2,619	2,619	2,619	18,329	2,619	2,619	2,619	24,522	2,619	20,754
2. Irrigation improvement																											
2.1 Pipeline installation	1,584		1,489		114		176						1,760	0	1,603	0	1,760	0	1,760	0	1,603	0	1,760	0	1,760	0	1,603
2.2 Water lifting pump	2,640		2,482										2,640	0	2,482	0	2,640	0	2,640	0	2,482	0	2,640	0	2,640	0	2,482
Sub-total	4,224		3,971		114		176						4,400	0	4,085	0	4,400	0	4,400	0	4,085	0	4,400	0	4,400	0	4,085
O/M and benefit	395		675		19		30						412	0	412	0	412	0	412	0	412	0	412	0	412	0	412
Tax	5,337		4,646		134		222						5,360	0	4,779	0	5,360	0	5,360	0	4,779	0	5,360	0	5,360	0	4,779
Total																											
3. Land improvement																											
3.1 Land clearing	-								33.3	6.8	25	6.8															
3.2 Land grading	-								88.0	249.9	67	249.9															
Sub-total									121.3	256.7	91.5	256.7															
O/M and benefit									21	44	15	44															
Tax									11	24		24															
Total									153	324.4	107	300.3															
4. Soil improvement																											
4.1 Soil improvement	1,583		1,497		259		398						1,991	0	1,756	0	1,991	0	1,991	0	1,756	0	1,991	0	1,991	0	1,756
Sub-total	1,583		1,497		259		398						1,991	0	1,756	0	1,991	0	1,991	0	1,756	0	1,991	0	1,991	0	1,756
O/M and benefit	271		255		44		68						185	0	185	0	185	0	185	0	185	0	185	0	185	0	185
Tax	149				37		37						2,516	0	2,055	0	2,516	0	2,516	0	2,055	0	2,516	0	2,516	0	2,055
Total	2,013		1,752		303		503						2,516	0	2,055	0	2,516	0	2,516	0	2,055	0	2,516	0	2,516	0	2,055
5. Farm road improvement																											
5.1 Road construction	123		116		14		22		12	34	9	34	157	34	139	34	191	34	191	34	139	34	191	34	191	34	173
5.2 Road repair																											
5.3 Bridge repair																											
Sub-total	123		116		14		22		12	34	9	34	157	34	139	34	191	34	191	34	139	34	191	34	191	34	173
O/M and benefit	21		20		2		4		2	6	2	6	27	6	33	6	33	6	33	6	33	6	33	6	33	6	30
Tax	12				2		2		1	3		3	15	3	18	3	18	3	18	3	18	3	18	3	18	3	18
Total	155		135		17		28		15	42	10	42	198	42	162	42	240	42	240	42	162	42	240	42	240	42	204
6. Agricultural supporting service																											
6.1 Equipment & materials	-		-		-		-																				
Total	26,529	3,510	23,090	3,392	1,979	3,392	3,288	3,392	542	1,395	380	1,295	30,360	4,905	25,449	4,905	35,264	4,905	35,264	4,905	25,449	4,905	35,264	4,905	35,264	4,905	30,137

source: The project cost estimation

Table 3.14.2.2 Initial Project Cost for Ban Na San F/S area

Case-2

Description	Materials						Labor						Machinery Cost						Total					
	Financial		Economic		Financial		Economic		Financial		Economic		Financial		Economic		Financial		Economic		Financial		Economic	
	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	Total	
1. Drainage improvement	8,462	538	7,954	538	940	611	425	116	425	153	9,555	963	10,518	8,682	963	9,645								
1.1 Dike	29		27		257	167	50	14	50	18	304	50	354	208	50	258								
1.2 Drainage canal	427	337	401	337	104	68	23	8	23	10	341	360	901	477	360	837								
1.3 Apartment structure	8,918	875	8,363	875	1,301	846	498	138	498	181	10,400	1,373	11,773	9,366	1,373	10,738								
Sub-total	1,516	149	1,425	149	221	144	85	23	85	31	1,768	233	2,001	1,592	233	1,826								
O/M and benefit	835	82			122		47			17	973	129	1,102											
Tax	11,269	1,106	9,808	1,024	1,544	989	829	161	829	229	13,141	1,735	14,876	10,958	1,606	12,565								
Total																								
2. Irrigation improvement	1,238		1,164		138	90					1,376		1,376	1,253		1,253								
2.1 Pipeline installation	1,858		1,747		206	134					2,064		2,064	1,880		1,880								
2.2 Water lifting pump	3,096		2,910		344	224					3,440		3,440	3,134		3,134								
Sub-total	526		495		58	38					585		585	533		533								
O/M and benefit	290				32						322		322											
Tax	3,912		3,405		435	262					4,347		4,347	3,657		3,657								
Total																								
3. Land improvement																								
3.1 Land clearing					17.9	12	6.8	25	6.8	33.3	33	7	40	25	7	31								
3.2 Land grading					17.9	11.6	195.4	51	195.4	68.8	87	195	282	63	195	258								
Sub-total					3	2	202.2	13	202.2	102.1	120	202	322	87	202	289								
O/M and benefit					2		34	19	34	17	20	34	55	15	34	49								
Tax					23	14	255	88	237	10	11	19	30	0	19	0								
Total																								
4. Soil improvement	1,429		1,343		357	232					1,786		1,786	1,575		1,575								
Sub-total	1,429		1,343		357	232					1,786		1,786	1,575		1,575								
O/M and benefit	243		228		61	39					304		304	268		268								
Tax	134				33						167		167											
Total	1,806		1,572		451	271					2,257		2,257	1,843		1,843								
5. Farm road improvement																								
5.1 Road construction	123		116		22	14	34	10	34	12	157	34	191	140	34	174								
5.2 Road repair																								
5.3 Bridge repair																								
Sub-total	123		116		22	14	34	10	34	12	157	34	191	140	34	174								
O/M and benefit	21		20		4	2	6	2	6	2	27	6	32	24	6	29								
Tax	12				2		3	1	3	1	15	3	18	0	3	0								
Total	155		135		28	17	42	11	42	15	198	42	240	163	42	205								
6. Agricultural supporting service																								
6.1 Equipment & materials																								
Total	17,142	3,026	16,113	2,944	2,580	1,553	861	261	861	373	20,095	3,952	24,047	17,927	3,805	21,732								

Source: The project cost estimation

Table 3.14.2.3 Initial Project Cost for Ban Na San F/S area

Case-1

Description	(Unit Price: Thousand Baht)				Total	
	1st year	2nd year	3rd year	4th year		
Financial	Economic	Financial	Economic	Financial	Economic	
1. Construction Cost	15,812	13,500	19,453	15,635	35,265	30,135
2. Project Administration	1,203	400	379	379	2,003	1,940
3. Consulting Service	1,411	1,058	1,058	995	3,527	3,315
4. Agricultural Supporting Activity	1,767	1,666	1,767	1,666	7,068	6,664
Sub-total	4,381	4,174	19,037	16,540	22,676	19,675
5. Physical Contingency	438	417	1,904	1,654	2,268	1,967
Sub-total	4,819	4,592	20,941	18,193	24,946	21,642
6. Price Contingency	400	2,705	4,643	468	8,216	8,216
Grand Total	5,219	4,592	23,646	18,193	29,589	21,642
					2,412	1,833
					60,865	46,260

Table 3.14.2.4 Initial Project Cost for Ban Na San F/S area

Case-2

Description	(Unit Price: Thousand Baht)				Total	
	1st year	2nd year	3rd year	4th year		
Financial	Economic	Financial	Economic	Financial	Economic	
1. Construction Cost	10,810	9,779	13,237	11,853	24,047	21,732
2. Project Administration	1,203	400	379	379	2,003	1,940
3. Consulting Service	962	1,058	995	1,058	3,078	2,893
4. Agricultural Supporting Activity	1,767	1,666	1,767	1,666	7,068	6,664
Sub-total	3,932	3,752	14,035	12,819	16,462	14,993
5. Physical Contingency	393	375	1,404	1,282	1,499	1,177
Sub-total	4,325	4,128	15,439	14,100	18,108	16,492
6. Price Contingency	355	1,962	3,374	468	8,158	8,158
Grand Total	4,680	4,128	17,401	14,100	23,482	16,492
					2,412	1,833
					47,974	36,552

Table 3.14.2.5 Annual Operating/Maintenance Cost
of the Project

(Unit Price:Thousand Bahts)

	Case1		Case2	
	Financia	Economic	Financia	Economic
Cost	1,415	1,192	793	668

source: The project cost estimation

Table 3.14.3.2 Crop Budget per Rai-F/S Area in Ban Na San District

1. With the Project (W/P) - Economic - On Sand, Grass and Marshy Land

Name of Crop	Rambutan	1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th & over year		
		Quantity kg/l, hr	Unit Price Baht/kg, man/day	Value, Baht	Quantity kg, l, hr	Value, Baht	Quantity kg	Value, Baht	Quantity kg	Value, Baht	Quantity kg	Value, Baht	Quantity kg	Value, Baht	Quantity kg	Value, Baht	Quantity kg	Value, Baht	Quantity kg	Value, Baht	Quantity kg	Value, Baht
Output																						
1) Production																						
2) By-production																						
Gross Value																						
1) Material																						
1) Seed, Stock		16	27	432																		
2) Fertilizer																						
a) 16-20-0		10	8.08	81	19	154	29	234	38	307	64	517	77	622	90	727	90	727	90	727	90	727
b) 15-15-15					8	58	12	87	16	116	16	116	19	137	22	159	22	159	22	159	22	159
c) 16-16-8		4	7.22	29																		
d) 46-0-0																						
e) Urea																						
f) Manures																						
g) Dolomite		6	0.27	0					800	216	800	216	800	216	800	216	800	216	800	216	800	216
h) Others			0.33	2	13	4	19	6	26	9	32	11	38	13	45	15	51	17	58	19	64	21
3) Pesticide																						
4) Herbicide																						
5) Fuel																						
a) Oil etc.		40	8.2	328	43	353	45	369	48	394	50	410	50	410	53	435	53	435	55	451	55	451
b) Electricity		1	55	55	1	55	1	55	1	55	1	55	1	55	1	55	1	55	1	55	1	55
6) Repair cost																						
7) Depreciation																						
8) Others																						
2) Labour cost		13.2	61	805	7.5	458	8.0	488	11.5	702	24.0	1,464	25.0	1,525	33.0	2,013	36.0	2,196	36.5	2,227	37.0	2,257
3. Fee (Machine)		3	654	1,962																		
A. Tax																						
5. Others																						
Sub-total																						
Interest																						
Rent																						
Total cost																						
Net Benefit																						

Table 3.14.3.5 Crop Budget per Rai-F/S Area in Ban Na San District
1. With Out (W/O) - Financial - On Existing Fruit Field

Name of Crop: Rambutan	Item	7th year		8th year		9th year		10th and over year		
		Quantity kg	Unit Price Bath/day	Value Bath	Quantity kg	Value Bath	Quantity kg	Value Bath	Quantity kg	Value Bath
Output	Production	1,067	11.06	13,416	1,225	13,549	1,232	13,847		
	2) By-production	1,067	-	13,416	1,225	13,549	1,232	13,847		
	Gross Value									
	1) Seed, Stock		29							
	2) Fertilizer									
	3) Others									
	4) Labour cost									
	5) Fuel									
	6) Electricity									
	7) Depreciation									
	8) Others									
	9. Labour cost	29.0	100	3,200	32.5	3,250	33.0	3,300		
	10. Fee (Machine)			4	4	4	4	4		
	11. Tax									
	12. Others			6,570		6,674		6,768		
	13. Sub-total			270		270		270		
	14. Interest									
	15. Rent			6,840		6,944		7,038		
	Total cost			6,503		6,576		6,805		
	Net Benefit			5,298		6,805		6,805		

Table 3.14.3.6 Crop Budget per Rai-F/S Area in Ban Na San District
1. With Out (W/O) - Economic - On Existing Fruit Field

Name of Crop: Rambutan	Item	7th year		8th year		9th year		10th and over year		
		Quantity kg	Unit Price Bath/kg	Value Bath	Quantity kg	Value Bath	Quantity kg	Value Bath	Quantity kg	Value Bath
Output	Production	1,067	12.39	13,220	1,213	15,029	1,225	15,178	1,252	15,512
	2) By-production	1,067	-	13,220	1,213	15,029	1,225	15,178	1,252	15,512
	Gross Value									
	1) Seed, Stock		29							
	2) Fertilizer									
	3) Others									
	4) Labour cost									
	5) Fuel									
	6) Electricity									
	7) Depreciation									
	8) Others									
	9. Labour cost	29.0	61	1,769	32.0	1,952	32.5	1,983	33.0	2,013
	10. Fee (Machine)									
	11. Tax									
	12. Others			4,923		5,140		5,222		5,284
	13. Sub-total			4,923		5,140		5,222		5,284
	14. Interest									
	15. Rent			4,923		5,140		5,222		5,284
	Total cost			4,923		5,140		5,222		5,284
	Net Benefit			8,297		9,889		9,956		10,218

Table 3.14.3.8 Crop Budget per Rai-F/S Area in Ban Na San District
1. With Out (W/O) - Economic - On Existing Fruit Field

Name of Crop: Durian	1st Year			2nd Year			3rd Year			10th and over years		
	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait
Output	1.500	14.81	22,215	2,300	-	34,063	2,500	-	37,025	2,500	-	37,025
2. By-production	1.500	-	22,215	2,300	-	34,063	2,500	-	37,025	2,500	-	37,025
Gross Value	1.500	-	22,215	2,300	-	34,063	2,500	-	37,025	2,500	-	37,025
1. Material												
1) Seed, Stock												
2) Fertilizer												
a) 16-20-0	66	8.08	533	76	6.14	464	85	6.87	581	85	6.87	581
b) 15-15-15	47	5.7	268	54	3.08	165	61	3.48	372	61	3.48	372
c) 16-16-8												
d) 16-0-0												
e) Urea												
f) Manures	560	0.27	151	640		173	720		194	720		194
g) Molomite												
h) Others												
3) Pesticide												
4) Herbicide												
5) Fuel	29	8.2	238	34	2.79	94	34	2.79	94	34	2.79	94
a) Oil etc.	1	55	55	1.0		55	1	55	55	1	55	55
b) Electricity												
6) Repair cost												
7) Depreciation												
8) Others	34.8	61	2,123	41.6	2,538	1,050	42.0	2,562	1,050	42.0	2,562	1,050
2. Labour cost												
3. Fee (Machine)												
4. Tax												
5. Others												
Sub-total			4,748			5,480			5,663			5,663
Interest												
Rent												
Total cost			4,748			5,480			5,663			5,663
Net Benefit			17,467			28,583			31,362			31,362

Table 3.14.3.7 Crop Budget per Rai-F/S Area in Ban Na San District
1. With Out (W/O) - Financial - On Existing Fruit Field

Name of Crop: Durian	1st Year			2nd Year			3rd Year			10th and over years		
	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait	Quantity kg./hr	Unit Price/ Bait/kg. man/day	Value, Cost/ Bait
Output	1.500	14.07	21,105	2,300	-	32,361	2,500	-	35,175	2,500	-	35,175
2. By-production	1.500	-	21,105	2,300	-	32,361	2,500	-	35,175	2,500	-	35,175
Gross Value	1.500	-	21,105	2,300	-	32,361	2,500	-	35,175	2,500	-	35,175
1. Material												
1) Seed, Stock												
2) Fertilizer												
a) 16-20-0	66	8.34	550	76	6.34	480	85	7.09	603	85	7.09	603
b) 15-15-15	47	5.97	281	54	3.22	174	61	3.64	222	61	3.64	222
c) 16-16-8												
d) 16-0-0												
e) Urea												
f) Manures	560	0.29	162	640		186	720		209	720		209
g) Molomite												
h) Others												
3) Pesticide												
4) Herbicide												
5) Fuel	29	8.7	252	34	2.96	101	34	2.96	101	34	2.96	101
a) Oil etc.	1	58	58	1.0		58	1	58	58	1	58	58
b) Electricity												
6) Repair cost												
7) Depreciation												
8) Others	34.8	100	3,480	41.6	4,160	1,440	42.0	4,200	1,440	42.0	4,200	1,440
2. Labour cost												
3. Fee (Machine)												
4. Tax												
5. Others												
Sub-total			6,206			7,217			7,421			7,421
Interest												
Rent												
Total cost			6,336			7,347			7,551			7,551
Net Benefit			14,769			25,014			27,624			27,624

Table 4.14.3.9 Crop Budget per Rai-F/S Area in Lan Saka District

1. With the Project (W/P) - Financial- On Sand, Grass and Marshy Land

Name of Crop: Chilli		1~3 month			4~6 month		7~9 month		1st Year	2nd year
Output	Item	Quantity	Unit Price	Value, Cost	Quantity	Value, Cost	Quantity	Value, Cost	Total	and over
		kg, l, hr	Baht/kg, man/day	Baht	kg, l, hr	Baht	kg	Baht	Baht	Baht
1. Production		350	34.65	12,128	400	13,860	440	15,246	41,234	45,738
2. By-production		-	-	-	-	-	-	-	-	-
	Gross Value	350	-	12,128	400	13,860	440	15,246	41,234	45,738
Input (Production Cost)	1. Material									
	1)Seed, Stock	0.15	116	17	0.15	17	0.15	17	52	52
	2)Fertilizer									
	a)13-13-21	25	6.08	152	25	152	25	152	456	456
	b)15-15-15									
	c)16-16-8									
	d)46-0-0									
	e)urea	10	7.32	73	10	73	10	73	220	220
	f)manures	2,000	0.29	580	2,000	580	2,000	580	1,740	1,740
	g)dolomite	1,000	0.35	350	1,000	350	1,000	350	1,050	1,050
	h)others									
	3)Pesticide									
	4)Herbicide			1,740		1,740		1,740	5,220	5,220
	5)Fuel									
	a)oil etc.	32	11.6	371	32	371	32	371	1,114	1,114
b)lectricity	0.5	58	29	0.5	29	0.5	29	87	87	
6)Repair cost										
7)Depreciation			35		35		35	105	105	
8)Others										
2. Labour cost		40.0	120	4,800	45.0	5,400	50.0	6,000	16,200	18,000
3. Fee(Machine)										
4. Tax								4	4	
5. Others										
Sub-total				8,148		8,748		9,348	26,247	28,047
Interest										
Rent										
Total cost				8,148		8,748		9,348	26,247	28,047
Net Benefit				3,980		5,112		5,898	14,987	17,691

Table 4.14.3.10 Crop Budget per Rai-F/S Area in Lan Saka District

1. With the Project (W/P) - Economic- On Sand, Grass and Marshy Land

Name of Crop: Chilli		1~3 month			4~6 month		7~9 month		1st Year	2nd year
Output	Item	Quantity	Unit Price	Value, Cost	Quantity	Value, Cost	Quantity	Value, Cost	Total	and over
		kg, l, hr	Baht/kg, man/day	Baht	kg, l, hr	Baht	kg	Baht	Baht	Baht
1. Production		350	36.85	12,898	400	14,740	440	16,214	43,852	48,642
2. By-production		-	-	-	-	-	-	-	-	-
	Gross Value	350	-	12,898	400	14,740	440	16,214	43,852	48,642
Input (Production Cost)	1. Material									
	1)Seed, Stock	0.15	109	16	0.15	16	0.15	16	49	49
	2)Fertilizer									
	a)13-13-21	25	5.78	145	25	145	25	145	434	434
	b)15-15-15									
	c)16-16-8									
	d)46-0-0									
	e)urea	10	7.04	70	10	70	10	70	211	211
	f)manures	2,000	0.27	540	2,000	540	2,000	540	1,620	1,620
	g)dolomite	1,000	0.33	330	1,000	330	1,000	330	990	990
	h)others									
	3)Pesticide									
	4)Herbicide			1,636		1,636		1,636	4,908	4,908
	5)Fuel									
	a)oil etc.	32	10.3	330	32	330	32	330	989	989
b)lectricity	0.5	55	28	0.5	28	0.5	28	83	83	
6)Repair cost										
7)Depreciation			35		35		35	105	105	
8)Others										
2. Labour cost		40.0	71	2,840	45.0	3,195	50.0	3,550	9,585	10,650
3. Fee(Machine)										
4. Tax										
5. Others										
Sub-total				5,969		6,324		6,679	18,973	20,038
Interest										
Rent										
Total cost				5,969		6,324		6,679	18,973	20,038
Net Benefit				6,929		8,416		9,535	24,879	28,604

Table 3.14.4.2 Incremental Benefit based on the Project for the Ban Na San F/S Area

Case-1

Economic

No.	Year	Grass, Sand and Marshy Area						Existing Fruit Field						Newly Planted Fruit						Total Benefit/1000baht		
		Name of Newly Planted Fruit : Rambutan		Name of Newly Planted Fruit : Durian		Name of Newly Planted Fruit : Rambutan		Name of Newly Planted Fruit : Durian		Name of Newly Planted Fruit : Rambutan		Name of Newly Planted Fruit : Durian		Name of Newly Planted Fruit : Rambutan		Name of Newly Planted Fruit : Durian						
		Net value per rai	Beneficial Area	Sub-total Benefit	Net value per rai	Beneficial Area	Sub-total Benefit	Net value per rai	Beneficial Area	Sub-total Benefit	Net value per rai	Beneficial Area	Sub-total Benefit	Net value per rai	Beneficial Area	Sub-total Benefit	Net value per rai	Beneficial Area	Sub-total Benefit	Net value per rai	Beneficial Area	Sub-total Benefit
		W/P	baht	1000baht	W/O	baht	1000baht	W/P	baht	1000baht	W/O	baht	1000baht	W/P	baht	1000baht	W/O	baht	1000baht	W/P	baht	1000baht
1	1998	-5,121	0	-5,121	0	-4,598	30.79	-142	14,390	9,889	4,501	230.94	1,039	33,734	28,583	5,151	11.73	60	-10			
2	1999	-2,508	0	-2,508	0	-2,007	30.79	-62	14,628	9,956	4,672	230.94	1,079	37,043	31,362	5,681	11.73	67	609			
3	2000	-2,666	0	-2,666	0	-2,128	30.79	-66	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	569			
4	2001	-1,438	0	-1,438	0	-2,839	30.79	-87	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	780			
5	2002	5,135	0	5,135	0	634	30.79	20	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	2,130			
6	2003	7,635	0	7,635	0	12,732	30.79	392	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	2,975			
7	2004	12,204	0	12,204	0	20,885	30.79	643	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	4,090			
8	2005	14,390	0	14,390	0	33,734	30.79	1,039	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	4,899			
9	2006	14,628	0	14,628	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,046			
10	2007	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
11	2008	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
12	2009	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
13	2010	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
14	2011	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
15	2012	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
16	2013	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
17	2014	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
18	2015	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
19	2016	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
20	2017	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
21	2018	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
22	2019	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
23	2020	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
24	2021	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
25	2022	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
26	2023	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
27	2024	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
28	2025	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
29	2026	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
30	2026	14,862	0	14,862	0	37,043	30.79	1,141	14,862	10,218	4,644	230.94	1,072	37,043	31,362	5,681	11.73	67	5,090			
Total		339,499	0	339,499	0	834,316	25,689	0	430,292	295,731	134,561	31,076	1,925	1,070,938	906,719	164,219						

Table 3.14.4.3 Incremental Benefit based on the Project for the Ban Ha San Project

Case-2

No.	Year	Grass, Sand and Marshy Area						Existing Fruit Field						Newly Planted Fruit : Rambutan						Newly Planted Fruit : Durian						Total Benefit 1000baht
		Name of Newly Planted Fruit : Rambutan		Beneficial Sub-total		Beneficial Area		Name of Newly Planted Fruit : Durian		Beneficial Sub-total		Beneficial Area		Name of Newly Planted Fruit : Rambutan		Beneficial Sub-total		Beneficial Area		Name of Newly Planted Fruit : Durian		Beneficial Sub-total		Beneficial Area		
Net value per rat		W/O		baht		W/P		W/O		baht		W/P		W/O		baht		W/P		W/O		baht		W/P		
1	1998	-6,159	0	-6,159	135.03	0	-5,663	0	-5,663	21.98	0	-5,663	10,425	5,298	5,127	230.94	1,184	29,756	25,014	4,752	11.73	55	284	55	284	
2	1999	-3,170	0	-3,170	135.03	0	-2,716	0	-2,716	21.98	0	-2,716	10,608	6,576	4,032	230.94	931	32,888	27,624	5,264	11.73	62	505	62	505	
3	2000	-3,352	0	-3,352	135.03	0	-2,842	0	-2,842	21.98	0	-2,842	10,787	6,605	4,182	230.94	966	32,888	27,624	5,264	11.73	62	512	62	512	
4	2001	-2,492	0	-2,492	135.03	0	-3,912	0	-3,912	21.98	0	-3,912	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	560	62	560	
5	2002	2,767	0	2,767	135.03	0	-784	0	-784	21.98	0	-784	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	1,337	62	1,337	
6	2003	4,932	0	4,932	135.03	0	10,394	0	10,394	21.98	0	10,394	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	1,875	62	1,875	
7	2004	8,616	0	8,616	135.03	0	17,912	0	17,912	21.98	0	17,912	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	2,538	62	2,538	
8	2005	10,425	0	10,425	135.03	0	29,756	0	29,756	21.98	0	29,756	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,042	62	3,042	
9	2006	10,608	0	10,608	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,136	62	3,136	
10	2007	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
11	2008	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
12	2009	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
13	2010	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
14	2011	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
15	2012	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
16	2013	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
17	2014	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
18	2015	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
19	2016	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
20	2017	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
21	2018	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
22	2019	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
23	2020	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
24	2021	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
25	2022	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
26	2023	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
27	2024	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
28	2025	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
29	2026	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
30	2026	10,787	0	10,787	135.03	0	32,888	0	32,888	21.98	0	32,888	10,787	6,809	3,978	230.94	919	32,888	27,624	5,264	11.73	62	3,160	62	3,160	
Total		237,915	0	237,915	32,126	0	732,893	0	732,893	16,109	312,282	195,513	116,769	950,630	798,466	152,144	1,765	76,986								

