APPENDIX O :COST ESTIMATION AND PROJECT EVALUATION

APPENDIX- O COST ESTIMATION AND PROJECT EVALUATION

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Table O.1.1 Cost estimation of Small Dykes System

unit : VND

Exchange rate 1US$= VND 14,061

Item	unit	F/S Q'ty	F/S Cost	F/S Equivalent in US$	BLOCK4 Q'ty	BLOCK4 Cost	BLOCK4 Equivalent in US$	BLOCK8 Q'ty	BLOCK8 Cost	BLOCK8 Equivalent in US$	Total (BLOCK 4 & 8) Q'ty	Total (BLOCK 4 & 8) Cost	Total (BLOCK 4 & 8) Equivalent in US$
Cultivated Area	ha	1,824			18,228			17,843			36,071		
1 Construction cost													
Dykes	**m**	**38,225**	**9,068,343,000**	**645,000**	**375,887**	**68,120,073,036**	**4,844,611**	**349,371**	**56,194,862,320**	**3,996,505**	**725,258**	**124,314,935,356**	**8,841,116**
For car road	m				18,530	6,210,374,400	441,674	17,840	6,131,707,520	436,079	36,370	12,342,081,920	877,753
For motorbike road	m				108,615	22,926,454,200	1,630,500	49,460	7,953,630,900	565,652	158,075	30,880,085,100	2,196,151
For with car road	m	9,150	2,931,192,000	208,463	41,904	12,674,212,128	901,373	41,720	13,908,652,460	989,165	83,624	26,582,864,588	1,890,539
For with car road	m	29,075	6,137,151,000	436,466	138,489	26,309,032,308	1,871,064	207,540	28,200,871,440	2,005,609	346,029	54,509,903,748	3,876,673
Not necessary to be improved	m				68,349			32,811			101,160		
Bridges	**pcs**	**6**	**3,237,000,000**	**230,000**	**45**	**39,286,000,000**	**2,793,969**	**47**	**44,119,000,000**	**3,137,686**	**92**	**83,405,000,000**	**5,931,655**
For car	pcs	3	2,652,000,000	188,607	21	31,756,000,000	2,258,445	21	34,204,000,000	2,432,544	42	65,960,000,000	4,690,989
For motorbike	pcs	3	585,000,000	41,604	24	7,530,000,000	535,524	26	9,915,000,000	705,142	50	17,445,000,000	1,240,666
Water gate	**pcs**	**11**	**1,232,000,000**	**88,000**	**69**	**5,747,000,000**	**408,719**	**117**	**5,748,000,000**	**408,790**	**186**	**11,495,000,000**	**817,509**
For car	pcs	3	594,000,000	42,245	19	2,673,000,000	190,100	19	1,485,000,000	105,611	38	4,158,000,000	295,712
For motorbike	pcs	8	638,000,000	45,374	50	3,074,000,000	218,619	98	4,263,000,000	303,179	148	7,337,000,000	521,798
Culvert	**pcs**	**66**	**6,593,429,000**	**469,000**	**636**	**66,600,566,571**	**4,736,546**	**575**	**41,712,152,000**	**2,966,514**	**1,211**	**108,312,718,571**	**7,703,059**
Control gate	**pcs**				**190**	**9,918,000,000**	**705,355**	**186**	**9,709,200,000**	**690,506**	**376**	**19,627,200,000**	**1,395,861**
Sub-total			**20,130,772,000**	**1,432,000**		**189,671,639,607**	**13,489,200**		**157,483,214,320**	**11,200,001**		**347,154,853,927**	**24,689,200**
			20,131,000,000	**1,432,000**		**189,672,000,000**	**13,489,000**		**157,483,000,000**	**11,200,000**		**347,155,000,000**	**24,689,000**
Physical Contingency	%	10%	**2,013,000,000**	**143,000**	10%	**18,967,000,000**	**1,349,000**	10%	**15,748,000,000**	**1,120,000**	10%	**34,715,000,000**	**2,469,000**
Sub-total 1			**22,144,000,000**	**1,575,000**		**208,639,000,000**	**14,838,000**		**173,231,000,000**	**12,320,000**		**381,870,000,000**	**27,158,000**
2 Compensation			**10,509,000,000**	**747,000**		**79,885,000,000**	**5,681,000**		**44,272,000,000**	**3,149,000**		**124,157,000,000**	**8,830,000**
Sub-total 1-2			**32,653,000,000**	**2,322,000**		**288,524,000,000**	**20,519,000**		**217,503,000,000**	**15,469,000**		**506,027,000,000**	**35,988,000**
unit cost (per ha)			**17,901,864**	**1,273**		**15,828,615**	**1,126**		**12,189,822**	**867**		**14,028,638**	**998**

Table O.1.2 BILL OF QUANTITY IN F/S AREA

Work Items	unit	BT1	BT2	G1-4	Total	Unit cost	Construction cost	Total cost	Land lost	Compensation	Compensation	Remarks
						(VND)	(VND)	(USD)	(m2/m)	(VND)	(USD)	
1. Dyke Improvement	**m**	**10,375**	**13,400**	**14,450**	**38,225**		**9,068,343,000**	**647,739**		**10,509,480,000**	**750,677**	
1-1 Dyke with car road	**m**	**3,200**	**2,650**	**3,300**	**9,150**		**2,931,192,000**	**209,371**		**2,833,680,000**	**202,406**	**EL 4.70m B=5.0m**
Dyke road exist A2	m	3,200	900		4,100	300,480	1,231,968,000	87,998	11.8	1,161,120,000	82,937	GL=1.0, m=1.5
August dyke exist A3	m		1,750	3,300	5,050	336,480	1,699,224,000	121,373	13.8	1,672,560,000	119,469	
No dyke at present A4	m				0	439,980	0	0	21.8	0	0	
1-2 Dyke with motorbike road	**m**	**7,175**	**10,750**	**11,150**	**29,075**		**6,137,151,000**	**438,368**		**7,675,800,000**	**548,271**	**EL 4.50m B=3.0m**
August dyke exist A1	m	7,175	10,750	11,150	29,075	211,080	6,137,151,000	438,368	11.0	7,675,800,000	548,271	GL=1.0, m=1.5
No dyke at present A0	m				0	314,580	0	0	19.0	0	0	
2. Bridge Development	**pcs**	**1**	**2**	**3**	**6**		**3,237,000,000**	**231,214**				
2-1 Bridge for car	**pcs**	**1**	**1**	**1**	**3**		**2,652,000,000**	**189,429**				**B=5.0m H12**
L=15m (present 12m)	pcs	1	1		2	816,000,000	1,632,000,000	116,571				
L=18m (present 15m)	pcs			1	1	1,020,000,000	1,020,000,000	72,857				
2-2 Bridge for motorbike	**pcs**	**0**	**1**	**2**	**3**		**585,000,000**	**41,786**				**B=3.0m**
L=15m (present 12m)	pcs		1	1	2	180,000,000	360,000,000	25,714				
L=18m (present 15m)	pcs			1	1	225,000,000	225,000,000	16,071				
3. Watergate Development	**pcs**	**2**	**3**	**6**	**11**		**1,232,000,000**	**88,000**				
3-1 Watergate with car pass	**pcs**	**1**	**1**	**1**	**3**		**594,000,000**	**42,429**				
Watergate for pump station	pcs	1	1	1	3	198,000,000	594,000,000	42,429				B=1.0+2.5+1.0m
Watergate without pump station	pcs				0	99,000,000	0	0				B=3.0m
3-2 Watergate with motorbike pass	**pcs**	**1**	**2**	**5**	**8**		**638,000,000**	**45,571**				
Watergate for pump station	pcs		1	2	3	116,000,000	348,000,000	24,857				B=1.0+2.5+1.0m
Watergate without pump station	pcs	1	1	3	5	58,000,000	290,000,000	20,714				B=2.5m
4. Culvert Development	**pcs**	**19**	**24**	**23**	**66**		**6,593,429,000**	**470,959**				
4-1 Large size culvert	pcs	6	7	10	23	142,733,000	3,282,859,000	234,490				D=1000
4-2 Small size culvert*	pcs	13	17	13	43	76,990,000	3,310,570,000	236,469				D=600
TOTAL							**20,130,772,000**	**1,437,912**		**10,509,480,000**	**750,677**	
							2,670,332,000	190,738				
*:Estimation of required number of small culverts							370,879					
No. of WG & Large Culvert	pcs	8	10	16	34							
Minimum Pitch	m	500	500	500	1,500							
Required No.	pcs	21	27	29	77							
No. of Small Culvert	pcs	13	17	13	43							

Table O.1.3 Bill of Quantity of Block-4 (1/3)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Work Items	unit	BT1	BT2	BT3B	BT4	BT5A	BT5B	BT5C	BTH1A	BTH1B	BTH2A	BTH2B	BTH3	BTH4	BTH5	BTH6	TM1-BT3A	TM2	TM3	TP1
Total Area of Dyke Unit	ha	476	580	724	274	190	197	262	125	225	336	434	225	506	434	545	1,443	900	1,200	615
Cultivated Area of Dyke Unit	ha	432	522	489	245	169	176	234	116	208	319	413	201	474	379	532	1,085	727	838	545
1. Dyke Improvement	**m**	**10,375**	**13,400**	**11,500**	**7,750**	**7,115**	**6,685**	**8,335**	**5,720**	**6,940**	**8,500**	**10,100**	**7,600**	**9,130**	**9,300**	**12,150**	**18,290**	**14,475**	**13,629**	**11,730**
1-1 Dyke with car road (EL 4.70m)	**m**	**3,200**	**2,650**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Dyke road exist	m	3,200	900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August dyke exist	m	0	1,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No dyke at present	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-2 Dyke with motorbike road (EL 4.50m)	**m**	**7,175**	**10,750**	**11,500**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18,290**	**8,710**	**0**	**0**
August dyke exist	m	7,175	10,750	11,500	0	0	0	0	0	0	0	0	0	0	0	0	18,290	8,710	0	0
No dyke at present	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3 Dyke with car road (EL 4.30m)	**m**	**0**	**0**	**0**	**2,875**	**1,150**	**0**	**4,600**	**0**	**0**	**0**	**0**	**1,480**	**2,760**	**0**	**0**	**0**	**0**	**3,989**	**4,050**
Dyke road exist	m	0	0	0	0	0	0	2,900	0	0	0	0	0	0	0	0	0	0	0	0
August dyke exist	m	0	0	0	2,875	1,150	0	1,700	0	0	0	0	1,480	2,760	0	0	0	0	3,989	4,050
No dyke at present	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-4 Dyke with motorbike road (EL 4.20m)	**m**	**0**	**0**	**0**	**4,875**	**3,765**	**6,685**	**3,735**	**5,720**	**6,940**	**5,680**	**10,100**	**6,120**	**5,200**	**6,700**	**6,300**	**0**	**0**	**7,870**	**4,700**
August dyke exist	m	0	0	0	4,875	3,765	6,685	3,735	5,720	6,940	5,680	10,100	6,120	5,200	6,700	6,300	0	0	7,870	4,700
No dyke at present	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-5 Dyke not necessary to be improved	**m**					**2,200**					**2,820**			**1,170**	**2,600**	**5,850**		**5,765**	**1,770**	**2,980**
2. Bridge Development	**pcs**	**1**	**2**	**3**	**3**	**2**	**1**	**4**	**1**	**2**	**2**	**1**	**3**	**2**	**2**	**0**	**1**	**0**	**1**	**0**
2-1 Bridge for car	**pcs**	**1**	**1**	**0**	**2**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**
L=13m (present 10m)																				
L=15m (present 12m)	pcs	1	1					2						1						
L=18m (present 15m)	pcs												1							
L=21m (present 18m)	pcs				1								1							
L=23m (present 20m)	pcs					1														
L=28m (present 25m)	pcs				1			1												
L=33m (present 30m)	pcs																			
L=43m (present 40m)	pcs																			
2-2 Bridge for motorbike	**pcs**	**0**	**1**	**3**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**1**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**0**
L=13m (present 10m)	pcs									1	2									
L=15m (present 12m)	pcs		1	2			1						1							
L=18m (present 15m)	pcs				1	1			1	1					1					
L=21m (present 18m)	pcs											1		1	1		1			
L=23m (present 20m)	pcs			1				1												
L=28m (present 25m)	pcs																		1	
3. Watergate Development	**pcs**	**2**	**3**	**2**	**4**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**4**	**4**	**0**	**9**	**0**	**0**	**0**	**4**
3-1 Watergate with car pass	**pcs**	**1**	**1**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**1**
Watergate for pump station	pcs	1	1					1												
Watergate without pump station	pcs				2			1					1	2						1
3-2 Watergate with motorbike pass	**pcs**	**1**	**2**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**2**	**0**	**9**	**0**	**0**	**0**	**3**
Watergate for pump station	pcs		1																	
Watergate without pump station	pcs	1	1	2	2						2		3	2		9				3
4. Culvert Development	**pcs**	**19**	**24**	**21**	**12**	**15**	**14**	**15**	**12**	**14**	**15**	**21**	**12**	**17**	**19**	**16**	**37**	**29**	**28**	**20**
4-1 Large size culvert under motorbike dyke	pcs	6	7	8	8	7	6	7	5	6	10	16	5	17	13	2	11	10	12	11
4-2 Small size culvert under motorbike dyke*	pcs	13	17	13	4	8	8	8	7	8	5	5	7	0	6	14	26	19	16	9
4-3 Large size culvert under car dyke	pcs	4	2	0	6			3												6
4-4 Small size culvert under car dyke*	pcs	0	4	3	0			3												2
5. Control Gate	**pcs**	**6**	**7**	**6**	**4**	**4**	**4**	**5**	**3**	**4**	**5**	**6**	**4**	**5**	**5**	**7**	**10**	**8**	**7**	**6**
	pcs	6	7	6	4	4	4	5	3	4	5	6	4	5	5	7	10	8	7	6
	pcs																			

*:Estimation of required number of small culverts

No. of WG & Large Culvert	pcs	8	10	10	12	7	6	9	5	6	12	16	9	21	13	11	11	10	12	15
Minimum Pitch	m	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Required No.	pcs	21	27	23	16	15	14	17	12	14	17	21	16	19	19	25	37	29	28	24
No. of Small Culvert	pcs	13	17	13	4	8	8	8	7	8	5	5	7	0	6	14	26	19	16	9

Table O.1.3 Bill of Quantity of Block-4 (2/3)

	20	21	22	23	24	25	26	27	28	29	30	31	32	33		
Work Items	TP2-TT1	G2	G3	G4-G1B	G5	G6A	G7	G8-G6B	M1	M2	T1	T2	TN1	TN2-G1A	TOTAL	Remarks
Total Area of Dyke Unit	325	459	585	986	144	122	599	264	414	737	166	601	766	1,990	21,153	
Cultivated Area of Dyke Unit	261	448	555	870	131	120	512	251	392	508	97	444	670	1,324	18,228	
1. Dyke Improvement	**6,425**	**15,000**	**14,600**	**14,450**	**4,950**	**5,400**	**12,550**	**8,400**	**11,624**	**12,474**	**6,150**	**9,826**	**12,390**	**17,660**	**375,887**	
1-1 Dyke with car road (EL 4.70m)	**0**	**6,700**	**0**	**3,300**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,680**	**18,530**	**EL 4.70m B=5.0m**
Dyke road exist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,100	
August dyke exist	0	6,700	0	3,300	0	0	0	0	0	0	0	0	0	2,680	14,430	
No dyke at present	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-2 Dyke with motorbike road (EL 4.50m)	**0**	**8,300**	**14,600**	**11,150**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9,390**	**8,750**	**108,615**	**EL 4.50m B=3.0m**
August dyke exist	0	8,300	14,600	11,150	0	0	0	0	0	0	0	0	9,390	8,750	108,615	
No dyke at present	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-3 Dyke with car road (EL 4.30m)	**0**	**0**	**0**	**0**	**750**	**1,550**	**6,900**	**0**	**4,797**	**0**	**3,137**	**3,866**	**0**	**0**	**41,904**	**EL 4.30m B=5.0m**
Dyke road exist	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,900	
August dyke exist	0	0	0	0	750	1,550	6,900	0	4,797	0	3,137	3,866	0	0	39,004	
No dyke at present	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-4 Dyke with motorbike road (EL 4.20m)	**3,725**	**0**	**0**	**0**	**4,200**	**3,850**	**5,650**	**8,400**	**6,827**	**12,474**	**3,013**	**5,960**	**0**	**0**	**138,489**	**EL 4.20m B=3.0m**
August dyke exist	3,725	0	0	0	4,200	3,850	5,650	8,400	6,827	12,474	3,013	5,960	0	0	138,489	
No dyke at present	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-5 Dyke not necessary to be improved	**2,700**												**3,000**	**6,230**	**68,349**	
2. Bridge Development	**0**	**2**	**0**	**3**	**1**	**0**	**2**	**0**	**3**	**0**	**2**	**1**	**0**	**0**	**45**	
2-1 Bridge for car	**0**	**1**	**0**	**1**	**1**	**0**	**2**	**0**	**2**	**0**	**2**	**1**	**0**	**0**	**21**	**B=5.0m H-8**
L=13m (present 10m)											2				2	
L=15m (present 12m)															5	
L=18m (present 15m)				1											2	
L=21m (present 18m)									1						3	
L=23m (present 20m)					1		2								4	
L=28m (present 25m)															2	
L=33m (present 30m)		1													1	
L=43m (present 40m)									1			1			2	
2-2 Bridge for motorbike	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**24**	**B=3.0m**
L=13m (present 10m)															3	
L=15m (present 12m)				1											6	
L=18m (present 15m)		1		1					1						8	
L=21m (present 18m)															4	
L=23m (present 20m)															2	
L=28m (present 25m)															1	
3. Watergate Development	**3**	**0**	**0**	**6**	**0**	**1**	**2**	**2**	**2**	**4**	**2**	**4**	**2**	**5**	**69**	
3-1 Watergate with car pass	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**1**	**1**	**3**	**19**	
Watergate for pump station				1									1	3	8	B=1.0+2.5+1.0m
Watergate without pump station							1		1		1	1			11	B=2.5m
3-2 Watergate with motorbike pass	**3**	**0**	**0**	**5**	**0**	**1**	**1**	**2**	**1**	**4**	**1**	**3**	**1**	**2**	**50**	
Watergate for pump station				2											3	B=1.0+2.5+1.0m
Watergate without pump station	3			3		1	1	2	1	4	1	3	1	2	47	B=2.5m
4. Culvert Development	**10**	**30**	**30**	**23**	**10**	**10**	**24**	**15**	**22**	**21**	**11**	**16**	**23**	**31**	**636**	
4-1 Large size culvert under motorbike dyke	6	8	8	10	4	2	9	4	10	10	1	11	11	15	276	D=1000
4-2 Small size culvert under motorbike dyke*	4	22	22	13	6	8	15	11	12	11	10	5	12	16	360	D=600
4-3 Large size culvert under car dyke		4		4			6		5		1	3		7	51	D=1000
4-4 Small size culvert under car dyke*		9		2			4		6		5	5		0	43	D=600
5. Control Gate	**4**	**8**	**8**	**8**	**3**	**3**	**7**	**5**	**6**	**7**	**4**	**5**	**7**	**9**	**190**	
	4	8	8	8	3	3	7	5	6	7	4	5	7	9	190	B=2.5mX2, EL3.00 and 3.20
															0	

