

Table 2.7-7 Ream Kon Rehabilitation Project

(1) Project description:

Item	Description										
1.1 Location	<table border="1"> <thead> <tr> <th>District</th> <th>Commune</th> <th>Village</th> <th colspan="2">UTM Reference</th> </tr> </thead> <tbody> <tr> <td>Moung Russey</td> <td>Kea, Chrey, Prey Svay</td> <td>6 villages</td> <td>318474</td> <td>1389697</td> </tr> </tbody> </table>	District	Commune	Village	UTM Reference		Moung Russey	Kea, Chrey, Prey Svay	6 villages	318474	1389697
	District	Commune	Village	UTM Reference							
Moung Russey	Kea, Chrey, Prey Svay	6 villages	318474	1389697							
1.2 River basin/ water source	Moung Russey river basin/ Moung Russey river										
1.3 Target group	1) Number of household = 405 (Potential, Wet season medium- paddy) 2) Staff of PDOWRAM and PDA										
1.4 Objective of the project or program	Enhancement of rice production through rehabilitation of existing irrigation system										
1.5 Type of project or program	1) Rehabilitation of existing weir and irrigation system										
1.6 Objective area	2,300 Ha										
1.7 Necessity of project/program	<p>The Ream Kon irrigation system was constructed in the late 1970's as a dyke irrigation project, having a weir together with an intake structure in the source river. At present, the system almost lost the function because of destruction of intake structure and deterioration of canals.</p> <p>Rehabilitation of the Bassac reservoir could regulate river flow of the Moung Russey to a certain degree.</p> <p>In order to utilize the regulated flow effectively and to recover the system function, re-construction of weir and intake structure, and rehabilitation of canals would be necessary.</p>										

(2) Agriculture:

Present/Without-project & With-project Land Use of the Project Area

Land Use Sub-category	I. Present Area		II. With Project Area		Increment (II - I) Area (ha)
	(ha)	(%)	(ha)	(%)	
	1. Irrigation Area	200	7	2,300	85
Normal Irrigation Paddy Field			2,290	85	2,290
Supplemental Irrigation Paddy Field	40	1			-40
Field under Rainfed Condition	150	6			-150
Recession Paddy Field	10	0.4	10	0.4	0
2. Rainfed Paddy Field	2,470	91			-2,470
3. Right-of-ways	40	1	410	15	370
Total	2,710	100	2,710	100	0

Agricultural Support Programs Planned

- Field Programs
- Field Adaptability Test
- Demonstration plot, Seed Multiplication etc.
- Farmer/Farmer group Training Programs
- Training Course, FFS/IPM
- Study Tour, VEA Training
- Mass guidance/Workshop
- Support Fund for Extension Staff
- Staff Empowerment
- Provision of Transportation Means

Present/Without-project & With-project Crop Production in the Project

Land Use Sub-category/ Crops	Present/Without-project					With-project					Increment			
	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Production (ton)
Normal Irrigation Field						2,290					2,290			
Wet Season Rice							2,290	100	3.0	6,909		2,290		6,909
Upland Crops							40	2	0.5	20		40		20
Supplemental Irr. Field	40										-40			
Wet Season Rice		40	1	1.7	66							-40		-66
Rainfed Paddy Field	2,620										-2,620			
Wet Season Rice		2,620	98	1.2	3,026							-2,620		-3,026
Recession Paddy Field	10	10	0.4	2.0	20	10	10	0.4	2.5	25	0	0		5
Annual														
Annual Rice		2,670	100	1.2	3,112		2,300	100	3.0	6,934		-370	0	3,822
Upland Crops							40	2		20		40		20
Total	2,670	2,670	100		3,112	2,300	2,340	102		6,954	-370	-330	2	3,842

Note: Direct sowing & transplanting combined in wet season rice & yield is a weighted average of the two

Ream

As shown in the tables; overall yield increase of 1.8 ton/ha and paddy production increase of 3,800 ton are expected under the project.