Table 3.14.5.1. Financial Interest Rate of Return (FIRR) based on the Project for the Ban Na Sao F/S Area

Case-1

No.	Year	Benefit		Cost		Return		Discount(5%)		Return		Discount(12%)		Return	
		Initial	Total	Initial	Total	Factor	Benefit	Factor	Benefit	Factor	Benefit	Factor	Benefit	Factor	Benefit
1	1996	-	5,219	-	5,219	-5,219	0.9324	0	4,970	-4,970	0.8929	0	4,660	-4,660	
2	1997	-	23,646	-	23,646	-23,646	0.9070	-86	21,448	-21,448	0.7972	0	18,850	-18,850	
3	1998	-99	29,588	-	29,588	-29,687	0.8638	-86	25,559	-25,645	0.7118	-70	21,060	-21,131	
4	1999	310	2,411	734	3,145	-2,835	0.8227	255	2,587	-2,332	0.6355	197	1,999	-1,802	
5	2000	306	-	734	734	-428	0.7835	240	575	-335	0.5674	174	416	-243	
6	2001	392	-	734	734	-342	0.7462	293	548	-255	0.5066	199	372	-173	
7	2002	1,489	-	734	734	746	0.7107	1,052	522	530	0.4523	669	332	337	
8	2003	2,233	-	734	734	1,499	0.6768	1,511	497	1,015	0.4039	902	296	605	
9	2004	3,161	-	734	734	2,427	0.6446	2,038	473	1,564	0.3606	1,140	265	875	
10	2005	3,868	-	734	734	3,134	0.6139	2,375	451	1,824	0.3220	1,245	236	1,009	
11	2006	3,999	-	734	734	3,265	0.5847	2,338	429	1,909	0.2875	1,150	211	939	
12	2007	4,033	-	734	734	3,299	0.5568	2,246	409	1,837	0.2567	1,035	188	847	
13	2008	4,033	-	734	734	3,299	0.5303	2,139	389	1,750	0.2292	924	168	756	
14	2009	4,033	-	734	734	3,299	0.5051	2,037	371	1,666	0.2046	825	150	675	
15	2010	4,033	-	734	734	3,299	0.4810	1,940	353	1,587	0.1827	737	134	603	
16	2011	4,033	-	734	734	3,299	0.4581	1,848	336	1,511	0.1631	658	129	538	
17	2012	4,033	-	734	734	3,299	0.4363	1,760	320	1,439	0.1456	587	107	480	
18	2013	4,033	-	734	734	3,299	0.4155	1,676	305	1,371	0.1300	524	95	429	
19	2014	4,033	-	734	734	3,299	0.3957	1,596	290	1,306	0.1161	466	85	383	
20	2015	4,033	-	734	734	3,299	0.3769	1,520	277	1,243	0.1037	418	76	342	
21	2016	4,033	-	734	734	3,299	0.3418	1,448	263	1,184	0.0926	373	68	305	
22	2017	4,033	-	734	734	3,299	0.3256	1,379	251	1,128	0.0826	333	61	273	
23	2018	4,033	-	734	734	3,299	0.3101	1,251	239	1,074	0.0738	298	54	243	
24	2019	4,033	-	734	734	3,299	0.2953	1,191	228	1,023	0.0659	266	48	217	
26	2020	4,033	-	734	734	3,299	0.2812	1,134	217	974	0.0588	237	43	194	
27	2021	4,033	-	734	734	3,299	0.2678	1,080	206	928	0.0525	212	39	173	
28	2022	4,033	-	734	734	3,299	0.2551	1,029	197	884	0.0469	189	34	155	
29	2023	4,033	-	734	734	3,299	0.2429	980	187	842	0.0419	169	31	138	
30	2024	4,033	-	734	734	3,299	0.2314	933	178	801	0.0374	151	27	123	
31	2025	4,033	-	734	734	3,299	0.2204	889	170	763	0.0334	135	24	110	
32	2026	4,033	-	734	734	3,299	0.2100	850	162	727	0.0298	120	22	98	
		96,310	60,864	20,552	81,416	14,894		39,401	63,407	-24,006		14,265	50,274	-36,009	

Remark:

discount rate 5% 0.62

discount rate 12% 0.28

B/C ratio

return(1000ha/ha)

Table 3.14.5.2 Economic Interest Rate of Return (EIRR) based on the Project for the Ban Na Sun F/S Area

Case-1

Economic No. year	Benefit		Cost		Return	Discount(5%)		Discount(12%)		Factor	Factor	Total Cost Return	Benefit	Total Cost Return	Benefit	Total Cost Return
	Initial	Final	Initial	Final		Benefit	Factor	Benefit	Factor							
1 1996	-	4,592	-	4,592	-4,592	0.9524	0	4,373	-4,373	0.8929	0	4,100	0	4,100	-4,100	
2 1997	-	18,193	-	18,193	-18,193	0.9070	0	16,502	-16,502	0.7972	0	14,503	0	14,503	-14,503	
3 1998	-10	21,642	-	21,642	-21,652	0.8638	-9	18,695	-18,704	0.7118	-7	15,404	-7	15,404	-15,411	
4 1999	609	1,833	611	2,444	-1,835	0.8227	501	2,011	-1,510	0.6355	387	1,553	387	1,553	-1,165	
5 2000	569	-	611	611	-42	0.7835	446	479	-33	0.5674	323	347	323	347	-24	
6 2001	780	-	611	611	169	0.7462	582	456	126	0.5065	395	310	395	310	86	
7 2002	1,130	-	611	611	1,519	0.7107	687	434	1,080	0.4523	464	276	464	276	687	
8 2003	2,975	-	611	611	2,364	0.6768	1,014	414	1,600	0.4039	1,202	247	1,202	247	955	
9 2004	4,090	-	611	611	3,479	0.6446	2,636	394	2,243	0.3606	1,475	220	1,475	220	1,235	
10 2005	4,899	-	611	611	4,288	0.6139	3,008	375	2,632	0.3220	1,977	197	1,977	197	1,381	
11 2006	5,046	-	611	611	4,435	0.5847	2,950	357	2,593	0.2875	1,451	176	1,451	176	1,275	
12 2007	5,090	-	611	611	4,479	0.5568	2,834	340	2,494	0.2567	1,306	157	1,306	157	1,150	
13 2008	5,090	-	611	611	4,479	0.5303	2,699	324	2,375	0.2292	1,166	140	1,166	140	1,026	
14 2009	5,090	-	611	611	4,479	0.5051	2,571	309	2,262	0.2046	1,042	125	1,042	125	916	
15 2010	5,090	-	611	611	4,479	0.4810	2,448	294	2,154	0.1827	930	112	930	112	818	
16 2011	5,090	-	611	611	4,479	0.4581	2,332	280	2,052	0.1631	830	100	830	100	731	
17 2012	5,090	-	611	611	4,479	0.4363	2,221	267	1,954	0.1456	741	89	741	89	652	
18 2013	5,090	-	611	611	4,479	0.4155	2,115	254	1,861	0.1300	662	79	662	79	582	
19 2014	5,090	-	611	611	4,479	0.3957	2,014	242	1,772	0.1161	591	71	591	71	520	
20 2015	5,090	-	611	611	4,479	0.3769	1,918	230	1,688	0.1037	528	63	528	63	464	
21 2016	5,090	-	611	611	4,479	0.3589	1,827	219	1,608	0.0926	471	57	471	57	415	
22 2017	5,090	-	611	611	4,479	0.3418	1,740	209	1,531	0.0826	421	50	421	50	370	
23 2018	5,090	-	611	611	4,479	0.3256	1,657	199	1,458	0.0738	376	45	376	45	330	
24 2019	5,090	-	611	611	4,479	0.3101	1,578	189	1,389	0.0659	335	40	335	40	295	
26 2020	5,090	-	611	611	4,479	0.2953	1,503	180	1,323	0.0588	299	36	299	36	263	
27 2021	5,090	-	611	611	4,479	0.2812	1,432	172	1,260	0.0525	267	32	267	32	235	
28 2022	5,090	-	611	611	4,479	0.2678	1,363	164	1,200	0.0469	239	29	239	29	210	
29 2023	5,090	-	611	611	4,479	0.2551	1,298	156	1,143	0.0419	213	26	213	26	188	
30 2024	5,090	-	611	611	4,479	0.2429	1,237	148	1,088	0.0374	190	23	190	23	167	
31 2025	5,090	-	611	611	4,479	0.2314	1,178	141	1,036	0.0334	170	20	170	20	149	
32 2026	5,090	-	611	611	4,479	0.2204	1,122	135	987	0.0298	152	18	152	18	133	
	122,888	46,260	17,108	63,368	59,520		50,730	48,941	1,788		18,696	38,645				-19,949

remark:

discount rate 5% 1.04
 discount rate 12% -19,949
 E/Cratio 5.6
 E/RR(%) 0.48

Table 3.14.5.3 Financial Interest Rate of Return (FIRR) based on the Project for the Ban Na San F/S Area

Case-2

No.	Year	Benefit		Cost		Return	Discount(5%)			Discount(12%)			Total Cost Return	Total Cost	Return
		Initial	Total	DM	Total		Factor	Benefit	Cost	Return	Factor	Benefit			
1	1996	-	4,680	-	4,680	-4,680	0.9524	0	4,457	-4,457	0.8929	0	4,179	-4,179	
2	1997	-	17,401	-	17,401	-17,401	0.9070	0	15,783	-15,783	0.7972	0	13,872	-13,872	
3	1998	284	21,482	-	21,482	-21,198	0.8638	245	18,557	-18,312	0.7118	202	15,290	-15,088	
4	1999	505	2,411	500	2,911	-2,406	0.8227	415	2,395	-1,979	0.6355	321	1,850	-1,529	
5	2000	512	-	500	500	12	0.7835	401	392	9	0.5674	291	284	7	
6	2001	560	-	500	500	60	0.7462	418	373	45	0.5066	284	253	30	
7	2002	1,337	-	500	500	837	0.7107	950	355	595	0.4523	505	226	379	
8	2003	1,875	-	500	500	1,375	0.6768	1,269	338	931	0.4039	757	202	555	
9	2004	2,538	-	500	500	2,038	0.6446	1,836	322	1,314	0.3606	915	180	735	
10	2005	3,042	-	500	500	2,542	0.6139	1,868	307	1,561	0.3220	979	161	818	
11	2006	3,136	-	500	500	2,636	0.5847	1,834	292	1,541	0.2875	902	144	758	
12	2007	3,160	-	500	500	2,660	0.5568	1,760	278	1,481	0.2587	811	128	683	
13	2008	3,160	-	500	500	2,660	0.5303	1,676	265	1,411	0.2292	724	115	610	
14	2009	3,160	-	500	500	2,660	0.5051	1,596	253	1,343	0.2046	647	102	544	
15	2010	3,160	-	500	500	2,660	0.4810	1,520	241	1,280	0.1827	577	91	485	
16	2011	3,160	-	500	500	2,660	0.4581	1,448	229	1,219	0.1631	515	82	434	
17	2012	3,160	-	500	500	2,660	0.4363	1,379	218	1,161	0.1456	460	73	387	
18	2013	3,160	-	500	500	2,660	0.4155	1,313	208	1,105	0.1300	411	65	346	
19	2014	3,160	-	500	500	2,660	0.3957	1,251	198	1,053	0.1161	367	58	309	
20	2015	3,160	-	500	500	2,660	0.3769	1,191	188	1,003	0.1037	328	52	276	
21	2016	3,160	-	500	500	2,660	0.3589	1,134	179	955	0.0926	292	46	246	
22	2017	3,160	-	500	500	2,660	0.3418	1,080	171	909	0.0826	261	41	220	
23	2018	3,160	-	500	500	2,660	0.3256	1,029	163	866	0.0738	233	37	196	
24	2019	3,160	-	500	500	2,660	0.3101	980	155	825	0.0659	208	33	175	
25	2020	3,160	-	500	500	2,660	0.2953	933	148	786	0.0598	186	29	156	
26	2021	3,160	-	500	500	2,660	0.2812	889	141	748	0.0525	166	26	140	
27	2022	3,160	-	500	500	2,660	0.2678	846	134	712	0.0469	148	23	125	
28	2023	3,160	-	500	500	2,660	0.2551	806	128	679	0.0419	132	21	111	
29	2024	3,160	-	500	500	2,660	0.2429	768	121	646	0.0374	118	19	99	
30	2025	3,160	-	500	500	2,660	0.2314	731	116	615	0.0334	105	17	89	
31	2025	3,160	-	500	500	2,660	0.2204	696	110	586	0.0298	94	15	79	
32	2025	3,160	-	500	500	2,660	0.2105	661	105	554	0.0266	84	13	70	
		76,989	45,974	14,000	59,974	17,015		32,061	47,216	-15,154		12,041	37,715	-25,674	

Remark: return(1000unit) 1/Cratio
 discount rate 5% 0.68
 discount rate 12% 0.32

Table 3.14.5.4 Economic Interest Rate of Return (EIRR) based on the Project for the Ban Na San F/S Area

Case-2

No.	Year	Benefit		Cost		Return		Discount(5%)		Discount(12%)		Total Cost	Return	
		Initial	DM	DM	Total	Factor	Benefit	Total Cost	Return	Factor	Benefit			
1	1996	-	-	-	4,128	-4,128	0.9524	0	3,931	-3,931	0.8929	0	3,686	-3,686
2	1997	-	-	-	14,100	-14,100	0.9070	0	12,789	-12,789	0.7972	0	11,240	-11,240
3	1998	307	-	-	16,491	-16,491	0.8638	265	14,246	-13,980	0.7118	219	11,738	-11,519
4	1999	763	-	-	2,250	-1,487	0.8227	628	1,851	-1,223	0.6355	485	1,430	-945
5	2000	732	-	-	417	-1,487	0.7835	574	327	-247	0.5674	415	237	-179
6	2001	883	-	-	417	-1,487	0.7462	659	311	-348	0.5065	447	211	-236
7	2002	1,846	-	-	417	-1,487	0.7107	1,429	296	-1,016	0.4523	835	189	-646
8	2003	2,450	-	-	417	-1,487	0.6768	1,658	282	-1,376	0.4039	990	168	-821
9	2004	3,246	-	-	417	-1,487	0.6446	2,092	269	-1,824	0.3606	1,171	150	-1,020
10	2005	3,824	-	-	417	-1,487	0.6139	2,348	256	-2,092	0.3220	1,231	134	-1,097
11	2006	3,829	-	-	417	-1,487	0.5847	2,297	244	-2,053	0.2875	1,129	120	-1,010
12	2007	3,960	-	-	417	-1,487	0.5568	2,205	232	-1,973	0.2587	1,016	107	-909
13	2008	3,960	-	-	417	-1,487	0.5303	2,100	221	-1,879	0.2292	908	96	-812
14	2009	3,960	-	-	417	-1,487	0.5051	2,000	211	-1,789	0.2046	810	85	-725
15	2010	3,960	-	-	417	-1,487	0.4810	1,905	201	-1,704	0.1827	723	76	-647
16	2011	3,960	-	-	417	-1,487	0.4581	1,814	191	-1,623	0.1631	646	68	-578
17	2012	3,960	-	-	417	-1,487	0.4363	1,728	182	-1,546	0.1456	577	61	-516
18	2013	3,960	-	-	417	-1,487	0.4155	1,645	173	-1,472	0.1300	515	54	-461
19	2014	3,960	-	-	417	-1,487	0.3957	1,567	165	-1,402	0.1161	460	48	-411
20	2015	3,960	-	-	417	-1,487	0.3769	1,492	157	-1,335	0.1037	411	43	-367
21	2016	3,960	-	-	417	-1,487	0.3589	1,421	150	-1,272	0.0926	367	39	-328
22	2017	3,960	-	-	417	-1,487	0.3418	1,354	143	-1,211	0.0826	327	34	-293
23	2018	3,960	-	-	417	-1,487	0.3256	1,289	136	-1,153	0.0738	292	31	-261
24	2019	3,960	-	-	417	-1,487	0.3101	1,228	129	-1,099	0.0659	261	27	-233
25	2020	3,960	-	-	417	-1,487	0.2953	1,169	123	-1,046	0.0588	233	25	-208
26	2021	3,960	-	-	417	-1,487	0.2812	1,114	117	-996	0.0525	208	22	-186
27	2022	3,960	-	-	417	-1,487	0.2678	1,061	112	-949	0.0469	186	20	-166
28	2023	3,960	-	-	417	-1,487	0.2551	1,010	106	-904	0.0419	166	17	-148
29	2024	3,960	-	-	417	-1,487	0.2429	962	101	-861	0.0374	148	16	-132
30	2025	3,960	-	-	417	-1,487	0.2314	916	96	-820	0.0334	132	14	-118
31	2026	3,960	-	-	417	-1,487	0.2204	873	92	-781	0.0298	118	12	-106
32	2026	3,960	-	-	417	-1,487	0.2204	873	92	-781	0.0298	118	12	-106
		97,180	-	-	36,552	48,228		40,687	37,841	2,846		15,425	30,199	-14,774

remark:

discount rate 5% 1.08

discount rate 12% -14,774

B/C ratio 0.51

EIRR(X) 6.1

4. Project Justification of the Lan Saka F/S Study Area

Table 4.14.1.1 Financial and Economic Price
(F/S area in Ban Saka)

Mangostern (unit : baht)

Item	1993		1994		1995		2000	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
Mangosteen price,FOB,Bangkok,per tonne in 1993, 1995, 2000 (a)	36,800	36,800	36,940	36,940	37,930	37,930	43,840	43,840
Exporter's margin (b)	7,360	6,920	7,390	6,945	7,585	7,130	8,770	8,245
Exporting cost (c)	2,500	2,350	2,500	2,350	2,500	2,350	2,500	2,350
Office expenditures (d)	1,840	1,730	1,845	1,735	1,895	1,780	2,190	2,060
Packageing cost (e)	6,150	5,780	6,150	5,780	6,150	5,780	6,150	5,780
Labour cost (f)	770	725	770	725	770	725	770	725
Transportation cost from company in Bangkok to airport (g)	400	270	400	270	400	270	400	270
transportation cost from wholesale market to the company (h)	400	270	400	270	400	270	400	270
Wholesale price, Bangkok (i)	17,380	18,755	17,485	18,865	18,230	19,625	22,660	24,140
Wholesaler's margin (j)	1,740	1,635	1,750	1,645	1,825	1,715	2,265	2,130
Transportation/container/handling cost from project area to market in Bangkok (k)	580	400	580	400	580	400	580	400
Local market price (l)	15,060	16,720	15,155	16,820	15,825	17,510	19,815	21,610
Local merchant's margin (m)	1,505	1,415	1,515	1,425	1,580	1,485	1,980	1,860
Transportation/handling cost,from villages to local market (n)	65	60	65	60	65	60	65	60
Price before merchanding (o)	13,490	15,245	13,575	15,335	14,180	15,965	17,770	19,690
Adjusting grade to quality (p)	2,700	3,045	2,715	3,065	2,840	3,195	3,550	3,940
Farm-gate price (q)	10,790	12,200	10,860	12,270	11,340	12,770	14,220	15,750

remark:

- (a);Bambutan price FOB year 1993,Bangkok from Thailand Board of Trade,and estimated price in year 1995 and 2000 from World Bank issued June 1994
 (b);20% of exporting price adjusted by standard convection factor(SCF) of 0.94
 (c);2.5baht/kg, adjusted by SCF of 0.94
 (d);5% of exporting price adjusted by SCF of 0.94
 (e);Foam price 5,750baht/ton, foil paper and tape 400baht/ton, adjusted by SCF of 0.94
 (f);Labour cost 10 persons, 115baht/day/1.5ton,adjusted by SCF of 0.94
 (g);Truck from company to airport loaded 1.5 ton/trip, transportation cost 600baht, adjusted by CF of 0.67
 (h);Truck from wholesale market to the company loaded 1.5 ton,transportation cost 600baht, adjusted by SCF 0.94
 (i);10% of wholesale price, adjusted by SCF of 0.94
 (j);Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (k);10% of local market price, adjusted by SCF of 0.94
 (l);Truck from villages to local market with approx. distance of 21km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67, and handling cost 45baht/ton, adjusted by SCF of 0.94
 (m);Consisted of 80% of exporting quality and 20% of non-exporting quality due to damage caused by handling and processing

Table 4.14.1.2 Financial and Economic Price
(F/S area in Ban Saka)

Sweet Corn (unit : baht)

Item	1993		1994		1995		2000	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
Sweet Corn price,FOB,Bangkok,per tonne in 1993, 1995, 2000 (a)	20,850	20,850	20,930	20,930	21,490	21,490	24,840	24,840
Exporter's margin (b)	4,170	3,920	4,185	3,935	4,300	4,040	4,970	4,670
Exporting document cost (c)	2,500	2,350	2,500	2,350	2,500	2,350	2,500	2,350
Office expenditures (d)	1,040	980	1,045	980	1,075	1,010	1,240	1,165
Packageing cost (e)	7,500	7,050	7,500	7,050	7,500	7,050	7,500	7,050
Labour cost (f)	770	725	770	725	770	725	770	725
Transportation cost from company in Bangkok to airport (g)	400	270	400	270	400	270	400	270
Wholesale price, Bangkok (h)	4,470	5,555	4,530	5,620	4,945	6,045	7,460	8,610
Wholesaler's margin (i)	895	840	905	850	990	930	1,490	1,400
Transportation/container/handling cost from project area of Surat Thani to wholesale market in Bangkok (j)	200	135	200	135	200	135	200	135
Local market price (k)	580	400	580	400	580	400	580	400
Local merchant's margin (l)	2,795	4,180	2,845	4,235	3,175	4,580	5,190	6,675
Transportation/handling cost,from villages to local market (m)	65	60	65	60	65	60	65	60
Farm-gate price (n)	2,170	3,590	2,210	3,640	2,470	3,920	4,090	5,640

remark:

- (a);Bambutan price FOB year 1993,Bangkok from Thailand Board of Trade,and estimated price in year 1995, 2000 and 2005 from World Bank issued June 1994
 (b);20% of exporting price adjusted by standard convection factor(SCF) of 0.94
 (c);2.5baht/kg, adjusted by SCF of 0.94
 (d);5% of exporting price adjusted by SCF of 0.94
 (e);Foam price 7,000baht/ton, plastic bag and tape 500baht/ton, adjusted by SCF of 0.94
 (f);Labour cost 10 persons, 115baht/day/1.5ton, adjusted by SCF of 0.94
 (g);Truck from company to airport loaded 1.5 ton/trip, transportation cost 600baht, adjusted by CF of 0.67
 (h);20% of wholesale price, adjusted by SCF of 0.94
 (i);Truck from wholesale market to the company loaded 1.5 ton, transportation cost 600baht, adjusted by CF of 0.67 (two trips, in grading process, of which cut down 50%)
 (j);Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (k);20% of local market price, adjusted by SCF of 0.94
 (l);Truck from villages to local market with approx. distance of 21km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67, and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.3 Financial and Economic Price
(F/S area in Ban Saka)

Item	Chilli (dried) (unit : baht)							
	1993		1994		1995		2000	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
Chilli price, FOB, Bangkok, per tonne in 1993, 1995, 2000 (a)	85,680	85,680	86,010	86,010	88,320	88,320	102,080	102,080
Exporter's margin (b)	17,135	16,105	17,200	16,170	17,665	16,605	20,415	19,190
Exporting document cost (c)	2,500	2,350	2,500	2,350	2,500	2,350	2,500	2,350
Office expenditures (d)	4,280	4,025	4,300	4,040	4,415	4,150	5,105	4,800
Packageing cost (e)	7,500	7,050	7,500	7,050	7,500	7,050	7,500	7,050
Labour cost (f)	770	725	770	725	770	725	770	725
Transportation cost from company in Bangkok to airport (g)	400	270	400	270	400	270	400	270
Wholesale price, Bangkok (h)	53,095	55,155	53,340	55,405	55,070	57,170	65,390	67,695
Wholesaler's margin (i)	5,310	4,990	5,335	5,015	5,505	5,175	6,540	6,150
Transportation/container/handling cost from project area of Surat Thani to wholesale market in Bangkok (j)	580	400	580	400	580	400	580	400
Local market price (k)	46,805	49,495	47,025	49,720	48,585	51,325	57,870	60,875
Local merchant's margin (l)	4,680	4,395	4,700	4,420	4,860	4,565	5,785	5,435
Transportation/handling cost, from villages to local market (m)	65	60	65	60	65	60	65	60
Farm-gate price (2 ton)	42,060	45,040	42,260	45,240	43,660	46,700	52,020	55,380
Farm-gate price(dried 1 ton)	28,010	30,000	28,150	30,130	29,080	31,100	34,650	36,880

remark:

- (a); Rambutan price FOB year 1993, Bangkok from Thailand Board of Trade, and estimated price in year 1995, 2000 and 2005 from World Bank issued June 1994
 (b); 20% of exporting price adjusted by standard conversion factor(SCF) of 0.94
 (c); 2.5baht/kg, adjusted by SCF of 0.94
 (d); 5% of exporting price adjusted by SCF of 0.94
 (e); Foam price 7,000baht/ton, plastic bag and tape 500baht/ton, adjusted by SCF of 0.94
 (f); Labour cost 10 persons, 115baht/day/1.5ton, adjusted by SCF of 0.94
 (g); Truck from company to airport loaded 1.5 ton/trip, transportation cost 600baht, adjusted by CF of 0.67
 (h); 15% of wholesale price, adjusted by SCF of 0.94
 (i); Truck from wholesale market to the company loaded 1.5 ton, transportation cost 600baht, adjusted by CF of 0.67 (two trips, in grading process, of which cut down 50%)
 (j); Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (k); 15% of local market price, adjusted by SCF of 0.94
 (l); Truck from villages to local market with approx. distance of 21km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67, and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.4 Financial and Economic Price
(F/S area in Ban Saka)

Item	Mung Bean (unit : baht)							
	1993		1994		1995		2000	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
Mung Bean price, FOB, Bangkok, per tonne in 1993, 1995, 2000 (a)	11,740	11,740	11,785	11,785	12,100	12,100	13,990	13,990
Exporter's margin (b)	1,175	1,105	1,180	1,110	1,210	1,140	1,400	1,320
Port charges (c)	190	180	190	180	190	180	190	180
Taxes and duties (d)	0	0	0	0	0	0	0	0
Wholesale price, Bangkok (e)	10,375	10,455	10,415	10,495	10,700	10,780	12,400	12,490
Wholesaler's margin (f)	1,040	980	1,040	980	1,070	1,005	1,240	1,165
Transportation/container/handling cost from project area of Surat Thani to wholesale market in Bangkok (g)	400	270	400	270	400	270	400	270
Local market price (h)	8,355	8,805	8,395	8,845	8,650	9,105	10,180	10,655
Local merchant's margin (i)	840	785	840	785	865	815	1,015	955
Transportation/handling cost, from villages to local market (j)	65	60	65	60	65	60	65	60
Farm-gate price	7,450	7,960	7,490	8,000	7,720	8,230	9,100	9,640

remark:

- (a); Rambutan price FOB year 1993, Bangkok from Thailand Board of Trade, and estimated price in year 1995 and 2000 from World Bank issued June 1994
 (b); 10% of exporting price adjusted by standard conversion factor(SCF) of 0.94
 (c); Transportation/container/handling cost i.e. port charge of 190baht, adjusted by SCF of 0.94
 (d); 2.2% of exporting price, but has been discontinued since Dec. 4 of 1991
 (e); 10% of wholesale price, adjusted by SCF of 0.94
 (f); Truck from wholesale market to the company loaded 1.5 ton, transportation cost 600baht, adjusted by CF of 0.67 (two trips, in grading process, of which cut down 50%)
 (g); Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (h); 10% of local market price, adjusted by SCF of 0.94
 (i); Truck from villages to local market with approx. distance of 21km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67, and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.6 Financial and Economic Price
(F/S area in Lan Saka)

Fertilizer: 16-20-0 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
16-20-0 price,CIF,Bangkok,per tonne in 1994, 1995, 2000 (a)	3,860	3,860	3,930	3,930	4,475	4,475	5,030	5,030
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	385	360	395	370	450	425	505	475
Importer's price	4,435	4,400	4,515	4,480	5,115	5,080	5,725	5,685
Wholesaler's margin (e)	195	185	200	190	225	210	250	235
Wholesale price, Bangkok	4,630	4,585	4,715	4,670	5,340	5,290	5,975	5,920
Transportation/container/handling cost from Bangkok to local market in project area (f)	580	400	580	400	580	400	580	400
Local market price	5,210	4,985	5,295	5,070	5,920	5,690	6,555	6,320
Local merchant's margin (g)	265	245	260	240	295	280	330	310
Transportation/handling cost,from local market to villages (h)	65	60	65	60	65	60	65	60
Farm-gate price	5,540	5,290	5,620	5,370	6,280	6,030	6,950	6,690

remark:

- (a);16-20-0 price CIF year 1994,Bangkok, from Office of Agriculture Economy, MOAC,and estimated price in year 1995 2000, from World Bank issued June 1994
 (b);Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c);2.2% of CIF price, but has been abolished since Dec 4,1990
 (d);10% of CIF price, adjusted by SCF of 0.94
 (e);5% of CIF price, adjusted by SCF of 0.94
 (f);Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g);5% of local market price, adjusted by SCF of 0.94
 (h);Truck from villages to local market with approx. distance of 21km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67, and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.7 Financial and Economic Price
(F/S area in Lan Saka)

Fertilizer: 15-15-15 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
16-20-0 price,CIF,Bangkok,per tonne in 1994, 1995, 2000 (a)	5,120	5,120	5,220	5,200	5,940	5,940	6,680	6,680
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	510	480	520	490	595	560	670	630
Importer's price	5,820	5,780	5,930	5,870	6,725	6,680	7,540	7,490
Wholesaler's margin (e)	510	480	520	490	595	560	755	710
Wholesale price, Bangkok	6,330	6,260	6,450	6,360	7,320	7,240	8,295	8,200
Transportation/container/handling cost from Bangkok to local market in project area (f)	580	400	580	400	580	400	580	400
Local market price	6,910	6,660	7,030	6,760	7,900	7,640	8,875	8,600
Local merchant's margin (g)	415	390	425	400	475	450	530	500
Transportation/handling cost,from local market to villages (h)	65	60	65	60	65	60	65	60
Farm-gate price	7,390	7,110	7,520	7,220	8,440	8,150	9,470	9,160

remark:

- (a);16-20-0 price CIF year 1994,Bangkok, from Office of Agriculture Economy, MOAC,and estimated price in year 1995 2000, from World Bank issued June 1994
 (b);Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c);2.2% of CIF price, but has been abolished since Dec 4,1990
 (d);10% of CIF price, adjusted by SCF of 0.94
 (e);10% of CIF price, adjusted by SCF of 0.94
 (f);Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g);6% of local market price, adjusted by SCF of 0.94
 (h);Truck from villages to local market with approx. distance of 21km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67, and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.5 Financial and Economic Price
(F/S area in Ban Saka)

Bananas		(unit : baht)							
		1993		1994		1995		2000	
Item		Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
Bananas price, FOB, Bangkok, per tonne in 1993, 1995, 2000	(a)	21,180	21,180	21,260	21,260	21,830	21,830	25,230	25,230
Exporter's margin	(b)	4,235	3,980	4,250	3,995	4,365	4,105	5,045	4,740
Exporting document cost	(c)	2,500	2,350	2,500	2,350	2,500	2,350	2,500	2,350
Office expenditures	(d)	1,060	995	1,060	995	1,090	1,025	1,260	1,185
Packageing cost	(e)	7,500	7,050	7,500	7,050	7,500	7,050	7,500	7,050
Labour cost	(f)	770	725	770	725	770	725	770	725
Transportation cost from company in Bangkok to airport	(g)	400	270	400	270	400	270	400	270
Wholesale price, Bangkok		4,715	5,810	4,780	5,875	5,205	6,305	7,755	8,910
Wholesaler's margin	(h)	470	440	480	450	520	490	775	730
Transportation/container/handling cost									
Transportation cost from wholesale market to company	(i)	200	135	200	135	200	135	200	135
from project area of Surat Thani to wholesale market in Bangkok	(j)	580	400	580	400	580	400	580	400
Local market price		3,465	4,835	3,520	4,890	3,905	5,280	6,200	7,645
Local merchant's margin	(k)	350	325	355	330	390	370	615	575
Transportation/handling cost, from villages to local market	(l)	65	60	65	60	65	60	65	60
Farm-gate price		3,050	4,450	3,100	4,500	3,450	4,850	5,520	7,010

remark:

- (a); Rambutan price FOB year 1993, Bangkok from Thailand Board of Trade, and estimated price in year 1995, 2000 and 2005 from World Bank issued June 1994
- (b); 20% of exporting price adjusted by standard conversion factor(SCF) of 0.94
- (c); 2.5baht/kg, adjusted by SCF of 0.94
- (d); 5% of exporting price adjusted by SCF of 0.94
- (e); foam price 7,000baht/ton, plastic bag and tape 500baht/ton, adjusted by SCF of 0.94
- (f); Labour cost 10 persons, 115baht/day/1.5ton, adjusted by SCF of 0.94
- (g); Truck from company to airport loaded 1.5 ton/trip, transportation cost 600baht, adjusted by CF of 0.67
- (h); 10% of wholesale price, adjusted by SCF of 0.94
- (i); Truck from wholesale market to the company loaded 1.5 ton, transportation cost 600baht, adjusted by CF of 0.67 (two trips, in grading process, of which cut down 50%)
- (j); Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
- (k); 10% of local market price, adjusted by SCF of 0.94
- (l); Truck from villages to local market with approx. distance of 21km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67, and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.8 Financial and Economic Price
(F/S area in Lan Saka)

Fertilizer: 16-16-8 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
16-20-0 price,CIF,Bangkok,per tonne in 1994, 1995, 2000 (a)	4,155	4,155	4,240	4,240	4,820	4,820	5,420	5,420
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	415	390	425	400	480	450	540	510
Importer's price (e)	4,760	4,725	4,855	4,820	5,490	5,450	6,150	6,110
Wholesaler's margin	415	390	425	400	480	450	540	510
Wholesale price, Bangkok	5,175	5,115	5,280	5,220	5,970	5,900	6,690	6,620
Transportation/container/handling cost from Bangkok to local market in project area (f)	580	400	580	400	580	400	580	400
Local market price (g)	5,755	5,515	5,860	5,620	6,550	6,300	7,270	7,020
Local merchant's margin (h)	290	275	295	280	325	310	315	300
Transportation/handling cost,from local market to villages	65	60	65	60	65	60	65	60
Farm-gate price	6,110	5,850	6,220	5,960	6,940	6,670	7,650	7,380

remark:

- (a);16-20-0 price CIF year 1994,Bangkok, from Office of Agriculture Economy, MOAC,and estimated price in year 1995 2000, from World Bank issued June 1994
 (b);Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c);2.2% of CIF price, but has been abolished since Dec 4,1990
 (d);10% of CIF price, adjusted by SCF of 0.94
 (e);10% of CIF price, adjusted by SCF of 0.94
 (f);Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g);5% of local market price, adjusted by SCF of 0.94
 (h);Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.9 Financial and Economic Price
(F/S area in Lan Saka)

Fertilizer: 12-24-12 (unit : baht)

Item	1994		1995		2000		2005	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
16-20-0 price,CIF,Bangkok,per tonne in 1994, 1995, 2000 (a)	6,355	6,355	6,480	6,480	7,375	7,375	8,290	8,290
Port charge (b)	190	180	190	180	190	180	190	180
Taxes and duties (c)	0	0	0	0	0	0	0	0
Importer's margin (d)	635	600	650	610	740	695	830	780
Importer's price (e)	7,180	7,135	7,320	7,270	8,305	8,250	9,310	9,250
Wholesaler's margin	510	480	520	490	590	555	665	625
Wholesale price, Bangkok	7,690	7,615	7,840	7,760	8,895	8,805	9,975	9,875
Transportation/container/handling cost from Bangkok to local market in project area (f)	580	400	580	400	580	400	580	400
Local market price (g)	8,270	8,015	8,420	8,160	9,475	9,205	10,555	10,275
Local merchant's margin (h)	415	395	425	400	470	445	530	495
Transportation/handling cost,from local market to villages	65	60	65	60	65	60	65	60
Farm-gate price	8,750	8,470	8,910	8,620	10,010	9,710	11,150	10,830

remark:

- (a);16-20-0 price CIF year 1994,Bangkok, from Office of Agriculture Economy, MOAC,and estimated price in year 1995 2000, from World Bank issued June 1994
 (b);Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c);2.2% of CIF price, but has been abolished since Dec 4,1990
 (d);10% of CIF price, adjusted by SCF of 0.94
 (e);8% of CIF price, adjusted by SCF of 0.94
 (f);Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g);5% of local market price, adjusted by SCF of 0.94
 (h);Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.10 Financial and Economic Price
(F/S area in Lan Saka)

Fertilizer: Urea		(unit : baht)							
Item		1994		1995		2000		2005	
		Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
Projected world market price at 1990 constant price Us s/tonne any origin, Bagged, FOB N.W Europe	(a)	120	120	129	129	144	144	140	140
Ocean freight and Insurance		50	50	50	50	50	50	50	50
Urea price, CIF, Bangkok, per Us s/tonne		170	170	179	179	194	194	190	190
Multipier tom 1994 constant price (x 1.0605)	(b)	180	180	190	190	206	206	202	202
Baht equivalent, CIF, Bangkok	(c)	4,480	4,480	4,725	4,725	5,125	5,125	5,025	5,025
Port charge	(d)	190	180	190	180	190	180	190	180
Taxes and duties	(e)	0	0	0	0	0	0	0	0
Importer's margin	(f)	450	425	470	440	510	480	500	470
Importer's price		5,120	5,085	5,385	5,345	5,825	5,785	5,715	5,675
Wholesaler's margin	(g)	450	425	470	440	510	480	500	470
Wholesale price, Bangkok		5,570	5,510	5,855	5,785	6,335	6,265	6,215	6,145
Transportation/container/handling cost from Bangkok to local market in project area	(h)	580	400	580	400	580	400	580	400
Local market price		6,150	5,910	6,435	6,185	6,915	6,665	6,795	6,545
Local merchant's margin	(i)	305	280	320	305	340	315	340	315
Transportation/handling cost, from local market to villages	(j)	65	60	65	60	65	60	65	60
Farm-gate price		6,520	6,250	6,820	6,550	7,320	7,040	7,200	6,920

remark:

- (a); From World Bank Commodity Price Forecasts, June 1994
 (b); From World Bank international inflation indices on the above World Bank Quarterly
 (c); us s = 24.88 baht, 1994
 (d); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (e); 2.2% of CIF price, but has been abolished since Dec 4, 1990
 (f); 10% of CIF price, adjusted by SCF of 0.94
 (g); 10% of CIF price, adjusted by SCF of 0.94
 (h); Truck from the Surat Thani to Bangkok approx. distance of 760 km, transportation cost i.e. 8,000baht/driver/loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (i); 5% of local market price, adjusted by SCF of 0.94
 (j); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.11 Financial and Economic Price
(F/S area in Lan Saka)

Fertilizer: 46-0-0		(unit : baht)							
Item		1994		1995		2000		2005	
		Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
46-0-0 price, CIF, Bangkok, per tonne in 1994, 1995, 2000	(a)	3,970	3,970	4,050	4,050	4,610	4,610	5,180	5,180
Port charge	(b)	190	180	190	180	190	180	190	180
Taxes and duties	(c)	0	0	0	0	0	0	0	0
Importer's margin	(d)	795	745	810	760	920	865	1,035	970
Importer's price		4,955	4,895	5,050	4,990	5,720	5,655	6,405	6,330
Wholesaler's margin	(e)	495	465	505	475	570	535	640	600
Wholesale price, Bangkok		5,450	5,360	5,555	5,465	6,290	6,190	7,045	6,930
Transportation/container/handling cost from Bangkok to local market in project area	(f)	580	400	580	400	580	400	580	400
Local market price		6,030	5,760	6,135	5,865	6,870	6,590	7,625	7,330
Local merchant's margin	(g)	605	565	610	570	685	645	760	715
Transportation/handling cost, from local market to villages	(h)	75	65	75	65	75	65	75	65
Farm-gate price		6,710	6,390	6,820	6,500	7,630	7,300	8,460	8,110

remark:

- (a); 16-20% price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995 2000, from World Bank issued June 1994
 (b); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94
 (c); 2.2% of CIF price, but has been abolished since Dec 4, 1990
 (d); 20% of CIF price, adjusted by SCF of 0.94
 (e); 10% of CIF price, adjusted by SCF of 0.94
 (f); Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94
 (g); 10% of local market price, adjusted by SCF of 0.94
 (h); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.12 Financial and Economic Price
(F/S area in Lan Saka)

Fertilizer: 13-13-21

(unit : baht)

Item	1994		1995		2000		2005		
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	
46-0-0 price, CIF, Bangkok, per tonne in 1994, 1995, 2000	(a)	3,050	3,050	3,110	3,100	3,540	3,540	3,980	3,980
Port charge	(b)	190	180	190	180	190	180	190	180
Taxes and duties	(c)	0	0	0	0	0	0	0	0
Importer's margin	(d)	615	580	620	580	710	665	795	745
Importer's price		3,855	3,810	3,920	3,860	4,440	4,385	4,965	4,905
Wholesaler's margin	(e)	385	360	390	365	440	415	495	465
Wholesale price, Bangkok		4,240	4,170	4,310	4,225	4,880	4,800	5,460	5,370
Transportation/container/handling cost from Bangkok to local market in project area	(f)	580	400	580	400	580	400	580	400
Local market price		4,820	4,570	4,890	4,625	5,460	5,200	6,040	5,770
Local merchant's margin	(g)	485	455	485	460	545	515	605	565
Transportation/handling cost, from local market to villages	(h)	75	65	75	65	75	65	75	65
Farm-gate price		5,380	5,090	5,450	5,150	6,080	5,780	6,720	6,400

remark:

(a); 16-2000 price CIF year 1994, Bangkok, from Office of Agriculture Economy, MOAC, and estimated price in year 1995 2000, from World Bank issued June 1994

(b); Transportation/container/handling cost i.e. 190baht/ton of port charge, adjusted by standard conversion factor(SCF) of 0.94

(c); 2.2% of CIF price, but has been abolished since Dec 4, 1990

(d); 20% of CIF price, adjusted by SCF of 0.94

(e); 10% of CIF price, adjusted by SCF of 0.94

(f); Truck from Bangkok to Project area in Surat Thani with approx. distance of 630 km, transportation cost i.e. 6,500baht/driver, loaded 15 ton, adjusted by CF of 0.67, handling cost 45baht/ton, adjusted by SCF of 0.94

(g); 10% of local market price, adjusted by SCF of 0.94

(h); Truck from local market to villages with approx. distance of 40km, transportation cost 0.8baht/ton/km, adjusted by CF of 0.67 and handling cost 45baht/ton, adjusted by SCF of 0.94

Table 4.14.1.13 Opportunity Cost of Labor

	Ban Ya Saru	Lan Saka
Average Farm Size (rai)	37.3	19.1
Average Household Size (No. of Person)	5.2	4.7
Full-time Farm Workers per Household (No.)	2.5	2.0
Amphoe Area (including Project Area)(rai)	234,634	117,300
Households (No.)	3,601	6,143
Man-days per Worker per year (man-days)	300	300
Present Farm Labor Supply (No. of persons)	21,503	12,236
Present Farm Labor Utilization per rai per year (man-days) *1	19	21
Present Farm Labor Supply (man-days)	6,450,900	3,685,800
Present Farm Labor Utilization (man-days)	4,458,046	2,463,300
Percentage of Total Labor Supply (%)	69	67
Standard Conversion Factor (%)	94	94
Present Labor Conversion Factor (%)	65	63
Labor Wage (baht)	100	120
Present Economic Labor Wage (baht)	65	76
Future Farm Labor Supply (Year 2000-man-days)*2	6,844,405	3,910,634
W/P Increment Farm Labor Utilization (man-days)*3	4,800	7,400
W/P Farm Labor Utilization (man-days)	4,462,846	2,470,700
Future Percentage of Total Labor Supply (%)	65	63
Future Labor Conversion Factor (%)	61	59
Future Economic Labor Wage (baht)	61	71

note: *1...based on the sample farm economic survey

*2...assuming population growth rate of 1.0% per year

*3...based on the project draft plan

Table 4.14.2.1 Initial Project Cost for Lan Saka F/S area

Case-1

(Unit Price: Thousand Bahts)

Description	Materials						Labor						Machinery Cost						Total								
	Financial		Economic		F.C.		Financial		Economic		F.C.		Financial		Economic		F.C.		Financial		Economic		F.C.		Total		
	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	Total	Total	
1. Drainage improvement																											
1.1 Dike	57,448	3,678	54,001	3,678	6,383	3,678	6,383	3,678	4,021	3,678	1,280	3,678	3,543	3,678	973	3,543	65,111	7,221	72,332	58,995	7,221	7,221	58,995	7,221	72,332	66,216	
1.2 Drainage canal	599		563		64		64		40		75		210		57		738	210	948	660	210	210	660	210	970	870	
1.3 Appurtenant structure	302	281	284	281	75	281	75	281	47	281	14	281	27	281	11	27	391	308	699	342	308	308	342	308	650	650	
Sub-total	58,349	3,959	54,848	3,959	6,522	3,959	6,522	3,959	4,109	3,959	1,369	3,959	3,780	3,959	1,040	3,780	66,240	7,739	73,979	59,997	7,739	7,739	59,997	7,739	67,736	67,736	
O/M and benefit	9,819	673	9,324	673	1,109	673	1,109	673	699	673	233	673	643	673	177	643	11,261	1,316	12,576	10,200	1,316	1,316	10,200	1,316	11,515	11,515	
Tax	5,451	371	5,003	371	610	371	610	371	394	371	128	371	334	371	128	334	6,200	724	6,924	0	724	0	6,924	0	0	0	
Total	73,730	5,003	64,172	5,003	8,241	5,003	8,241	5,003	4,807	5,003	1,730	5,003	4,776	5,003	1,217	4,776	85,701	9,779	93,480	70,197	9,779	9,779	70,197	9,779	93,480	79,252	
2. Irrigation improvement																											
2.1 Pipeline installation	1,822		1,713		202		202		127								2,024	0	2,024	1,840	0	0	1,840	0	2,024	1,840	
2.2 Water lifting pump			0		525		525		331		8				5		525	0	525	331	0	0	331	0	525	331	
2.3 Shallow well	20		19		8		8		5								28	0	28	24	0	0	24	0	28	24	
2.4 Flexible house	1,842		1,713		889		889		560		154				97		154	0	154	97	0	0	97	0	2,273	2,273	
Sub-total	313		294		83		83		95								2,731	0	2,731	2,273	0	0	2,273	0	390	390	
O/M and benefit	172		151		83		83		294								256	0	256	0	0	0	0	0	256	0	
Tax	2,328		2,007		1,123		1,123		655								3,451	0	3,451	2,562	0	0	2,562	0	2,562	2,562	
Total																	0	0	0	0	0	0	0	0	0	0	
3. Land improvement																											
3.1 Land clearing																											
3.2 Land grading																											
Sub-total																											
O/M and benefit																											
Tax																											
Total																											
4. Soil improvement																											
4.1 Soil improvement	1,270		1,194		318		318		200																		
Sub-total	1,270		1,194		318		318		200																		
O/M and benefit	216		203		54		54		34																		
Tax	119		107		30		30		12																		
Total	1,605		1,397		402		402		234																		
5. Farm road improvement																											
5.1 Road construction	112		105		20		20		13																		
5.2 Road repair	55		52		14		14		9																		
5.3 Bridge repair	97		91		24		24		15																		
Sub-total	264		248		58		58		37																		
O/M and benefit	45		42		10		10		6																		
Tax	25		23		5		5		4																		
Total	334		290		73		73		43																		
6. Fish pond																											
6.1 Fish pond	275		390		184		184		116																		
Sub-total	275		390		184		184		116																		
O/M and benefit	47		66		31		31		20																		
Tax	26		37		17		17		13																		
Total	347		493		233		233		136																		
7. Agricultural supporting service																											
7.1 Equipment & materials																											
Total																											
Total	78,343		67,893		10,089		10,089		5,891		0		5,770		1,574		90,696	13,295	103,991	75,359	13,295	13,295	75,359	13,295	87,811	87,811	

source: The project cost estimation

Table 4.14.2.2 Initial Project Cost for Lan Saka F/S area

Case-2

(Unit Price: Thousand Bahts)