*:Estimation of required number of small culverts

No. of WG & Large Culvert	9	8	8	16	4	3	11	6	12	14	3	15	13	20	345
Minimum Pitch	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Required No.	13	30	30	29	10	11	26	17	24	25	13	20	25	36	752
No. of Small Culvert	4	22	22	13	6	8	15	11	12	11	10	5	12	16	407

Table O.1.3 Bill of Quantity of Block-4 (3/3)

14,061 24,000

Work Items Total Area of Dyke Unit Cultivated Area of Dyke Unit	Unit Price (VND)	Construction Cost (VND)	Construction Cost (USD)	Land Loss (m^2/m)	Compensation (VND)	Compensation (USD)	Total Cost (VND)	Total Cost (USD)
1. Dyke Improvement		**68,120,073,036**	**4,844,611**	**147**	**79,885,146,720**	**5,681,328**	**148,005,219,756**	**10,525,938**
1-1 Dyke with car road (EL 4.70m)		**6,210,374,400**	**441,674**	**47**	**5,940,336,000**	**422,469**	**12,150,710,400**	**864,143**
Dyke road exist	330,480	1,354,968,000	96,364	12	1,161,120,000	82,577	2,516,088,000	178,941
August dyke exist	336,480	4,855,406,400	345,310	14	4,779,216,000	339,892	9,634,622,400	685,202
No dyke at present	439,980	0	0	22	0	0	0	0
1-2 Dyke with motorbike road (EL 4.50m)		**22,926,454,200**	**1,630,500**	**30**	**28,674,360,000**	**2,039,283**	**51,600,814,200**	**3,669,783**
August dyke exist	211,080	22,926,454,200	1,630,500	11	28,674,360,000	2,039,283	51,600,814,200	3,669,783
No dyke at present	314,580	0	0	19	0	0	0	0
1-3 Dyke with car road (EL 4.30m)		**12,674,212,128**	**901,373**	**43**	**12,365,464,320**	**879,416**	**25,039,676,448**	**1,780,789**
Dyke road exist	297,432	862,552,800	61,344	11	739,152,000	52,568	1,601,704,800	113,911
August dyke exist	302,832	11,811,659,328	840,030	12	11,626,312,320	826,848	23,437,971,648	1,666,878
No dyke at present	395,982	0	0	20	0	0	0	0
1-4 Dyke with motorbike road (EL 4.20m)		**26,309,032,308**	**1,871,064**	**27**	**32,904,986,400**	**2,340,160**	**59,214,018,708**	**4,211,224**
August dyke exist	189,972	26,309,032,308	1,871,064	10	32,904,986,400	2,340,160	59,214,018,708	4,211,224
No dyke at present	283,122	0	0	17	0	0	0	0
1-5 Dyke not necessary to be improved								
2. Bridge Development		**39,286,000,000**	**2,793,969**				**39,286,000,000**	**2,793,969**
2-1 Bridge for car		**31,756,000,000**	**2,258,445**				**31,756,000,000**	**2,258,445**
L=13m (present 10m)	884,000,000	1,768,000,000	125,738				1,768,000,000	125,738
L=15m (present 12m)	1,020,000,000	5,100,000,000	362,705				5,100,000,000	362,705
L=18m (present 15m)	1,224,000,000	2,448,000,000	174,099				2,448,000,000	174,099
L=21m (present 18m)	1,428,000,000	4,284,000,000	304,672				4,284,000,000	304,672
L=23m (present 20m)	1,564,000,000	6,256,000,000	444,919				6,256,000,000	444,919
L=28m (present 25m)	1,904,000,000	3,808,000,000	270,820				3,808,000,000	270,820
L=33m (present 30m)	2,244,000,000	2,244,000,000	159,590				2,244,000,000	159,590
L=43m (present 40m)	2,924,000,000	5,848,000,000	415,902				5,848,000,000	415,902
2-2 Bridge for motorbike		**7,530,000,000**	**535,524**				**7,530,000,000**	**535,524**
L=13m (present 10m)	225,000,000	675,000,000	48,005				675,000,000	48,005
L=15m (present 12m)	270,000,000	1,620,000,000	115,212				1,620,000,000	115,212
L=18m (present 15m)	315,000,000	2,520,000,000	179,219				2,520,000,000	179,219
L=21m (present 18m)	345,000,000	1,380,000,000	98,144				1,380,000,000	98,144
L=23m (present 20m)	420,000,000	840,000,000	59,740				840,000,000	59,740
L=28m (present 25m)	495,000,000	495,000,000	35,204				495,000,000	35,204
3. Watergate Development		**5,747,000,000**	**408,719**				**5,747,000,000**	**408,719**
3-1 Watergate with car pass		**2,673,000,000**	**190,100**				**2,673,000,000**	**190,100**
Watergate for pump station	198,000,000	1,584,000,000	112,652				1,584,000,000	112,652
Watergate without pump station	99,000,000	1,089,000,000	77,448				1,089,000,000	77,448
3-2 Watergate with motorbike pass		**3,074,000,000**	**218,619**				**3,074,000,000**	**218,619**
Watergate for pump station	116,000,000	348,000,000	24,749				348,000,000	24,749
Watergate without pump station	58,000,000	2,726,000,000	193,870				2,726,000,000	193,870
4. Culvert Development		**66,600,566,571**	**4,736,546**				**66,600,566,571**	**4,736,546**
4-1 Large size culvert under motorbike dyke	122,342,571	33,766,549,714	2,401,433				33,766,549,714	2,401,433
4-2 Small size culvert under motorbike dyke*	65,991,429	23,756,914,286	1,689,561				23,756,914,286	1,689,561
4-3 Large size culvert under car dyke	122,342,571	6,239,471,143	443,743				6,239,471,143	443,743
4-4 Small size culvert under car dyke*	65,991,429	2,837,631,429	201,809				2,837,631,429	201,809
5. Control Gate		**9,918,000,000**	**705,355**				**9,918,000,000**	**705,355**
	52,200,000	9,918,000,000	705,355				9,918,000,000	705,355
		0	0				0	0
		189,671,639,607	**13,489,200**	**147**	**79,885,146,720**	**5,681,328**	**269,556,786,327**	**19,170,527**
*:Estimation of required number of small culvert			740				14,788,062	1,052

No. of WG & Large Culvert
Minimum Pitch
Required No.
No. of Small Culvert

Table O.1.4 Bill of quantity of Block-8 (1/3)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Work Items	unit	CL1	CL2	CL3	CL4	CL5	CL6	CL7	CL8	CL9	CL10	CL11	CL12	CL13	CB1	CB2	CB3	CB4	CB5	CB6
Total Area of Dyke Unit	ha	171	624	737	487	428	861	640	486	822	693	226	632	862	759	1,092	131	450	432	643
Cultivated Area of Dyke Unit	ha	123	510	615	418	339	702	519	404	697	554	169	508	688	721	944	120	430	418	559
1. Dyke Improvement	**m**	**6,700**	**11,400**	**11,900**	**8,800**	**8,900**	**18,600**	**12,000**	**10,800**	**13,900**	**13,700**	**7,400**	**10,300**	**11,500**	**10,500**	**13,000**	**5,000**	**13,800**	**10,300**	**13,400**
1-1 Dyke with car road (EL 3.1m)	**m**	**0**	**4,000**	**3,600**	**3,700**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2,700**	**3,840**	**0**	**0**	**0**	**0**
Dyke road exist (EL2.2m~,W5.0m~)	m	0	4,000	3,600	3,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
More August Dyke exist (EL2.2m~)	m	0	0	0	0	0	0	0	0	0	0	0	0	0	2,700	3,840	0	0	0	0
August dyke exist (EL1.5~2.0m)	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August dyke exist (~EL1.3m)	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-2 Dyke with motorbike road (EL 2.90m)	**m**	**6,700**	**7,400**	**8,300**	**5,100**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7,800**	**9,160**	**5,000**	**0**	**0**	**0**
More August Dyke exist (EL2.2m~)	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August dyke exist (EL1.5~2.0m)	m	1,500	7,400	8,300	5,100	0	0	0	0	0	0	0	0	0	7,800	9,160	5,000	0	0	0
August dyke exist (~EL1.3m)	m	5,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-3 Dyke with car road (EL 2.80m)	**m**	**0**	**0**	**0**	**0**	**2,300**	**0**	**3,500**	**4,000**	**2,700**	**2,700**	**2,700**	**0**	**0**	**0**	**0**	**0**	**7,850**	**1,460**	**0**
Dyke road exist (EL2.2m~,W5.0m~)	m	0	0	0	0	2,300	0	0	0	0	2,700	2,700	0	0	0	0	0	0	0	0
More August Dyke exist (EL2.2m~)	m	0	0	0	0	0	0	0	0	2,700	0	0	0	0	0	0	0	7,850	1,460	0
August dyke exist (EL1.5~2.0m)	m	0	0	0	0	0	0	3,500	4,000	0	0	0	0	0	0	0	0	0	0	0
August dyke exist (~EL1.3m)	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-4 Dyke with motorbike road (EL 2.60m)	**m**	**0**	**0**	**0**	**0**	**6,600**	**18,600**	**8,500**	**6,800**	**8,200**	**11,000**	**4,700**	**10,300**	**11,500**	**0**	**0**	**0**	**5,000**	**8,840**	**10,880**
More August Dyke exist (EL2.2m~)	m	0	0	0	0	0	0	5,100	4,500	8,200	0	0	0	0	0	0	0	0	0	0
August dyke exist (EL1.5~2.0m)	m	0	0	0	0	6,600	10,800	3,400	2,300	0	11,000	4,700	9,300	8,000	0	0	0	5,000	8,840	10,880
August dyke exist (~EL1.3m)	m	0	0	0	0	0	7,800	0	0	0	0	0	1,000	3,500	0	0	0	0	0	0
1-5 Dyke not necessary to be improved	**m**									**3,000**								**950**		**2,520**
2. Bridge Development	**pcs**	**1**	**1**	**2**	**1**	**2**	**2**	**3**	**2**	**2**	**2**	**2**	**1**	**1**	**2**	**1**	**0**	**2**	**3**	**1**
2-1 Bridge for car	**pcs**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**1**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**
L=13m (present 10m)	pcs								1											
L=15m (present 12m)	pcs							1		1	1	1						1		
L=18m (present 15m)	pcs									1										
L=21m (present 18m)	pcs																			
L=23m (present 20m)	pcs											1							1	
L=28m (present 25m)	pcs																			
L=33m (present 30m)	pcs						1											1		
L=43m (present 40m)	pcs					1		1												
2-2 Bridge for motorbike	**pcs**	**1**	**1**	**2**	**1**	**1**	**1**	**1**	**1**	**0**	**1**	**0**	**1**	**1**	**2**	**1**	**0**	**0**	**2**	**1**
L=15m (present 12m)	pcs																			
L=18m (present 15m)	pcs	1		2	1	1								1	1	1				
L=21m (present 18m)	pcs		1																	
L=23m (present 20m)	pcs																		1	
L=28m (present 25m)	pcs						1	1	1		1		1							
L=33m (present 30m)	pcs														1				1	1
3. Watergate Development	**pcs**	**0**	**7**	**4**	**5**	**2**	**2**	**4**	**4**	**5**	**4**	**0**	**4**	**5**	**4**	**6**	**0**	**4**	**4**	**8**
3-1 Watergate with car pass	**pcs**	**0**	**2**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**2**	**0**	**0**
Watergate for pump station	pcs																			
Watergate without pump station	pcs		2	1	3						1				1	1		2		
3-2 Watergate with motorbike pass	**pcs**	**0**	**5**	**3**	**2**	**2**	**2**	**4**	**4**	**5**	**3**	**0**	**4**	**5**	**3**	**5**	**0**	**2**	**4**	**8**
Watergate for pump station	pcs																			
Watergate without pump station	pcs		5	3	2	2	2	4	4	5	3		4	5	3	5		2	4	8
4. Culvert Development	**pcs**	**14**	**16**	**20**	**13**	**16**	**36**	**20**	**18**	**23**	**24**	**15**	**17**	**18**	**17**	**20**	**10**	**24**	**17**	**19**
4-1 Large size culvert under motorbike dyke	pcs	5	0	3	2	8	8	4	6	5	12	4	5	6	4	1	2	6	4	5
4-2 Small size culvert* under motorbike dyke	pcs	9	8	10	2	3	28	9	6	7	7	4	12	12	8	11	8	5	10	14
4-3 Large size culvert under car dyke	pcs	0	2	3	1	3		3	0	3	1	2			5	7		5	1	
4-4 Small size culvert* under car dyke	pcs	0	6	4	8	2		4	6	8	4	5			0	1		8	2	
5. Control Gate	**pcs**	**4**	**6**	**6**	**5**	**5**	**10**	**6**	**6**	**7**	**7**	**4**	**6**	**6**	**6**	**7**	**3**	**7**	**6**	**7**
	pcs	4	6	6	5	5	10	6	6	7	7	4	6	6	6	7	3	7	6	7
	pcs																			

*:Estimation of required number of small culverts

No. of WG & Large Culvert	pcs	5	9	10	8	13	10	11	10	13	17	6	9	11	13	14	2	15	9	13
Minimum Pitch	m	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Required No.	pcs	14	23	24	18	18	38	24	22	28	28	15	21	23	21	26	10	28	21	27
No. of Small Culvert	pcs	9	14	14	10	5	28	13	12	15	11	9	12	12	8	12	8	13	12	14

Table O.1.4 Bill of quantity of Block-8 (2/3)

	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
Work Items	CB7	CB8	CB9	CB10	CB11	CB12	CB13	CB14	CB15	CB16	CB17	CB18	CB19	CB20	CB21	TOTAL	Remarks
Total Area of Dyke Unit	340	285	240	230	935	431	591	587	534	142	482	580	689	117	812	19,794	
Cultivated Area of Dyke Unit	315	255	215	210	898	414	572	550	507	126	470	562	663	112	769	17,843	
1. Dyke Improvement	**8,400**	**6,200**	**6,700**	**8,200**	**13,800**	**7,400**	**7,900**	**10,600**	**9,900**	**6,200**	**7,800**	**11,800**	**8,100**	**5,000**	**10,400**	**349,371**	
1-1 Dyke with car road (EL 3.1m)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17,840**	
Dyke road exist (EL2.2m~,W5.0m~)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,300	Dyke type C4
More August Dyke exist (EL2.2m~)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,540	Dyke type C5
August dyke exist (EL1.5~2.0m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Dyke type C6
August dyke exist (~EL1.3m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Dyke type C7
1-2 Dyke with motorbike road (EL 2.90m)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**49,460**	
More August Dyke exist (EL2.2m~)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Dyke type C1
August dyke exist (EL1.5~2.0m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44,260	Dyke type C2
August dyke exist (~EL1.3m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,200	Dyke type C3
1-3 Dyke with car road (EL 2.80m)	**3,030**	**0**	**0**	**3,300**	**580**	**0**	**0**	**1,600**	**1,430**	**0**	**0**	**4,570**	**0**	**0**	**0**	**41,720**	
Dyke road exist (EL2.2m~,W5.0m~)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,700	Dyke type D4
More August Dyke exist (EL2.2m~)	3,030	0	0	3,300	580	0	0	1,600	1,430	0	0	4,570	0	0	0	26,520	Dyke type D5
August dyke exist (EL1.5~2.0m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,500	Dyke type D6
August dyke exist (~EL1.3m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Dyke type D7
1-4 Dyke with motorbike road (EL 2.60m)	**5,370**	**4,470**	**5,650**	**3,700**	**13,220**	**7,400**	**7,900**	**7,100**	**6,190**	**6,200**	**5,550**	**2,660**	**5,810**	**5,000**	**10,400**	**207,540**	
More August Dyke exist (EL2.2m~)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17,800	Dyke type D1
August dyke exist (EL1.5~2.0m)	5,370	4,470	5,650	3,700	13,220	7,400	7,900	7,100	6,190	6,200	5,550	2,660	5,810	5,000	10,400	177,440	Dyke type D2
August dyke exist (~EL1.3m)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,300	Dyke type D3
1-5 Dyke not necessary to be improved		**1,730**	**1,050**	**1,200**				**1,900**	**2,280**		**2,250**	**4,570**	**2,290**			**32,811**	
2. Bridge Development	**1**	**0**	**0**	**0**	**3**	**2**	**0**	**1**	**1**	**0**	**1**	**3**	**2**	**0**	**2**	**47**	
2-1 Bridge for car	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**2**	**21**	**B=5.0m H-8**
L=13m (present 10m)																1	
L=15m (present 12m)																5	
L=18m (present 15m)	1											2				4	
L=21m (present 18m)																0	
L=23m (present 20m)									1							3	
L=28m (present 25m)															2	2	
L=33m (present 30m)					1			1								4	
L=43m (present 40m)																2	
2-2 Bridge for motorbike	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**26**	**B=3.0m**
L=15m (present 12m)																0	
L=18m (present 15m)						1										9	
L=21m (present 18m)																1	
L=23m (present 20m)																1	
L=28m (present 25m)											1	1	1			8	
L=33m (present 30m)					2	1							1			7	
3. Watergate Development	**2**	**2**	**2**	**2**	**8**	**4**	**0**	**5**	**4**	**2**	**5**	**4**	**2**	**0**	**3**	**117**	
3-1 Watergate with car pass	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**19**	
Watergate for pump station								1								1	B=1.0+2.5+1.0m
Watergate without pump station				1					2			4				18	B=2.5m
3-2 Watergate with motorbike pass	**2**	**2**	**2**	**1**	**8**	**4**	**0**	**4**	**2**	**2**	**5**	**0**	**2**	**0**	**3**	**98**	
Watergate for pump station																0	B=1.0+2.5+1.0m
Watergate without pump station	2	2	2	1	8	4		4	2	2	5		2		3	98	B=2.5m
4. Culvert Development	**15**	**11**	**12**	**15**	**20**	**11**	**16**	**17**	**16**	**11**	**11**	**20**	**15**	**10**	**18**	**575**	
4-1 Large size culvert under motorbike dyke	2	2	2	2	5	2	10	2	8	4	4	2	8	1	13	157	D=800 , L=9.8m
4-2 Small size culvert* under motorbike dyke	7	9	10	7	14	9	6	9	1	7	7	1	7	9	5	281	D=400 , L=9.8m
4-3 Large size culvert under car dyke	1			2	0			0	0			2				41	D=800 , L=11.8m
4-4 Small size culvert* under car dyke	5			4	1			6	7			15				96	D=400 , L=11.8m
5. Control Gate	**5**	**4**	**4**	**5**	**7**	**4**	**4**	**6**	**5**	**4**	**4**	**6**	**5**	**3**	**6**	**186**	
	5	4	4	5	7	4	4	6	5	4	4	6	5	3	6	186	B=2.5mX2, EL1.30 and 1.50
																0	
*:Estimation of required number of small culverts																	
No. of WG & Large Culvert	5	4	4	6	13	6	10	7	12	6	9	8	10	1	16	315	
Minimum Pitch	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	
Required No.	17	13	14	17	28	15	16	22	20	13	16	24	17	10	21	699	
No. of Small Culvert	12	9	10	11	15	9	6	15	8	7	7	16	7	9	5	384	