(3) Project scope:

Item	Description
1. Direct Construction	
1.1 Ream Kon weir rehabilitation. - intake structure	Total width =43m, Weir body = 26m, Height =4m. Gate: Automatic gate 2 nos. (W 7.7m x H 2.5m) Slide gate 2 nos. (W 2.0 m x H 2.5 m) 1 nos. Slide gate 3 nos. (W 2.0 m x H 2.5 m)
1.2 Canal work - Canal rehabilitation* - Canal construction* (*; including structures)	Main = 12 km , Secondary = 26 km, Main = - km, Secondary = - km, Tertiary = 46km Drainage = 35 km
2. Other Components	
2.1 FWUC level training	Training by FWUC support team (q.v. 6.4.1.4)
2.2 Agricultural support services	Field extension & training program by PDA/MAFF

(4) Implementation Schedule

- (a) Survey, investigation, design, and tender; 12 months, (Tender; 3 months)
(c) Construction; 1 year
(d) Establishment of FWUC and training; 6 years (2 years for establishment, 4 years for training)
(e) Agriculture extension service; 4 years (1 year overlap w/ construction)

(5) Cost Estimate; Total Investment Costs: 5,357 (1,000USD)

Project Name	Total Construction Costs (1,000 USD)	Other Costs			Total Investment Costs (1,000 USD)
		FWUC level training & mobilization (1,000 USD)	Agricultural & other support (1,000 USD)	Land Acquisition Cost (1,000 USD)	
Ream Kon Rehab. Project	4,983	199	26	149	5,357

(6) Evaluation

No.	Criteria	Full point	Point obtained
1.	Resources factor	30	21
2.	Economic factor	20	13
3.	Social factor	20	9
4.	Environmental factor	10	7
5.	Ease of implementation	10	10
6.	Maturity factor	10	6
	Total	100	66.00

Table 2.7-8 Por Canal Rehabilitation Project

(1) Project description:

Item	Description										
1.1 Location	<table border="1"> <thead> <tr> <th>District</th> <th>Commune</th> <th>Village</th> <th colspan="2">UTM Reference</th> </tr> </thead> <tbody> <tr> <td>Moung Russey</td> <td>Chrey, Taloas</td> <td>ChreyI, ChreyII, Traos, Chon Samnab, and other 9 villages</td> <td>332439</td> <td>1412586</td> </tr> </tbody> </table>	District	Commune	Village	UTM Reference		Moung Russey	Chrey, Taloas	ChreyI, ChreyII, Traos, Chon Samnab, and other 9 villages	332439	1412586
	District	Commune	Village	UTM Reference							
Moung Russey	Chrey, Taloas	ChreyI, ChreyII, Traos, Chon Samnab, and other 9 villages	332439	1412586							
1.2 River basin	Moung Russey river basin/ Moung Russey river										
1.3 Target group	Number of household = 350 (Potential, Wet season medium- paddy)										
1.4 Objective of the project	Enhancement of rice production through rehabilitation of existing irrigation canals										
1.5 Type of project	Rehabilitation of existing irrigation system										
1.6 Objective area	1,200Ha										
1.7 Necessity of project	<p>The system was constructed in the late 1970's, and experienced rehabilitation works twice in 1995 and 2005. Despite of rehabilitation works, the system works limitedly.</p> <p>After rehabilitation work of the Bassac reservoir, the system could receive regulated flow. In this connection, comprehensive rehabilitation of irrigation system would be necessary to utilize regulated water effectively.</p>										

(2) Agriculture

Present/Without-project & With-project Land Use of the Project Area

Land Use Sub-category	I. Present Area		II. With Project Area		Increment (II - I) Area (ha)
	(ha)	(%)	(ha)	(%)	
	1. Irrigation Area	400	28	1,200	85
Normal Irrigation Paddy Field			1,200	85	1,200
Supplemental Irrigation Paddy Field	100	7			-100
Field under Rainfed Condition	300	21			-300
2. Rainfed Paddy Field	940	67			-940
3. Right-of-ways	70	5	210	15	140
Total	1,410	100	1,410	100	0