Description	Materials						Labor						Machinery Cost						Total										
	Financial		Economic		F.C.		Financial		Economic		F.C.		Financial		Economic		F.C.		Financial		Economic		F.C.		Total				
	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	L.C.	F.C.	Total		
1. Drainage improvement	29,334	1,996	27,574	3,678	3,259	3,678	620	1,717	2,053	471	1,717	1,717	33,213	3,713	36,926	30,098	3,713	36,811	33,213	3,713	36,926	30,098	3,713	36,646	30,098	3,713	36,363	35,493	
1.1 Dike	67		63		598		75	210	377	57	210	210	740	210	950	497	210	740	740	210	950	497	210	740	740	210	950	707	
1.2 Drainage canal	302	281	284	281	75	281	14	27	47	11	27	391	308	308	699	342	308	308	308	308	699	342	308	308	308	699	630		
1.3 Appurtenant structure	29,703	2,277	27,921	3,959	3,932	3,959	709	1,954	2,477	539	1,954	4,231	34,344	4,231	38,575	30,937	4,231	38,354	34,344	4,231	38,575	30,937	4,231	38,306	30,937	4,231	36,537		
Sub-total	5,050	387	4,747	573	668	573	121	332	421	92	332	5,838	719	6,558	5,259	719	6,558	5,838	719	6,558	5,259	719	6,558	5,838	719	6,558	5,259	6,264	
O/M and benefit	2,780	213	32,667	4,632	4,968	4,632	86	183	2,898	630	2,286	3,215	3,215	396	3,611	3,611	396	3,215	3,215	396	3,611	3,611	396	3,215	3,611	3,611	396	0	
Tax	37,533	2,877	0	0	0	0	836	2,469	2,898	630	2,286	5,346	43,397	5,346	48,743	36,196	5,346	48,097	43,397	5,346	48,743	36,196	5,346	48,097	48,743	36,196	5,346	43,114	
Total	1,296	1,218	1,218	1,218	144	1,218	0	0	91	0	0	1,440	1,440	1,440	1,309	1,440	1,309	1,440	1,440	1,309	1,440	1,309	1,440	1,309	1,440	1,309	1,440	1,309	
2.1 Pipeline installation	1,525	494	494	494	8	494	0	0	0	0	0	525	525	494	525	494	525	525	494	525	494	525	494	525	494	525	494	0	
2.2 Water lifting pump	20	19	19	19	0	19	0	0	0	0	0	28	28	0	28	0	28	28	0	28	0	28	0	28	0	28	0	24	
2.3 Shallow well	1,841	1,712	1,712	1,712	152	1,712	0	0	96	0	0	1,993	1,993	1,808	1,993	1,808	1,993	1,993	1,808	1,993	1,808	1,993	1,808	1,993	1,808	1,993	1,808	1,808	
2.4 Flexible house	313	294	294	294	26	294	0	0	16	0	0	339	339	310	339	310	339	339	310	339	310	339	310	339	310	339	310	310	
Sub-total	1,72	213	2,006	2,006	192	2,006	0	0	112	0	0	2,518	2,518	2,118	2,518	2,118	2,518	2,518	2,118	2,518	2,118	2,518	2,118	2,518	2,118	2,518	2,118	2,118	
Tax	2,326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1,135	988	988	988	283	988	66	183	165	45	170	1,483	1,483	1,183	1,483	1,183	1,483	1,483	1,183	1,483	1,183	1,483	1,183	1,483	1,183	1,483	1,183	1,367	
3. Land improvement	112	105	105	105	20	105	11	31	13	9	31	143	143	127	143	127	143	143	127	143	127	143	127	143	127	143	127	158	
3.1 Land clearing	59	55	55	55	10	55	4	11	6	3	11	73	73	65	73	65	73	73	65	73	65	73	65	73	65	73	65	76	
3.2 Land grading	103	87	97	87	18	97	1	2	11	1	2	122	122	89	122	89	122	122	89	122	89	122	89	122	89	122	89	198	
Sub-total	274	258	258	258	48	258	16	44	30	13	44	338	338	131	338	131	338	338	131	338	131	338	131	338	131	338	131	432	
O/M and benefit	47	15	44	15	8	15	3	7	5	2	7	57	57	22	57	22	57	57	22	57	22	57	22	57	22	57	22	73	
Tax	26	8	301	102	61	102	1	4	35	15	51	427	427	166	427	166	427	427	166	427	166	427	166	427	166	427	166	0	
Total	346	110	301	102	61	102	20	56	66	35	56	583	583	212	583	212	583	583	212	583	212	583	212	583	212	583	212	505	
5. Farm road improvement	112	105	105	105	20	105	11	31	13	9	31	143	143	127	143	127	143	143	127	143	127	143	127	143	127	143	127	158	
5.1 Road construction	59	55	55	55	10	55	4	11	6	3	11	73	73	65	73	65	73	73	65	73	65	73	65	73	65	73	65	76	
5.2 Road repair	103	87	97	87	18	97	1	2	11	1	2	122	122	89	122	89	122	122	89	122	89	122	89	122	89	122	89	198	
5.3 Bridge repair	274	258	258	258	48	258	16	44	30	13	44	338	338	131	338	131	338	338	131	338	131	338	131	338	131	338	131	432	
Sub-total	47	15	44	15	8	15	3	7	5	2	7	57	57	22	57	22	57	57	22	57	22	57	22	57	22	57	22	73	
O/M and benefit	26	8	301	102	61	102	1	4	35	15	51	427	427	166	427	166	427	427	166	427	166	427	166	427	166	427	166	0	
Tax	346	110	301	102	61	102	20	56	66	35	56	583	583	212	583	212	583	583	212	583	212	583	212	583	212	583	212	505	
Total	275	390	390	390	184	390	62	135	116	43	135	521	521	225	521	225	521	521	225	521	225	521	225	521	225	521	225	943	
6. Fish pond	275	390	390	390	184	390	62	135	116	43	135	521	521	225	521	225	521	521	225	521	225	521	225	521	225	521	225	943	
Sub-total	47	66	44	66	31	66	6	13	20	7	13	49	49	11	49	11	49	49	11	49	11	49	11	49	11	49	11	160	
O/M and benefit	26	37	37	37	17	37	6	13	17	6	13	49	49	11	49	11	49	49	11	49	11	49	11	49	11	49	11	160	
Tax	347	483	302	456	233	456	78	171	136	51	158	658	658	263	658	263	658	658	263	658	263	658	263	658	263	658	263	1,103	
Total	1,687	5,400	36,274	7,110	5,746	7,110	1,239	3,148	3,352	864	2,915	48,672	48,672	8,548	57,220	40,489	8,548	57,220	40,489	8,548	57,220	40,489	8,548	57,220	40,489	8,548	57,220	50,514	
7. Agricultural supporting service	-	1,920	0	1,920	-	1,920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
7.1 Equipment & materials	-	1,920	0	1,920	-	1,920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
Total	41,687	5,400	36,274	7,110	5,746	7,110	1,239	3,148	3,352	864	2,915	48,672	48,672	8,548	57,220	40,489	8,548	57,220	40,489	8,548	57,220	40,489	8,548	57,220	40,489	8,548	57,220	50,514	

source: The project cost estimation

Table 4.14.2.3 Initial Project Cost for Lan Saka F/S area

Case-3

(Unit Price: Thousand Bahts)

Description	Materials						Labor						Machinery Cost						Total											
	Financial			Economic			Financial			Economic			Financial			Economic			Financial			Economic			Financial			Economic		
	L.C.	F.C.	Total	L.C.	F.C.	Total	L.C.	F.C.	Total	L.C.	F.C.	Total	L.C.	F.C.	Total	L.C.	F.C.	Total	L.C.	F.C.	Total	L.C.	F.C.	Total	L.C.	F.C.	Total			
1. Drainage improvement																														
1.1 Dike	37,512	2,340	35,261	2,340	4,168	2,526	844	2,338	641	2,338	42,524	4,678	2,338	4,678	47,202	38,529	4,678	43,207												
1.2 Drainage canal	67		63		598	377	75	210	57	210	740	210	210	210	950	497	210	707												
1.3 Appurtenant structure	302	281	284	281	75	47	14	27	11	391	308	308	308	699	342	308	650													
Sub-total	37,881	2,621	35,608	2,621	4,841	3,050	933	2,575	709	2,575	43,655	5,196	2,575	48,851	39,367	5,196	44,563													
O/M and benefit	6,440	446	6,053	446	823	518	159	438	121	438	7,421	486	438	8,305	6,692	486	7,576													
Tax	3,546	245	3,568	245	453	3,568	1,178	3,254	830	3,013	55,162	6,566	3,013	61,728	46,059	6,079	52,139													
Total	47,866	3,312	41,662	3,067	6,117	3,568	1,178	3,254	830	3,013	55,162	6,566	3,013	61,728	46,059	6,079	52,139													
2. Irrigation improvement																														
2.1 Pipeline installation	1,490		1,401		165	105					1,655				1,655	1,505	1,505													
2.2 Water lifting pump	525		494		8	5					525				525	494	494													
2.3 Shallow well	20		19								28				28	24	24													
2.4 Flexible house	154		1,894		174	110					2,363				2,363	2,004	2,004													
Sub-total	2,189		350		30	19					2,402				2,402	368	368													
O/M and benefit	205		2,244		15	128					2,986				2,986	2,372	2,372													
Tax	2,766		2,244		220																									
Total	2,766		2,244		220																									
3. Land improvement																														
3.1 Land clearing	-					0																								
3.2 Land grading	-				21.5	14	291.8	481.4	216	481.4	313	481	795	229	481	229	481	711												
Sub-total					3.7	2	50	82	37	82	53	82	135	39	82	39	82	121												
O/M and benefit					2		27	45			154				154															
Tax					27		369	608	253	563	396	608	1,004	268	608	268	608	862												
Total					27		369	608	253	563	396	608	1,004	268	608	268	608	862												
4. Soil improvement	1,118		1,051		280	176	45	127	33	127	1,443	127	1,443	1,261	1,261	1,261	1,388													
Sub-total	1,118		1,051		280	176	45	127	33	127	1,443	127	1,443	1,261	1,261	1,261	1,388													
O/M and benefit	190		179		48	30	8	22	6	22	245	22	245	214	214	214	236													
Tax	105				26		4	12			135	12	147		147															
Total	1,413		1,230		354	205	57	160	39	149	1,823	160	1,984	1,475	1,475	1,475	1,624													
5. Farm road improvement																														
5.1 Road construction	112		105		20	13	11	31	9	31	143	31	174		174	127	158													
5.2 Road repair	59		55		10	6	4	11	3	11	73	11	84	65	84	65	76													
5.3 Bridge repair	103		97		18	11	1	2	1	2	122	89	211	109	211	109	196													
Sub-total	274		258		48	30	16	44	13	44	368	131	469	301	469	301	432													
O/M and benefit	47		44		8	5	3	7	2	7	57	22	80	51	80	51	73													
Tax	26		8		4		1	4			427	12	44		44															
Total	346		301		61	36	20	56	15	51	521	32	593	352	593	352	505													
6. Fish pond	275		259		184	116	62	135	43	135	521	44	525	418	525	418	593													
Sub-total	275		259		184	116	62	135	43	135	521	44	525	418	525	418	593													
O/M and benefit	47		44		31	20	11	23	7	23	89	89	89	71	89	71	89													
Tax	26		37		17		6	13			49	49	49		49															
Total	347		302		233	136	78	171	51	158	668	663	663	489	614	489	614													
7. Agricultural supporting service																														
7.1 Equipment & materials																														
Total	52,739	5,835	45,766	5,545	7,011	4,090	0	1,703	4,249	1,187	61,463	10,083	71,536	51,043	9,479	60,521														

source: The project cost estimation

Table 4.14.2.4 Initial Project Cost for Lan Saka F/S area

Case-4

Description	Materials		Economic		Labor		Economic		Machinery Cost		Total	
	Financial		L.C.		Financial		L.C.		Financial		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.
1. Drainage improvement												
1.1 Dike	9,398	8,834	658	1,044	658	1,044	512	141	185	512	1,170	9,632
1.2 Drainage canal	67	63	377	598	377	598	210	57	75	210	210	210
1.3 Appurtenant structure	302	284	281	75	47	391	27	11	14	27	308	342
Sub-total	9,767	9,181	939	1,717	1,082	1,939	749	208	274	749	1,688	10,471
O/M and benefit	1,660	1,561	160	292	184	35	127	35	47	127	2,286	1,780
Tax	94	88	161	161	101	70	1,101	158	26	1,101	158	0
Total	12,342	10,742	1,099	2,170	1,266	946	876	244	346	14,857	2,133	12,251
2. Irrigation improvement												
2.1 Pipeline installation	965	907	0	107	67	0	1,072	0	0	1,072	0	975
2.2 Water lifting pump	525	494	0	8	5	8	525	0	0	525	0	494
2.3 Shallow well	20	19	0	0	0	0	28	0	0	28	0	24
2.4 Flexible house	1,510	1,401	72	115	12	115	1,625	0	0	1,625	0	1,473
Sub-total	257	241	12	20	12	20	276	0	276	276	0	254
O/M and benefit	141	141	11	11	152	152	152	0	152	152	0	0
Tax	1,908	1,642	85	145	2,053	1,727	2,053	0	1,727	2,053	0	1,727
Total	3,833	3,484	102	388	117	388	3,833	0	3,833	3,833	0	3,484
3. Land improvement												
3.1 Land clearing	-	-	0	0	0	0	0	0	0	0	0	0
3.2 Land grading	-	-	5	7.3	5	7.3	213.2	105	141.3	213.2	213	109
Sub-total	0	0	5	7.3	5	7.3	213.2	105	141.3	213.2	213	109
O/M and benefit	0	0	1	1.2	1	1.2	36	18	24	36	62	19
Tax	0	0	0	0	0	0	14	0	13	14	20	0
Total	0	0	6	8.5	6	8.5	177	23	179	177	23	128
4. Soil improvement												
4.1 Soil improvement	787	740	124	197	124	197	145	38	52	145	145	902
Sub-total	787	740	124	197	124	197	145	38	52	145	145	902
O/M and benefit	134	126	21	33	21	33	176	7	5	176	25	153
Tax	74	74	18	18	18	18	97	14	5	97	14	111
Total	994	866	145	249	145	249	183	45	66	1,309	183	1,056
5. Farm road improvement												
5.1 Road construction	112	105	0	20	13	20	143	9	11	143	31	127
5.2 Road repair	59	55	6	10	6	10	73	3	4	73	11	65
5.3 Bridge repair	103	97	87	18	11	2	122	1	1	122	89	109
Sub-total	274	258	87	48	30	48	338	13	16	338	131	469
O/M and benefit	47	44	15	8	5	8	7	2	3	57	22	80
Tax	26	8	4	4	4	4	32	4	1	32	12	44
Total	346	301	102	61	35	61	477	15	20	477	166	352
6. Fish pond												
6.1 Fish pond	275	259	390	184	116	390	135	43	62	135	521	418
Sub-total	275	259	390	184	116	390	135	43	62	135	521	418
O/M and benefit	47	44	66	31	20	31	23	7	11	89	89	71
Tax	26	37	17	17	13	17	49	49	6	49	49	0
Total	347	302	456	233	136	233	158	51	78	158	663	489
7. Agricultural supporting service												
7.1 Equipment & materials	-	0	0	-	-	-	0	0	-	0	0	0
Total	15,938	13,862	3,577	2,866	0	1,672	1,505	477	689	19,493	5,334	16,011
Total												
Total												

source: The project cost estimation

Table 4.14.2.5 Initial Project Cost for Lan Saka F/S area

Case-1

Description	(Unit Price: Thousand Baht)					Total
	1st year	2nd year	3rd year	4th year	5th year	
	Financial	Economic	Financial	Economic	Financial	Economic
1. Construction Cost	33,081	27,918	33,731	28,179	31,145	103,394
2. Project Administration	1,203	400	400	379		2,003
3. Consulting Service	4,160	1,058	1,058	995		6,276
4. Agricultural Supporting Activity	1,431	1,350	1,431	1,350	1,431	7,155
Sub-total	6,794	35,970	35,620	38,613	32,495	119,428
5. Physical Contingency	679	3,597	3,662	3,861	143	11,943
Sub-total	7,473	39,567	40,282	42,474	1,574	131,371
6. Price Contingency	644	5,209	7,345	9,933	462	23,593
Grand Total	8,117	44,776	47,627	33,993	35,745	154,964
						112,015

Table 4.14.2.6 Initial Project Cost for Lan Saka F/S area

Case-2

Description	(Unit Price: Thousand Baht)					Total
	1st year	2nd year	3rd year	4th year	5th year	
	Financial	Economic	Financial	Economic	Financial	Economic
1. Construction Cost	18,167	16,013	18,268	16,114	20,787	18,387
2. Project Administration	1,203	400	400	379		2,003
3. Consulting Service	2,269	1,058	1,058	995		4,405
4. Agricultural Supporting Activity	1,431	1,350	1,431	1,350	1,431	7,155
Sub-total	4,923	4,684	21,056	18,737	22,218	19,737
5. Physical Contingency	492	468	2,116	1,884	2,222	1,974
Sub-total	5,415	5,152	23,162	20,610	24,440	21,711
6. Price Contingency	455	2,998	4,231	5,700	462	13,846
Grand Total	5,870	5,152	27,504	20,721	30,140	21,711
						91,710
						69,679

Table 4.14.2.7 Initial Project Cost for Lan Saka F/S area

Case-3

Description	1st year		2nd year		3rd year		4th year		5th year		Total	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
1. Construction Cost	22,496	19,003	23,028	19,488	25,012	22,030					71,536	60,521
2. Project Administration	1,203	1,182	400	379	400	379					2,003	1,940
3. Consulting Service	2,861	2,689	1,058	995	1,058	995					4,977	4,678
4. Agricultural Supporting Activity	1,431	1,350	1,431	1,350	1,431	1,350					7,155	6,750
Sub-total	5,495	5,221	25,385	21,727	22,212	23,380					85,671	73,889
5. Physical Contingency	550	522	2,539	2,173	2,592	2,221	2,744	2,338	143	135	8,567	7,389
Sub-total	6,045	5,743	27,924	23,899	24,433	30,187	25,718		1,574	1,485	94,238	81,278
6. Price Contingency	513		3,641		5,183		7,043		462		16,802	
Grand Total	6,558	5,743	31,565	23,899	33,692	24,433	37,230	25,718	2,036	1,485	111,080	81,278

Table 4.14.2.8 Initial Project Cost for Lan Saka F/S area

Case-4

Description	1st year		2nd year		3rd year		4th year		5th year		Total	
	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic	Financial	Economic
1. Construction Cost	7,583	6,433	7,595	6,454	9,650	8,205					24,828	21,092
2. Project Administration	1,203	1,182	400	379	400	379					2,003	1,940
3. Consulting Service	993	933	1,058	995	1,058	995					3,109	2,922
4. Agricultural Supporting Activity	1,431	1,350	1,431	1,350	1,431	1,350					7,155	6,750
Sub-total	3,627	3,465	10,472	9,157	10,484	9,178	11,081	9,555	1,431	1,350	37,095	32,704
5. Physical Contingency	363	347	1,947	916	1,948	918	1,108	956	143	135	3,710	3,270
Sub-total	3,990	3,812	11,519	10,072	11,532	10,095	12,189	10,511	1,574	1,485	40,805	35,975
6. Price Contingency	324		1,430		2,074		2,819		462		7,109	
Grand Total	4,314	3,812	12,949	10,072	13,606	10,095	15,008	10,511	2,036	1,485	47,913	35,975

Table 4.14.2.9 Annual Operating/Maintenance Cost
of the Project

(Unit Price: Thousand Bahts)

	Case1		Case2		Case3		Case4	
	Financia	Economic	Financia	Economic	Financia	Economic	Financia	Economic
Cost	1,342	889	881	585	1,024	680	557	371

source: The project cost estimation

Table 4.14.3.1 Crop Budget per Rai-F/S Area in Lan Saka District

1. With the Project (W/P) - Financial - On Sand, Grass and Marshy Land

Name of Crop: Mangosteent	Item#	1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year		10th & over year			
		Quan- tity kg./l.hr	Unit Price Baih/kg, man/day	Value, Cost, Baih	Quan- tity kg./l.hr	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	Quan- tity kg	Value, Cost, Baih	
Output	1. Production	-	14.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2. By-production Gross Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Input	1. Material	16	58	928																			
	1)Seed,Stock																						
	2)Fertilizer tion																						
	a)16-20-0	5	8.44	42	11	93	16	135	22	186	27	228	33	279	38	321	44	371	49	414	49	414	414
	b)15-15-15																						
	c)16-16-8	4	7.62	30	2	15	3	23	3	23	4	30	5	38	6	46	6	46	7	53	7	53	53
	d)46-0-0																						
	e)urea																						
	f)manures																						
	g)lime	3.2	0.29	0	6.4	2	9.6	0	12.8	4	16.0	6	0	7	22.4	8	25.6	9	28.8	10	32	11	32
	h)others																						
	3)Pesticide																						
	4)Herbicide																						
	5)Fuel																						
	a)oil etc.	27	11.6	313	29	336	30	348	31	360	33.0	383	33.0	383	36.0	418	36	418	37.0	429	37.0	429	429
	b)electricity	0.5	58	29	0.5	29	0.5	29	0.5	29	0.5	29	0.5	29	0.5	29	0.5	29	0.5	29	0.5	29	29
	6)repair cost																						
	7)depreciation																						
	8)Others																						
	2. Labour cost	14.2	120	1,704	8.5	1,020	8.5	1,020	11.0	1,320	13.0	1,560	13.5	1,620	18.5	2,220	23.5	2,820	33.5	4,020	35.5	4,260	4,260
	3. Fee(Machine)	3	696	2,088																			
	4. Tax																						
	5. Others																						
	Sub-total																						
	Interest																						
	Rent																						
	Total cost			6,105		2,465		2,652		3,136		3,575		3,824		4,797		5,634		7,086		7,397	7,397
	Net Benefit			-6,105		-2,465		-2,652		-3,136		-3,575		-3,824		-2,053		2,614		9,395		11,828	11,828

Table 4.14.3.3 Crop Budget per Rai-F/S Area in Lan Saka District
1. With the Project (W/P) - Financial - On Sand, Grass and Marshy Land

Name of Crop: Banana	Item	1st Year		2nd and over Year	
		Quantity kg, l, hr	Unit Price/ Bait/kg, Bait/man/day	Quantity kg, l, hr	Value, Cost Bait
Output	1. Production	700	5.52	3,864	2,760
	2. By-production Gross Value	700	-	3,864	2,760
Input (Production Cost)	1. Material	50	4.6	230	
	1) Seed, Stock				
	2) Fertilizer				
	a) 16-20-0				422
	b) 15-15-15	25	8.44	211	
	c) 16-16-8				
	d) 46-0-0				
	e) urea				
	f) manures				
	g) dolomite				
	h) others				
	3) Pesticide			116	116
	4) Herbicide				
	5) Fuel				
	a) oil etc.	10	11.6	116	116
b) electricity	0.3	58	17	17	
6) Repair cost					
7) Depreciation					
8) Others			624	456	
2. Labour cost	5.2	120			
3. Fee (Machine)					
4. Tax					
5. Others			58	58	
Sub-Total			1,372	1,185	
Interest					
Rent					
Total cost			1,372	1,185	
Net Benefit			2,492	1,575	

Table 4.14.3.4 Crop Budget per Rai-F/S Area in Lan Saka District
1. With the Project (W/P) - Economic - On Sand, Grass and Marshy Land

Name of Crop: Banana	Item	1st Year		2nd and over Year	
		Quantity kg, l, hr	Unit Price/ Bait/kg, Bait/man/day	Quantity kg, l, hr	Value, Cost Bait
Output	1. Production	700	7.01	4,907	3,505
	2. By-production Gross Value	700	-	4,907	3,505
Input (Production Cost)	1. Material	50	4.3	215	
	1) Seed, Stock				
	2) Fertilizer				
	a) 16-20-0				408
	b) 15-15-15	25	8.15	204	
	c) 16-16-8				
	d) 46-0-0				
	e) urea				
	f) manures				
	g) dolomite				
	h) others				
	3) Pesticide			109	109
	4) Herbicide				
	5) Fuel				
	a) oil etc.	10	10.9	109	109
b) electricity	0.3	55	17	17	
6) Repair cost					
7) Depreciation					
8) Others			369	270	
2. Labour cost	5.2	71			
3. Fee (Machine)					
4. Tax					
5. Others			55	55	
Sub-Total			1,077	967	
Interest					
Rent					
Total cost			1,077	967	
Net Benefit			3,830	2,538	

Table 4.14.3.5 Crop Budget per Rai-F/S Area in Lan Saka District
 1. With the Project (%/P) - Financial- On Sand, Grass and Marshy Land

Name of Crop: Sweet Corn	Item	1~3 month		4~6 month		7~9 month		1st Year		2nd year and over
		Quantity kg, l, hr	Unit Price/Baht/kg, man/day	Value/Baht	Quantity kg, l, hr	Value/Baht	Quantity kg	Value/Baht	Total Baht	
Output	1) Production	1,800	4.09	7,362	1,900	7,771	2,200	8,998	24,131	26,994
	2) By-production	-	-	-	-	-	-	-	-	-
	Gross Value	1,800	-	7,362	1,900	7,771	2,200	8,998	24,131	26,994
Input	1) Material	3	139	417	3	417	3	417	1,251	1,251
	2) Seed, Stock	-	-	-	-	-	-	-	-	-
	3) Fertilizer	35	8.44	295	35	295	35	295	886	886
	a) 16-20-0	-	-	-	-	-	-	-	-	-
	b) 15-15-15	-	-	-	-	-	-	-	-	-
	c) 16-16-8	-	-	-	-	-	-	-	-	-
	d) 46-0-0	-	-	-	-	-	-	-	-	-
	e) urea	25	7.32	183	25	183	25	183	549	549
	f) manures	-	-	-	-	-	-	-	-	-
	g) dolomite	-	-	-	-	-	-	-	-	-
	h) others	-	-	-	-	-	-	-	-	-
Input	2) Pesticide	25	7.32	183	25	183	25	183	549	549
	3) Herbicide	-	-	-	-	-	-	-	-	-
	4) Fuel	33	11.6	383	33	383	33	383	1,148	1,148
	a) oil etc.	0.5	58	29	0.5	29	0.5	29	87	87
	b) electricity	-	-	-	-	-	-	-	-	-
	6) Repair cost	-	-	-	-	-	-	-	-	-
	7) Depreciation	22.0	120	2,640	25.0	3,000	28.0	3,360	9,000	10,080
	8) Others	-	-	-	-	-	-	-	-	-
Input	3) Labour cost	-	-	-	-	-	-	-	-	-
	4. Fee (Machine)	-	-	-	-	-	-	-	-	-
	5. Others	-	-	-	-	-	-	-	-	-
	Sub-total	-	-	-	-	-	-	-	-	-
	Interest	-	-	-	-	-	-	-	-	-
	Rent	-	-	-	-	-	-	-	-	-
	Total cost	-	-	-	-	-	-	-	-	-
Net Benefit				2,626		2,675		3,542	8,838	10,621