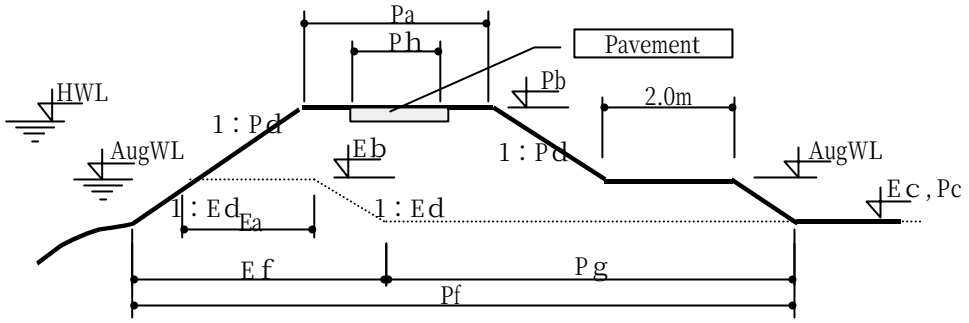
Table O.1.4 Bill of quantity of Block-8 (3/3)

14,061 24,000

Work Items Total Area of Dyke Unit Cultivated Area of Dyke Unit	Unit Price (VND)	Construction Cost (VND)	Construction Cost (USD)	Land Loss (m^2/m)	Compensation (VND)	Compensation (USD)	Total Cost (VND)	Total Cost (USD)
1. Dyke Improvement		**56,194,862,320**	**3,996,505**	**96.1**	**44,271,552,000**	**3,148,535**	**100,466,414,320**	**7,145,040**
1-1 Dyke with car road (EL 3.1m)		**6,131,707,520**	**436,079**	**31.9**	**2,483,232,000**	**176,604**	**8,614,939,520**	**612,683**
Dyke road exist (EL2.2m~,W5.0m~)	331,828	3,749,656,400	266,671	4.7	1,274,640,000	90,651	5,024,296,400	357,321
More August Dyke exist (EL2.2m~)	364,228	2,382,051,120	169,408	7.7	1,208,592,000	85,953	3,590,643,120	255,362
August dyke exist (EL1.5~2.0m)	383,101	0	0	9.1	0	0	0	0
August dyke exist (~EL1.3m)	397,600	0	0	10.4	0	0	0	0
1-2 Dyke with motorbike road (EL 2.90m)		**7,953,630,900**	**565,652**	**19.4**	**7,824,888,000**	**556,496**	**15,778,518,900**	**1,122,148**
More August Dyke exist (EL2.2m~)	140,412	0	0	5.1	0	0	0	0
August dyke exist (EL1.5~2.0m)	159,285	7,049,954,100	501,384	6.5	6,851,448,000	487,266	13,901,402,100	988,650
August dyke exist (~EL1.3m)	173,784	903,676,800	64,268	7.8	973,440,000	69,230	1,877,116,800	133,498
1-3 Dyke with car road (EL 2.80m)		**13,908,652,460**	**989,165**	**28.3**	**6,497,304,000**	**462,080**	**20,405,956,460**	**1,451,245**
Dyke road exist (EL2.2m~,W5.0m~)	303,568	2,337,473,600	166,238	3.8	702,240,000	49,942	3,039,713,600	216,180
More August Dyke exist (EL2.2m~)	335,968	8,909,871,360	633,658	6.8	4,328,064,000	307,806	13,237,935,360	941,465
August dyke exist (EL1.5~2.0m)	354,841	2,661,307,500	189,269	8.2	1,467,000,000	104,331	4,128,307,500	293,600
August dyke exist (~EL1.3m)	369,340	0	0	9.5	0	0	0	0
1-4 Dyke with motorbike road (EL 2.60m)		**28,200,871,440**	**2,005,609**	**16.7**	**27,466,128,000**	**1,953,355**	**55,666,999,440**	**3,958,964**
More August Dyke exist (EL2.2m~)	117,768	2,096,270,400	149,084	4.2	1,794,240,000	127,604	3,890,510,400	276,688
August dyke exist (EL1.5~2.0m)	136,641	24,245,579,040	1,724,314	5.6	23,635,008,000	1,680,891	47,880,587,040	3,405,205
August dyke exist (~EL1.3m)	151,140	1,859,022,000	132,211	6.9	2,036,880,000	144,860	3,895,902,000	277,071
1-5 Dyke not necessary to be improved								
2. Bridge Development		**44,119,000,000**	**3,137,686**				**44,119,000,000**	**3,137,686**
2-1 Bridge for car		**34,204,000,000**	**2,432,544**				**34,204,000,000**	**2,432,544**
L=13m (present 10m)	884,000,000	884,000,000	62,869				884,000,000	62,869
L=15m (present 12m)	1,020,000,000	5,100,000,000	362,705				5,100,000,000	362,705
L=18m (present 15m)	1,224,000,000	4,896,000,000	348,197				4,896,000,000	348,197
L=21m (present 18m)	1,428,000,000	0	0				0	0
L=23m (present 20m)	1,564,000,000	4,692,000,000	333,689				4,692,000,000	333,689
L=28m (present 25m)	1,904,000,000	3,808,000,000	270,820				3,808,000,000	270,820
L=33m (present 30m)	2,244,000,000	8,976,000,000	638,361				8,976,000,000	638,361
L=43m (present 40m)	2,924,000,000	5,848,000,000	415,902				5,848,000,000	415,902
2-2 Bridge for motorbike		**9,915,000,000**	**705,142**				**9,915,000,000**	**705,142**
L=15m (present 12m)	225,000,000	0	0				0	0
L=18m (present 15m)	270,000,000	2,430,000,000	172,818				2,430,000,000	172,818
L=21m (present 18m)	315,000,000	315,000,000	22,402				315,000,000	22,402
L=23m (present 20m)	345,000,000	345,000,000	24,536				345,000,000	24,536
L=28m (present 25m)	420,000,000	3,360,000,000	238,959				3,360,000,000	238,959
L=33m (present 30m)	495,000,000	3,465,000,000	246,426				3,465,000,000	246,426
3. Watergate Development		**5,748,000,000**	**408,790**				**5,748,000,000**	**408,790**
3-1 Watergate with car pass		**1,485,000,000**	**105,611**				**1,485,000,000**	**105,611**
Watergate for pump station	148,500,000	148,500,000	10,561				148,500,000	10,561
Watergate without pump station	74,250,000	1,336,500,000	95,050				1,336,500,000	95,050
3-2 Watergate with motorbike pass		**4,263,000,000**	**303,179**				**4,263,000,000**	**303,179**
Watergate for pump station	87,000,000	0	0				0	0
Watergate without pump station	43,500,000	4,263,000,000	303,179				4,263,000,000	303,179
4. Culvert Development		**41,712,152,000**	**2,966,514**				**41,712,152,000**	**2,966,514**
4-1 Large size culvert under motorbike dyke	97,412,000	15,293,684,000	1,087,667				15,293,684,000	1,087,667
4-2 Small size culvert* under motorbike dyke	54,488,000	15,311,128,000	1,088,907				15,311,128,000	1,088,907
4-3 Large size culvert under car dyke	117,292,000	4,808,972,000	342,008				4,808,972,000	342,008
4-4 Small size culvert* under car dyke	65,608,000	6,298,368,000	447,932				6,298,368,000	447,932
5. Control Gate		**9,709,200,000**	**690,506**				**9,709,200,000**	**690,506**
	52,200,000	9,709,200,000	690,506				9,709,200,000	690,506
		0	0				0	0
		157,483,214,320	**11,200,001**	**96**	**44,271,552,000**	**3,148,535**	**201,754,766,320**	**14,348,536**
*:Estimation of required number of small culverts			628				11,307,222	804

No. of WG & Large Culvert
Minimum Pitch
Required No.
No. of Small Culvert

Figure O.1.1 Typical Cross Section of Proposed Dike System



Cross Section

Dyke type	Existing dyke					Proposal dyke					Land lost	Gr.pavement
	W(m)	EL(m)	GL(m)	m	Landlst(m)	W(m)	EL(m)	GL(m)	m	Landlst(m)	(m2/m)	(m2)
	Ea	Eb	Ec	Ed	Ef	Pa	Pb	Pc	Pd	Pf	Pg	Ph
A0	0.0	0.00	0.0	0.0	0.0	3.0	4.50	1.0	1.5	15.5	15.500	1.50
A1	2.0	3.50	1.0	1.5	9.5	3.0	4.50	1.0	1.5	15.5	6.000	1.50
A2	4.0	3.50	1.0	1.5	11.5	5.0	4.70	1.0	1.5	18.1	6.600	3.00
A3	2.0	3.50	1.0	1.5	9.5	5.0	4.70	1.0	1.5	18.1	8.600	3.00
A4	0.0	0.00	0.0	0.0	0.0	5.0	4.70	1.0	1.5	18.1	18.100	3.00
A0	0.0	0.00	0.0	0.0	0.0	3.0	4.50	1.5	1.5	14.0	14.000	1.50
A1	2.0	3.50	1.5	1.5	8.0	3.0	4.50	1.5	1.5	14.0	6.000	1.50
A2	4.0	3.50	1.5	1.5	10.0	5.0	4.70	1.5	1.5	16.6	6.600	3.00
A3	2.0	3.50	1.5	1.5	8.0	5.0	4.70	1.5	1.5	16.6	8.600	3.00
A4	0.0	0.00	0.0	0.0	0.0	5.0	4.70	1.5	1.5	16.6	16.600	3.00
B0	0.0	0.00	0.0	0.0	0.0	3.0	4.20	1.0	1.5	14.6	14.600	1.50
B1	2.0	3.30	1.0	1.5	8.9	3.0	4.20	1.0	1.5	14.6	5.700	1.50
B2	4.0	3.30	1.0	1.5	10.9	5.0	4.30	1.0	1.5	16.9	6.000	3.00
B3	2.0	3.30	1.0	1.5	8.9	5.0	4.30	1.0	1.5	16.9	8.000	3.00
B4	0.0	0.00	0.0	0.0	0.0	5.0	4.30	1.0	1.5	16.9	16.900	3.00
B0	0.0	0.00	0.0	0.0	0.0	3.0	4.20	1.5	1.5	13.1	13.100	1.50
B1	2.0	3.30	1.5	1.5	7.4	3.0	4.20	1.5	1.5	13.1	5.700	1.50
B2	4.0	3.30	1.5	1.5	9.4	5.0	4.30	1.5	1.5	15.4	6.000	3.00
B3	2.0	3.30	1.5	1.5	7.4	5.0	4.30	1.5	1.5	15.4	8.000	3.00
B4	0.0	0.00	0.0	0.0	0.0	5.0	4.30	1.5	1.5	15.4	15.400	3.00
C1	2.0	2.20	0.7	1.5	6.5	3.0	2.90	0.7	1.5	11.6	5.100	1.50
C2	2.0	1.75	0.7	1.5	5.2	3.0	2.90	0.7	1.5	11.6	6.450	1.50
C3	2.0	1.30	0.7	1.5	3.8	3.0	2.90	0.7	1.5	11.6	7.800	1.50
C4	5.0	2.20	0.7	1.5	9.5	5.0	3.10	0.7	1.5	14.2	4.700	3.00
C5	2.0	2.20	0.7	1.5	6.5	5.0	3.10	0.7	1.5	14.2	7.700	3.00
C6	2.0	1.75	0.7	1.5	5.2	5.0	3.10	0.7	1.5	14.2	9.050	3.00
C7	2.0	1.30	0.7	1.5	3.8	5.0	3.10	0.7	1.5	14.2	10.400	3.00
D1	2.0	2.20	0.7	1.5	6.5	3.0	2.60	0.7	1.5	10.7	4.200	1.50
D2	2.0	1.75	0.7	1.5	5.2	3.0	2.60	0.7	1.5	10.7	5.550	1.50
D3	2.0	1.30	0.7	1.5	3.8	3.0	2.60	0.7	1.5	10.7	6.900	1.50
D4	5.0	2.20	0.7	1.5	9.5	5.0	2.80	0.7	1.5	13.3	3.800	3.00
D5	2.0	2.20	0.7	1.5	6.5	5.0	2.80	0.7	1.5	13.3	6.800	3.00
D6	2.0	1.75	0.7	1.5	5.2	5.0	2.80	0.7	1.5	13.3	8.150	3.00
D7	2.0	1.30	0.7	1.5	3.8	5.0	2.80	0.7	1.5	13.3	9.500	3.00

O.2 Cost Estimation of Rice Production / Marketing Improvement Project

O.2.1 Facility Design for seed producing farm

(1) Water requirement in depth

Amount of water for puddling is sometime bigger than other growing stage. However when rice are transplanted, water level are slightly high in the project site because of flood. Therefore water requirement is estimated as follows.

Water requirement in depth: 22mm/day (Evapotranspiration + percolation)

Evapotranspiration: 6.6mm/day (see Calculation sheet by Pemman Method)

Percolation: 15mm/day

(2) Gross water requirement

Gross water requirements are calculated as follows.

$G = W \times C \times 1/ Co \times 10$

Here in G: Gross water requirement (m^3/day)

C: Cultivated area: 110ha, 30ha

W: Water requirement in depth: 22mm/day

Co: Coefficient: 85%

Therefore

Gross water requirement 110ha: 0.494m^3/s

Gross water requirement 30ha: 0.135m^3/s

On condition that running time is 16hr per day for pump.

Pump head: 3m

(3) Pump size

Diameter 350mm x 2 for 110 ha and 300mm x 1 for 30ha are chosen referring to catalogue respectively.

(4) Design of irrigation canal

Conditions

Earth lining canal is adopted because of construction cost. Conditions of design are as follows.

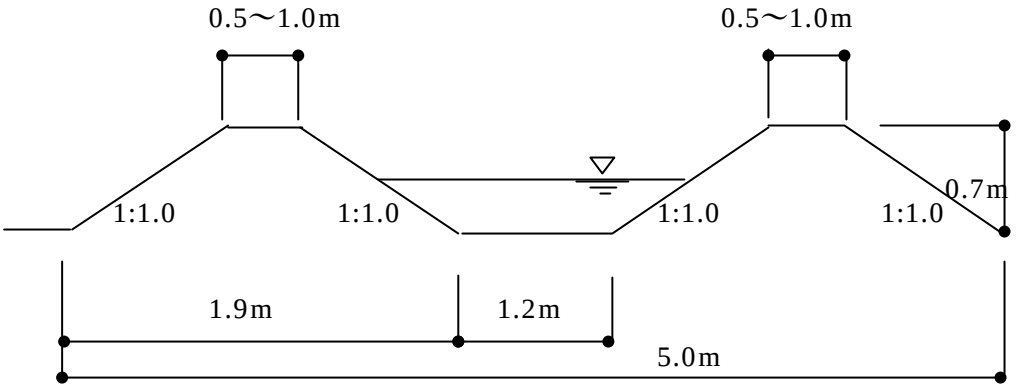
Design canal discharge : 0.494m^3/s

Allowable velocity

- Maximum allowable velocity : 0.45m/s
- Minimum allowable velocity : 0.70m/s

Cross section and canal slope

Manning formula is used to determine canal section and slope to consider with allowable velocity and canal land.