Agricultural Support Programs Planned

- Field Programs
- Field Adaptability Test
- Demonstration plot, Seed Multiplication etc.
- Farmer/Farmer group Training Programs
- Training Course, FFS/IPM
- Study Tour, VEA Training
- Mass guidance/Workshop
- Support Fund for Extension Staff
- Provision of Transportation Means

Present/Without-project & With-project Crop Production in the Project

Land Use Sub-category/ Crops	Present/Without-project					With-project					Increment			
	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Production (ton)
Normal Irrigation Field						1,200								
Wet Season Rice							1,200	100	3.0	3,620	1,200	1,200		3,620
Upland Crops							20	2	0.5	10		20		10
Supplemental Irrig. Field	100										-100			
Wet Season Rice		100	7	1.7	166							-100		-166
Rainfed Paddy Field	1,240										-1,240			
Wet Season Rice		1,240	93	1.2	1,432							-1,240		-1,432
Annual														
Annual Rice		1,340	100	1.2	1,598		1,200	100	3.0	3,620		-140	0	2,022
Upland Crops							20	2		10		20	-	10
Total	1,340	1,340	100		1,598	1,200	1,220	102		3,630	-140	-120	2	2,032

Note: Direct sowing & transplanting combined in wet season rice & yield is a weighted average of the two

Por Canal

As shown in the tables; overall yield increase of 1.8 ton/ha and paddy production increase of 2,000 ton are expected under the project.

(3) Project scope:

Item	Description
1. Direct Construction	
1.1 Canal work including structures - Intake structure - Canal rehabilitation - Canal construction	Slide gate 1 nos. (W 2.5 m x H 2.0 m) Main = 11 km , Secondary = 4.5 km, Main = - km, Secondary = 3.2 km, Tertiary = 24 km Drainage = 18 km
2. Other Components	
2.1 FWUC level training	Training by FWUC support team through PDOWRAM and MOWRAM
2.2 Agricultural support services	Field extension & training program by PDA/MAFF

(4) Implementation Schedule

- (a) Survey, investigation, design, and tender; 12 months, (Tender; 3 months)
(c) Construction; 1 year
(d) Establishment of FWUC and training; 5 years (2 years for establishment, 3 years for training)
(e) Agriculture extension service; 3 years

(5) Cost Estimate; Total Investment Costs: 2,402 (1,000USD)

Project Name	Total Construction Costs (1,000 USD)	Other Costs			Total Investment Costs (1,000 USD)
		FWUC level training & mobilization (1,000 USD)	Agricultural & other support (1,000 USD)	Land Acquisition Cost (1,000 USD)	
Por Canal Rehab. Project	2,232	89	14	67	2,402

(6) Evaluation

No.	Criteria	Full point	Point obtained
1.	Resources factor	30	21
2.	Economic factor	20	14
3.	Social factor	20	9
4.	Environmental factor	10	8
5.	Ease of implementation	10	10
6.	Maturity factor	10	6
	Total	100	68.00

Table 2.7-9 Nikom/Dai Ta Chan Rehabilitation Project

(1) Project description:

Item	Description				
1.1 Location	District	Commune	Village	UTM Reference	
	Moung Russey	Prek Chik	PrekTaVen, PrekChik	352689	1401179
1.2 River basin	Moung Russey river basin/ Svay Don Keo river				
1.3 Target group	1) Number of household=560 (Potential, Wet season medium- paddy) 2) Staff of PDOWRAM and PDA				
1.4 Objective of the project	Enhancement of rice production through construction of Dai Ta Chan weir and rehabilitation of existing irrigation system				
1.5 Type of project	Rehabilitation of existing irrigation system				
1.6 Objective area	600Ha				
1.7 Necessity of project	<p>The Nikom Le and the Dai Ta Chan systems were constructed in the late 1970's. The Nikom Le system was rehabilitated in 2005 by MOWRAM and the Dai Ta Chan was in 2002 by SEILA program. However, the systems have remained at "partly function" level because of limited rehabilitation works.</p> <p>In order to secure irrigation water supply, construction of a weir, re-construction of intake structures, and rehabilitation of the existing canals would be crucially important.</p>				