Table 4.14.3.6 Crop Budget per Rai-F/S Area in Lan Saka District
 1. With the Project (%/P) - Economic- On Sand, Grass and Marshy Land

Name of Crop: Sweet Corn	Item	1~3 month		4~6 month		7~9 month		1st Year		2nd year and over
		Quantity kg, l, hr	Unit Price/Baht/kg, man/day	Value/Baht	Quantity kg, l, hr	Value/Baht	Quantity kg	Value/Baht	Total Baht	
Output	1) Production	1,800	5.64	10,152	1,900	10,716	2,200	12,408	33,276	37,224
	2) By-production	-	-	-	-	-	-	-	-	-
	Gross Value	1,800	-	10,152	1,900	10,716	2,200	12,408	33,276	37,224
Input	1) Material	3	121	363	3	363	3	363	1,089	1,089
	2) Seed, Stock	-	-	-	-	-	-	-	-	-
	3) Fertilizer	35	8.15	285	35	285	35	285	856	856
	a) 16-20-0	-	-	-	-	-	-	-	-	-
	b) 15-15-15	-	-	-	-	-	-	-	-	-
	c) 16-16-8	-	-	-	-	-	-	-	-	-
	d) 46-0-0	-	-	-	-	-	-	-	-	-
	e) urea	25	7.04	176	25	176	25	176	528	528
	f) manures	-	-	-	-	-	-	-	-	-
	g) dolomite	-	-	-	-	-	-	-	-	-
	h) others	-	-	-	-	-	-	-	-	-
Input	2) Pesticide	25	7.04	176	25	176	25	176	528	528
	3) Herbicide	-	-	-	-	-	-	-	-	-
	4) Fuel	33	10.9	360	33	360	33	360	1,079	1,079
	a) oil etc.	0.5	55	28	0.5	28	0.5	28	83	83
	b) electricity	-	-	-	-	-	-	-	-	-
	6) Repair cost	-	-	-	-	-	-	-	-	-
	7) Depreciation	22.0	71	1,562	25.0	1,775	28.0	1,988	5,325	5,964
	8) Others	-	-	-	-	-	-	-	-	-
Input	3) Labour cost	-	-	-	-	-	-	-	-	-
	4. Fee (Machine)	-	-	-	-	-	-	-	-	-
	5. Others	-	-	-	-	-	-	-	-	-
	Sub-total	-	-	-	-	-	-	-	-	-
	Interest	-	-	-	-	-	-	-	-	-
	Rent	-	-	-	-	-	-	-	-	-
	Total cost	-	-	-	-	-	-	-	-	-
Net Benefit				6,637		6,988		8,467	22,091	25,400

Table 4.14.3.7 Crop Budget per Rai-F/S Area in Lan Saka District

1. With the Project (W/P) - Financial- On Sand, Grass and Marshy Land

Name of Crop: Mung Bean	Item	1-3 month			4-5 month			7-9 month			1st Year 2nd year	
		Quantity kg, l, hr	Unit Price/ Baht/kg, man/day	Value, Cost/ Baht	Quantity kg, l, hr	Unit Price/ Baht/kg, man/day	Value, Cost/ Baht	Quantity kg	Value, Cost/ Baht	Total Baht	and over Baht	
Output	1) Production	100	9.18	918	110	1,010	120	1,102	3,029	3,305		
	2) By-production	-	-	-	-	-	-	-	-	-		
	Gross Value	100	-	918	110	1,010	120	1,102	3,029	3,305		
Input	1) Material	4	14	56	4	56	4	56	168	168		
	2) Fertilizer	16	6.28	100	15	100	16	100	301	301		
	a) 15-20-0											
	b) 15-15-15											
	c) 15-15-8											
	d) 15-0-0											
	e) urea											
	f) manures											
	g) Molimite											
	h) others											
Pro- duction (cost)	3) Pesticide	58	58	58	58	58	58	58	174	174		
	4) Herbicide											
	5) Fuel	16	11.6	186	16	186	16	186	557	557		
	a) oil etc.											
	b) Electricity	0.5	58	29	0.5	29	0.5	29	87	87		
	6) Repair cost											
	7) Depreciation											
	8) Others											
	2) Labour cost	10.0	120	1,200	10.5	1,260	11.0	1,320	3,780	3,960		
	3) Fee(Machine)											
4) Tax												
5) Others												
Sub-total			1,699		1,759		1,819	5,281	5,461			
Interest												
Rent												
Total cost			1,699		1,759		1,819	5,281	5,461			
Net Benefit			-781		-749		-717	-2,252	-2,156			

Table 4.14.3.8 Crop Budget per Rai-F/S Area in Lan Saka District

1. With the Project (W/P) - Economic- On Sand, Grass and Marshy Land

Name of Crop: Mung Bean	Item	1-3 month			4-5 month			7-9 month			1st Year 2nd year	
		Quantity kg, l, hr	Unit Price/ Baht/kg, man/day	Value, Cost/ Baht	Quantity kg, l, hr	Unit Price/ Baht/kg, man/day	Value, Cost/ Baht	Quantity kg	Value, Cost/ Baht	Total Baht	and over Baht	
Output	1) Production	100	9.69	969	110	1,066	120	1,163	3,198	3,488		
	2) By-production	-	-	-	-	-	-	-	-	-		
	Gross Value	100	-	969	110	1,066	120	1,163	3,029	3,305		
Input	1) Material	4	13.2	53	4	53	4	53	158	158		
	2) Fertilizer	16	6.03	96	16	96	16	96	289	289		
	a) 15-20-0											
	b) 15-15-15											
	c) 15-15-8											
	d) 15-0-0											
	e) urea											
	f) manures											
	g) Molimite											
	h) others											
Pro- duction (cost)	3) Pesticide	58	58	58	58	58	58	58	174	174		
	4) Herbicide											
	5) Fuel	16	10.9	174	16	174	16	174	523	523		
	a) oil etc.											
	b) Electricity	0.5	55	28	0.5	28	0.5	28	83	83		
	6) Repair cost											
	7) Depreciation											
	8) Others											
	2) Labour cost	10.0	71	710	10.5	746	11.0	781	2,237	2,343		
	3) Fee(Machine)											
4) Tax												
5) Others												
Sub-total			1,185		1,221		1,256	3,662	3,769			
Interest												
Rent												
Total cost			1,185		1,221		1,256	3,662	3,769			
Net Benefit			-216		-155		-93	-633	-604			

Table 4.14.3.10 Crop Budget per Rai-F/S Area in Lan Saka District
1. With the Project (W/P) - Economic- On Sand, Grass and Marshy Land

Name of Crop: Chili	Item	~3 month			4-6 month			7-9 month			1st Year Total		2nd year and over	
		Quantity kg./hr	Unit Price/Baht/kg.	Value/Baht	Quantity kg./hr	Unit Price/Baht/kg.	Value/Baht	Quantity kg.	Unit Price/Baht/kg.	Value/Baht	Total Baht	Total Baht	Baht	Baht
Output	1) Production	350	36.85	12,898	400	14,740	440	16,214	43,852	48,642				
	2) By-production	-	-	-	-	-	-	-	-	-	-	-	-	
	Gross Value	350	-	12,898	400	14,740	440	16,214	43,852	48,642				
Input	1) Material	0.15	109	16	0.15	16	0.15	16	16	49				
	2) Fertilizer	25	5.78	145	25	145	25	145	145	434				
	a) 13-13-21	10	7.04	70	10	70	10	70	70	211				
	b) 15-15-15	2,000	0.27	540	2,000	540	2,000	540	540	1,620				
	c) 16-16-8	1,000	0.33	330	1,000	330	1,000	330	330	990				
	d) 46-0-0	-	-	-	-	-	-	-	-	-	-	-	-	
	e) urea	-	-	-	-	-	-	-	-	-	-	-	-	
	f) manures	-	-	-	-	-	-	-	-	-	-	-	-	
	g) dolomite	-	-	-	-	-	-	-	-	-	-	-	-	
	h) others	-	-	-	-	-	-	-	-	-	-	-	-	
	3) Pesticide	-	-	-	-	-	-	-	-	-	-	-	-	
	4) Herbicide	-	-	-	-	-	-	-	-	-	-	-	-	
	5) Fuel	32	10.3	330	32	330	32	330	330	989				
	a) oil etc.	0.5	55	28	0.5	28	0.5	28	28	83				
	b) electricity	-	-	-	-	-	-	-	-	-	-	-	-	
	6) Repair cost	-	-	-	-	-	-	-	-	-	-	-	-	
	7) Depreciation	40.0	71	2,840	45.0	3,195	50.0	3,550	3,550	9,585				
	8) Others	-	-	-	-	-	-	-	-	-	-	-	-	
	2) Labour cost	-	-	-	-	-	-	-	-	-	-	-	-	
	3) Fee (Machine)	-	-	-	-	-	-	-	-	-	-	-	-	
	4) Tax	-	-	-	-	-	-	-	-	-	-	-	-	
	5) Others	-	-	-	-	-	-	-	-	-	-	-	-	
	Sub-total	-	-	-	-	-	-	-	-	-	-	-	-	
	Interest	-	-	-	-	-	-	-	-	-	-	-	-	
	Rent	-	-	-	-	-	-	-	-	-	-	-	-	
	Total cost	-	-	-	-	-	-	-	-	-	-	-	-	
Net Benefit				6,929		8,416		9,535	24,879	28,601				

Table 4.14.3.9 Crop Budget per Rai-F/S Area in Lan Saka District
1. With the Project (W/P) - Financial- On Sand, Grass and Marshy Land

Name of Crop: Chili	Item	~3 month			4-6 month			7-9 month			1st Year Total		2nd year and over	
		Quantity kg./hr	Unit Price/Baht/kg.	Value/Baht	Quantity kg./hr	Unit Price/Baht/kg.	Value/Baht	Quantity kg.	Unit Price/Baht/kg.	Value/Baht	Total Baht	Total Baht	Baht	Baht
Output	1) Production	350	34.65	12,128	400	13,860	440	15,246	41,234	45,738				
	2) By-production	-	-	-	-	-	-	-	-	-	-	-	-	
	Gross Value	350	-	12,128	400	13,860	440	15,246	41,234	45,738				
Input	1) Material	0.15	116	17	0.15	17	0.15	17	17	52				
	2) Fertilizer	25	6.08	152	25	152	25	152	152	456				
	a) 13-13-21	10	7.32	73	10	73	10	73	73	220				
	b) 15-15-15	2,000	0.29	580	2,000	580	2,000	580	580	1,740				
	c) 16-16-8	1,000	0.35	350	1,000	350	1,000	350	350	1,050				
	d) 46-0-0	-	-	-	-	-	-	-	-	-	-	-	-	
	e) urea	-	-	-	-	-	-	-	-	-	-	-	-	
	f) manures	-	-	-	-	-	-	-	-	-	-	-	-	
	g) dolomite	-	-	-	-	-	-	-	-	-	-	-	-	
	h) others	-	-	-	-	-	-	-	-	-	-	-	-	
	3) Pesticide	-	-	-	-	-	-	-	-	-	-	-	-	
	4) Herbicide	-	-	-	-	-	-	-	-	-	-	-	-	
	5) Fuel	32	11.6	371	32	371	32	371	371	1,114				
	a) oil etc.	0.5	58	29	0.5	29	0.5	29	29	87				
	b) electricity	-	-	-	-	-	-	-	-	-	-	-	-	
	6) Repair cost	-	-	-	-	-	-	-	-	-	-	-	-	
	7) Depreciation	40.0	120	4,800	45.0	5,400	50.0	6,000	16,200	18,000				
	8) Others	-	-	-	-	-	-	-	-	-	-	-	-	
	2) Labour cost	-	-	-	-	-	-	-	-	-	-	-	-	
	3) Fee (Machine)	-	-	-	-	-	-	-	-	-	-	-	-	
	4) Tax	-	-	-	-	-	-	-	-	-	-	-	-	
	5) Others	-	-	-	-	-	-	-	-	-	-	-	-	
	Sub-total	-	-	-	-	-	-	-	-	-	-	-	-	
	Interest	-	-	-	-	-	-	-	-	-	-	-	-	
	Rent	-	-	-	-	-	-	-	-	-	-	-	-	
	Total cost	-	-	-	-	-	-	-	-	-	-	-	-	
Net Benefit				3,980		5,112		5,898	14,987	17,681				

Table 4.14.3.11 Fish Budget per Rai-F/S Area in Lan Saka District

1. With the Project (W/P) - Financial - On Marshy Land

Name of Crop: Fish (Tilapia)	Production value of fish pond culture per rai			
	Production area volume	Quantity	Unit price	Value, cost
Output	Production area volume	Quantity	Unit price	Value, cost
Production Value	100m ³	500kg/pond	23	11,500
	50m ²	2,500	0.3	750
			(per fish)	
	1. Fingering			16
	2. Fixed cost depreciation cost including repair cost) of pump and water supply system			16
	3. Feed			
	4. Labor cost (including hire labor)			5,800
	(breeding 180 days)			
	total			2,320
				2,000
				10,870
Net Value				630
				173,920
				10,080

Source: Province Office of Department of Fishery

Table 4.14.3.12 Fish Budget per Rai-F/S Area in Lan Saka District

1. With the Project (W/P) - Economic - On Marshy Land

Name of Crop: Fish (Tilapia)	Production value of fish pond culture per rai			
	Production area volume	Quantity	Unit price	Value, cost
Output	Production area volume	Quantity	Unit price	Value, cost
Production Value	100m ³	500kg/pond	22	11,000
	50m ²	2,500	0.28	700
			(per fish)	
	1. Fingering			16
	2. Fixed cost depreciation cost including repair cost) of pump and water supply system			16
	3. Feed			
	4. Labor cost (including hire labor)			5,450
	(breeding 180 days)			
	total			2,180
				1,280
				9,610
Net Value				1,390
				153,760
				22,240

Source: Province Office of Department of Fishery

Table 4.14.4.1 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-I

No.	Year	Grass, Sand and Marshy Area						Name of Fruit : Banana						Name of Crop : Sweet Corn					
		Name of Fruit : Mangosteen		Beneficialsub-total		Beneficialsub-total		Name of Fruit : Banana		Beneficialsub-total		Beneficialsub-total		Name of Crop : Sweet Corn		Beneficialsub-total		Beneficialsub-total	
		W/P	baht	W/O	baht	Benefit	Area	W/P	baht	W/O	baht	Benefit	Area	W/P	baht	W/O	baht	Benefit	Area
1	1998	-6,105	0	-6,105	253.32	-1,547	0	2,492	0	2,492	126.66	316	8,838	0	8,838	0	8,838	166.86	1,475
2	1999	-2,465	0	-2,465	253.32	-624	0	1,575	0	1,575	126.66	199	10,261	0	10,261	0	10,261	166.86	1,712
3	2000	-2,652	0	-2,652	253.32	-672	0	1,575	0	1,575	126.66	199	10,261	0	10,261	0	10,261	166.86	1,712
4	2001	-3,136	0	-3,136	253.32	-794	0	1,575	0	1,575	126.66	199	10,261	0	10,261	0	10,261	166.86	1,712
5	2002	-3,575	0	-3,575	253.32	-906	0	1,575	0	1,575	126.66	199	10,261	0	10,261	0	10,261	166.86	1,712
6	2003	-3,824	0	-3,824	253.32	-969	0	1,575	0	1,575	126.66	199	10,261	0	10,261	0	10,261	166.86	1,712
7	2004	-2,053	0	-2,053	253.32	-520	0	1,575	0	1,575	126.66	199	10,261	0	10,261	0	10,261	166.86	1,712
8	2005	2,614	0	2,614	253.32	662	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
9	2006	9,395	0	9,395	253.32	2,380	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
10	2007	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
11	2008	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
12	2009	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
13	2010	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
14	2011	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
15	2012	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
16	2013	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
17	2014	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
18	2015	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
19	2016	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
20	2017	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
21	2018	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
22	2019	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
23	2020	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
24	2021	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
25	2022	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
26	2023	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
27	2024	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
28	2025	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
29	2026	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
30	2026	11,828	0	11,828	253.32	2,996	0	0	0	0	0	0	10,261	0	10,261	0	10,261	76.90	789
Total		224,759		224,759		56,936		11,942	0	11,942		1,513	296,146	0	296,146				29,107

Remark: *1...Fruit area 253.32 x 1/2 = 126.66 rai
 *2...i. Intercropping crop area ; Fruit (direct planting) area 224.90 x 0.4 = 89.96 rai
 *3... total area ;
 *3...fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 rai

(8th year and over)
 76.90 rai
 76.90 rai
 166.86 rai

Table 4.14.4.1 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-1

Financial (continued)

No.	Year	Name of Crop : Mung Bean				Name of Crop : Chili				Fishery				Total							
		Net value per rai	Beneficial Area #2	Beneficial sub-total	Beneficial Area #1	Net value per rai	Beneficial Area #2	Beneficial sub-total	Beneficial Area #1	Net value per rai	Beneficial Area #3	Beneficial sub-total	Beneficial Area #4	Beneficial sub-total	Beneficial Area #5	Beneficial sub-total					
		W/P	W/O	baht	W/P	W/O	baht	W/P	W/O	baht	W/P	W/O	baht	W/P	W/O	baht	W/P	W/O	baht		
1	1998	-2,252	0	-2,252	166.86	-375	14,987	0	14,987	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	2,491
2	1999	-2,156	0	-2,156	166.86	-360	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	4,002
3	2000	-2,156	0	-2,156	166.86	-360	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	3,954
4	2001	-2,156	0	-2,156	166.86	-360	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	3,832
5	2002	-2,156	0	-2,156	166.86	-360	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	3,721
6	2003	-2,156	0	-2,156	166.86	-360	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	3,657
7	2004	-2,156	0	-2,156	166.86	-360	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	4,106
8	2005	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	2,768
9	2006	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	4,486
10	2007	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
11	2008	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
12	2009	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
13	2010	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
14	2011	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
15	2012	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
16	2013	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
17	2014	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
18	2015	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
19	2016	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
20	2017	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
21	2018	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
22	2019	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
23	2020	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
24	2021	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
25	2022	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
26	2023	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
27	2024	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
28	2025	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
29	2025	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
30	2025	-2,156	0	-2,156	76.90	-165	17,691	0	17,691	0	17,691	0	17,691	0	10,080	0	10,080	0	10,080	122	5,102
Total		-62,620	0	-62,620		-6,182	510,335	0	510,335	0	510,335	0	510,335	0	292,320	0	292,320	0	292,320	3,549	135,065

Table 4.14.4.2 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-1

No.	Year	Economic																							
		Grass, Sand and Marshy Area				Name of Fruit : Mangsteen				Name of Fruit : Banana				Name of Crop : Sweet Corn											
		Net value per rai		Beneficial Area		Beneficial Sub-total		Net value per rai		Beneficial Area		Beneficial Sub-total		Net value per rai		Beneficial Area		Beneficial Sub-total							
W/P	baht	W/O	baht	Benefit	1000baht	W/P	baht	W/O	baht	Benefit	1000baht	W/P	baht	W/O	baht	Benefit	1000baht	W/P	baht	W/O	baht	Benefit	1000baht		
1	1998	-5,114	0	-5,114	253.32	ra	-1,295	3,830	0	3,830	126.66	ra	1000baht	22,091	0	22,091	166.86	ra	1000baht	22,091	0	22,091	166.86	ra	1000baht
2	1999	-1,798	0	-1,798	253.32	ra	-455	2,538	0	2,538	126.66	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
3	2000	-1,976	0	-1,976	253.32	ra	-501	2,538	0	2,538	126.66	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
4	2001	-2,327	0	-2,327	253.32	ra	-589	2,538	0	2,538	126.66	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
5	2002	-2,658	0	-2,658	253.32	ra	-673	2,538	0	2,538	126.66	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
6	2003	-2,872	0	-2,872	253.32	ra	-728	2,538	0	2,538	126.66	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
7	2004	-537	0	-537	253.32	ra	-136	2,538	0	2,538	126.66	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
8	2005	4,979	0	4,979	253.32	ra	1,261	3,830	0	3,830	126.66	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
9	2006	13,150	0	13,150	253.32	ra	3,331	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
10	2007	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
11	2008	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
12	2009	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
13	2010	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
14	2011	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
15	2012	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
16	2013	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
17	2014	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
18	2015	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
19	2016	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
20	2017	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
21	2018	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
22	2019	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
23	2020	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
24	2021	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
26	2022	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
27	2023	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
28	2024	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
29	2025	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
30	2026	15,991	0	15,991	253.32	ra	4,051	15,991	0	15,991	253.32	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht	25,400	0	25,400	166.86	ra	1000baht
Total		320,667		320,667			81,231	19,058	0	19,058			2,414	733,291	0	733,291									72,087

remark: *1...Fruit area 253.32 x 1/2 = 253.32 rai

*2...1. Intercropping crop area ; Fruit (direct planting) area 224.90 x 0.4 = 89.96 rai

...2. Upland crop area ;

*3... total area ;

*3...Fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 rai

(8th year and over)

76.90 rai

76.90 rai

166.86 rai

Table 4.14.4.2 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-1

Economic (continued)

No.	Year	Name of Crop : Mung Bean				Name of Crop : Chili				Name of Crop : Fishery				Total	
		Net value per rai		Benefit		Net value per rai		Benefit		Net value per rai		Benefit		Beneficial Area #3	Beneficial sub-total Benefit
		W/P	W/O	baht	1000baht	W/P	W/O	baht	1000baht	W/P	W/O	baht	1000baht		
1	1998	-638	0	-638	166.86	24,879	0	4,151	22,240	0	22,240	0	270	12.14	7,191
2	1999	-464	0	-464	166.86	28,604	0	4,773	22,240	0	22,240	0	270	12.14	9,070
3	2000	-464	0	-464	166.86	28,604	0	4,773	22,240	0	22,240	0	270	12.14	9,025
4	2001	-464	0	-464	166.86	28,604	0	4,773	22,240	0	22,240	0	270	12.14	8,936
5	2002	-464	0	-464	166.86	28,604	0	4,773	22,240	0	22,240	0	270	12.14	8,852
6	2003	-464	0	-464	166.86	28,604	0	4,773	22,240	0	22,240	0	270	12.14	8,798
7	2004	-464	0	-464	166.86	28,604	0	4,773	22,240	0	22,240	0	270	12.14	8,798
8	2005	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	5,648
9	2006	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	7,718
10	2007	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
11	2008	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
12	2009	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
13	2010	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
14	2011	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
15	2012	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
16	2013	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
17	2014	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
18	2015	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
19	2016	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
20	2017	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
21	2018	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
22	2019	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
23	2020	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
24	2021	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
25	2022	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
26	2023	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
27	2024	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
28	2025	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
29	2026	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
30	2026	-464	0	-464	76.90	28,604	0	76.90	22,240	0	22,240	0	270	12.14	8,438
Total		-13,630	0	-13,630	-1,356	825,791	0	81,181	644,960	0	644,960	0	7,830		243,387

Table 4.14.4.3 Incremental Benefit based on the Project for the Ian Saka F/S Area

Case-2

No.	Year	Grass, Sand and Marshy Area						Name of Fruit : Banana						Name of Crop : Sweet Corn						
		Name of Fruit : Mangosteen		Beneficial Area		Sub-total Benefit (1000)baht		Name of Fruit : Banana		Beneficial Area		Sub-total Benefit (1000)baht		Name of Crop : Sweet Corn		Beneficial Area		Sub-total Benefit (1000)baht		
		W/P	baht	ra	baht	ra	W/P	baht	ra	baht	ra	W/P	baht	ra	baht	ra	W/P	baht	ra	
1	1998	-6,105	0	180.24	-1,100	2,492	0	2,492	90.12	225	8,838	0	8,838	53.84	476					
2	1999	-2,465	0	180.24	-444	1,575	0	1,575	90.12	142	10,261	0	10,261	53.84	552					
3	2000	-2,652	0	180.24	-478	1,575	0	1,575	90.12	142	10,261	0	10,261	53.84	552					
4	2001	-3,136	0	180.24	-565	1,575	0	1,575	90.12	142	10,261	0	10,261	53.84	552					
5	2002	-3,575	0	180.24	-644	1,575	0	1,575	90.12	142	10,261	0	10,261	53.84	552					
6	2003	-3,824	0	180.24	-689	1,575	0	1,575	90.12	142	10,261	0	10,261	53.84	552					
7	2004	-2,053	0	180.24	-370	1,575	0	1,575	90.12	142	10,261	0	10,261	53.84	552					
8	2005	2,614	0	180.24	471	0	0	0	0	0	0	0	0	0	0					
9	2006	9,395	0	180.24	1,683	0	0	0	0	0	0	0	0	0	0					
10	2007	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
11	2008	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
12	2009	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
13	2010	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
14	2011	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
15	2012	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
16	2013	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
17	2014	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
18	2015	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
19	2016	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
20	2017	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
21	2018	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
22	2019	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
23	2020	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
24	2021	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
25	2022	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
26	2023	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
27	2024	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
28	2025	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
29	2026	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
30	2026	11,828	0	180.24	2,132	0	0	0	0	0	0	0	0	0	0					
Total		224,759			40,511												296,146	0	296,146	3,791