Manning formula

$Q = AV = A \times 1/n \times I^{1/2} \times R^{2/3}$

Q: Discharge 0.494 m^3/s

A: Cross section of flow

n: Coefficient of roughness 0.22

I: Bed slope 1/2500

R: Hydraulic mean depth

Therefore

Water depth	= 0.591m
Freeboard	= 0.103m
Velocity	= 0.467m/s

Unit amount for construction

Excavation	5.0 x 0.3	$=1.5m^3/m$
Embankment	(1.9+0.5) x 0.7 / 2 x 2+1.5	$=3.18m^3/m$

Calculation Sheet by Pemman Method

Data(at Cao Lan)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Temperature	25	26	27	29	28	28	27	27	27	27	27	25
Relative humidity (%)	82	81	78	78	84	86	87	87	86	86	82	81
Wind velocity (m/s)	1.1	1.3	1.5	1.4	1.2	1.5	1.2	1.7	1.1	1.1	1.3	1.1
(km/day)	95	112	130	121	104	130	104	147	95	95	112	95

Altitude 0**m**

Latitude 10°

Latitude 10°

Calculation (refer to "Crop water requirements" by FAO

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ea mba ① see table 3	33	33	37	39	38	37	36	36	36	36	35	33
RH/100 ②	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.8	0.8
ed mba ③ =①×②	26.7	27.1	28.5	30.7	32.2	31.6	31.4	31.2	31.2	31.0	28.8	26.3
ea-ed ④ = ③ - ①	5.8	6.3	8.0	8.7	6.1	5.2	4.7	4.7	5.1	5.1	6.3	6.2
f(u) ⑤ see table 7	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.5	0.5	0.6	0.5
(1 - W) ⑥ see table 8	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
(1 - W)f(u)(ea-ed) ⑦ = ⑥×⑤×④	0.8	0.9	1.2	1.2	0.8	0.7	0.6	0.7	0.6	0.6	0.9	0.9
Ra mm/day ⑧ see table 10	13	14	15	16	16	15	15	16	15	15	14	13
n hr/day ⑨	9.1	8.9	10.0	9.2	7.6	6.0	7.0	6.1	6.4	6.3	7.4	8.9
N hr/day ⑩ see table 11	12	12	12	12	12	12	12	12	12	12	12	12
n/N ⑪ = ⑨÷⑩	0.8	0.7	0.8	0.8	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.7
(0.25+0.50n/N) ⑫ = (0.25+0.50×⑪)	0.63	0.62	0.67	0.64	0.57	0.50	0.54	0.51	0.52	0.52	0.56	0.62
Rs mm/day ⑬ =⑫×⑧	8.3	8.8	10.3	10.0	8.8	7.7	8.3	7.9	8.0	7.6	7.6	8.0
Rns mm/day(1-α)RS ⑭ = ⑬× (1-α) α = 0.3	6.2	6.6	7.7	7.5	6.6	5.8	6.2	5.9	6.0	5.7	5.7	6.0
f(T) ⑮ see table 13	15.8	15.9	16.2	16.4	16.3	16.1	16.1	16.1	16.2	16.1	16.0	15.8
f(ed) ⑯ see table 14 ed are from③	0.12	0.11	0.11	0.10	0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.12
f(n/N) ⑰ see table 15, f(n/N)=0.1+0.9n/N	0.8	0.8	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.8
Rnl ⑱ Rnl=f(T)f(ed)f(n/N) mm/day=⑮×⑯×⑰	1.5	1.3	1.5	1.3	1.0	0.8	0.9	0.8	0.8	0.9	1.1	1.5
Rn ⑲ Rn=Rns-Rnl=⑭-⑱	4.7	5.3	6.2	6.2	5.6	5.0	5.3	5.1	5.2	4.8	4.6	4.5
W ⑳ see table 9	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
W×Rn 21 = ⑲×⑳	3.5	3.9	4.7	4.8	4.3	3.9	4.0	3.9	4.0	3.6	3.5	3.3
W×Rn+(1-W)f(u)(ea-ed) mm/day 21+⑦	4.3	4.8	5.9	6.0	5.1	4.6	4.6	4.6	4.6	4.2	4.4	4.2
C=1.0, ET0	4.3	4.8	5.9	6.0	5.1	4.6	4.6	4.6	4.6	4.2	4.4	4.2
Kc Values for rice (see table 28)												
kc	1.05	0.95	-	1.10	1.10	1.05	0.95	-	-	-	1.10	1.10
Etcrop	4.5	4.6	-	6.6	5.6	4.8	4.4	-	-	-	4.8	4.6

Source: Crop water requirements by FAO IRRIGATION AND DRAINAGE PAPER 24

Above table's number are also referring to same sources

Table O.2.1 Cost estimation of Seed Processing Farm

Exchange rate 1US$= VND 14,061

Item	unit	unit cost	Service Area 110ha			Service Area 30ha			Total		
			Q'ty	Cost	Equivalent in US$	Q'ty	Cost	Equivalent in US$	Q'ty	Cost	Equivalent in US$
1 Construction cost											
Canal	m	22,896	1,825	41,785,200	2,972	0	0	0	1,825	41,785,200	2,972
Bridge (for motorcycle, L=15m)	pcs	270,000,000	1	270,000,000	19,202			0	1	270,000,000	19,202
Pump Station											
Civil work (ϕ350x2)	pcs	350,000,000	1	350,000,000	24,892			0	1	350,000,000	24,892
Civil work (ϕ300x1)	pcs	240,000,000				1	240,000,000	17,068	1	240,000,000	17,068
Sub-total				**661,785,200**	**47,066**		**240,000,000**	**17,068**		**901,785,200**	**64,134**
Physical contingencies			10%	**66,179,000**	**5,000**	10%	**24,000,000**	**2,000**		**90,179,000**	**7,000**
Sub-total				**727,964,200**	**52,066**		**264,000,000**	**19,068**		**991,964,200**	**71,134**
Pump ϕ350	pcs	200,000,000	2	400,000,000	28,447			0	2	400,000,000	28,447
Pump ϕ300	pcs	150,000,000				1	150,000,000	10,668	1	150,000,000	10,668
Sub Total				400,000,000	28,447		150,000,000	10,668		550,000,000	39,115
Total				**1,127,964,200**	**80,513**		**414,000,000**	**29,736**		**1,541,964,200**	**110,249**
				1,128,000,000	**81,000**		**414,000,000**	**30,000**		**1,542,000,000**	**110,000**

Table O.2.2 Size of Training Center

- Determination of scale and number of training rooms

unit:days

Item \ Month	Necessary area (m^2)	Adopted area (m^2)	1	2	3	4	5	6	7	8	9	10	11	12	Total	Remarks
Training room																
・Managing Staff Training	30～40	40	10			10			10			10			40	10days ×4times×1cource
・Technical Stuff Training	30～40	40	15	15	15	15			15	15	15	15			120	15days×2times×4cources
・Seed Producing Farm Training	45～60	60							45	60	60	60	45		270	10days×3times×9cources
・Leader Training	75～100	100	15	15	15	15	15	15	15	15	15	15	15	15	180	5days×6times×6cources
・Accounting/Finance	37.5～50	40	60	60	60	60	60	60	60	60	60	60	60	60	720	10days×6times×12cources
・Post-harvest Processing Technology	15～20	20	6	6	6	6	6	6						4	40	2days×1time×20cources
・Quality Inspection and Control Technology	15～20	20	8	8	8	8	8	8					4	8	60	2days×1time×30cources
・Factory Management Technology	15～20	20	4	4	4	4	4								20	4days×1time×5cources
・Rice Processing Technology	15～20	20	6	6	6	6	6								30	6days×1time×5cources
Total			124	114	114	124	99	89	145	150	150	160	124	87	1,480	
Allocation of training room																
- Number of rooms are determined according to above training plan. Number of training days are 5 days in a week without weekend.																
Training Room 1 × 1room																
・Leader Training	75～100	100	15	15	15	15	15	15	15	15	15	15	15	15	180	5days×6times×6cources
Training Room 2 × 3rooms																
・Accounting/Finance	37.5～50	40	60	60	60	60	60	60	60	60	60	60	60	60	720	10days×6times×12cources
Training room 2 × 1room																
・Managing Stuff Training	30～40	40	10			10			10			10			40	10days×4times×1cource
・Technical Stuff Training	30～40	40		15	15		15	15		15	15		15	15	120	15days×2times×4cource
Training Room 3 × 3rooms																
・Seed Producing Farm Training	45～60	60							45	60	60	60	45		270	10days×3times×9cources
Training Room 2 and Training Room 3 (when these room are not occupied)																
・Post-harvest Processing Technology	15～20	20	6	6	6	6	6	6						4	40	2days×1time×20cources
・Quality Inspection and Control Technology	15～20	20	8	8	8	8	8	8					4	8	60	2days×1time×30cources
・Factory Management Technology[	15～20	20	4	4	4	4	4								20	4days×1time×5cources
・Rice Processing Technology	15～20	20	6	6	6	6	6								30	6days×1time×5cources

Necessary area are referred to "Sekisann to sekou" supervised by Agricultural Structure Improvement Bureau

Table O.2.3 Cost Estimation of Buildings

1$= VND 14,061 unit : VND

Item	Description	Quantity	Unit	Unit Cost	Total Amount	Remarks Equivalent in US$
Seed Storage Type 1 (An Phong, Dong Cat Farm)						
	Civil / Architectural Works	1	lot	7,785,905,000	7,785,905,000	
	Electrical Works	1	lot	152,190,000	152,190,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	562,440,000	562,440,000	
	Miscellaneous	1	lot	140,000,000	140,000,000	
	Sub Total				**8,640,535,000**	
	Physical Contingency	10%		8,640,535,000	864,053,500	
	Total				**9,504,588,500**	676,000
Seed Storage Type 2 (Dong Cat Farm)						
	Civil / Architectural Works	1	lot	5,973,735,000	5,973,735,000	
	Electrical Works	1	lot	152,190,000	152,190,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	562,440,000	562,440,000	
	Miscellaneous	1	lot	140,000,000	140,000,000	
	Sub Total				**6,828,365,000**	
	Physical Contingency	10%		6,828,365,000	682,836,500	
	Total				**7,511,201,500**	534,000
Seed Storage Type 3 (Hong Gue Seed Processing Center)						
	Civil / Architectural Works	1	lot	4,938,575,000	4,938,575,000	
	Electrical Works	1	lot	109,890,000	109,890,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	562,440,000	562,440,000	
	Miscellaneous	1	lot	140,000,000	140,000,000	
	Sub Total				**5,750,905,000**	
	Physical Contingency	10%		5,750,905,000	575,090,500	
	Total				**6,325,995,500**	450,000
Office (An Phong Farm)						
	Civil / Architectural Works	1	lot	1,124,800,000	1,124,800,000	
	Electrical Works	1	lot	56,200,000	56,200,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	0	0	
	Miscellaneous	1	lot	140,000,000	140,000,000	
	Sub Total				**1,321,000,000**	
	Physical Contingency	10%		1,321,000,000	132,100,000	
	Total				**1,453,100,000**	103,000
Garage (An Phong, Dong Cat Farm)						
	Civil / Architectural Works	1	lot	116,025,000	116,025,000	
	Electrical Works	1	lot	21,150,000	21,150,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	0	0	
	Miscellaneous	1	lot	0	0	
	Sub Total				**137,175,000**	
	Physical Contingency	10%		137,175,000	13,717,500	
	Total				**150,892,500**	11,000

Item	Description	Quantity	Unit	Unit Cost	Total Amount	Remarks Equivalent in US$
Rice Mill (Agricultural Extension Center)						
	Civil / Architectural Works	1	lot	2,201,820,000	2,201,820,000	
	Electrical Works	1	lot	66,975,000	66,975,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	0	0	
	Miscellaneous	1	lot	0	0	
	Sub Total				**2,268,795,000**	
	Physical Contingency	10%		2,268,795,000	226,879,500	
	Total				**2,495,674,500**	177,000
Model Coop (Gao Gong Coop)						
	Civil / Architectural Works	1	lot	6,140,214,000	6,140,214,000	
	Electrical Works	1	lot	195,945,000	195,945,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	0	0	
	Miscellaneous	1	lot	140,000,000	140,000,000	
	Sub Total				**6,476,159,000**	
	Physical Contingency	10%		6,476,159,000	647,615,900	
	Total				**7,123,774,900**	507,000
Model Coop (Puh Tho Coop)						
	Civil / Architectural Works	1	lot	6,129,016,000	6,129,016,000	
	Electrical Works	1	lot	191,730,000	191,730,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	0	0	
	Miscellaneous	1	lot	140,000,000	140,000,000	
	Sub Total				**6,460,746,000**	
	Physical Contingency	10%		6,460,746,000	646,074,600	
	Total				**7,106,820,600**	505,000
Training Center		400	m^2			
	Civil / Architectural Works	1	lot	3,656,120,000	3,656,120,000	
	Electrical Works	1	lot	73,320,000	73,320,000	
	Mechanical Works	1	lot	0	0	
	Fire Service	1	lot	0	0	
	Miscellaneous	1	lot	140,000,000	140,000,000	
	Sub Total				**3,869,440,000**	
	Physical Contingency	10%		3,869,440,000	386,944,000	
	Total				**4,256,384,000**	303,000

Table O.2.4 Bill of Quantity of Buildings

Seed Storage Type 1(An Phong, Dong Cat Farm)

unit: VND

1$= VND 14,061

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Seed Ware House	G/F 60 x 15	900	1	5,062,000	4,555,800,000	141,000	126,900,000	562,440,000	562,440,000	6,763,440,000
(pilling)		900	1	1,687,000	1,518,300,000					
Inspection Room and Office										
	G/F 6 x 15	90	1	5,624,000	506,160,000	281,000	25,290,000		0	657,990,000
(pilling)		90	1	1,406,000	126,540,000					
Drying Shed	G/F 15 x 15	225	1	2,109,000	474,525,000		0		0	474,525,000
Drying Floor	G/F 86 x 10	860	1	703,000	604,580,000		0		0	604,580,000
Total		2,075			7,785,905,000		152,190,000		562,440,000	8,500,535,000
					7,785,905,000		152,190,000		562,440,000	8,500,535,000

Seed Storage Type 2 (Dong Cat Farm)

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Seed Ware House	G/F 60 x 15	900	1	4,218,000	3,796,200,000	141,000	126,900,000	562,440,000	562,440,000	5,750,940,000
(pilling)		900	1	1406000	1,265,400,000					
Inspection Room and Office										
	G/F 6 x 15	90	1	5,624,000	506,160,000	281,000	25,290,000		0	657,990,000
(pilling)		90	1	1,406,000	126,540,000					
Drying Shed	G/F 15 x 15	225	1	703,000	158,175,000		0		0	158,175,000
Drying Floor	G/F 86 x 10	860	1	141,000	121,260,000		0		0	121,260,000
Total		2,075			5,973,735,000		152,190,000		562,440,000	6,688,365,000
					5,973,735,000		152,190,000		562,440,000	6,688,365,000

Seed Storage Type 3(Hong Gue Seed Processing Center)

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Seed Ware House	G/F 40 x 15	600	1	4,218,000	2,530,800,000	141,000	84,600,000	562,440,000	562,440,000	4,021,440,000
(pilling)		600	1	1406000	843,600,000					
Inspection Room and Office										
	G/F 6 x 15	90	1	5,624,000	506,160,000	281,000	25,290,000		0	657,990,000
(pilling)		90	1	1,406,000	126,540,000					
Drying Shed	G/F 15 x 15	225	1	2,109,000	474,525,000		0		0	474,525,000
Drying Floor	G/F 65 x 10	650	1	703,000	456,950,000		0		0	456,950,000
Total		1,565			4,938,575,000		109,890,000		562,440,000	5,610,905,000
					4,938,575,000		109,890,000		562,440,000	5,610,905,000

Office(An Phong Farm)

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Office	G/F 10 x 20	200	1	5,624,000	1,124,800,000	281,000	56,200,000	0	0	1,181,000,000
Total		200			1,124,800,000		56,200,000		0	1,181,000,000
					1,124,800,000		56,200,000		0	1,181,000,000

Garage(An Phong, Dong Cat Farm)

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Garage	G/F 15 x 10	150	1	703,000	105,450,000	141,000	21,150,000		0	126,600,000
Yard		75	1	141000	10,575,000		0		0	10575000
Total		225			116,025,000		21,150,000		0	137,175,000
					116,025,000		21,150,000		0	137,175,000

Rice Mill(Agricultural Extension Center)

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Rice Mill	G/F 15 x 25	375	1	4,218,000	1,581,750,000	141,000	52,875,000		0	1,634,625,000
(pilling)				1406000	0					
Inspection Room and Ware House										
	G/F 5 x 20	100	1	5,624,000	562,400,000	141,000	14,100,000		0	576,500,000
(pilling)				1,406,000	0					
Drying Shed	G/F 7 x 10	70	1	703,000	49,210,000		0		0	49,210,000
Drying Yard	5 x 12	60	1	141,000	8,460,000		0		0	8,460,000
Husk Store	5 x 7	35	1							
Total		640			2,201,820,000		66,975,000		0	2,268,795,000
					2,201,820,000		66,975,000		0	2,268,795,000

Model Coop(Gao Glong Coop)

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Rice Mill	G/F 15 x 40	600	1	4,218,000	2,530,800,000	141,000	84,600,000	0	0	2,615,400,000
(pilling)				1406000	0					
Ware House										
	G/F 25 x 28	700	1	4,218,000	2,952,600,000	141,000	98,700,000		0	3,051,300,000
(pilling)				1,406,000	0					
Office	G/F 4 x 10	40	1	5,624,000	224,960,000	281,000	11,240,000		0	236,200,000
Toilet & shower	G/F 2 x 2.5	5	1	5,624,000	28,120,000	281,000	1,405,000		0	29,525,000
Dryer	7 x 15	105		141000	14,805,000					
Dryer Yard	5 x 15	75		141000	10,575,000					
		320		141000	45,120,000					
Roof area	6 x 32	192		703000	134,976,000					
	6 x 7	42		703000	29,526,000					
Space foe Husk pile										
Landing Place	10			14,061,000	140,610,000					
	2			14,061,000	28,122,000					
Total		2,079			6,140,214,000		195,945,000		0	5,932,425,000
					6,140,214,000		195,945,000		0	6,336,159,000

Model Coop(Phu Tho Coop)

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Rice Mill	G/F 15 x 40	600	1	4,218,000	2,530,800,000	141,000	84,600,000	0	0	2,615,400,000
(pilling)				1406000	0					
Ware House										
	G/F 25 x 28	700	1	4,218,000	2,952,600,000	141,000	98,700,000		0	3,051,300,000
(pilling)				1,406,000	0					
Office	G/F 5 x 6	30	1	5,624,000	168,720,000	281,000	8,430,000		0	177,150,000
	G/F x	0	1	5,624,000	0	281,000	0		0	0
Dryer	7 x 15	105		141000	14,805,000					
Dryer Yard	21 x 28	500		141000	70,500,000					
				141000	0					
Roof area	5 x 5	25		703000	17,575,000					
	6 x 22	132		703000	92,796,000					
Space foe Husk pile										
Landing Place	10			14,061,000	140,610,000					
	10			14,061,000	140,610,000					
Total		2,092			6,129,016,000		191,730,000		0	6,320,746,000
					6,129,016,000		191,730,000		0	6,320,746,000