(2) Agriculture

Present/Without-project & With-project Land Use of the Project Area

Land Use Sub-category	I. Present Area		II. With Project Area		Increment (II - I) Area (ha)
	(ha)	(%)	(ha)	(%)	
1. Irrigation Area	50	7	600	86	550
Normal Irrigation Paddy Field			600	86	600
Supplemental Irrigation Paddy Field	13	2			-13
Field under Rainfed Condition	37	5			-37
2. Rainfed Paddy Field	650	93			-650
3. Right-of-ways			100	14	100
Total	700	100	700	100	0

Agricultural Support Programs Planned

- Field Programs
- Field Adaptability Test
- Demonstration plot, Seed Multiplication etc.
- Farmer/Farmer group Training Programs
- Training Course, FFS/IPM
- Study Tour, VEA Training
- Mass guidance/Workshop
- Support Fund for Extension Staff
- Provision of Transportation Means

Present/Without-project & With-project Crop Production in the Project

Land Use Sub-category/ Crops	Present/Without-project					With-project					Increment			
	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Production (ton)
Normal Irrigation Field						600					600			
Early Wet/Dry Season							60	10	3.5	210		60		210
Wet Season Rice							600	100	3.0	1,810		600		1,810
Upland Crops							10	2	0.5	5		10		5
Supplemental Irrig. Field	13										-13			
Dry Season														
Wet Season Rice		13	2	1.7	22							-13		-22
Rainfed Paddy Field	687										-687			
Wet Season Rice		687	98	1.2	794							-687		-794
Annual														
Annual Rice		700	100	1.2	816		660	110	3.1	2,020		-40	10	1,204
Upland Crops							10	2		5		10	-	5
Total	700	700	100		816	600	670	112		2,025	-100	-30	12	1,209

Note: Direct sowing & transplanting combined in wet season rice & yield is a weighted average of the two

As shown in the tables; overall yield increase of 1.9 ton/ha and paddy production increase of 1,200 ton are expected under the project.

(3) Project scope:

Item	Description
1. Direct Construction	
Rehabilitation 2 existing systems	Nikom Le (300 ha), Dai Ta Chan (300 ha)
1.1 Dai Ta Chan weir rehabilitation.	Total width =28m, Weir body = 22m, Height =3.5m. Gate: Automatic gate 2 nos. (W 5.5m x H 2.0m) Slide gate 2 nos. (W 2.0 m x H 2.0 m)
- Intake structure	2 nos. Slide gate 3 nos. (W 2.0 m x H 2.0 m)
1.2 Canal work including structures - Canal rehabilitation - Canal construction	Main = 8 km , Secondary = 1 km, Main = - km, Secondary = - km, Tertiary = 12 km Drainage = 9 km
2. Other Components	
2.1 FWUC level training	Training by FWUC support team through PDOWRAM and MOWRAM
2.2 Agricultural support services	Field extension & training program by PDA/MAFF

(4) Implementation Schedule

- (a) Survey, investigation, design, and tender; 12 months, (Tender; 3 months)
(c) Construction; 1 year
(d) Establishment of FWUC and training; 5 years (2 years for establishment, 3 years for training)
(e) Agriculture extension service; 3 years

(5) Cost Estimate; Total Investment Costs: 2,150 (1,000USD)

Project Name	Total Construction Costs (1,000 USD)	Other Costs			Total Investment Costs (1,000 USD)
		FWUC level training & mobilization (1,000 USD)	Agricultural & other support (1,000 USD)	Land Acquisition Cost (1,000 USD)	
Nikom/Dai Ta Chan Rehab. Project	2,000	80	10	60	2,150

(6) Evaluation

No.	Criteria	Full point	Point obtained
1.	Resources factor	30	21
2.	Economic factor	20	10
3.	Social factor	20	9
4.	Environmental factor	10	10
5.	Ease of implementation	10	10
6.	Maturity factor	10	6
	Total	100	66.00