Remark: *1...Fruit area 180.24 x 1/2 = 90.12 ra

*2...1. Inter cropping crop area ; Fruit (direct planting) area 134.60 x 0.4 = 53.84 ra

*3...Upland crop area :

*3...Fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 ra

(8th year and over)

- ra

- ra

- ra

53.84ra

12.14 ra

Table 4.14.4.3 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-2

Financial (continued)

No.	Year	Name of Crop : Mong Bean				Name of Crop : Chili				Name of Crop : Fishery				Beneficial sub-total	Beneficial sub-total	Total
		Net value per rai	Benefit	Area #2	Beneficial sub-total	Net value per rai	Benefit	Area #3	Beneficial sub-total	Net value per rai	Benefit	Area #3	Beneficial sub-total			
		W/P	W/O	baht	1000baht	W/P	W/O	baht	1000baht	W/P	W/O	baht	1000baht	rai	Benefit	1000baht
1	1998	-2,252	0	-2,252	-121	14,987	0	14,987	807	10,080	0	10,080	12.14	12.14	122	408
2	1999	-2,156	0	-2,156	-116	17,691	0	17,691	952	10,080	0	10,080	12.14	12.14	122	1,209
3	2000	-2,156	0	-2,156	-116	17,691	0	17,691	952	10,080	0	10,080	12.14	12.14	122	1,175
4	2001	-2,156	0	-2,156	-116	17,691	0	17,691	952	10,080	0	10,080	12.14	12.14	122	1,088
5	2002	-2,156	0	-2,156	-116	17,691	0	17,691	952	10,080	0	10,080	12.14	12.14	122	1,009
6	2003	-2,156	0	-2,156	-116	17,691	0	17,691	952	10,080	0	10,080	12.14	12.14	122	964
7	2004	-2,156	0	-2,156	-116	17,691	0	17,691	952	10,080	0	10,080	12.14	12.14	122	1,283
8	2005	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	594
9	2006	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	1,816
10	2007	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
11	2008	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
12	2009	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
13	2010	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
14	2011	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
15	2012	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
16	2013	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
17	2014	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
18	2015	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
19	2016	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
20	2017	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
21	2018	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
22	2019	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
23	2020	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
24	2021	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
25	2022	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
26	2023	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
27	2024	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
28	2025	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
29	2026	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
30	2026	-2,156	0	-2,156	0	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14	122	2,254
Total		-62,620	0	-62,620	-818	510,335	0	510,335	6,522	292,320	0	292,320	3,549	3,549	54,630	

Table 4.14.4.4 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-2

Economic

No.	Year	Brass, Sand and Marshy Area				Name of Fruit : Banana				Name of Crop : Sweet Corn				Beneficial Sub-Total		
		Name of Fruit : Mangosteen	Beneficial Area	Beneficial Sub-Total	Net value per rai	Beneficial Area	Beneficial Sub-Total	Net value per rai	Beneficial Area	Beneficial Sub-Total	Net value per rai	Beneficial Area	Beneficial Sub-Total	Beneficial Area	Beneficial Sub-Total	
		W/p	baht	1000baht	rai	baht	1000baht	baht	W/O	baht	baht	W/O	baht	baht	rai	1000baht
1	1988	-5,114	0	-922	180.24	3,830	0	0	22,091	0	22,091	0	22,091	0	53.84	1,189
2	1999	-1,798	0	-324	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
3	2000	-1,976	0	-356	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
4	2001	-2,327	0	-419	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
5	2002	-2,658	0	-479	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
6	2003	-2,872	0	-518	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
7	2004	-537	0	-97	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
8	2005	4,979	0	897	180.24	3,830	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
9	2006	13,150	0	2,370	180.24	3,830	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
10	2007	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
11	2008	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
12	2009	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
13	2010	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
14	2011	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
15	2012	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
16	2013	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
17	2014	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
18	2015	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
19	2016	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
20	2017	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
21	2018	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
22	2019	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
23	2020	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
24	2021	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
26	2022	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
27	2023	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
28	2024	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
29	2025	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
30	2026	15,991	0	2,882	180.24	2,538	0	0	25,400	0	25,400	0	25,400	0	53.84	1,368
Total		320,657	320,667	57,797		19,058	0	19,058	733,291	0	733,291	0	733,291	0		9,395

Remark: *1...Fruit area 180.24 x 1/2 = 90.12 rai

*2...1. Inter cropping crop area ; Fruit (direct planting) area 134.60 x 0.4 = 53.84 rai

...2. Upland crop area ;

...3. total area ;

*3...fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 rai

(8th year and over)

- rai

- rai

- rai

- rai

Table 4.14.4.4 Incremental Benefit based on the Project for the Lam Saka F/S Area

Case-2

Economic (continued)

No.	Year	Name of Crop : Mung Bean			Name of Crop : Chili			Name of Crop : Total			Total		
		Net value per rai W/P	Benefit bahl	Beneficial Area #2 rai	sub-total Benefit 1000bahl	Net value per rai W/P	Benefit bahl	Beneficial Area rai	sub-total Benefit 1000bahl	Net value per rai W/O		Benefit bahl	Beneficial Area #3 rai
1	1998	-638	0	53.84	-34	24,879	0	24,879	0	22,240	12.14	270	
2	1999	-464	0	53.84	-25	28,604	0	28,604	0	22,240	12.14	270	
3	2000	-464	0	53.84	-25	28,604	0	28,604	0	22,240	12.14	270	
4	2001	-464	0	53.84	-25	28,604	0	28,604	0	22,240	12.14	270	
5	2002	-464	0	53.84	-25	28,604	0	28,604	0	22,240	12.14	270	
6	2003	-464	0	53.84	-25	28,604	0	28,604	0	22,240	12.14	270	
7	2004	-464	0	53.84	-25	28,604	0	28,604	0	22,240	12.14	270	
8	2005	-464	0	53.84	-25	28,604	0	28,604	0	22,240	12.14	270	
9	2006	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
10	2007	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
11	2008	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
12	2009	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
13	2010	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
14	2011	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
15	2012	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
16	2013	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
17	2014	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
18	2015	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
19	2016	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
20	2017	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
21	2018	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
22	2019	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
23	2020	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
24	2021	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
26	2022	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
27	2023	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
28	2024	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
29	2025	-464	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
30	2026	-815	0	53.84	0	28,604	0	28,604	0	22,240	12.14	270	
Total		-13,981	0		-184	825,791	0	825,791	0	644,960		7,830	
													87,134

Table 4.14.4.5 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-3

Financial

No.	Year	Grass, Sand and Marshy Area				Name of Fruit : Binuana				Name of Crop : Sweet Corn				Beneficial Area #2		Sub-Total Benefit
		Name of Fruit : Mangosteen	Net value per rai	Benefit Area	Sub-Total Benefit	W/P	baht	W/O	baht	W/P	baht	W/O	baht	Benefit Area	Sub-Total Benefit	
1	1998															
2	1999															
3	2000															
4	2001															
5	2002															
6	2003															
7	2004															
8	2005															
9	2006															
10	2007															
11	2008															
12	2009															
13	2010															
14	2011															
15	2012															
16	2013															
17	2014															
18	2015															
19	2016															
20	2017															
21	2018															
22	2019															
23	2020															
24	2021															
25	2022															
26	2023															
27	2024															
28	2025															
29	2026															
30	2026															
Total																

Remark: *1...Fruit area 207.09 x 1/2 = 103.55 rai

*2...1. Inter cropping crop area ; Fruit (direct planting) area 178.57 x 0.4 = 71.47 rai

*3... total area ;

*3...Fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 rai

(8th year and over)

- rai

76.90 rai

76.90 rai

Table 4.14.4.5 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-3

Financial (continued)

No.	Year	Name of Crop : Hung Bean			Name of Crop : Chili			Fislergy			Total		
		Net value per rai W/P	Benefit W/O	Benefit baht	Net value per rai W/P	Benefit W/O	Benefit baht	Net value per rai W/O	Benefit baht	Benefit baht	Beneficial Area #3 rai	Beneficial Sub-Total 1000baht	Beneficial Sub-Total 1000baht
1	1998	-2,252	0	-2,252	14,987	0	14,987	0	10,080	0	10,080	12.14	12.14
2	1999	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
3	2000	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
4	2001	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
5	2002	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
6	2003	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
7	2004	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
8	2005	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
9	2006	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
10	2007	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
11	2008	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
12	2009	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
13	2010	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
14	2011	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
15	2012	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
16	2013	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
17	2014	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
18	2015	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
19	2016	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
20	2017	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
21	2018	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
22	2019	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
23	2020	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
24	2021	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
25	2022	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
26	2023	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
27	2024	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
28	2025	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
29	2026	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
30	2026	-2,156	0	-2,156	17,691	0	17,691	0	10,080	0	10,080	12.14	12.14
Total		-62,620	0	-62,620	510,335	0	510,335	0	292,320	0	292,320	3,549	121,137

Table 4.14.4.6 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-3

Economic

No.	Year	Grass, Sand and Marshy Area				Name of Fruit : Mangosteen				Name of Fruit : Banana				Name of Crop : Sweet Corn				Beneficial sub-total	
		Name of Fruit : Net value per rai W/P	baht	W/O	baht	Beneficial Area rai	Sub-total Benefit 1000baht	Name of Fruit : Net value per rai W/P	baht	W/O	baht	Beneficial Area rai	Sub-total Benefit 1000baht	Name of Crop : Net value per rai W/O	baht	Beneficial Area rai	Sub-total Benefit 1000baht	Beneficial sub-total	Beneficial sub-total
1	1998	-5,114	0	-5,114	207.09	-1,059	3,830	0	3,830	103.55	397	22,091	0	22,091	148.37	3,278			
2	1999	-1,798	0	-1,798	207.09	-372	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
3	2000	-1,976	0	-1,976	207.09	-409	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
4	2001	-2,327	0	-2,327	207.09	-462	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
5	2002	-2,658	0	-2,658	207.09	-505	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
6	2003	-2,872	0	-2,872	207.09	-537	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
7	2004	-537	0	-537	207.09	-111	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
8	2005	4,976	0	4,976	207.09	1,031	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
9	2006	13,150	0	13,150	207.09	2,723	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
10	2007	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
11	2008	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
12	2009	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
13	2010	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
14	2011	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
15	2012	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
16	2013	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
17	2014	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
18	2015	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
19	2016	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
20	2017	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
21	2018	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
22	2019	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
23	2020	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
24	2021	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
26	2022	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
27	2023	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
28	2024	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
29	2025	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
30	2026	15,991	0	15,991	207.09	3,312	2,538	0	2,538	103.55	263	25,400	0	25,400	148.37	3,769			
Total		320,667		320,667		66,407	19,058	0	19,058		1,973	733,291	0	733,291		68,851			

remark: *1---Fruit area 207.09 x 1/2 = 103.55 rai
 *2---1. Intercropping crop area ; Fruit (direct planting) area 178.67 x 0.4 = 71.47 rai
 76.90 rai
 ...2. Upland crop area ;
 148.37 rai
 ...3. total area ;
 *3---Fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 rai
 (8th year and over)

Table 4.14.4.6 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-3

Economic (continued)

No.	Year	Name of Crop : Mung Bean				Beneficial sub-total				Name of Crop : Chili				Beneficial sub-total				Fishery				Total			
		Net value W/P	baht	W/O	baht	Benefit Area	*2	rai	1000baht	Net value W/P	baht	W/O	baht	Benefit Area	rai	1000baht	Net value W/P	baht	W/O	baht	Benefit Area		*3	rai	1000baht
1	1998	-638	0	0	-638	148.37	148.37	-95	24,879	0	24,879	0	24,879	148.37	148.37	3,691	22,240	0	22,240	0	22,240	12.14	12.14	270	6,482
2	1999	-464	0	0	-464	148.37	148.37	-69	28,604	0	28,604	0	28,604	148.37	148.37	4,244	22,240	0	22,240	0	22,240	12.14	12.14	270	8,104
3	2000	-464	0	0	-464	148.37	148.37	-69	28,604	0	28,604	0	28,604	148.37	148.37	4,244	22,240	0	22,240	0	22,240	12.14	12.14	270	8,067
4	2001	-464	0	0	-464	148.37	148.37	-69	28,604	0	28,604	0	28,604	148.37	148.37	4,244	22,240	0	22,240	0	22,240	12.14	12.14	270	7,995
5	2002	-464	0	0	-464	148.37	148.37	-69	28,604	0	28,604	0	28,604	148.37	148.37	4,244	22,240	0	22,240	0	22,240	12.14	12.14	270	7,926
6	2003	-464	0	0	-464	148.37	148.37	-69	28,604	0	28,604	0	28,604	148.37	148.37	4,244	22,240	0	22,240	0	22,240	12.14	12.14	270	7,882
7	2004	-464	0	0	-464	148.37	148.37	-69	28,604	0	28,604	0	28,604	148.37	148.37	4,244	22,240	0	22,240	0	22,240	12.14	12.14	270	8,365
8	2005	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	5,418
9	2006	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,110
10	2007	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
11	2008	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
12	2009	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
13	2010	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
14	2011	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
15	2012	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
16	2013	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
17	2014	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
18	2015	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
19	2016	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
20	2017	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
21	2018	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
22	2019	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
23	2020	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
24	2021	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
25	2022	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
26	2023	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
27	2024	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
28	2025	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
29	2026	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
30	2026	-464	0	0	-464	76.90	76.90	-36	28,604	0	28,604	0	28,604	76.90	76.90	2,200	22,240	0	22,240	0	22,240	12.14	12.14	270	7,699
Total		-13,630	0	0	-13,630			-1,293	825,791	0	825,791	0	825,791			77,547	644,960	0	644,960	0	644,960			7,830	221,326

Table 4.14.4.7 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-4

No.	Year	Financial															
		Grass, Sand and Marshy Area				Name of Fruit : Mangosteen				Name of Fruit : Banana				Name of Crop : Sweet Corn			
		Name of Fruit : Mangosteen		Beneficial Sub-total		Name of Fruit : Banana		Beneficial Sub-total		Name of Crop : Sweet Corn		Beneficial Sub-total		Beneficial Sub-total			
Net value per Rai	W/P	baht	rai	Net value per Rai	W/P	baht	rai	Net value per Rai	W/P	baht	rai	Net value per Rai	W/O	baht	rai		
1	1998	0	0	-6,105	134.01	-818	134.01	2,492	0	2,492	67.00	167	8,838	0	8,838	35.35	312
2	1999	-2,465	0	-2,465	134.01	-330	134.01	1,575	0	1,575	67.00	106	10,261	0	10,261	35.35	363
3	2000	-2,652	0	-2,652	134.01	-355	134.01	1,575	0	1,575	67.00	106	10,261	0	10,261	35.35	363
4	2001	-3,136	0	-3,136	134.01	-420	134.01	1,575	0	1,575	67.00	106	10,261	0	10,261	35.35	363
5	2002	-3,575	0	-3,575	134.01	-479	134.01	1,575	0	1,575	67.00	106	10,261	0	10,261	35.35	363
6	2003	-3,824	0	-3,824	134.01	-512	134.01	1,575	0	1,575	67.00	106	10,261	0	10,261	35.35	363
7	2004	-2,053	0	-2,053	134.01	-275	134.01	1,575	0	1,575	67.00	106	10,261	0	10,261	35.35	363
8	2005	2,614	0	2,614	134.01	350	134.01	0	0	0	0	0	0	0	0	0	0
9	2006	9,395	0	9,395	134.01	1,259	134.01	0	0	0	0	0	0	0	0	0	0
10	2007	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
11	2008	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
12	2009	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
13	2010	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
14	2011	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
15	2012	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
16	2013	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
17	2014	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
18	2015	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
19	2016	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
20	2017	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
21	2018	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
22	2019	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
23	2020	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
24	2021	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
25	2022	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
26	2023	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
27	2024	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
28	2025	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
29	2026	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
30	2026	11,828	0	11,828	134.01	1,585	134.01	0	0	0	0	0	0	0	0	0	0
Total		224,759		224,759		30,120						800	296,146	0	296,146		2,489

Remark: #1...Fruit area 134.01 x 1/2 = 67.00 rai (8th year and over)

#2...1. Intercropping crop area ; Fruit (direct planting) area 88.37 x 0.4 = 35.35 rai

...2. Upland crop area ;

...3. total area ;

*3...fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 rai

- rai

- rai

- rai

35.35 rai

Table 4.14.4.7 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-4

Financial (continued)

No.	Year	Name of Crop : Mung Bean				Name of Crop : Chili				Fishery				Total			
		Net value per rai W/P	W/O	Benefit baht	Benefit 1000baht	Net value per rai W/P	W/O	Benefit baht	Benefit 1000baht	Net value per rai W/O	baht	baht	Benefit 1000baht	Benefit 1000baht	Benefit 1000baht	Benefit 1000baht	
		Beneficial Area #2				Beneficial Area				Beneficial Area #3							
1	1998	-2,252	0	-2,252	-80	35.35	14,987	0	14,987	35.35	10,080	0	10,080	12.14	10,080	122	234
2	1999	-2,156	0	-2,156	-76	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	809
3	2000	-2,156	0	-2,156	-76	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	784
4	2001	-2,156	0	-2,156	-76	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	720
5	2002	-2,156	0	-2,156	-76	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	661
6	2003	-2,156	0	-2,156	-76	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	627
7	2004	-2,156	0	-2,156	-76	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	865
8	2005	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	473
9	2006	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,381
10	2007	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
11	2008	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
12	2009	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
13	2010	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
14	2011	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
15	2012	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
16	2013	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
17	2014	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
18	2015	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
19	2016	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
20	2017	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
21	2018	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
22	2019	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
23	2020	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
24	2021	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
25	2022	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
26	2023	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
27	2024	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
28	2025	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
29	2026	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
30	2026	-2,156	0	-2,156	0	35.35	17,691	0	17,691	35.35	10,080	0	10,080	12.14	10,080	122	1,707
Total		-62,620	0	-62,620	-537		510,335	0	510,335	4,282	292,320	0	292,320		292,320	3,549	40,703

Table 4.14.4.8 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-4

No.	Year	Grass, Sand and Marshy Area			Name of Fruit : MangoStein			Name of Fruit : Banana			Name of Crop : Sweet Corn			Beneficial sub-tota	
		Name of Fruit : Mangostein Net value per rai W/P	baht W/O	Beneficial Area ra	Name of Fruit : MangoStein Net value per rai W/P	baht W/O	Beneficial Area ra	Name of Fruit : Banana Net value per rai W/P	baht W/O	Beneficial Area ra	Name of Crop : Sweet Corn Net value per rai W/P	baht W/O	Beneficial Area ra	Beneficial sub-tota Benefit 1000baht	Beneficial sub-tota Benefit rai
1	1998	-5,114	0	134.01	-5,114	0	134.01	3,830	0	3,830	22,091	0	22,091	35.35	781
2	1999	-1,798	0	134.01	-1,798	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
3	2000	-1,976	0	134.01	-1,976	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
4	2001	-2,327	0	134.01	-2,327	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
5	2002	-2,658	0	134.01	-2,658	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
6	2003	-2,872	0	134.01	-2,872	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
7	2004	-537	0	134.01	-537	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
8	2005	4,979	0	134.01	4,979	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
9	2006	13,150	0	134.01	13,150	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
10	2007	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
11	2008	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
12	2009	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
13	2010	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
14	2011	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
15	2012	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
16	2013	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
17	2014	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
18	2015	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
19	2016	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
20	2017	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
21	2018	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
22	2019	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
23	2020	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
24	2021	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
20	2022	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
27	2023	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
28	2024	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
29	2025	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
30	2026	15,991	0	134.01	15,991	0	134.01	2,538	0	2,538	25,400	0	25,400	35.35	898
Total		320,667	0	42,973	320,667	0	42,973	19,058	0	19,058	733,291	0	733,291		6,108

remark: *1...Fruit area 134.01 x 1/2 = 67.00 rai
 *2...1. Intercropping crop area ; Fruit (direct planting) area 88.37 x 0.4 = 35.35 rai
 ...2. Upland crop area ;
 ...3. total area ;
 *3...Fishery area ; Fish pond area 24.27 area x 1/2 = 12.14 rai

Table 4.14.4.8 Incremental Benefit based on the Project for the Lan Saka F/S Area

Case-4

Economic (continued)

No.	Year	Name of Crop : Hung Bean			Name of Crop : Chili			Fishery			Total		
		Net value per rai W/P	Benefit	Sub-total	Net value per rai W/P	Benefit	Sub-total	Net value per rai W/P	Benefit	Sub-total	Benefit	Sub-total	Benefit
1	1998	-638	0	-638	24,879	0	24,879	0	0	0	22,240	0	22,240
2	1999	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
3	2000	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
4	2001	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
5	2002	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
6	2003	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
7	2004	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
8	2005	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
9	2006	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
10	2007	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
11	2008	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
12	2009	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
13	2010	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
14	2011	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
15	2012	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
16	2013	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
17	2014	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
18	2015	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
19	2016	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
20	2017	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
21	2018	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
22	2019	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
23	2020	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
24	2021	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
25	2022	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
26	2023	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
27	2024	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
28	2025	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
29	2025	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
30	2025	-464	0	-464	28,604	0	28,604	0	0	0	22,240	0	22,240
Total		-13,630	0	-13,630	825,791	0	825,791	0	0	0	644,960	0	644,960
				-121									7,830
													65,073

Table 4.14.5.1 Financial Internal Rate of Return (FIRR) based on the Project for the Lan Saka F/S Area

Case-I	Benefit	Initial	Cost		Return	Factor(%)	Discount(5%)		Factor	Discount(12%)		Return
			O/M	Total			Benefit	Total		Benefit	Total	
1	1996	8,118	-	8,118	-8,118	0.9524	0	7,731	0.8929	0	7,248	-7,248
2	1997	44,776	-	44,776	-44,776	0.9070	0	40,613	0.7972	0	35,695	-35,695
3		47,628	-	47,628	-47,628	0.8638	0	41,143	0.7118	0	33,901	-33,901
4	1999	52,407	-	52,407	-49,916	0.8227	2,049	43,115	-41,066	1,583	33,305	-31,723
5	2000	2,491	1,342	3,378	624	0.7835	3,136	2,647	489	2,271	1,917	354
6	2001	3,954	1,342	1,342	2,612	0.7462	2,951	1,001	1,949	2,003	680	1,323
7	2002	3,832	1,342	1,342	2,490	0.7107	2,723	954	1,770	1,733	607	1,126
8	2003	3,721	1,342	1,342	2,379	0.6768	2,519	908	1,610	1,503	542	961
9	2004	3,657	1,342	1,342	2,315	0.6446	2,357	865	1,492	1,319	484	835
10	2005	4,106	1,342	1,342	2,764	0.6139	2,521	824	1,697	1,322	432	890
11	2006	2,768	1,342	1,342	1,426	0.5847	1,618	785	834	796	386	410
12	2007	4,486	1,342	1,342	3,144	0.5568	2,498	747	1,751	1,151	344	807
13	2008	5,102	1,342	1,342	3,760	0.5303	2,706	712	1,994	1,169	308	862
14	2009	5,102	1,342	1,342	3,760	0.5051	2,577	678	1,899	1,044	275	769
15	2010	5,102	1,342	1,342	3,760	0.4810	2,454	646	1,809	932	245	613
16	2011	5,102	1,342	1,342	3,760	0.4581	2,337	615	1,722	832	219	548
17	2012	5,102	1,342	1,342	3,760	0.4363	2,226	586	1,640	743	195	489
18	2013	5,102	1,342	1,342	3,760	0.4155	2,120	558	1,562	663	175	437
19	2014	5,102	1,342	1,342	3,760	0.3957	2,019	531	1,488	592	156	396
20	2015	5,102	1,342	1,342	3,760	0.3769	1,923	506	1,417	529	139	348
21	2016	5,102	1,342	1,342	3,760	0.3589	1,831	482	1,350	472	124	311
22	2017	5,102	1,342	1,342	3,760	0.3418	1,744	459	1,285	422	111	277
23	2018	5,102	1,342	1,342	3,760	0.3256	1,661	437	1,224	376	99	248
24	2019	5,102	1,342	1,342	3,760	0.3101	1,582	416	1,166	336	88	221
25	2020	5,102	1,342	1,342	3,760	0.2953	1,507	396	1,110	300	79	197
26	2021	5,102	1,342	1,342	3,760	0.2812	1,435	377	1,057	268	70	176
27	2022	5,102	1,342	1,342	3,760	0.2678	1,367	359	1,007	239	63	157
28	2023	5,102	1,342	1,342	3,760	0.2551	1,301	342	959	214	56	141
29	2024	5,102	1,342	1,342	3,760	0.2429	1,240	326	913	191	50	126
30	2025	5,102	1,342	1,342	3,760	0.2314	1,180	311	870	170	45	112
31	2026	5,102	1,342	1,342	3,760	0.2204	1,124	296	829	152	40	100
32	2027	5,102	1,342	1,342	3,760	0.2099	1,071	282	789	136	36	
		135,057	154,965	37,576	192,541	-57,484	57,777	150,647	-92,870	23,463	118,115	-94,652

Remark: Return(1000baht)
 5% -92,870 B/Cratio
 12% -94,652 0.20

Table 4.14.5.2 Economic Internal Rate of Return (EIRR) based on the Project for the Lan Saka F/S Area