Training Center

unit: VND

Item	Dimension	Area m^2	Story	Civil		Electl.		Fire Service		Total
				Unit Cost	Cost	Unit Cost	Cost	Unit Cost	Cost	
Training Center	G/F 8 x 30	520	2	7,031,000	3,656,120,000	141,000	73,320,000	0	0	3,729,440,000
	G/F 4 x 10									
	2F 8 x 30									
Total					3,656,120,000		73,320,000		0	3,729,440,000
					3,656,120,000		73,320,000		0	3,729,440,000

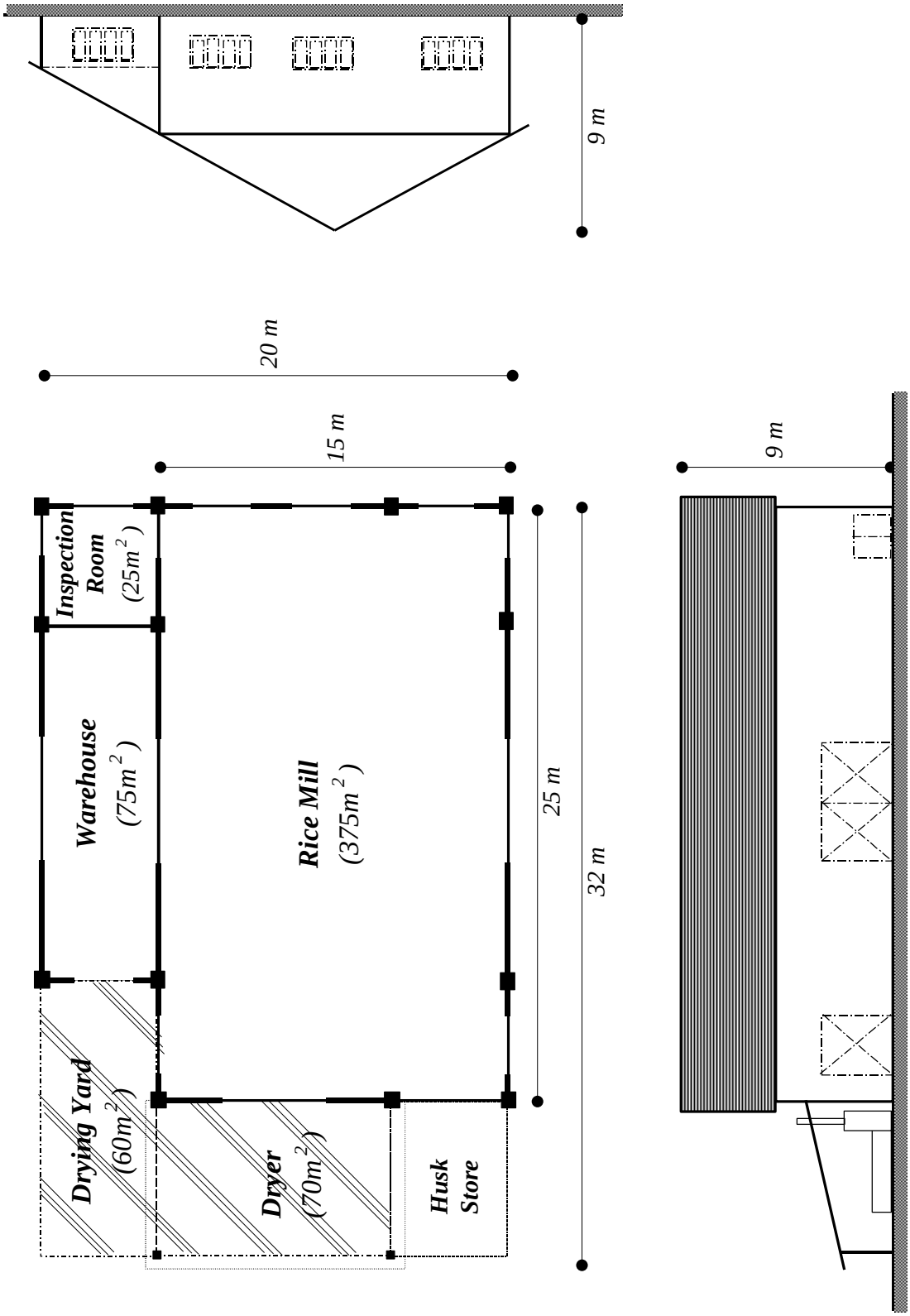
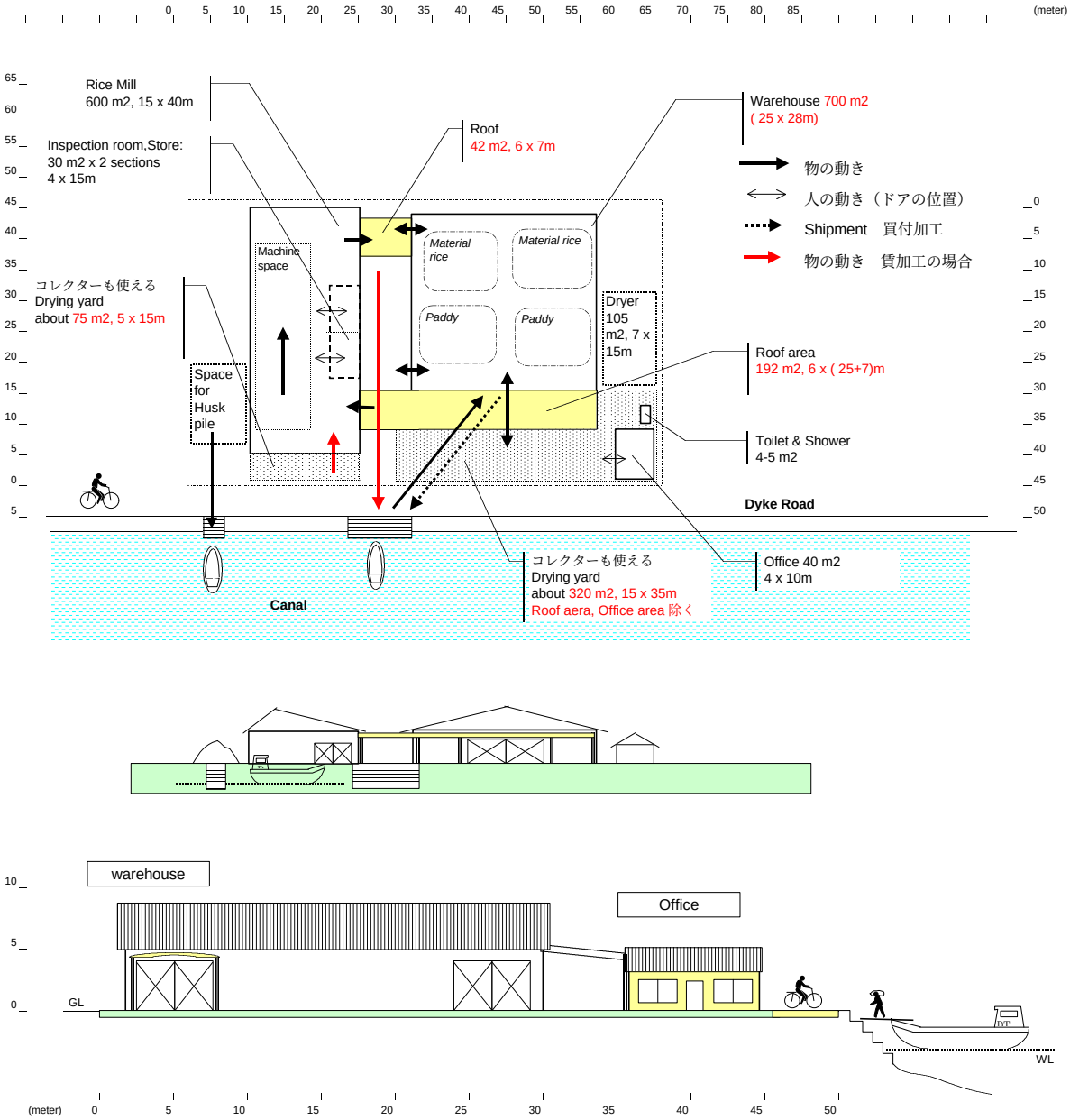
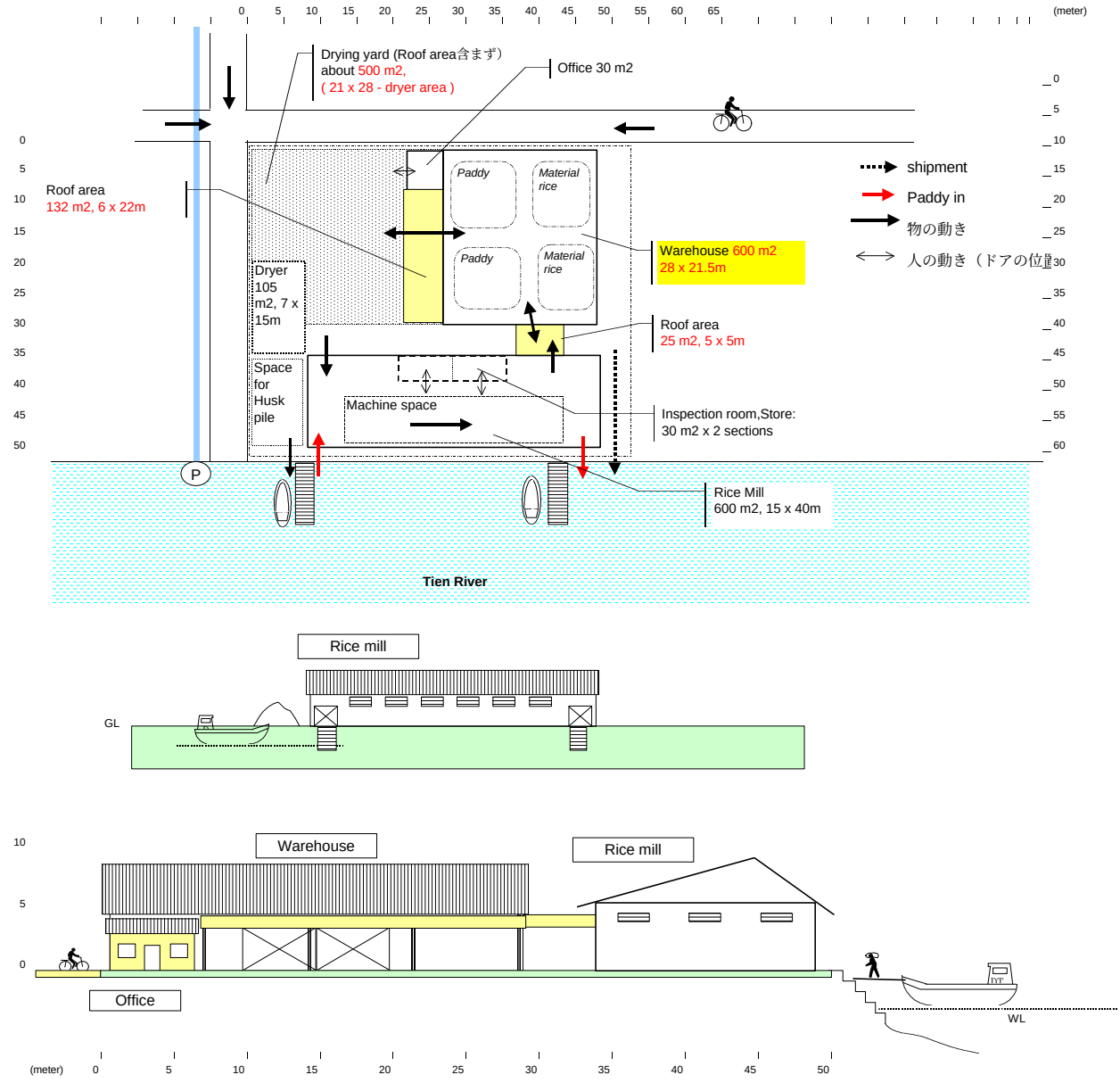


Figure O.2.1 Draings (1/8) Rice Mill



Model Coop. Project / Rice Mill Facility
Gao Giong Coop.

Figure. O.2.1 Drawings (2/8)



Model Coop. Project / Rice Mill Facility
Phu Tho Coop.

Figure O.2.1 Drawings (3/8)