Table 2.7-10 Beoung Preah Ponley Rehabilitation Project

(1) Project description:

Item	Description				
1.1 Location	District	Commune	Village	UTM Reference	
	Phnom Kra Vanh	Sam Rong, Phtas Rong	Prek I, Phtas Rong	341435	1381043
1.2 River basin/ water source	Pursat river basin/ Pursat river				
1.3 Target group	1) Number of household=7,141 (Wet season medium- paddy) 2) Staff of PDOWRAM and PDA				
1.4 Objective of the project or program	1) Enhancement of rice production through re-construction of weir and rehabilitation of existing irrigation system				
1.5 Type of project or program	1) Rehabilitation of existing irrigation system				
1.6 Objective area	8,500 Ha				
1.7 Necessity of project/program	<p>The proposed project consists of two irrigation systems, namely the Beoung Preah Ponley reservoir and the Domnak Chheu Kram.</p> <p>The weir located at the uppermost flat area commenced irrigation water supply to two systems in the late 1970's.</p> <p>At present, floods destroyed the weir, and irrigation canals lost their capacity. In order to recover stable water supply and to irrigate the irrigation systems, rehabilitation of dyke and canals, and re-construction of weir are of crucial importance.</p>				

(2) Agriculture:

Present/Without-project & With-project Land Use of the Project Area

Land Use Sub-category	I. Present Area		II. With Project Area		Increment (II - I) Area (ha)
	(ha)	(%)	(ha)	(%)	
1. Irrigation Area	7,703	77	8,500	85	797
Normal Irrigation Paddy Field	30	0	8,500	85	8,470
Supplemental Irrigation Paddy Field	1,138	11			-1,138
Field under Rainfed Condition	6,535	65			-6,535
2. Rainfed Paddy Field	940	9			-940
3. Right-of-ways	1,357	14	1,500	15	143
Total	10,000	100	10,000	100	0

Agricultural Support Programs Planned

- Field Programs
- Field Adaptability Test
- Demonstration plot, Seed Multiplication etc.
- Farmer/Farmer group Training Programs
- Training Course, FFS/IPM
- Study Tour, VEA Training
- Mass guidance/Workshop
- Support Fund for Extension Staff
- Staff Empowerment
- Provision of Transportation Means

Present/Without-project & With-project Crop Production in the Project Area

Land Use Sub-category/ Crops	Present/Without-project					With-project					Increment			
	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Production (ton)
Normal Irrigation Field	30					8,500					8,470			
Early Wet/Dry Season		30		3.0	90		800	9	3.5	2,800		770		2,710
Wet Season Rice		30		2.8	83		8,500	100	3.3	28,382		8,470		28,299
Upland Crops							30	0.4	0.6	17		30		17
Supplemental Irrig. Field	1,138										-1,138			
Dry Season														
Wet Season Rice		1,138	13	1.9	2,145							-1,138		-2,145
Rainfed Paddy Field	7,475										-7,475			
Wet Season Rice		7,475	86	1.4	10,353							-7,475		-10,353
Annual														
Annual Rice		8,673	100	1.5	12,671		9,300	109	3.4	31,182		627	9	18,511
Upland Crops							30	0		17		30	-	17
Total	8,643	8,673	100		12,671	8,500	9,330	110		31,199	-143	657	9	18,528

Note: Direct sowing & transplanting combined in wet season rice & yield is a weighted average of the two

Beoun

As shown in the tables; overall yield increase of 1.9 ton/ha and paddy production increase of 18,500 ton are expected under the project.