Case-1	Benefit	Cost		Return	Discount(5%)		Factor	Return	Discount(12%)		Return
		Initial	O/M		Total	Benefit			Factor	Benefit	
1	1996	7,087	-	7,087	0.9524	0	0.8929	-6,750	0	0	-6,328
2	1997	33,706	-	33,706	0.9070	0	0.7972	-30,572	0	0	-26,870
3	1998	33,993	-	33,993	0.8638	0	0.7118	-29,364	0	0	-24,196
4	1999	35,745	-	35,745	0.8227	5,916	0.6355	-23,491	4,570	22,717	-18,147
5	2000	1,485	889	2,374	0.7835	7,107	0.5674	5,246	5,147	1,347	3,799
6	2001	9,025	889	8,136	0.7462	6,735	0.5066	6,071	4,572	450	4,122
7	2002	8,836	889	8,047	0.7107	6,351	0.4523	5,719	4,042	402	3,640
8	2003	8,852	889	7,963	0.6768	5,991	0.4039	5,390	3,575	359	3,216
9	2004	8,798	889	7,909	0.6446	5,671	0.3606	5,098	3,173	321	2,852
10	2005	9,389	889	8,500	0.6139	5,704	0.3220	5,218	3,023	286	2,737
11	2006	9,648	889	8,759	0.5847	5,302	0.2875	2,782	1,624	256	1,368
12	2007	7,718	889	6,829	0.5568	4,298	0.2567	3,803	1,981	228	1,753
13	2008	8,438	889	7,549	0.5303	4,475	0.2292	4,003	1,934	204	1,730
14	2009	8,438	889	7,549	0.5051	4,282	0.2046	3,813	1,727	182	1,545
15	2010	8,438	889	7,549	0.4810	4,059	0.1827	3,631	1,542	162	1,379
16	2011	8,438	889	7,549	0.4581	3,865	0.1631	3,458	1,375	145	1,231
17	2012	8,438	889	7,549	0.4363	3,681	0.1456	3,294	1,229	129	1,099
18	2013	8,438	889	7,549	0.4155	3,506	0.1300	3,137	1,097	116	982
19	2014	8,438	889	7,549	0.3957	3,339	0.1161	2,987	980	103	876
20	2015	8,438	889	7,549	0.3769	3,180	0.1037	2,845	875	92	783
21	2016	8,438	889	7,549	0.3589	3,029	0.0926	2,710	781	82	699
22	2017	8,438	889	7,549	0.3418	2,885	0.0826	2,581	697	73	624
23	2018	8,438	889	7,549	0.3256	2,747	0.0736	2,458	623	66	557
24	2019	8,438	889	7,549	0.3101	2,616	0.0659	2,341	556	59	497
25	2020	8,438	889	7,549	0.2953	2,492	0.0588	2,229	496	52	444
26	2021	8,438	889	7,549	0.2812	2,373	0.0523	2,123	443	47	396
27	2022	8,438	889	7,549	0.2678	2,260	0.0469	2,022	396	42	354
28	2023	8,438	889	7,549	0.2551	2,152	0.0419	1,926	353	37	316
29	2024	8,438	889	7,549	0.2429	2,050	0.0374	1,834	315	33	282
30	2025	8,438	889	7,549	0.2314	1,952	0.0334	1,747	282	30	252
31	2026	8,438	889	7,549	0.2204	1,859	0.0298	1,663	251	26	225
32	2027	8,438	889	7,549	0.2099	1,771	0.0266	1,584	225	24	201
		243,387	112,016	136,908	108,479	109,689	108,154	1,536	47,884	85,464	-37,580

Return(1000Baht)
 5% 1,536
 12% -37,580
 B/Cratio 1.01
 EIRR(%) 5.3
 0.56

Table 4.14.5.3 Financial Internal Rate of Return (FIRR) based on the Project for the Lan Saka F/S Area

Case-2	Year	Benefit	Initial	O/M	Cost		Return	Discount(5%)			Discount(12%)			
					Total	Benefit		Factor(5%)	Total Cost	Return	Factor	Benefit	Total Cost	Return
1	1996	-	5,870	-	5,870	-5,870	0.9524	0	5,590	-5,590	0.8929	0	5,241	-5,241
2	1997	-	26,160	-	26,160	-26,160	0.9070	0	23,728	-23,728	0.7972	0	20,855	-20,855
3	1998	-	27,502	-	27,502	-27,502	0.8638	0	23,757	-23,757	0.7118	0	19,575	-19,575
4	1999	408	30,140	-	30,140	-29,732	0.8227	336	24,795	-24,461	0.6355	253	19,155	-18,895
5	2000	1,209	2,036	881	2,917	-1,708	0.7835	947	2,285	-1,338	0.5674	686	1,555	-969
6	2001	1,175		881	881	294	0.7462	877	657	219	0.5066	595	446	149
7	2002	1,088		881	881	207	0.7107	773	626	147	0.4523	492	399	94
8	2003	1,009		881	881	128	0.6768	683	596	87	0.4039	408	356	52
9	2004	964		881	881	83	0.6446	621	568	54	0.3666	348	318	30
10	2005	1,283		881	881	402	0.6139	788	591	247	0.3220	413	284	129
11	2006	594		881	881	-287	0.5847	347	515	-168	0.2875	171	253	-83
12	2007	1,815		881	881	935	0.5568	1,011	491	521	0.2567	466	226	240
13	2008	2,254		881	881	1,373	0.5303	1,195	467	728	0.2292	517	202	315
14	2009	2,254		881	881	1,373	0.5051	1,138	445	893	0.2046	461	180	281
15	2010	2,254		881	881	1,373	0.4810	1,084	424	629	0.1827	412	161	251
16	2011	2,254		881	881	1,373	0.4581	1,033	394	599	0.1456	328	128	200
17	2012	2,254		881	881	1,373	0.4363	983	366	597	0.1300	293	115	179
18	2013	2,254		881	881	1,373	0.4155	937	366	571	0.1161	262	102	159
19	2014	2,254		881	881	1,373	0.3957	892	349	543	0.1037	234	91	142
20	2015	2,254		881	881	1,373	0.3769	850	332	517	0.0926	209	82	127
21	2016	2,254		881	881	1,373	0.3589	809	316	493	0.0826	186	73	113
22	2017	2,254		881	881	1,373	0.3418	771	301	447	0.0738	166	65	101
23	2018	2,254		881	881	1,373	0.3256	734	287	426	0.0659	148	58	90
24	2019	2,254		881	881	1,373	0.3101	699	273	405	0.0588	133	52	81
25	2020	2,254		881	881	1,373	0.2953	666	260	386	0.0525	118	46	72
26	2021	2,254		881	881	1,373	0.2812	634	248	368	0.0469	106	41	64
27	2022	2,254		881	881	1,373	0.2678	604	236	350	0.0419	94	37	57
28	2023	2,254		881	881	1,373	0.2551	575	225	334	0.0374	84	33	51
29	2024	2,254		881	881	1,373	0.2429	548	214	318	0.0334	75	29	46
30	2025	2,254		881	881	1,373	0.2314	522	204	303	0.0298	67	26	41
31	2026	2,254		881	881	1,373	0.2204	497	194	288	0.0266	60	23	37
32	2027	2,254		881	881	1,373	0.2099	473	185	268	0.0238	54	20	33
		54,626	91,708	24,668	116,376	-61,750		22,025	90,265	-68,240		8,159	70,451	-62,292

Remark: Return(1000baht)
 5% -68,240 B/cratio 0.24
 12% -62,292 0.12

Table 4.14.5.4 Economic Internal Rate of Return (EIRR) based on the Project for the Lan Saka F/S Area

Case-2	Benefit			Cost	D/W	Total	Return	Factor(5%)			Discount(5%)			Return	Factor	Discount(12%)			Return
	Benefit	Initial	Final					Factor(5%)	Benefit	Total	Cost	Return	Factor			Benefit	Total	Cost	
1	1996	-	5,152	-	-	5,152	-5,152	0.9524	0	4,907	-4,907	0.8929	0	4,600	-4,600				
2	1997	-	20,610	-	20,610	-20,610	0.9070	0	18,694	-18,694	0.7972	0	16,430	-16,430					
3	1998	-	20,721	-	20,721	-20,721	0.8638	0	17,900	-17,900	0.7118	0	14,749	-14,749					
4	1999	2,188	21,711	-	21,711	-19,523	0.8227	1,800	17,862	-16,062	0.6355	1,391	13,798	-12,407					
5	2000	3,057	1,485	585	2,070	987	0.7835	2,395	1,622	773	0.5574	1,735	1,175	560					
6	2001	3,025	-	585	585	2,440	0.7462	2,257	437	1,821	0.5066	1,533	296	1,236					
7	2002	2,962	-	585	585	2,377	0.7107	2,105	416	1,689	0.4823	1,340	265	1,075					
8	2003	2,902	-	585	585	2,317	0.6768	1,964	396	1,568	0.4039	1,172	236	936					
9	2004	2,864	-	585	585	2,279	0.6446	1,846	377	1,469	0.3806	1,033	211	822					
10	2005	2,886	-	585	585	2,700	0.6139	2,017	359	1,468	0.3220	1,058	188	869					
11	2006	1,167	-	585	585	582	0.5847	1,444	288	1,176	0.2875	335	168	167					
12	2007	2,640	-	585	585	2,055	0.5568	1,470	326	1,144	0.2567	150	527	527					
13	2008	3,152	-	585	585	2,567	0.5303	1,672	310	1,361	0.2292	722	134	588					
14	2009	3,152	-	585	585	2,567	0.5051	1,592	295	1,297	0.2046	645	120	525					
15	2010	3,152	-	585	585	2,567	0.4810	1,516	281	1,235	0.1827	576	107	469					
16	2011	3,152	-	585	585	2,567	0.4581	1,444	268	1,176	0.1631	514	95	419					
17	2012	3,152	-	585	585	2,567	0.4363	1,375	255	1,120	0.1456	459	85	374					
18	2013	3,152	-	585	585	2,567	0.4155	1,310	243	1,067	0.1300	419	76	334					
19	2014	3,152	-	585	585	2,567	0.3957	1,247	232	1,016	0.1161	366	68	298					
20	2015	3,152	-	585	585	2,567	0.3769	1,188	220	967	0.1037	327	61	266					
21	2016	3,152	-	585	585	2,567	0.3589	1,131	210	921	0.0926	292	54	238					
22	2017	3,152	-	585	585	2,567	0.3418	1,078	200	878	0.0826	260	48	212					
23	2018	3,152	-	585	585	2,567	0.3256	1,026	190	836	0.0738	233	43	189					
24	2019	3,152	-	585	585	2,567	0.3101	977	181	796	0.0659	208	39	169					
25	2020	3,152	-	585	585	2,567	0.2953	931	173	758	0.0588	185	34	151					
26	2021	3,152	-	585	585	2,567	0.2812	886	165	722	0.0525	166	31	135					
27	2022	3,152	-	585	585	2,567	0.2678	844	157	688	0.0469	148	27	120					
28	2023	3,152	-	585	585	2,567	0.2551	804	149	655	0.0419	132	24	107					
29	2024	3,152	-	585	585	2,567	0.2429	766	142	624	0.0374	118	22	95					
30	2025	3,152	-	585	585	2,567	0.2314	729	135	594	0.0334	105	20	85					
31	2026	3,152	-	585	585	2,567	0.2204	695	129	566	0.0298	94	17	77					
32	2027	3,152	-	585	585	2,567	0.2099	661	123	539	0.0265	84	16	68					
		87,130	69,679	16,380		86,059	1,071	38,410	67,696	-29,285	16,316	53,388	-37,071						

Remark: Return(1000unit) B/Ratio EIRR(%)

5% -29,286 0.57

(-)

12% -37,071 0.31

Table 4.14.5.5 Financial Internal Rate of Return (FIRR) based on the Project for the Lan Saka F/S Area

(Unit Price: Thousand Baht)

Case-3	Benefit	Initial	O/M	Cost		Return	Discount(5%)			Discount(12%)				
				Total			Factor(5%)	Benefit	Total Cost	Return	Factor	Benefit	Total Cost	Return
1	1996	6,558	-	-	6,558	-6,558	0.9524	0	6,246	-6,246	0.8929	0	5,855	-5,855
2	1997	31,565	-	-	31,565	-31,565	0.9070	0	28,630	-28,630	0.7972	0	25,163	-25,163
3	1998	33,692	-	-	33,692	-33,692	0.8638	0	29,104	-29,104	0.7118	0	23,981	-23,981
4	1999	37,232	-	-	37,232	-34,915	0.8227	1,906	30,631	-28,725	0.6355	1,472	23,662	-22,189
5	2000	3,602	1,024	1,024	3,060	542	0.7835	2,822	2,398	425	0.5574	2,044	1,736	308
6	2001	3,564	1,024	1,024	1,024	2,540	0.7462	2,660	764	1,895	0.5066	1,806	519	1,287
7	2002	3,463	1,024	1,024	1,024	2,439	0.7107	2,461	728	1,733	0.4523	1,556	463	1,103
8	2003	3,372	1,024	1,024	1,024	2,348	0.6768	2,282	693	1,589	0.4039	1,362	414	948
9	2004	3,321	1,024	1,024	1,024	2,297	0.6446	2,141	660	1,481	0.3606	1,198	369	828
10	2005	3,688	1,024	1,024	1,024	2,664	0.6139	2,264	629	1,635	0.3220	1,187	330	858
11	2006	2,647	1,024	1,024	1,024	1,623	0.5847	599	599	949	0.2875	761	294	467
12	2007	4,052	1,024	1,024	1,024	3,028	0.5568	2,256	570	1,686	0.2567	1,040	263	777
13	2008	4,556	1,024	1,024	1,024	3,532	0.5303	2,416	543	1,873	0.2292	1,044	235	809
14	2009	4,556	1,024	1,024	1,024	3,532	0.5051	2,301	517	1,784	0.2046	932	210	723
15	2010	4,556	1,024	1,024	1,024	3,532	0.4810	2,192	493	1,699	0.1827	832	187	645
16	2011	4,556	1,024	1,024	1,024	3,532	0.4581	2,087	469	1,618	0.1631	743	167	576
17	2012	4,556	1,024	1,024	1,024	3,532	0.4363	1,988	447	1,541	0.1466	664	149	514
18	2013	4,556	1,024	1,024	1,024	3,532	0.4155	1,893	425	1,468	0.1300	592	133	459
19	2014	4,556	1,024	1,024	1,024	3,532	0.3957	1,803	405	1,398	0.1161	529	119	410
20	2015	4,556	1,024	1,024	1,024	3,532	0.3769	1,717	386	1,331	0.1037	472	106	366
21	2016	4,556	1,024	1,024	1,024	3,532	0.3589	1,635	368	1,268	0.0926	422	95	327
22	2017	4,556	1,024	1,024	1,024	3,532	0.3418	1,557	350	1,207	0.0826	377	85	292
23	2018	4,556	1,024	1,024	1,024	3,532	0.3256	1,483	333	1,150	0.0738	336	76	261
24	2019	4,556	1,024	1,024	1,024	3,532	0.3101	1,413	318	1,095	0.0659	300	67	233
25	2020	4,556	1,024	1,024	1,024	3,532	0.2953	1,345	302	1,043	0.0588	268	60	208
26	2021	4,556	1,024	1,024	1,024	3,532	0.2812	1,281	288	993	0.0525	239	54	186
27	2022	4,556	1,024	1,024	1,024	3,532	0.2678	1,220	274	946	0.0469	214	48	166
28	2023	4,556	1,024	1,024	1,024	3,532	0.2551	1,162	261	901	0.0419	191	43	148
29	2024	4,556	1,024	1,024	1,024	3,532	0.2429	1,107	249	858	0.0374	170	38	132
30	2025	4,556	1,024	1,024	1,024	3,532	0.2314	1,054	237	817	0.0334	152	34	118
31	2026	4,556	1,024	1,024	1,024	3,532	0.2204	1,004	226	778	0.0298	136	31	105
32	2027	4,556	1,024	1,024	1,024	3,532	0.2099	956	215	741	0.0266	121	27	94
		121,146	28,672	28,672	139,755	-18,509		51,956	108,758	-56,801		21,171	85,013	-63,842

Remark: Return(100baht)
 5% -56,801 B/Cratio 0.48
 12% -63,842 0.25

Table 4.14.5.6 Economic Internal Rate of Return (EIRR) based on the Project for the Lan Saka F/S Area

Case-3	Year	Benefit	Initial	O/M	Cost Total	Return	Discount(5%)			Discount(12%)				
							Factor(S)	Benefit	Total Cost	Return	Factor	Benefit	Total Cost	Return
1	1996	-	5,743	-	5,743	-5,743	0.9524	0	5,470	-5,470	0.8929	0	5,128	-5,128
2	1997	-	23,899	-	23,899	-23,899	0.9070	0	21,677	-21,677	0.7972	0	19,052	-19,052
3	1998	-	24,433	-	24,433	-24,433	0.8638	0	21,106	-21,106	0.7118	0	17,391	-17,391
4	1999	6,482	25,718	-	25,718	-19,236	0.8227	5,333	21,158	-15,826	0.6355	4,119	16,344	-12,225
5	2000	8,104	1,465	680	2,165	5,939	0.7835	6,350	1,696	4,653	0.5674	4,598	1,228	3,370
6	2001	8,067	-	680	680	7,387	0.7462	6,020	507	5,512	0.5066	4,087	345	3,742
7	2002	7,995	-	680	680	7,315	0.7107	5,682	483	5,199	0.4523	3,617	308	3,309
8	2003	7,926	-	680	680	7,246	0.6768	5,365	460	4,904	0.4039	3,201	275	2,927
9	2004	7,882	-	680	680	7,202	0.6446	5,081	438	4,642	0.3606	2,842	245	2,597
10	2005	8,365	-	680	680	7,685	0.6139	5,135	417	4,718	0.3220	2,693	219	2,474
11	2006	5,418	-	680	680	4,738	0.5847	3,168	398	2,770	0.2875	1,558	195	1,362
12	2007	7,110	-	680	680	6,430	0.5568	3,959	379	3,580	0.2567	1,825	175	1,650
13	2008	7,699	-	680	680	7,019	0.5303	4,083	361	3,722	0.2292	1,764	156	1,609
14	2009	7,699	-	680	680	7,019	0.5051	3,869	343	3,543	0.2046	1,575	139	1,436
15	2010	7,699	-	680	680	7,019	0.4810	3,703	327	3,376	0.1827	1,407	124	1,282
16	2011	7,699	-	680	680	7,019	0.4581	3,527	312	3,215	0.1631	1,256	111	1,145
17	2012	7,699	-	680	680	7,019	0.4363	3,359	297	3,062	0.1456	1,121	99	1,022
18	2013	7,699	-	680	680	7,019	0.4155	3,199	283	2,917	0.1300	1,001	88	913
19	2014	7,699	-	680	680	7,019	0.3957	3,047	269	2,778	0.1161	894	79	815
20	2015	7,699	-	680	680	7,019	0.3769	2,902	256	2,648	0.1037	798	70	728
21	2016	7,699	-	680	680	7,019	0.3589	2,763	244	2,519	0.0926	713	63	650
22	2017	7,699	-	680	680	7,019	0.3418	2,632	232	2,389	0.0826	636	55	580
23	2018	7,699	-	680	680	7,019	0.3256	2,507	221	2,285	0.0738	568	50	518
24	2019	7,699	-	680	680	7,019	0.3101	2,387	211	2,178	0.0659	507	45	462
25	2020	7,699	-	680	680	7,019	0.2953	2,274	201	2,073	0.0588	453	40	413
26	2021	7,699	-	680	680	7,019	0.2812	2,165	191	1,974	0.0525	404	36	369
27	2022	7,699	-	680	680	7,019	0.2678	2,062	182	1,880	0.0469	361	32	329
28	2023	7,699	-	680	680	7,019	0.2551	1,964	173	1,791	0.0419	322	28	294
29	2024	7,699	-	680	680	7,019	0.2429	1,870	165	1,705	0.0374	288	25	262
30	2025	7,699	-	680	680	7,019	0.2314	1,781	157	1,624	0.0334	257	23	234
31	2026	7,699	-	680	680	7,019	0.2204	1,697	150	1,547	0.0298	229	20	209
32	2027	7,699	-	680	680	7,019	0.2099	1,616	143	1,473	0.0266	205	18	187
		221,329	81,278	19,040	100,318	121,011		99,518	78,909	20,609	43,301	62,208	-18,907	

Remark: Return(1000Baht) 5% 20,609 EIRR(X) 8.7
 12% -18,907 0.70

Table 4.14.5.7 Financial Internal Rate of Return (FIRR) based on the Project for the Lan Saka F/S Area

Case-4	Year	Benefit	Initial	O/H	Cost		Discount(5%)			Discount(12%)			Return	
					Total	Return	Factor(5%)	Benefit	Total Cost	Return	Factor	Benefit		Total Cost
1	1995	-	4,314	-	4,314	-4,314	0.9524	0	4,109	-4,109	0.8929	0	3,852	-3,852
2	1997	-	12,950	-	12,950	-12,950	0.9070	0	11,746	-11,746	0.7972	0	10,324	-10,324
3	1998	-	13,608	-	13,608	-13,608	0.8638	0	11,755	-11,755	0.7118	0	9,686	-9,686
4	1999	234	15,007	-	15,007	-14,773	0.8227	193	12,346	-12,154	0.6355	149	9,537	-9,389
5	2000	809	2,036	-	2,593	-1,784	0.7835	634	2,032	-1,398	0.5674	459	1,471	-1,012
6	2001	784	-	557	557	227	0.7462	585	416	169	0.5066	397	282	115
7	2002	720	-	557	557	163	0.7107	512	396	116	0.4523	326	252	74
8	2003	661	-	557	557	104	0.6768	447	377	70	0.4039	267	225	42
9	2004	627	-	557	557	70	0.6446	404	359	45	0.3606	226	201	25
10	2005	865	-	557	557	308	0.6139	531	342	189	0.3220	279	179	99
11	2006	473	-	557	557	-84	0.5847	277	326	-49	0.2875	136	160	-24
12	2007	1,381	-	557	557	824	0.5568	769	310	459	0.2567	354	143	212
13	2008	1,707	-	557	557	1,150	0.5303	905	295	610	0.2292	391	128	264
14	2009	1,707	-	557	557	1,150	0.5051	862	281	581	0.2046	349	114	235
15	2010	1,707	-	557	557	1,150	0.4810	821	268	553	0.1827	312	102	210
16	2011	1,707	-	557	557	1,150	0.4581	782	255	527	0.1631	278	91	188
17	2012	1,707	-	557	557	1,150	0.4363	745	243	502	0.1456	249	81	167
18	2013	1,707	-	557	557	1,150	0.4155	709	231	478	0.1300	222	72	150
19	2014	1,707	-	557	557	1,150	0.3957	676	220	455	0.1161	198	65	134
20	2015	1,707	-	557	557	1,150	0.3769	643	210	433	0.1037	177	58	119
21	2016	1,707	-	557	557	1,150	0.3589	613	200	413	0.0926	158	52	106
22	2017	1,707	-	557	557	1,150	0.3418	584	190	393	0.0826	141	46	95
23	2018	1,707	-	557	557	1,150	0.3256	556	181	374	0.0738	126	41	85
24	2019	1,707	-	557	557	1,150	0.3101	529	173	357	0.0659	112	37	76
25	2020	1,707	-	557	557	1,150	0.2953	504	164	340	0.0588	100	33	68
26	2021	1,707	-	557	557	1,150	0.2812	480	157	323	0.0525	90	29	60
27	2022	1,707	-	557	557	1,150	0.2678	457	149	308	0.0469	80	26	54
28	2023	1,707	-	557	557	1,150	0.2551	435	142	293	0.0419	71	23	48
29	2024	1,707	-	557	557	1,150	0.2429	415	135	279	0.0374	64	21	43
30	2025	1,707	-	557	557	1,150	0.2314	395	129	266	0.0334	57	19	38
31	2026	1,707	-	557	557	1,150	0.2204	376	123	253	0.0298	51	17	34
32	2027	1,707	-	557	557	1,150	0.2099	358	117	241	0.0266	45	15	31
		40,694	47,915	15,596	63,511	-22,817		16,197	48,378	-32,181		5,865	37,380	-31,515

Remark: Return(1000Baht) 5% -32,181 B/Cratio FIRR% 0.33

12% -31,515 0.16

26% -10,204 0.58

Table 4.14.5.8 Economic Internal Rate of Return (EIRR) based on the Project for the Lan Saka F/S Area

Case-4	Year	Benefit		Cost		Total	Return	Discount(5%)		Discount(12%)		Return			
		Initial	D/M	Initial	D/M			Benefit	Cost	Benefit	Cost				
1	1996	-	-	3,812	-	3,812	-3,812	0.9524	0	3,630	0	-3,630	0.8929	3,404	-3,404
2	1997	-	-	10,072	-	10,072	-10,072	0.9070	0	9,136	0	-9,136	0.7972	8,029	-8,029
3	1998	-	-	10,095	-	10,095	-10,095	0.8638	0	8,720	0	-8,720	0.7118	7,185	-7,185
4	1999	1,479	-	10,511	-	10,511	-9,032	0.8227	1,217	8,647	940	-7,431	0.6355	6,680	-5,740
5	2000	2,092	371	1,485	371	1,856	236	0.7835	1,639	1,454	1,187	185	0.5674	1,053	134
6	2001	2,068	371	-	371	2,439	1,697	0.7462	1,543	277	1,048	188	0.5066	188	860
7	2002	2,021	371	-	371	2,392	1,650	0.7107	1,436	264	914	173	0.4523	168	746
8	2003	1,976	371	-	371	2,347	1,605	0.6768	1,337	251	798	1,086	0.4039	150	648
9	2004	1,948	371	-	371	2,319	1,577	0.6446	1,256	239	702	1,017	0.3606	134	569
10	2005	2,261	371	-	371	2,632	1,890	0.6139	1,388	228	609	1,160	0.3220	119	609
11	2006	937	371	-	371	1,308	966	0.5847	548	217	331	331	0.2875	107	163
12	2007	2,032	371	-	371	2,403	1,661	0.5568	1,131	207	269	925	0.2567	95	425
13	2008	2,413	371	-	371	2,784	2,042	0.5303	1,280	197	553	1,083	0.2292	85	468
14	2009	2,413	371	-	371	2,784	2,042	0.5051	1,219	187	494	1,031	0.2046	76	418
15	2010	2,413	371	-	371	2,784	2,042	0.4810	1,161	178	441	982	0.1827	68	373
16	2011	2,413	371	-	371	2,784	2,042	0.4581	1,105	170	394	935	0.1631	61	333
17	2012	2,413	371	-	371	2,784	2,042	0.4363	1,053	162	351	891	0.1456	54	297
18	2013	2,413	371	-	371	2,784	2,042	0.4155	1,003	154	314	848	0.1300	48	266
19	2014	2,413	371	-	371	2,784	2,042	0.3957	955	147	286	808	0.1161	43	237
20	2015	2,413	371	-	371	2,784	2,042	0.3769	909	140	259	770	0.1037	38	212
21	2016	2,413	371	-	371	2,784	2,042	0.3589	866	133	223	733	0.0926	34	189
22	2017	2,413	371	-	371	2,784	2,042	0.3418	825	127	199	698	0.0826	31	169
23	2018	2,413	371	-	371	2,784	2,042	0.3256	786	121	178	663	0.0738	27	151
24	2019	2,413	371	-	371	2,784	2,042	0.3101	748	115	159	633	0.0659	24	135
25	2020	2,413	371	-	371	2,784	2,042	0.2953	713	110	142	603	0.0588	22	120
26	2021	2,413	371	-	371	2,784	2,042	0.2812	679	104	127	574	0.0525	19	107
27	2022	2,413	371	-	371	2,784	2,042	0.2678	646	99	113	547	0.0469	17	96
28	2023	2,413	371	-	371	2,784	2,042	0.2551	616	95	101	521	0.0419	16	85
29	2024	2,413	371	-	371	2,784	2,042	0.2429	586	90	90	496	0.0374	14	76
30	2025	2,413	371	-	371	2,784	2,042	0.2314	558	86	81	472	0.0334	12	68
31	2026	2,413	371	-	371	2,784	2,042	0.2204	532	82	72	450	0.0298	11	61
32	2027	2,413	371	-	371	2,784	2,042	0.2099	506	78	64	429	0.0266	10	54
		65,074	10,388	35,975	46,363	18,711	28,241	35,845	-7,604	11,735	28,023	-16,289			

Remark: Return(1000Baht)
 5% -7,604 B/Cratio EIRR(%)
 12% -16,289 0.42 (3.1)

APPENDIX J

FARMER'S ORGANIZATION / AGRICULTURAL SUPPORTING SERVICE

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J-1 Function of Agencies

J.1.1 MOAC

MOAC is responsible for all agriculture and related activities including agricultural production, fisheries, livestock, forestry, land development, irrigation, agricultural land reform, agricultural economics and farmer cooperatives.