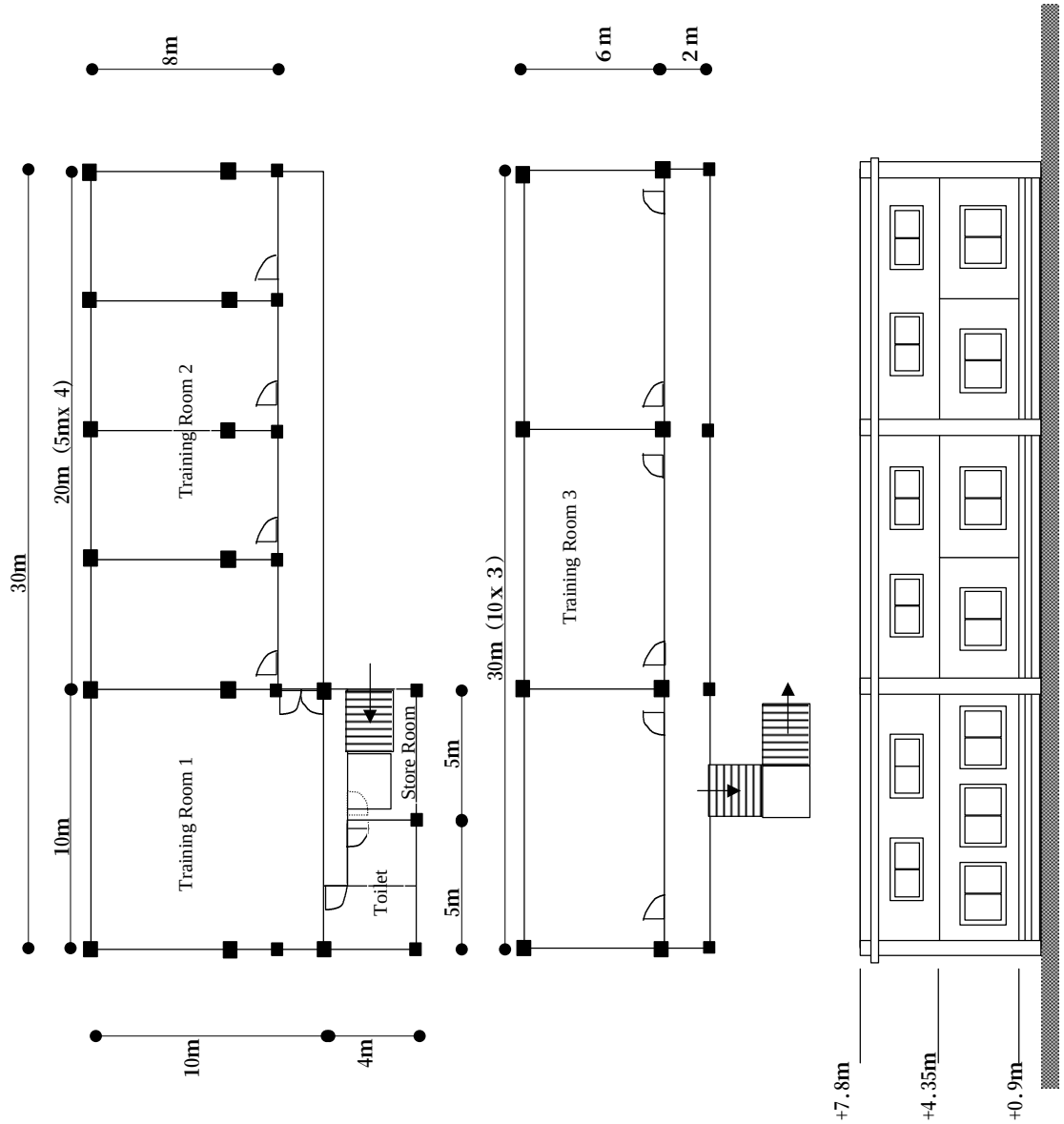


Figure O.2.1 Drawings (4/8) Training Center

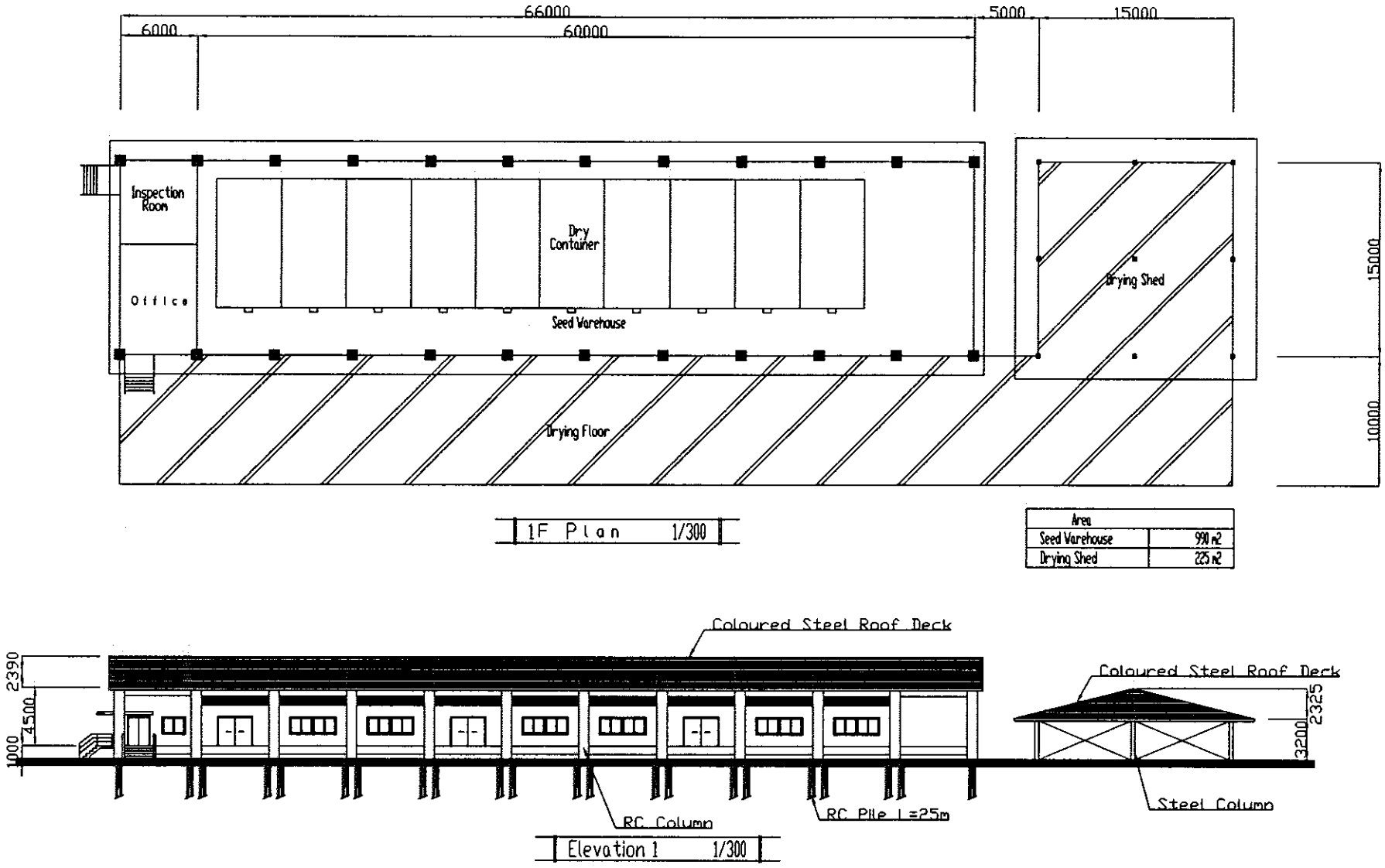


Figure O.2.1 Drawings (5/8) Seed Storage Type 1

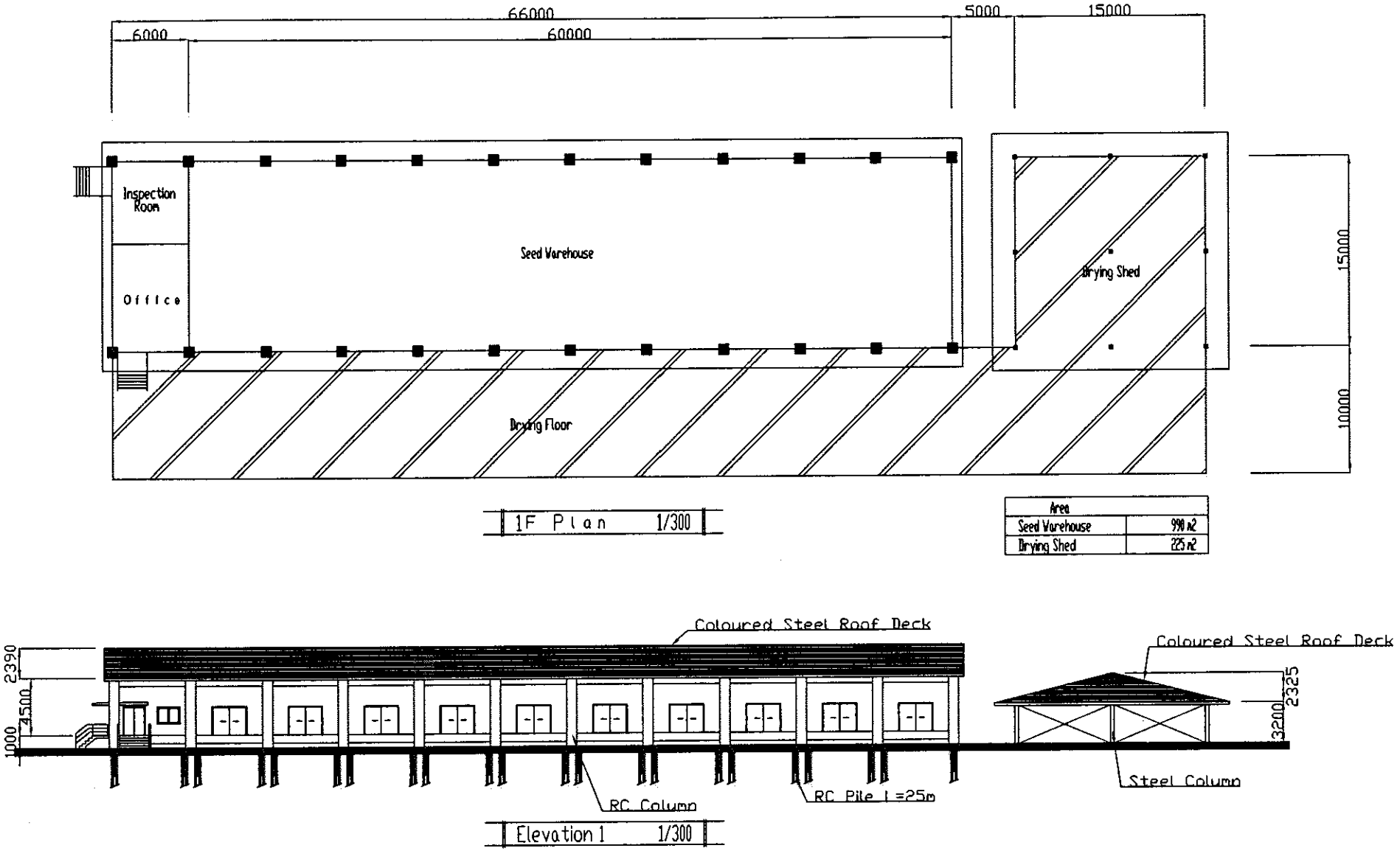


Figure O.2.1 Drawings (6/8) Seed Storage Type 2

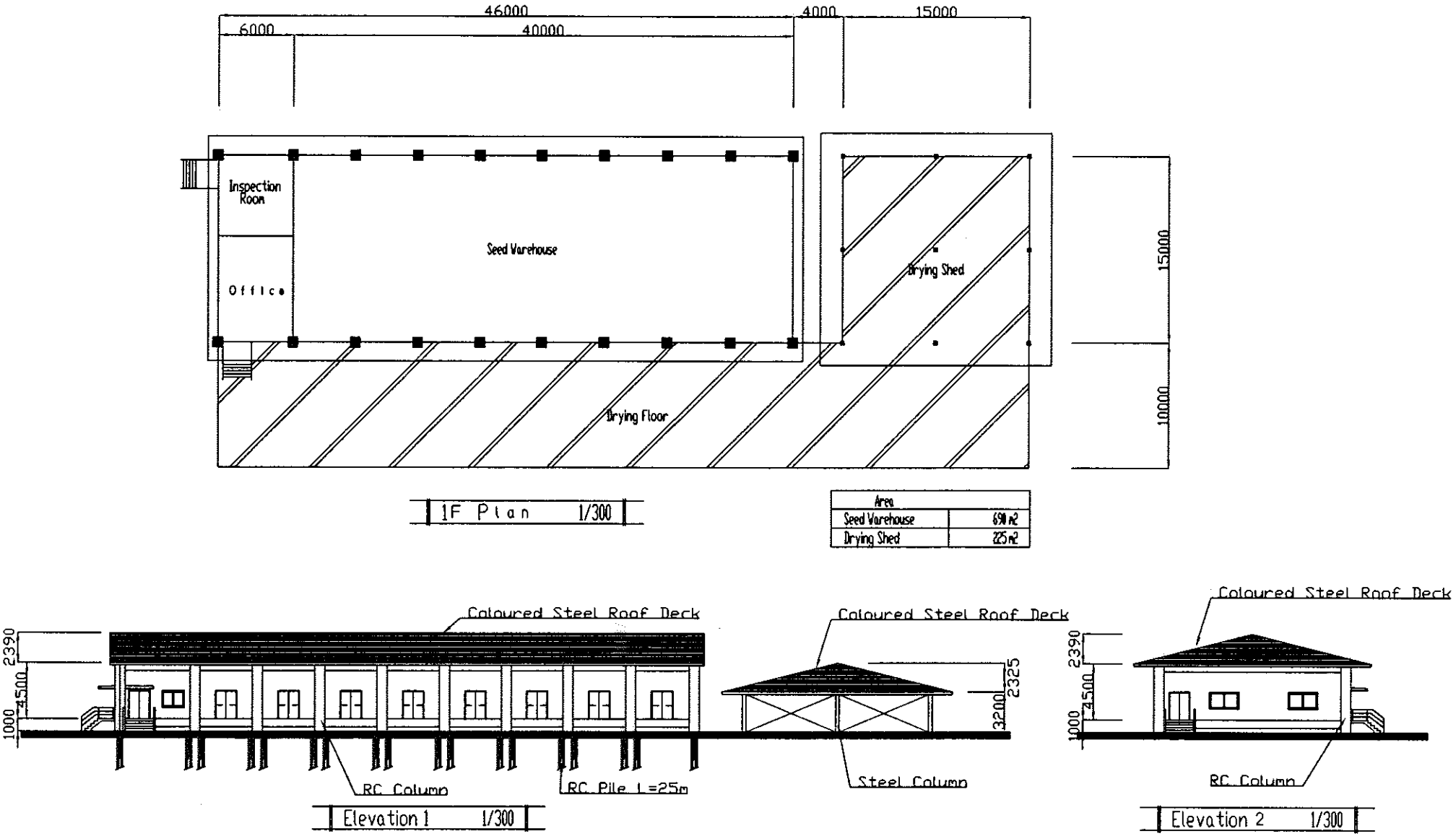
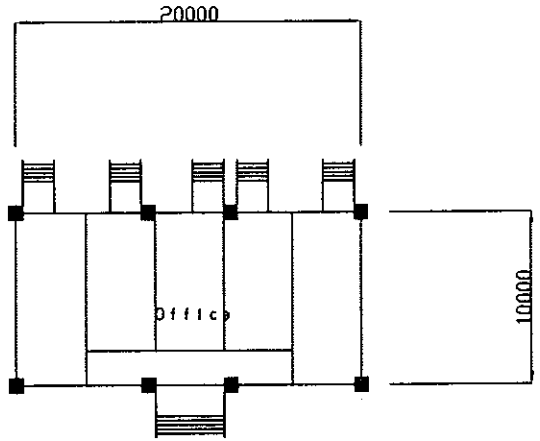
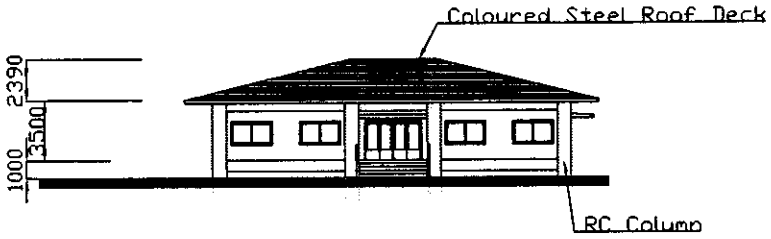


Figure O.2.1 Drawings (7/8) Seed Storage Type 3

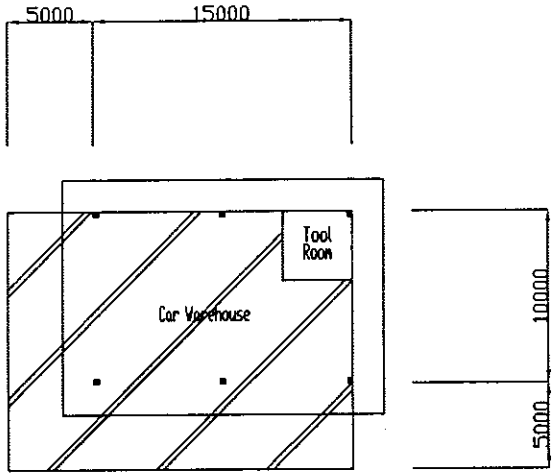


1F Plan 1/300



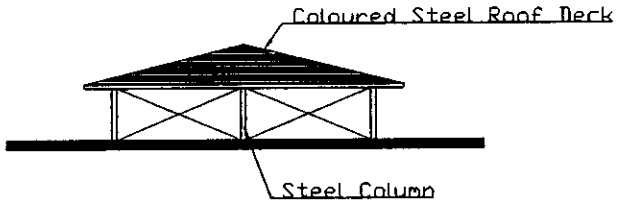
Elevation 1/300

Office



1F Plan 1/300

Area	
Office	200 m2
Car Warehouse	225 m2



Elevation 1/300

Garage

Figure O.2.1
Drawings (8/8)

Table O-3-1 Conversion Factor for Machinery Operation

Item	(1)Weight	(2)CFs	(1)x(2)
Fuel and Oils	0.6	0.59	0.36
Expendable supplies	0.1	0.70	0.07
Operatpor	0.2	0.97	0.19
Adoministration cost	0.1	0.97	0.10
Total	1.0		**0.72**

Table O-3-2 Conversion Factor for Earth Works

Item	(1)Weight	(2)CFs	(1)x(2)
Operation of Machinery	0.5	0.72	0.36
Unskilled Labor	0.3	0.49	0.15
Adoministration cost	0.2	0.97	0.19
Total	1.0		**0.70**

Table O-3-3 Conversion Factor for Concreat Works

Item	(1)Weight	(2)CFs	(1)x(2)
Cements	0.2	0.97	0.19
Reinfoecement Bar	0.3	0.81	0.24
Labor	0.2	0.97	0.19
Adoministration cost	0.3	0.97	0.29
Total	1.0		**0.92**

Table O.3.4 List of Costs for The Small Dike System Imorovement Project

	Financial Prices			Economic Prices		
	Local Portion	Foreign Portion	Sub-Total	Local Portion	Foreign Portion	Sub-Total
F/S Area						
Facility	0	0	0	0	0	0
Construction Works	22,144	0	22,144	18,478	0	**18,478**
Earth Works	9,068	0	9,068	6,348	0	6,348
Comcrete Works	11,063	0	11,063	10,178	0	10,178
Other Workd	2,013	0	2,013	1,953	0	1,953
Consultant Services	1,107	1,107	2,214	1,074	1,107	**2,181**
Sub-Total	23,251	1,107	24,358	19,552	1,107	20,659
Block-4						
Facility	0	0	0	0	0	0
Construction Works	208,637	0	208,637	177,908	0	**177,908**
Earth Works	68,120	0	0	47,684	0	47,684
Comcrete Works	121,550	0	0	111,826	0	111,826
Other Workd	18,967	0	0	18,398	0	18,398
Consultant Services	10,433	10,433	20,866	10,120	10,433	**20,553**
Sub-Total	219,070	10,433	229,503	188,028	10,433	198,461
Block-8						
Facility	0	0	0	0	0	0
Construction Works	173,232	0	173,232	147,798	0	**147,798**
Earth Works	56,195	0	0	39,337	0	39,337
Comcrete Works	101,289	0	0	93,186	0	93,186
Other Workd	15,748	0	0	15,276	0	15,276
Consultant Services	8,662	8,662	17,324	8,402	8,662	**17,064**
Sub-Total	181,894	8,662	190,556	156,200	8,662	164,862
Pre-F/S Total	400,964	19,095	420,059	344,228	9,769	**185,521**
Land Compensation						
F/S Area	10,509	0	10,509	10,194	0	**10,194**
Block-4	79,881	0	79,881	77,485	0	**77,485**
Block-8	44,278	0	44,278	42,950	0	**42,950**
Sub-Total	124,159	0	124,159	120,434	0	**120,434**
Operation and Maintenance Cost						
F/S Area	986	0	986	828	0	**828**
Block-4	9,857	0	9,857	8,280	0	**8,280**
Block-8	9,196	0	9,196	7,725	0	**7,725**
Sub-Total	19,053	0	19,053	16,005	0	**16,005**

Table O.3.5 List of Costs for The Rice Production/Marketing Improvement Project

	Financial Prices			Economic Prices		
	Local Portion	Foreign Portion	Sub-Total	Local Portion	Foreign Portion	Sub-Total
High Quality Seed Production/Supply Project						
Facility	801	13,822	14,623	617	13,822	14,439
Construction Works	36,010	0	36,010	33,309	0	33,309
Comcrete Works	32,409	0	32,409	29,816	0	29,816
Other Workd	3,601	0	3,601	3,493	0	3,493
Consultant Services	2,531	2,531	5,062	2,455	2,531	4,986
Sub-Total	39,342	16,353	55,695	36,381	16,353	52,734
Model Cooperative Project						
Facility	141	2,475	2,616	109	2,475	2,584
Construction Works	14,230	0	14,230	13,163	0	13,163
Comcrete Works	12,807	0	12,807	11,782	0	11,782
Other Workd	1,423	0	1,423	1,380	0	1,380
Consultant Services	844	844	1,688	819	844	1,663
Sub-Total	15,215	3,319	18,534	14,090	3,319	17,409
Improvement Project of Training/Extention System						
Facility	773	1,139	1,912	595	1,139	1,734
Construction Works	6,749	0	6,749	6,243	0	6,243
Comcrete Works	6,074	0	6,074	5,588	0	5,588
Other Workd	675	0	675	655	0	655
Consultant Services	436	436	872	423	436	859
Sub-Total	7,958	1,575	9,533	7,261	1,575	8,836
Total	62,515	21,247	83,762	57,732	21,247	**78,979**
Operation and Maintenance Cost						
High Quality Seed Production/Supply Project	0	0	0	0	0	0
Model Cooperative Project	0	0	0	0	0	0
Improvement Project of Training/Extention System	408	0	408	375	0	375
Sub-Total	408	0	408	375	0	**375**

Table O.3.6 List of Costs for The Small Dike System Imorovement Project (without Bridge)