(3) Project scope:

Item	Description
1. Direct Construction	
Rehabilitation of 2 existing systems	Beoung Preah Ponley Res. (8,000ha), Domnak Chheu Kram (500ha)
1.1 Beoung Preah Ponley weir - Intake Structure	Total width =54m, Weir body = 38m, Height =4m Gate: Automatic gate 3 nos. (W 7.4m x H 2.0m) Slide gate 2 nos. (W 2.0 m x H 2.0 m) 1 nos. Slide gate 3 nos. (W 2.0 m x H 2.0 m)
1.2 Canal work - Canal rehabilitation* - Canal construction* (*; including structures)	Main = 11 km , Secondary = 12.0 km, Main = 32 km, Secondary = 73 km, Tertiary = 170 km Drainage = 128 km
2. Other Components	
2.1 FWUC level training	Training by FWUC support team through PDOWRAM and MOWRAM
2.2 Agricultural support services	Field extension & training program by PDA/MAFF

(4) Implementation Schedule

- (a) Survey, investigation, design, and tender; 12 months, (Tender; 3 months)
(c) Construction; 4 years
(d) Establishment of FWUC and training; 6 years (2 years for establishment, 4 years for training)
(e) Agriculture extension service; 4 years (2 years overlap w/ construction)

(5) Cost Estimate

Total Investment Costs: 18,897 (1,000USD)

Project Name	Total Construction Costs (1,000 USD)	Other Costs			Total Investment Costs (1,000 USD)
		FWUC level training & mobilization (1,000 USD)	Agricultural & other support (1,000 USD)	Land Acquisition Cost (1,000 USD)	
		Beoung Preah Ponley Rehab. Project	17,571	703	

(6) Evaluation

No.	Criteria	Full point	Point obtained
1.	Resources factor	30	21
2.	Economic factor	20	16
3.	Social factor	20	8
4.	Environmental factor	10	10
5.	Ease of implementation	10	6
6.	Maturity factor	10	6
	Total	100	67.00

Table 2.7-11 Damnak Ampil Extension Project

(1) Project description:

Item	Description
1.1 Location	District
	Commune
1.1 Location	Village
	UTM Reference
	SamPovMeas
	LorLokSar
	DamNakAmPil
	370829
	1380406
1.2 River basin/ water source	Pursat river basin/ Pursat river
1.3 Target group	1) Number of household = 33,790 (Wet season medium- paddy) 2) Staff of PDOWRAM and PDA
1.4 Objective of the project or program	Enhancement of rice production through rehabilitation of existing irrigation system
1.5 Type of project or program	1) Improvement of existing automatic gate 2) Rehabilitation of existing irrigation system/ Construction of canals
1.6 Objective area	8,000 Ha
1.7 Necessity of project/program	Damnak Ampil weir commenced the service in 2007. The main canal was rehabilitated for 7 km, and remaining main canal section of 13 km, and construction of the whole length of secondary and tertiary canals were left. The extension project would rehabilitate remaining main canal section and construct secondary and tertiary canals for effective use of diverted water at the weir. The weir has a high potential to irrigate existing systems located in the downstream area. In order to secure the potential, improvement of the weir would be necessary.

(2) Agriculture:

Present/Without-project & With-project Land Use of the Project Area

Land Use Sub-category	I. Present Area		II. With Project Area		Increment (II - I) Area (ha)
	(ha)	(%)	(ha)	(%)	
	1. Irrigation Area	7,700	82	8,000	85
Normal Irrigation Paddy Field	1170	12	8,000	85	6,830
Supplemental Irrigation Paddy Field	1,632	17			-1,632
Field under Rainfed Condition	4,898	52			-4,898
2. Rainfed Paddy Field	350	4			-350
3. Right-of-ways	1,360	14	1,410	15	50
Total	9,410	100	9,410	100	0

Agricultural Support Programs Planned

- Field Programs
- Field Adaptability Test
- Demonstration plot, Seed Multiplication etc.
- Farmer/Farmer group Training Programs
- Training Course, FFS/IPM
- Study Tour, VEA Training
- Mass guidance/Workshop
- Support Fund for Extension Staff
- Staff Empowerment
- Provision of Transportation Means