Office of the Secretary to the Minister

The office of the secretary to the Minister is in charge of all administrative works of the Ministers including coordinating with various Ministries, monitor and inquire on complaints.

Office of the Permanent Secretary

The office of the permanent secretary is responsible for general administration including supervision and monitoring the performance of all agencies under MOAC, conducting training for the ministry's executive.

RID

RID is responsible for water rescues development for agriculture including irrigation, storage, conservation, drainage, flood protection, operation and maintenance and water management.

Department of Fisheries

DOF responsible for all fisheries and related activities including research and development in aquaculture, fisheries resource conservation and water rescues improvement, development of fishing equipments, development of fish industries, and fish products, fisheries rescues survey and also promote any kinds of legal fishing activities.

Department of Livestock Development

Department of Livestock Development is in charge of all national livestock and related activities including eradicating and controlling livestock infections disease, inculcating livestock production efficiency and conducting research in livestock production and disease control.

Department of Land Development

DLD is responsible for the following activities,

- Soil survey, analysis and classification
- Land capability classification and provision of data for the national land-use planning and policies.
- Land reclamation, soil and water conservation and enhancement of soil fertility.
- Transfer of technology in its fields of expertise.

Department of Agriculture

DOA is in charge of all research and development of crops and sericulture. Furthermore DOA is responsible for providing analytical services on soil, water, fertilizer, plant, agricultural chemical substance etc. for the public and controlling regulatory by following acts: Rubber Regulation Act BE 1938, Plant Quarantine Act 1964, Toxic Chemical Regulation Act 1957, Fertilizer Regulation Act 1975.

Department of Agricultural Extension

DOA is in charge of extension services and transferring modern farm production techniques to the farmers. DOA serves as a means of transferring agricultural knowledge and technology from research institutions and other technical secures to target farm populations, and to provide services and subsidize production input for farmers on occasion such as, natural disasters, serious plant disease outbreak.

Cooperative Promotion Department

The main function of Cooperative Promotion Department are as follows:

- (1) To promote and disseminate cooperative ideology, principles and practices as well as knowledge and information on cooperatives to public.
- (2) To assist and give advice on establishing, operation and business in cooperatives.
- (3) To assist cooperatives by coordinating with government agencies and other institutions to provide infrastructure development and supporting services to cooperatives.
- (4) To supervise cooperatives operation to follow the cooperative Act, rules and orders of the Cooperative Register.
- (5) To conduct training activities to cooperation members.

Department of Cooperative Auditing

Department of Cooperative Auditing is in charge of conducting annual cooperative auditing and related activities including, controlling cooperatives and cooperative groups auditing, providing assistance and recommendations on financial and accounting management, organizing training courses on finance and accounting for cooperative committees, managers and relevant staff.

The Royal Forest Department

The main function of Royal Forest Department are as follows:

- (1) Formulating plans and controlling reserved forest management, rehabilitation programs in deteriorated forest land.
- (2) Operating and management the forest resources of the country, classification and mapping, exploitation control and silvicultural practice, logging control, research and development.
- (3) To be responsible for the field of wood technology, wood anatomy, wood drying, mechanics of wood, food preservation, plywood, plastic board, cement board, timber conservation,

wood chemicals, pulp and paper, minor forest products, and fuel wood conservation.

- (4) To be responsible for country's reforestation program.

Agricultural Land Reform Office

The ALRO has responsibilities in improvement of rights and holding in agricultural land including housing arrangement in such agricultural land, by allocating the state - owned land on land purchased or expropriated from land owners who do not make use of such land by themselves or own land in excess of their rights in accordance with the Agricultural Land Reform Act, to farmers who do not own land or own too little land to produce adequate income to meet the cost of living, and to farmer institutions for hire-purchase, rent or use.

Office of Agricultural Economics

The OAE's responsibilities are as follows:

- (1) Analyze the agriculture policy and agriculture and cooperative development plans.
- (2) Study and analyze the formulation of marketing and transport system and development of farm products markets in an efficient manner as well as analyze the prices of the demand for farm products.
- (3) Compile agricultural statistical information of all kinds crop and livestock production, agricultural production situations and related information for distribution and publicity of agricultural statistics information.
- (4) Analyze and evaluate outcome of investment made in agricultural projects including follows-up and evaluation of success and progress of the projects and operating plans of work units under the direction of the MOAC as well as propose to the Committee recommendations and guidelines for boiling down the problems and obstacles which require urgent action.
- (5) Coordinate work with the various, related government agencies

and state enterprise in establishing agriculture policy and agriculture and cooperative development plans, as well as maintain contact with the office of NESDB.

J.1.2 State Enterprises

Forest Industries Organization (FIO)

The objectives of FIO are as follows:

- (1) To conduct research and experiments in forest industry.
- (2) To be responsible for reforestation as silviculture.
- (3) To generate income from the forest industry and related activities.
- (4) To increase public awareness of the importance of forest conservation.

The Rubber Estate Organization (REO)

The objectives are as follows:

- (1) To establish rubber-plantation and produce high yielding rubber planting material.
- (2) To develop and produce finished or semi-finished rubber products.
- (3) To provide facilities to private sector on rubber growing, processing and marketing.
- (4) To produce ribbed smoked sheets, pale crepe, crumb rubber, block rubber, air dry sheet, concentrated latex and another raw natural rubber forms.

Fish Marketing Organization (FMO)

The objectives of FMO are as follows:

- (1) To carry out and bring about prosperity to the whole fish market, the market for fishery products and fishery industry.
- (2) To carry on or control and direct the services concerning the activities of the market for fish agents, transportation and

other activities in connection with the activities of the fish agents.

- (3) To promote the welfare or occupation of the fishermen and to improve fishing villages.
- (4) To promote fishing cooperative societies or associations.

Cold Storage Organization (CSO)

The objectives are as follows:

- (1) To provide services in the cold storage industry to the state and to the public.
- (2) To carry on business correlating to the cold storage industry, to assist, advise and provide technical research services concerning the general operations of cold storage plants and ice factories as well as related or similar businesses including any other industries related to cold storage plants.

Office of the Rubber Replanting AID Fund (ORRAF)

The objectives are as follows:

- (1) To collect the money from the rubber exporters in accordance with the ORRAF Act to add in ORRAF to finance in rubber replanting.
- (2) To assist the smallholder to replant the old low-yielding trees with high-yielding varieties of which the rubber trees in over 25 years.
- (3) To assist in rubber planting to the rubber farmers who did not have the smallholding before to have the land for themselves to 2 rai up. If they would like to plant rubber trees, they will be assisted not more than 15 rai per one applicant.

Thai Plywood Company Limited

The overall objectives of the company are to produce plywood and other fibre boards and distribute to the people for house building and other building materials. The purpose is to conserve

natural resources and forestry by using modern technology which is economized and highly utilized.

Marketing Organization for Farmers (MOF)

The overall objectives of MOF are as follows:

- (1) To find the market as a center for marketing of agricultural products at impartial price for farmers.
- (2) To encourage and supporting the farmers and farmer institutions to sell their agricultural products directly in central market.
- (3) To act as the government agent in providing agricultural inputs and essential consumers goods for farmers at reasonable prices.
- (4) To keep up the price of the agricultural products.
- (5) To purchase and arrange for purchasing products and domestic industrial commodities from farmers and distribute essential consumers goods to farmers at reasonable prices.
- (6) To serve farmers and farmer institutions with production distribution, marketing storing and transportation of agricultural products.

Dairy Farming Promotion Organization

The objectives are as follows:

- (1) Disseminating new dairy technology to the farmers.
- (2) To promote and providing training to dairy farmers.
- (3) Controlling and supervising livestock business and meat processing.
- (4) Processing milk products.

Table J.1 Source of Loan in Tambon Lamphoon, Amphoe Ban Na San by the Village in 1992
Unit : Household

Village (Moo Ban)	BAAC		Co-operatives		Commercial Bank		Others		Total	
	House Hold	%	House Hold	%	House Hold	%	House Hold	%	House Hold	%
1	118	57.28	19	9.22	49	23.79	20	9.71	206	100
2	81	60.90	13	9.78	33	24.81	6	4.51	133	100
3	110	59.78	18	9.78	46	25.00	10	5.44	184	100
4	97	59.88	16	9.88	40	24.69	9	5.55	162	100
5	30	52.63	5	8.77	12	21.05	10	17.55	57	100
6	49	55.06	8	8.99	20	22.47	12	13.48	89	100
7	40	54.79	7	9.59	17	23.29	9	12.33	73	100
8	12	50.00	4	16.67	5	20.83	3	12.50	24	100
9	82	59.00	14	10.07	34	24.46	9	6.47	139	100
10	76	60.32	12	9.52	31	24.60	7	5.56	126	100
11	67	58.77	11	9.65	28	24.56	8	7.02	114	100
12	108	59.02	18	9.84	45	24.59	12	6.55	183	100
Grand Total	870	58.39	145	9.73	360	24.16	115	7.72	1,490	100

Source: Amphoe Ban Na San Agriculture Extension Office

Table J.2 Summary of Lending Operation BAAC Ban Na San Branch Office (1989-1993)

Item	1988	1989	1990	1991	1992	1993
Client Farmer (Household)	3,970	4,075	4,207	4,199	4,398	4,450
Lending Amount (Thousand Baht)	90,164	47,147	52,669	52,140	64,467	126,544
Repayment Amount (Thousand Baht)	80,930	49,212	50,923	72,131	66,351	82,930
% of Total Repayment	79.82	54.80	54.50	72.08	77.78	91.09
Normal Repayment %	85.23	55.90	69.65	82.44	90.07	96.42
Overdue Repayment %	64.78	22.47	28.81	50.52	44.83	66.85
Amount of Debts (Thousand Baht)	150,214	147,979	148,698	128,124	125,564	168,762
Amount of Overdue (Thousand Baht)	15,952	41,345	42,676	28,302	19,000	7,840
% of Overdue	10.62	27.94	28.70	22.09	15.13	4.65

Source: BAAC, Ban Na San Branch Office

Table J.3 Summary of Lending Operation BAAC Lan Saka Unit Office (1989-1993)

Item	1989	1990	1991	1992	1993
Client Farmer (household)	2,512	2,617	2,778	3,064	3,117
Lending Amount (thousand Baht)	27,460	30,727	35,099	50,633	64,000
Repayment Amount (thousand Baht)	18,120	20,917	24,430	34,581	44,000
% of Total Repayment	80.15	82.45	82.16	81.96	83.14
Normal Repayment %	81.50	84.53	85.00	84.97	85.61
Overdue Repayment %	51.84	58.20	43.77	57.73	56.43
Amount of Debts (thousand Baht)	37,532	48,950	59,612	73,560	89,491
Amount of Overdue (thousand Baht)	1,102	1,476	3,738	3,872	4,012
% of Overdue	3.25	3.01	6.27	6.34	6.59

Source : BAAC, Nakhon Si Thammarat Office

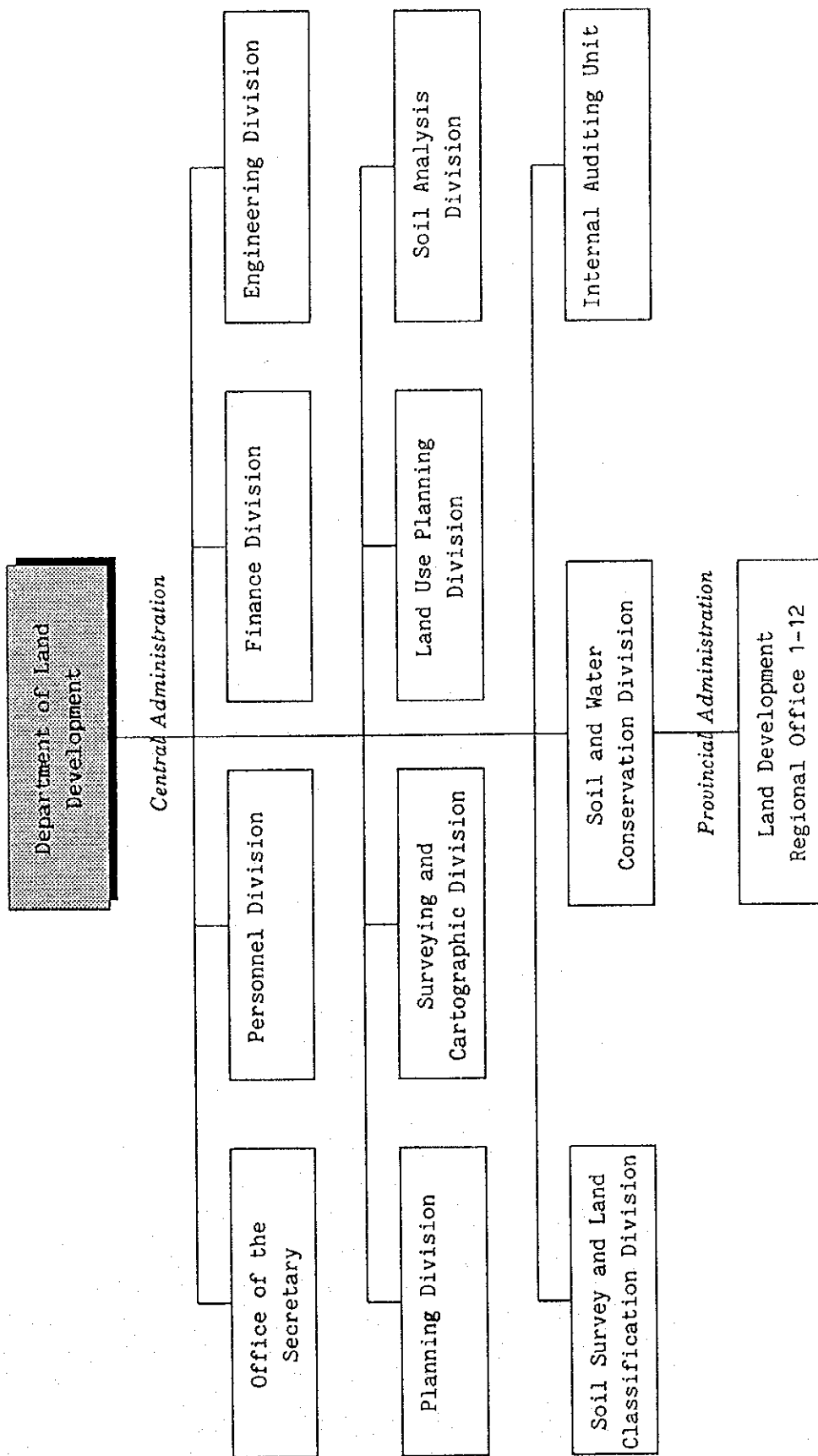


Figure J.1 Organization of Department of Land Development

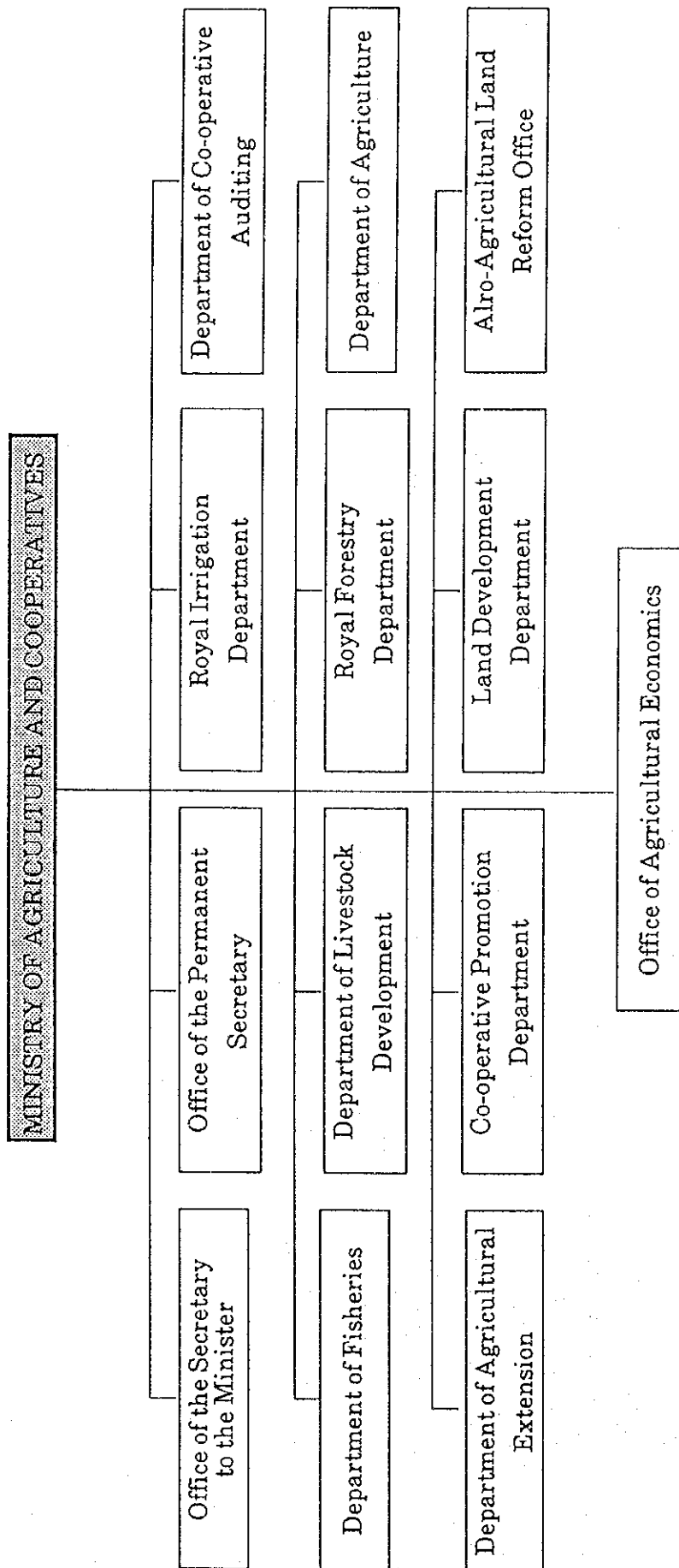


Figure J.2 Organization of the Ministry of Agriculture and Cooperatives

J-2 Proposed Organization for Project Implementation

The project implementation shall be basically managed and coordinated by three levels of committee and project unit task forces at project area level. Membership and responsibility of each committee and project unit task force are summarized as follows:

1 Project Executive Committee

Member

Permanent Secretary MOAC as Chairman
Director General of DLD as Vice Chairman
Director Budget Bureau, MOF
Secretary General of NESDB, Office of Prime Minister
Director General of RID, MOAC
Director General of RFD, MOAC
Director General of DOAE, MOAC
Director General of DOA, MOAC
Director General of CPD, MOAC
Director General of DOF, MOAC
Secretary General of OAE, MOAC
General Manager BAAC, MOF
Director General of DOLA, MOI
Deputy Director General of DLD (Project Director) as Secretary

Responsibility

- To formulate policy and/or implementing plan in accordance with the scope of the project
- To supervise the overall works and formulating monitoring and evaluation program of the project
- To perform external coordination among the various agencies concerned
- To resolve problems and difficulties in project implementation

2 Project Coordinating Committee

Member

Deputy Director of DLD (Project Director) as chairman
Director of Planning Division, DLD
Director of Soil and Water Conservation Division, DLD
Director of Land Use Planning Division, DLD
Director of Engineering Division, DLD
Director of Soil Analysis Division, DLD
Director of Surveying and Cartographic Division, DLD
Director of Soil Survey and Land Classification Div., DLD
Director of Finance Division, DLD
Director of Personnel Division, DLD
Director of Land Development Regional Office II
Project Manager as Secretary

Responsibility

- To prepare an annual working program with a budget estimation
- To manage the progress of the project implementation and to report the results to the Project Executive Committee
- To perform DLD internal coordination among the divisions concerned
- To assist the project in accordance with their responsibilities and resolve any problems particularly concerning administration and personnel matters in DLD

3 Provincial Coordinating Committee

A separated provincial coordinating committee, namely, Surat Thani Provincial Coordinating Committee and Nakhon Si Thammarat Provincial Coordinating Committee, will be established under the same organization structure and their responsibility. The typical membership and responsibilities of Provincial Coordinating Committee are as follows:

Member

The Provincial Governor as chairman
Provincial Official DOAE
Provincial Official, RID, MOAC
Provincial Official, CPD, MOAC
Provincial Official, DOF, MOAC
Provincial Official, RFD, MOAC
Provincial Official, LDD, MOAC
Chief of Agro-Economic Zone Officer, MOAC
Provincial Official Commerce, Ministry of Commerce
Provincial Official, BAAC, MOF
Provincial Official, CDD, MOI
Nai Amphoe (in the project area), MOI
Provincial Official, ORRAF, MOAC
Director of Land Development Regional office II as member
and secretary
Chief of Provincial DLD station as member and
assistant secretary

Responsibility

- To coordinate project activities among the agencies concerned at Provincial level
- To supervise the overall works and to resolve problems and difficulties at Provincial level
- To monitor progress of implementation and to report the results to Project Coordinating Committee
- To assist the project in accordance with their responsibilities

4 Project Unit Task Force

At the field level, coordination of the activities of these various agencies, is through the Project Unit Task Force. A separated Project Unit Task Force namely, Ban Na San Project Unit Task Force and Lan Saka Project Unit Task Force, will be established under the same organization structure and their responsibility. The typical membership and their responsibilities of Project Unit Task Force are as follows:

Member

Chief of Provincial DLD Station as Chairman
District Official, DOAE
District Official, CPD
District Official, LDD
District Branch Office, BAAC
Representative of Provincial DLD Station as Secretary

Responsibility

- To perform coordination of the project activities at the field level
- To manage progress of the project implementation and report the results to Provincial Coordinating Committee
- To assist the day-to-day operation of the project at the field level