	Financial Prices			Economic Prices		
	Local Portion	Foreign Portion	Sub-Total	Local Portion	Foreign Portion	Sub-Total
F/S Area						
Facility	0	0	0	0	0	0
Construction Works	18,907	0	18,907	15,500	0	**15,500**
Earth Works	9,068	0	9,068	6,348	0	6,348
Comcrete Works	7,826	0	7,826	7,200	0	7,200
Other Workd	2,013	0	2,013	1,953	0	1,953
Consultant Services	945	945	1,891	917	945	**1,862**
Sub-Total	19,852	945	20,798	16,417	945	17,362
Block-4						
Facility	0	0	0	0	0	0
Construction Works	169,351	0	208,637	141,765	0	**141,765**
Earth Works	68,120	0	0	47,684	0	47,684
Comcrete Works	82,264	0	0	75,683	0	75,683
Other Workd	18,967	0	0	18,398	0	18,398
Consultant Services	10,433	10,433	20,866	10,120	10,433	**20,553**
Sub-Total	219,070	10,433	229,503	151,885	10,433	162,318
Block-8						
Facility	0	0	0	0	0	0
Construction Works	129,113	0	173,232	107,208	0	**107,208**
Earth Works	56,195	0	0	39,337	0	39,337
Comcrete Works	57,170	0	0	52,596	0	52,596
Other Workd	15,748	0	0	15,276	0	15,276
Consultant Services	8,662	8,662	17,324	8,402	8,662	**17,064**
Sub-Total	181,894	8,662	190,556	115,611	8,662	124,273
Pre-F/S Total	400,964	19,095	420,059	267,495	9,607	**141,635**
Land Compensation						
F/S Area	10,509	0	10,509	10,194	0	**10,194**
Block-4	79,881	0	79,881	77,485	0	**77,485**
Block-8	44,278	0	44,278	42,950	0	**42,950**
Sub-Total	124,159	0	124,159	120,434	0	**120,434**
Operation and Maintenance Cost						
F/S Area	986	0	986	828	0	**828**
Block-4	9,857	0	9,857	8,280	0	**8,280**
Block-8	9,196	0	9,196	7,725	0	**7,725**
Sub-Total	19,053	0	19,053	16,005	0	**16,005**

Table O.3.7 List of Costs for The Rice Production/Marketing Improvement Project (witout Bridge)

	Financial Prices			Economic Prices		
	Local Portion	Foreign Portion	Sub-Total	Local Portion	Foreign Portion	Sub-Total
High Quality Seed Production/Supply Project						
Facility	801	13,822	14,623	617	13,822	14,439
Construction Works	36,010	0	36,010	33,309	0	33,309
Comcrete Works	32,409	0	32,409	29,816	0	29,816
Other Workd	3,601	0	3,601	3,493	0	3,493
Consultant Services	2,531	2,531	5,062	2,455	2,531	4,986
Sub-Total	39,342	16,353	55,695	36,381	16,353	52,734
Model Cooperative Project						
Facility	141	2,475	2,616	109	2,475	2,584
Construction Works	14,230	0	14,230	13,163	0	13,163
Comcrete Works	12,807	0	12,807	11,782	0	11,782
Other Workd	1,423	0	1,423	1,380	0	1,380
Consultant Services	844	844	1,688	819	844	1,663
Sub-Total	15,215	3,319	18,534	14,090	3,319	17,409
Improvement Project of Training/Extention System						
Facility	773	1,139	1,912	595	1,139	1,734
Construction Works	6,749	0	6,749	6,243	0	6,243
Comcrete Works	6,074	0	6,074	5,588	0	5,588
Other Workd	675	0	675	655	0	655
Consultant Services	436	436	872	423	436	859
Sub-Total	7,958	1,575	9,533	7,261	1,575	8,836
Total	62,515	21,247	83,762	57,732	21,247	**78,979**
Operation and Maintenance Cost						
High Quality Seed Production/Supply Project	0	0	0	0	0	0
Model Cooperative Project	0	0	0	0	0	0
Improvement Project of Training/Extention System	408	0	408	375	0	375
Sub-Total	408	0	408	375	0	375

Table O.3.8 Estimated Economic Index for Small Dike System Improvement Project

	Construction Cost	Land Compensation	Sub-Total	Consultant Services	O/M Cost	EIRR	ENPV (M.VND)	EB/C
F/S area	18,478	10,194	28,672	2,181	828	12.1%	4,995	1.16
Block 4	177,908	77,485	255,393	20,553	8,280	15.6%	101,547	1.38
Block 8	147,798	42,950	190,748	17,064	7,725	12.3%	30,381	1.14
Pre-F/S	325,706	120,435	446,141	37,617	16,005	14.2%	131,991	1.27
F/S-Bridge	18,478	10,194	28,672	1,862	660	14.8%	10453	1.34
Block 4-Bridge	141,765	77,485	219,250	16,381	6,599	19.1%	144282	1.64
Block 8-Bridge	107,208	42,950	150,158	12,378	5,601	17.3%	79962	1.49
Pre-F/S-Bridge	248,973	120,435	369,408	28,759	12,200	17.6%	162298	1.41

Table O.3.9 Estimated Economic Index for Rice Production / Marketing Improvement Project

	Equipment Cost	Construction Cost	Sub-Total	Consultant Services	O/M Cost	EIRR	ENPV (M.VND)	EB/C
M/P area	18,757	52,715	71,472	7,508	375	23.2%	138,084	3.02
Rice+F/S			100,144	9,689	1,203	21.4%	147,558	2.48
Rice+Pre-F/S			517,613	45,125	16,380	16.3%	270,012	1.49

Table O.3.10 Financial Economic Index for Small Dike System Improvement Project

	Construction Cost	Land Compensation	Sub-Total	Consultant Services	O/M Cost	FIRR	FNPV (M.VND)	EB/C
F/S area	22,144	10,509	32,653	2,214	986	12.1%	4,995	1.16
Block 4	208,637	79,881	288,518	20,553	9,857	15.6%	101,547	1.38
Block 8	173,232	44,278	217,510	17,324	9,196	12.3%	30,381	1.14
Pre-F/S	381,869	124,159	506,028	37,877	19,053	14.2%	131,991	1.27
F/S - Bridge	18,907	10,509	29,416	1,891	786	14.8%	10453	1.34
Block 4-Bridge	141,765	79,881	221,646	16,381	7,856	19.1%	144282	1.64
Block 8-Bridge	107,208	44,278	151,486	12,378	6,667	17.3%	79962	1.49
Pre-F/S-Bridge	248,973	124,159	373,132	28,759	14,523	17.6%	162298	1.41

Table O.3.11 Financial Economic Index for Rice Production / Marketing Improvement Project

	Equipment Cost	Construction Cost	Sub-Total	Consultant Services	O/M Cost	FIRR	FNPV (M.VND)	EB/C
M/P area	19,151	56,989	76,140	64,611	408	18.4	84310	1.86

Table O.3.12 Costs and Benefit Flow of The Small Dike System Improvement Project for F/S Area (EIRR)

(Unit: million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replace-ment	Outflow Total	Inflow Total	Flow	**12.1%**	Cost	Benefit	Net
1	2181	0	0	2181	0	-2181	0.892	1946	0	-1946
2	28672	0	0	28672	0	-28672	0.796	22830	0	-22830
3	0	828	0	828	1773	945	0.711	588	1260	672
4	0	828	0	828	3547	2719	0.634	525	2249	1724
5	0	828	0	828	5320	4492	0.566	468	3010	2541
6	0	828	0	828	5320	4492	0.505	418	2686	2268
7	0	828	0	828	5320	4492	0.450	373	2396	2023
8	0	828	0	828	5320	4492	0.402	333	2138	1806
9	0	828	0	828	5320	4492	0.359	297	1908	1611
10	0	828	0	828	5320	4492	0.320	265	1703	1438
11	0	828	0	828	5320	4492	0.286	236	1519	1283
12	0	828	0	828	5320	4492	0.255	211	1356	1145
13	0	828	0	828	5320	4492	0.227	188	1210	1021
14	0	828	0	828	5320	4492	0.203	168	1080	911
15	0	828	0	828	5320	4492	0.181	150	963	813
16	0	828	0	828	5320	4492	0.162	134	860	726
17	0	828	0	828	5320	4492	0.144	119	767	648
18	0	828	0	828	5320	4492	0.129	107	684	578
19	0	828	0	828	5320	4492	0.115	95	611	516
20	0	828	0	828	5320	4492	0.102	85	545	460
21	0	828	0	828	5320	4492	0.091	76	486	411
22	0	828	0	828	5320	4492	0.082	68	434	366
23	0	828	0	828	5320	4492	0.073	60	387	327
24	0	828	0	828	5320	4492	0.065	54	346	292
25	0	828	0	828	5320	4492	0.058	48	308	260
26	0	828	0	828	5320	4492	0.052	43	275	232
27	0	828	0	828	5320	4492	0.046	38	245	207
28	0	828	0	828	5320	4492	0.041	34	219	185
29	0	828	0	828	5320	4492	0.037	30	195	165
30	0	828	0	828	5320	4492	0.033	27	174	147
Total	**30853**	**23184**	**0**	**54037**	**143640**	**89603**	**8**	**30015**	**30015**	**0**

B / C = 1.000

NPV = 0 Million VND

IRR = 12.07 %

Table O.3.13 Costs and Benefit Flow of The Small Dike System Improvement Project for F/S Area (ENPV, EB/C)

(Unit:million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	eplaceme	utflowTot	Inflow Total	Flow	10%	Cost	Benefit	Net
1	2181	0	0	2181	0	-2181	0.909	1983	0	-1983
2	28672	0	0	28672	0	-28672	0.826	23696	0	-23696
3	0	828	0	828	1773	945	0.751	622	1332	710
4	0	828	0	828	3547	2719	0.683	566	2422	1857
5	0	828	0	828	5320	4492	0.621	514	3303	2789
6	0	828	0	828	5320	4492	0.564	467	3003	2536
7	0	828	0	828	5320	4492	0.513	425	2730	2305
8	0	828	0	828	5320	4492	0.467	386	2482	2096
9	0	828	0	828	5320	4492	0.424	351	2256	1905
10	0	828	0	828	5320	4492	0.386	319	2051	1732
11	0	828	0	828	5320	4492	0.350	290	1865	1574
12	0	828	0	828	5320	4492	0.319	264	1695	1431
13	0	828	0	828	5320	4492	0.290	240	1541	1301
14	0	828	0	828	5320	4492	0.263	218	1401	1183
15	0	828	0	828	5320	4492	0.239	198	1274	1075
16	0	828	0	828	5320	4492	0.218	180	1158	978
17	0	828	0	828	5320	4492	0.198	164	1053	889
18	0	828	0	828	5320	4492	0.180	149	957	808
19	0	828	0	828	5320	4492	0.164	135	870	734
20	0	828	0	828	5320	4492	0.149	123	791	668
21	0	828	0	828	5320	4492	0.135	112	719	607
22	0	828	0	828	5320	4492	0.123	102	654	552
23	0	828	0	828	5320	4492	0.112	92	594	502
24	0	828	0	828	5320	4492	0.102	84	540	456
25	0	828	0	828	5320	4492	0.092	76	491	415
26	0	828	0	828	5320	4492	0.084	69	446	377
27	0	828	0	828	5320	4492	0.076	63	406	343
28	0	828	0	828	5320	4492	0.069	57	369	311
29	0	828	0	828	5320	4492	0.063	52	335	283
30	0	828	0	828	5320	4492	0.057	47	305	257
Total	**30853**	**23184**	**0**	**54037**	**143640**	**89603**	**9**	**32047**	**37042**	**4995**

B / C = 1.16

NPV = 4995 million US$

IRR = 10 %

Table O.3.14 Costs and Benefit Flow of Small Dike System Improvement Project for Pre-F/S Area (EIRR)

(Unit: million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replace-ment	Outflo wTotal	Inflow Total	Flow	**14.2%**	Cost	Benefit	Net
1	37617	0	0	37617	0	-37617	0.876	32947	0	-32947
2	148714	0	0	148714	0	-148714	0.767	114079	0	-114079
3	148714	5335	0	154049	29386	-124663	0.672	103500	19744	-83757
4	148713	10670	0	159383	58773	-100610	0.588	93789	34585	-59204
5	0	16005	0	16005	88159	72154	0.515	8249	45436	37188
6	0	16005	0	16005	88159	72154	0.451	7225	39795	32571
7	0	16005	0	16005	88159	72154	0.395	6328	34855	28527
8	0	16005	0	16005	88159	72154	0.346	5542	30527	24985
9	0	16005	0	16005	88159	72154	0.303	4854	26737	21883
10	0	16005	0	16005	88159	72154	0.266	4251	23418	19166
11	0	16005	0	16005	88159	72154	0.233	3724	20510	16787
12	0	16005	0	16005	88159	72154	0.204	3261	17964	14702
13	0	16005	0	16005	88159	72154	0.178	2856	15733	12877
14	0	16005	0	16005	88159	72154	0.156	2502	13780	11278
15	0	16005	0	16005	88159	72154	0.137	2191	12069	9878
16	0	16005	0	16005	88159	72154	0.120	1919	10571	8652
17	0	16005	0	16005	88159	72154	0.105	1681	9258	7578
18	0	16005	0	16005	88159	72154	0.092	1472	8109	6637
19	0	16005	0	16005	88159	72154	0.081	1289	7102	5813
20	0	16005	0	16005	88159	72154	0.071	1129	6220	5091
21	0	16005	0	16005	88159	72154	0.062	989	5448	4459
22	0	16005	0	16005	88159	72154	0.054	866	4772	3905
23	0	16005	0	16005	88159	72154	0.047	759	4179	3421
24	0	16005	0	16005	88159	72154	0.042	665	3660	2996
25	0	16005	0	16005	88159	72154	0.036	582	3206	2624
26	0	16005	0	16005	88159	72154	0.032	510	2808	2298
27	0	16005	0	16005	88159	72154	0.028	446	2459	2013
28	0	16005	0	16005	88159	72154	0.024	391	2154	1763
29	0	16005	0	16005	88159	72154	0.021	342	1887	1544
30	0	16005	0	16005	88159	72154	0.019	300	1652	1352
Total	**483758**	**432135**	**0**	**915893**	**2380293**	**1464400**	**7**	**408639**	**408639**	**0**

B / C = 1.000

NPV = 0 Million VND

IRR = 14.18 %

Table O.3.15 Costs and Benefit Flow of The Small Dike System Improvement Project for F/S Area (ENPV, EB/C)

(Unit:million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replacement	OutflowTotal	Inflow Total	Flow	10%	Cost	Benefit	Net
1	37617	0	0	37617	0	-37617	0.909	34197	0	-34197
2	148714	0	0	148714	0	-148714	0.826	122904	0	-122904
3	148714	5335	0	154049	29386	-124663	0.751	115739	22078	-93661
4	148713	10670	0	159383	58773	-100610	0.683	108861	40143	-68718
5	0	16005	0	16005	88159	72154	0.621	9938	54740	44802
6	0	16005	0	16005	88159	72154	0.564	9034	49763	40729
7	0	16005	0	16005	88159	72154	0.513	8213	45240	37026
8	0	16005	0	16005	88159	72154	0.467	7466	41127	33660
9	0	16005	0	16005	88159	72154	0.424	6788	37388	30600
10	0	16005	0	16005	88159	72154	0.386	6171	33989	27818
11	0	16005	0	16005	88159	72154	0.350	5610	30899	25290
12	0	16005	0	16005	88159	72154	0.319	5100	28090	22990
13	0	16005	0	16005	88159	72154	0.290	4636	25537	20900
14	0	16005	0	16005	88159	72154	0.263	4215	23215	19000
15	0	16005	0	16005	88159	72154	0.239	3831	21105	17273
16	0	16005	0	16005	88159	72154	0.218	3483	19186	15703
17	0	16005	0	16005	88159	72154	0.198	3167	17442	14275
18	0	16005	0	16005	88159	72154	0.180	2879	15856	12978
19	0	16005	0	16005	88159	72154	0.164	2617	14415	11798
20	0	16005	0	16005	88159	72154	0.149	2379	13104	10725
21	0	16005	0	16005	88159	72154	0.135	2163	11913	9750
22	0	16005	0	16005	88159	72154	0.123	1966	10830	8864
23	0	16005	0	16005	88159	72154	0.112	1787	9845	8058
24	0	16005	0	16005	88159	72154	0.102	1625	8950	7325
25	0	16005	0	16005	88159	72154	0.092	1477	8137	6660
26	0	16005	0	16005	88159	72154	0.084	1343	7397	6054
27	0	16005	0	16005	88159	72154	0.076	1221	6725	5504
28	0	16005	0	16005	88159	72154	0.069	1110	6113	5003
29	0	16005	0	16005	88159	72154	0.063	1009	5557	4549
30	0	16005	0	16005	88159	72154	0.057	917	5052	4135
Total	**483758**	**432135**	**0**	**915893**	**2380293**	**1464400**	**9**	**481846**	**613836**	**131991**

B / C = 1.27

NPV = 131991 Million VND

IRR = 10 %

Table O.3.16 Costs and Benefit Flow for The Rice Production/Marketing Improvement Project (EIRR)

(Unit: million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replace -ment	Outflow Total	Inflow Total	Flow	**23.2%**	Cost	Benefit	Net
1	7508	0	0	7508	0	-7508	0.812	6096	0	-6096
2	71472	0	0	71472	0	-71472	0.659	47121	0	-47121
3	0	375	0	375	4121	3746	0.535	201	2206	2005
4	0	375	0	375	8242	7867	0.435	163	3583	3420
5	0	375	0	375	12363	11988	0.353	132	4363	4231
6	0	375	0	375	16484	16109	0.287	107	4724	4617
7	0	375	0	375	20606	20231	0.233	87	4795	4708
8	0	375	0	375	24726	24351	0.189	71	4672	4601
9	0	375	0	375	28848	28473	0.153	58	4426	4368
10	0	375	0	375	32970	32595	0.125	47	4107	4060
11	0	375	0	375	37090	36715	0.101	38	3751	3713
12	0	375	0	375	41212	40837	0.082	31	3385	3354
13	0	375	0	375	41212	40837	0.067	25	2748	2723
14	0	375	0	375	41212	40837	0.054	20	2231	2211
15	0	375	0	375	41212	40837	0.044	16	1812	1795
16	0	375	0	375	41212	40837	0.036	13	1471	1458
17	0	375	0	375	41212	40837	0.029	11	1195	1184
18	0	375	0	375	41212	40837	0.024	9	970	961
19	0	375	0	375	41212	40837	0.019	7	788	780
20	0	375	0	375	41212	40837	0.016	6	639	634
21	0	375	0	375	41212	40837	0.013	5	519	514
22	0	375	0	375	41212	40837	0.010	4	422	418
23	0	375	0	375	41212	40837	0.008	3	342	339
24	0	375	0	375	41212	40837	0.007	3	278	275
25	0	375	0	375	41212	40837	0.005	2	226	224
26	0	375	0	375	41212	40837	0.004	2	183	182
27	0	375	0	375	41212	40837	0.004	1	149	147
28	0	375	0	375	41212	40837	0.003	1	121	120
29	0	375	0	375	41212	40837	0.002	1	98	97
30	0	375	0	375	41212	40837	0.002	1	80	79
Total	**78980**	**10500**	**0**	**89480**	**968474**	**878994**	**4**	**54282**	**54282**	**0**