Present/Without-project & With-project Crop Production in the Project Area

Land Use Sub-category/ Crops	Present/Without-project					With-project					Increment			
	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Production (ton)
Normal Irrigation Field	1,170					8,000					6,830			
Early Wet/Dry Season		1,170	15	3.0	3,510		755	9	3.5	2,643		-415		-867
Wet Season Rice		1,170	15	2.8	3,241		8,000	100	3.3	26,712		6,830		23,471
Upland Crops							325	4.1	0.5	166		325		166
Supplemental Iri. Field	1,632										-1,632			
Dry Season														
Wet Season Rice		1,632	20	1.9	3,077							-1,632		-3,077
Rainfed Paddy Field	5,248										-5,248			
Wet Season Rice		5,248	65	1.4	7,269						0	-5,248		-7,269
Annual		9,220	115	1.9	17,097		8,755	109	3.4	29,355		-465	-5	12,258
Upland Crops							325	4		166		325	-	166
Total	8,050	9,220	115		17,097	8,000	9,080	114		29,521	-50	-140	-1	12,424

Note: Direct sowing & transplanting combined in wet season rice & yield is a weighted average of the two

Damnak

As shown in the tables; overall yield increase of 1.5 ton/ha and paddy production increase of 12,300 ton are expected under the project.

(3) Project scope:

Item	Description
1. Direct Construction	
1.1 Damnak Ampil weir - Improvement of gates - Other works	(Total width =152.8m, Weir body = 104.8m, Height =8m) Automatic gate 7 nos. (W 10.0m x H 4.0m) Extension of erosion protection, etc.
1.2 Canal work including structures - Canal rehabilitation - Canal construction	Main = 16 km , Secondary = 150 km, Main = - km, Secondary = - km, Tertiary = 160 km Drainage = 120 km
2. Other Components	
2.1 FWUC level training	Training by FWUC support team through PDOWRAM and MOWRAM
2.2 Agricultural support services	Field extension & training program by PDA/MAFF

(4) Implementation Schedule

- (a) Survey, investigation, design, and tender; 12 months, (Tender; 3 months)
- (c) Construction; 4 years
- (d) Establishment of FWUC and training; 7 years (2 years for establishment, 5 years for training)
- (e) Agriculture extension service; 5 years (3 years overlap w/ construction)

(5) Cost Estimate Total Investment Costs: 17,175 (1,000USD)

Project Name	Total Construction Costs (1,000 USD)	Other Costs			Total Investment Costs (1,000 USD)
		FWUC level training & mobilization (1,000 USD)	Agricultural & other support (1,000 USD)	Land Acquisition Cost (1,000 USD)	
		(1,000 USD)	(1,000 USD)	(1,000 USD)	
Damnak Ampil Ext. Project	15,964	639	93	479	17,175

(6) Evaluation

No.	Criteria	Full point	Point obtained
1.	Resources factor	30	23
2.	Economic factor	20	16
3.	Social factor	20	12
4.	Environmental factor	10	10
5.	Ease of implementation	10	6
6.	Maturity factor	10	10
	Total	100	77.00

Table 2.7-12 Wat Loung Rehabilitation Project

(1) Project description:

Item	Description						
1.1 Location	District		Commune		Village	UTM Reference	
	Sam Pov Meas, Ba Kan		Lor Lok Sar, Tra Peang Chornng		Wat Lourng, Kosh, Ba Kan	375467	1382469
1.2 River basin	Pursat river basin/ Pursat river						
1.3 Target group	1) Number of household = 1,724 (Wet season medium- paddy) 2) Staff of PDOWRAM and PDA						
1.4 Objective of the project	Enhancement of rice production through rehabilitation of existing irrigation system						
1.5 Type of project	Rehabilitation of existing irrigation system						
1.6 Objective area	3,940Ha						
1.7 Necessity of project	<p>The system construction was completed excluding intake weir in the late 1970's, and the system lost its function after a few years' operation.</p> <p>In order to secure water source, utilization of Damnak Ampil weir would be a highly possible alternative. In order to receive water from the weir, a channel connecting the weir to the Wat Loung main canal would need to be constructed.</p> <p>In addition, existing irrigation system is seriously deteriorated, and lack of canals at the secondary and tertiary levels. Rehabilitation and additional construction of canals would be necessary.</p>						

(2) Agriculture

Present/Without-project & With-project Land Use of the Project Area

Land Use Sub-category	I. Present Area		II. With Project Area		Increment (II - I) Area (ha)
	(ha)	(%)	(ha)	(%)	
1. Irrigation Area	1,800	39	3,940	85	2,140
Normal Irrigation Paddy Field	45	1	3,940	85	3,895
Supplemental Irrigation Paddy Field	410	9			-410
Field under Rainfed Condition	1,345	29			-1,345
2. Rainfed Paddy Field	2,535	55			-2,535
3. Right-of-ways	305	7	700	15	395
Total	4,640	100	4,640	100	0

Agricultural Support Programs Planned

- Field Programs
- Field Adaptability Test
- Demonstration plot, Seed Multiplication etc.
- Farmer/Farmer group Training Programs
- Training Course, FFS/IPM
- Study Tour, VEA Training
- Mass guidance/Workshop
- Support Fund for Extension Staff
- Staff Empowerment
- Provision of Transportation Means

Present/Without-project & With-project Crop Production in the Project Area

Land Use Sub-category/ Crops	Present/Without-project					With-project					Increment			
	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Yield (ton/ha)	Production (ton)	Area (ha)	Cropped Area (ha)	Cropping Intensity (%)	Production (ton)
Normal Irrigation Field	45					3,940					3,895			
Early Wet/Dry Season		45	1	3.0	135		250	6	3.5	875		205		740
Wet Season Rice		45	1	2.8	125		3,940	100	3.3	13,156		3,895		13,031
Upland Crops							160	4.1	0.5	82		160		82
Supplemental Irr. Field	410										-410			
Dry Season														
Wet Season Rice		410	9	1.9	773							-410		-773
Rainfed Paddy Field	3,880										-3,880			
Wet Season Rice		3,880	90	1.4	5,374							-3,880		-5,374
Annual		4,380	101	1.5	6,407		4,190	106	3.3	14,031		160	5	7,624
Upland Crops							160	4		82		160		82
Total	4,335	4,380	101		6,407	3,940	4,350	110		14,113	-395	-30	9	7,706

Note: Direct sowing & transplanting combined in wet season rice & yield is a weighted average of the two

Wat Loung

As shown in the tables; overall yield increase of 1.8 ton/ha and paddy production increase of 7,600 ton are expected under the project.

(3) Project scope:

Item	Description
1. Direct Construction	
Rehabilitation of 3 existing systems	Wat Loung (2,000ha) Thnos Tachap (1,230ha) Bakan (710ha)
1.1 Canal work - Canal rehabilitation* - Canal construction* (*; including structures)	Main = 25 km , Secondary = 8 km, Main = 11 km, Secondary = 32 km, Tertiary = 79 km Drainage = 59 km
2. Other Components	
2.1 FWUC level training	Training by FWUC support team through PDOWRAM and MOWRAM
2.2 Agricultural support services	Field extension & training program by PDA/MAFF

(4) Implementation Schedule

- (a) Survey, investigation, design, and tender; 12 months, (Tender; 3 months)
(c) Construction; 2 years
(d) Establishment of FWUC and training; 6 years (2 years for establishment, 4 years for training)
(e) Agriculture extension service; 4 years

(5) Cost Estimate; Total Investment Costs: 8,545 (1,000USD)

Project Name	Total Construction Costs (1,000 USD)	Other Costs			Total Investment Costs (1,000 USD)
		FWUC level training & mobilization (1,000 USD)	Agricultural & other support (1,000 USD)	Land Acquisition Cost (1,000 USD)	
Wat Loung Rehab. Project	7,943	318	46	238	8,545

(6) Evaluation

No.	Criteria	Full point	Point obtained
1.	Resources factor	30	23
2.	Economic factor	20	13
3.	Social factor	20	8.72
4.	Environmental factor	10	10
5.	Ease of implementation	10	10
6.	Maturity factor	10	6
	Total	100	70.72