B / C = 1.000

NPV = 0 Million VND

IRR = 23.16 %

Table O.3.17 Costs and Benefit Flow for The Rice Production/Marketing Improvement Project (ENPV, EB/C)

(Unit:million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	eplacemeutflowTo		nflow Tot	Flow	10%	Cost	Benefit	Net
1	7508	0	0	7508	0	-7508	0.909	6825	0	-6825
2	71472	0	0	71472	0	-71472	0.826	59068	0	-59068
3	0	125	0	125	4121	3996	0.751	94	3096	3002
4	0	250	0	250	8242	7992	0.683	171	5630	5459
5	0	375	0	375	12363	11988	0.621	233	7676	7443
6	0	375	0	375	16484	16109	0.564	212	9305	9093
7	0	375	0	375	20606	20231	0.513	192	10574	10382
8	0	375	0	375	24726	24351	0.467	175	11535	11360
9	0	375	0	375	28848	28473	0.424	159	12234	12075
10	0	375	0	375	32970	32595	0.386	145	12711	12567
11	0	375	0	375	37090	36715	0.350	131	13000	12868
12	0	375	0	375	41212	40837	0.319	119	13131	13012
13	0	375	0	375	41212	40837	0.290	109	11938	11829
14	0	375	0	375	41212	40837	0.263	99	10852	10754
15	0	375	0	375	41212	40837	0.239	90	9866	9776
16	0	375	0	375	41212	40837	0.218	82	8969	8887
17	0	375	0	375	41212	40837	0.198	74	8154	8079
18	0	375	0	375	41212	40837	0.180	67	7412	7345
19	0	375	0	375	41212	40837	0.164	61	6738	6677
20	0	375	0	375	41212	40837	0.149	56	6126	6070
21	0	375	0	375	41212	40837	0.135	51	5569	5518
22	0	375	0	375	41212	40837	0.123	46	5063	5017
23	0	375	0	375	41212	40837	0.112	42	4602	4561
24	0	375	0	375	41212	40837	0.102	38	4184	4146
25	0	375	0	375	41212	40837	0.092	35	3804	3769
26	0	375	0	375	41212	40837	0.084	31	3458	3426
27	0	375	0	375	41212	40837	0.076	29	3144	3115
28	0	375	0	375	41212	40837	0.069	26	2858	2832
29	0	375	0	375	41212	40837	0.063	24	2598	2574
30	0	375	0	375	41212	40837	0.057	21	2362	2340
Total	**78980**	**10125**	**0**	**89105**	**968474**	**879369**	**9**	**68504**	**206588**	**138084**

B / C = 3.02

NPV = 138,084 Million VND

IRR = 10 %

Table O.3.18 Costs and Benefit Flow of The Small Dike System Improvement Project for F/S Area (FIRR)

(Unit: million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replace-ment	Outflow Total	Inflow Total	Flow	**10.1%**	Cost	Benefit	Net
1	2214	0	0	2214	0	-2214	0.908	2011	0	-2011
2	32653	0	0	32653	0	-32653	0.825	26929	0	-26929
3	0	986	0	986	1766	780	0.749	738	1323	584
4	0	986	0	986	3532	2546	0.680	671	2402	1732
5	0	986	0	986	5298	4312	0.618	609	3272	2663
6	0	986	0	986	5298	4312	0.561	553	2972	2419
7	0	986	0	986	5298	4312	0.509	502	2699	2196
8	0	986	0	986	5298	4312	0.463	456	2451	1995
9	0	986	0	986	5298	4312	0.420	414	2226	1811
10	0	986	0	986	5298	4312	0.381	376	2021	1645
11	0	986	0	986	5298	4312	0.346	342	1835	1494
12	0	986	0	986	5298	4312	0.315	310	1667	1357
13	0	986	0	986	5298	4312	0.286	282	1514	1232
14	0	986	0	986	5298	4312	0.259	256	1375	1119
15	0	986	0	986	5298	4312	0.236	232	1248	1016
16	0	986	0	986	5298	4312	0.214	211	1134	923
17	0	986	0	986	5298	4312	0.194	192	1030	838
18	0	986	0	986	5298	4312	0.176	174	935	761
19	0	986	0	986	5298	4312	0.160	158	849	691
20	0	986	0	986	5298	4312	0.146	143	771	628
21	0	986	0	986	5298	4312	0.132	130	700	570
22	0	986	0	986	5298	4312	0.120	118	636	518
23	0	986	0	986	5298	4312	0.109	107	577	470
24	0	986	0	986	5298	4312	0.099	98	524	427
25	0	986	0	986	5298	4312	0.090	89	476	388
26	0	986	0	986	5298	4312	0.082	80	432	352
27	0	986	0	986	5298	4312	0.074	73	393	320
28	0	986	0	986	5298	4312	0.067	66	357	290
29	0	986	0	986	5298	4312	0.061	60	324	264
30	0	986	0	986	5298	4312	0.056	55	294	239
Total	**34867**	**27608**	**0**	**62475**	**143046**	**80571**	**9**	**36437**	**36437**	**0**

B / C = 1.000

NPV = 0 Million VND

IRR = 10.12 %

Table O.3.19 Costs and Benefit Flow of The Small Dike System Improvement Project for F/S Area (FNPV, FB/C)

(Unit:million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	eplaceme	utflowTo	Inflow Total	Flow	**11%**	Cost	Benefit	Net
1	2214	0	0	2214	0	-2214	0.901	1995	0	-1995
2	32653	0	0	32653	0	-32653	0.812	26526	0	-26526
3	0	329	0	329	1766	1437	0.732	241	1293	1052
4	0	657	0	657	3532	2875	0.660	434	2331	1897
5	0	986	0	986	5298	4312	0.595	586	3151	2565
6	0	986	0	986	5298	4312	0.536	529	2840	2312
7	0	986	0	986	5298	4312	0.483	476	2560	2083
8	0	986	0	986	5298	4312	0.435	429	2307	1878
9	0	986	0	986	5298	4312	0.393	387	2080	1693
10	0	986	0	986	5298	4312	0.354	349	1874	1525
11	0	986	0	986	5298	4312	0.319	314	1689	1375
12	0	986	0	986	5298	4312	0.287	283	1523	1239
13	0	986	0	986	5298	4312	0.259	255	1372	1117
14	0	986	0	986	5298	4312	0.233	230	1237	1007
15	0	986	0	986	5298	4312	0.210	207	1115	907
16	0	986	0	986	5298	4312	0.190	187	1005	818
17	0	986	0	986	5298	4312	0.171	169	906	737
18	0	986	0	986	5298	4312	0.154	152	816	664
19	0	986	0	986	5298	4312	0.139	137	736	599
20	0	986	0	986	5298	4312	0.125	123	663	540
21	0	986	0	986	5298	4312	0.113	111	598	486
22	0	986	0	986	5298	4312	0.102	100	539	438
23	0	986	0	986	5298	4312	0.092	90	485	395
24	0	986	0	986	5298	4312	0.083	81	438	356
25	0	986	0	986	5298	4312	0.074	73	394	321
26	0	986	0	986	5298	4312	0.067	66	355	289
27	0	986	0	986	5298	4312	0.060	60	320	261
28	0	986	0	986	5298	4312	0.055	54	289	235
29	0	986	0	986	5298	4312	0.049	48	260	212
30	0	986	0	986	5298	4312	0.044	44	235	191
Total	**34867**	**26622**	**0**	**61489**	**143046**	**81557**	**9**	**34739**	**33411**	**-1328**

B / C = 0.96

NPV = -1328 million US$

IRR = 10.95 %

Table O.3.20 Costs and Benefit Flow of The Small Dike System Improvement Project for Pre-F/S Area (FIRR)

(Unit: million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replace-ment	Outflow Total	Inflow Total	Flow	**11.8%**	Cost	Benefit	Net
1	38187	0	0	38187	0	-38187	0.894	34150	0	-34150
2	168671	0	0	168671	0	-168671	0.800	134890	0	-134890
3	168671	6349	0	175020	29282	-145737	0.715	125168	20942	-104226
4	168672	12697	0	181369	58565	-122805	0.640	115995	37455	-78540
5	0	19046	0	19046	87847	68801	0.572	10893	50243	39350
6	0	19046	0	19046	87847	68801	0.511	9741	44931	35189
7	0	19046	0	19046	87847	68801	0.457	8711	40180	31469
8	0	19046	0	19046	87847	68801	0.409	7790	35932	28141
9	0	19046	0	19046	87847	68801	0.366	6967	32133	25166
10	0	19046	0	19046	87847	68801	0.327	6230	28735	22505
11	0	19046	0	19046	87847	68801	0.293	5571	25697	20126
12	0	19046	0	19046	87847	68801	0.262	4982	22980	17998
13	0	19046	0	19046	87847	68801	0.234	4456	20551	16095
14	0	19046	0	19046	87847	68801	0.209	3984	18378	14393
15	0	19046	0	19046	87847	68801	0.187	3563	16435	12872
16	0	19046	0	19046	87847	68801	0.167	3186	14697	11511
17	0	19046	0	19046	87847	68801	0.150	2850	13143	10294
18	0	19046	0	19046	87847	68801	0.134	2548	11754	9205
19	0	19046	0	19046	87847	68801	0.120	2279	10511	8232
20	0	19046	0	19046	87847	68801	0.107	2038	9400	7362
21	0	19046	0	19046	87847	68801	0.096	1822	8406	6583
22	0	19046	0	19046	87847	68801	0.086	1630	7517	5887
23	0	19046	0	19046	87847	68801	0.077	1457	6722	5265
24	0	19046	0	19046	87847	68801	0.068	1303	6012	4708
25	0	19046	0	19046	87847	68801	0.061	1166	5376	4210
26	0	19046	0	19046	87847	68801	0.055	1042	4808	3765
27	0	19046	0	19046	87847	68801	0.049	932	4299	3367
28	0	19046	0	19046	87847	68801	0.044	834	3845	3011
29	0	19046	0	19046	87847	68801	0.039	745	3438	2693
30	0	19046	0	19046	87847	68801	0.035	667	3075	2408
Total	**544201**	**514242**	**0**	**1058443**	**2371869**	**1313426**	**8**	**507592**	**507592**	**0**

B / C = 1.000

NPV = 0 Million VND

IRR = 11.82 %

Table O.3.21 Costs and Benefit Flow of The Small Dike System Improvement Project for Pre-F/S Area (FNPV, FB/C)

(Unit:million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replacement	Outflow Total	Inflow Total	Flow	11%	Cost	Benefit	Net
1	38187	0	0	38187	0	-38187	0.901	34418	0	-34418
2	168671	0	0	168671	0	-168671	0.812	137021	0	-137021
3	168671	6349	0	175020	29282	-145737	0.732	128146	21440	-106706
4	168672	12697	0	181369	58565	-122805	0.660	119689	38648	-81041
5	0	19046	0	19046	87847	68801	0.595	11328	52250	40922
6	0	19046	0	19046	87847	68801	0.536	10210	47094	36883
7	0	19046	0	19046	87847	68801	0.483	9203	42446	33243
8	0	19046	0	19046	87847	68801	0.435	8294	38257	29962
9	0	19046	0	19046	87847	68801	0.393	7476	34481	27005
10	0	19046	0	19046	87847	68801	0.354	6738	31078	24340
11	0	19046	0	19046	87847	68801	0.319	6073	28011	21938
12	0	19046	0	19046	87847	68801	0.287	5474	25246	19773
13	0	19046	0	19046	87847	68801	0.259	4933	22755	17821
14	0	19046	0	19046	87847	68801	0.233	4447	20509	16062
15	0	19046	0	19046	87847	68801	0.210	4008	18485	14477
16	0	19046	0	19046	87847	68801	0.190	3612	16661	13048
17	0	19046	0	19046	87847	68801	0.171	3256	15016	11761
18	0	19046	0	19046	87847	68801	0.154	2934	13534	10600
19	0	19046	0	19046	87847	68801	0.139	2645	12199	9554
20	0	19046	0	19046	87847	68801	0.125	2384	10995	8611
21	0	19046	0	19046	87847	68801	0.113	2148	9910	7761
22	0	19046	0	19046	87847	68801	0.102	1936	8932	6995
23	0	19046	0	19046	87847	68801	0.092	1745	8050	6305
24	0	19046	0	19046	87847	68801	0.083	1573	7256	5682
25	0	19046	0	19046	87847	68801	0.074	1418	6539	5122
26	0	19046	0	19046	87847	68801	0.067	1278	5894	4616
27	0	19046	0	19046	87847	68801	0.060	1152	5312	4161
28	0	19046	0	19046	87847	68801	0.055	1038	4788	3750
29	0	19046	0	19046	87847	68801	0.049	936	4316	3380
30	0	19046	0	19046	87847	68801	0.044	843	3890	3046
Total	**544201**	**514242**	**0**	**1058443**	**2371869**	**1313426**	**9**	**526356**	**553990**	**27634**

B / C = 1.05

NPV = 27634 Million VND

IRR = 10.95 %

Table O.3.22 Costs and Benefit Flow for The Rice Production/Marketing Improvement Project (FIRR)

(Unit: million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replace-ment	Outflow Total	Inflow Total	Flow	**18.4%**	Cost	Benefit	Net
1	7622	0	0	7622	0	-7622	0.844	6435	0	-6435
2	76140	0	0	76140	0	-76140	0.713	54271	0	-54271
3	0	4674	0	4674	4096	-578	0.602	2813	2465	-348
4	0	4674	0	4674	8193	3519	0.508	2375	4163	1788
5	0	4674	0	4674	12289	7615	0.429	2005	5271	3266
6	0	4674	0	4674	16386	11712	0.362	1693	5934	4241
7	0	4674	0	4674	20483	15809	0.306	1429	6262	4833
8	0	4674	0	4674	24579	19905	0.258	1206	6344	5138
9	0	4674	0	4674	28676	24002	0.218	1019	6249	5231
10	0	4674	0	4674	32773	28099	0.184	860	6030	5170
11	0	4674	0	4674	36869	32195	0.155	726	5727	5001
12	0	4674	19151	23825	40996	17171	0.131	3124	5376	2252
13	0	4674	0	4674	40996	36322	0.111	517	4539	4021
14	0	4674	0	4674	40996	36322	0.093	437	3832	3395
15	0	4674	0	4674	40996	36322	0.079	369	3235	2866
16	0	4674	0	4674	40996	36322	0.067	311	2731	2420
17	0	4674	0	4674	40996	36322	0.056	263	2306	2043
18	0	4674	0	4674	40996	36322	0.047	222	1947	1725
19	0	4674	0	4674	40996	36322	0.040	187	1644	1456
20	0	4674	0	4674	40996	36322	0.034	158	1388	1230
21	0	4674	0	4674	40996	36322	0.029	134	1172	1038
22	0	4674	19151	23825	40996	17171	0.024	575	989	414
23	0	4674	0	4674	40996	36322	0.020	95	835	740
24	0	4674	0	4674	40996	36322	0.017	80	705	625
25	0	4674	0	4674	40996	36322	0.015	68	595	527
26	0	4674	0	4674	40996	36322	0.012	57	503	445
27	0	4674	0	4674	40996	36322	0.010	48	424	376
28	0	4674	0	4674	40996	36322	0.009	41	358	317
29	0	4674	0	4674	40996	36322	0.007	34	302	268
30	0	4674	0	4674	40996	36322	0.006	29	255	226
Total	**83762**	**130872**	**38302**	**252936**	**963268**	**710332**	**5**	**81583**	**81583**	**0**

B / C = 1.000

NPV = 0 Million VND

IRR = 18.45 %

Table O.3.23 Costs and Benefit Flow for Rice Production/Marketing Improvement Project

(Unit:million VND)

Year	Cost				Benefit	Net Cash	Discounting Rate	Present Value		
in order	Initial	O/M	Replace -ment	Outflow Total	Inflow Total	Flow	11%	Cost	Benefit	Net
1	7622	0	0	7622	0	-7622	0.901	6870	0	-6870
2	76140	0	0	76140	0	-76140	0.812	61853	0	-61853
3	0	1558	0	1558	4096	2538	0.732	1141	2999	1858
4	0	3116	0	3116	8193	5077	0.660	2056	5407	3350
5	0	4674	0	4674	12289	7615	0.595	2780	7309	4529
6	0	4674	0	4674	16386	11712	0.536	2506	8784	6279
7	0	4674	0	4674	20483	15809	0.483	2258	9897	7639
8	0	4674	0	4674	24579	19905	0.435	2035	10704	8668
9	0	4674	0	4674	28676	24002	0.393	1835	11256	9421
10	0	4674	0	4674	32773	28099	0.354	1654	11594	9941
11	0	4674	0	4674	36869	32195	0.319	1490	11756	10266
12	0	4674	0	4674	40996	36322	0.287	1343	11782	10439
13	0	4674	0	4674	40996	36322	0.259	1211	10619	9408
14	0	4674	0	4674	40996	36322	0.233	1091	9571	8480
15	0	4674	0	4674	40996	36322	0.210	984	8626	7643
16	0	4674	0	4674	40996	36322	0.190	886	7775	6889
17	0	4674	0	4674	40996	36322	0.171	799	7008	6209
18	0	4674	0	4674	40996	36322	0.154	720	6316	5596
19	0	4674	0	4674	40996	36322	0.139	649	5693	5044
20	0	4674	0	4674	40996	36322	0.125	585	5131	4546
21	0	4674	0	4674	40996	36322	0.113	527	4625	4097
22	0	4674	0	4674	40996	36322	0.102	475	4168	3693
23	0	4674	0	4674	40996	36322	0.092	428	3757	3328
24	0	4674	0	4674	40996	36322	0.083	386	3386	3000
25	0	4674	0	4674	40996	36322	0.074	348	3052	2704
26	0	4674	0	4674	40996	36322	0.067	314	2751	2437
27	0	4674	0	4674	40996	36322	0.060	283	2479	2197
28	0	4674	0	4674	40996	36322	0.055	255	2234	1980
29	0	4674	0	4674	40996	36322	0.049	230	2014	1784
30	0	4674	0	4674	40996	36322	0.044	207	1815	1608
Total	**83762**	**126198**	**0**	**209960**	**963268**	**753308**	**9**	**98198**	**182508**	**84310**

B / C = 1.86

NPV = 84,310 Million VND

IRR = 10.95 %