Annex 12

Financial and Economic Analyses

(Rural Water Supply Project)

Financial and Economic Analyses of Project

Name of Project : Vardar River Upper Reach Rural Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	47						34.68	
(2) Well	9						18.97	
(3) River intake	0						0.00	
(4) Main pipeline(225 or 125 mm in diameter)	235	km					355.50	
(5) Secondary pipeline(75 mm in diameter)	101	km					64.80	
(6) Reservoir	0						49.90	
(7) Filter station	9						15.30	
Sub-total (Civil work cost)							539.15	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							539.15	10,368
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								5,184
3 Annual O/M cost								
(1) Salary for workers								232
(2) Electricity								63
(3) Maintenance cost								104
Sub-total								399
4 Replacement								
(1) Well pump							3.79	73
Sub-total								73
Financial cost								15,552
Economic cost (90% of financial cost) 90%								
(1) Investment cost								13,997
(2) O&M cost								359
(3) Replacement cost								66
Total								14,422

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 36131	18 0.25	3,296,954		60	1,153
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
				60	1,153
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	3,296,954		54	1,037
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			2	33
3 Negative income tax	(MKD/month) (month)				
	200 12			78	1,501
Total				134	2,571

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-6,399 x10^{3}US$	B-C :	13,944 x10^{3}US$
B/C :	0.67	B/C :	1.79
FIRR :	3.6 %	EIRR :	18.9 %

Financial and Economic Analyses of Project

Name of Project : Treska River Upper Reach Rural Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	70						34.47	
(2) Well	8						21.68	
(3) River intake	2						0.49	
(4) Main pipeline	360	km					493.00	
(5) Secondary pipeline	81	km					64.80	
(6) Reservoir	27						39.30	
(7) Filter station	10						16.34	
Sub-total (Civil work cost)							670.08	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							670.08	12,886
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								6,443
3 Annual O/M cost								
(1) Salary for workers								289
(2) Electricity								78
(3) Maintenance cost								129
Sub-total								496
4 Replacement								
(1) Well pump							4.34	83
Sub-total								83
Financial cost								19,329
Economic cost (90% of financial cost) 90%								
(1) Investment cost								17,396
(2) O&M cost								446
(3) Replacement cost								75
Total								17,918

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 15288	18	1,395,030		25	488
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
Total				25	488
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	1,395,030		23	439
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			1	14
3 Negative income tax	(MKD/month) (month)				
	200 12			33	635
Total				57	1,088

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-18,741 x10^{3}US$	B-C :	-10,391 x10^{3}US$
B/C :	0.23	B/C :	0.56
FIRR :	- %	EIRR :	1.6 %

Financial and Economic Analyses of Project

Name of Project : Regional Water Supply Project "Petrovec"

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	0						0.00	
(2) Well	3						8.13	
(3) River intake	0						0.00	
(4) Main pipeline (280mm)	6	km					17.10	
(5) Secondary pipeline (75mm)	26	km					20.80	
(6) Reservoir (1000, 500m^3)	3						22.70	
(7) Filter station (300m^3/hr)	1						30.00	
Sub-total (Civil work cost)							98.73	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							98.73	1,899
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								949
3 Annual O/M cost								
(1) Salary for workers								115
(2) Electricity								55
(3) Maintenance cost								19
Sub-total								189
4 Replacement								
(1) Well pump							1.63	31
								31
Financial cost								2,848
Economic cost (90% of financial cost) 90%								
(1) Investment cost								2,563
(2) O&M cost								170
(3) Replacement cost								28
Total								2,761

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate		Quantity		Total amount	
Item	(MKD/m^3)		(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)						
1 Water charge (CE Tetovo)						
1.1 Domestic water 6,227	18		568,214		10	199
(increase of current tariff (%)) : 50						
2 Health						
2.1 Salary instead of no work due to water-borne diseases					0	0
3 Negative income tax					0	0
Total					10	199
Economic benefit (90% of financial benefit)						
1 Water charge (CE Tetovo)						
1.1 Domestic water	16		568,214		9	179
2 Health	(MKD/day)	(day)				
2.1 Salary instead of no work	500	7			0	6
3 Negative income tax	(MKD/month)	(month)				
	200	12			13	259
Total					23	443

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-2,742 x10^{3}US$	B-C :	645 x10^{3}US$
B/C :	0.46	B/C :	1.13
FIRR :	- %	EIRR :	10.3 %

Financial and Economic Analyses of Project

Name of Project : Skopje Circle Rural Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	49						30.72	
(2) Well	19						51.49	
(3) River intake	0						0.00	
(4) Main pipeline	290	km					353.50	
(5) Secondary pipeline	143	km					103.20	
(6) Reservoir	43						66.40	
(7) Filter station	19						33.12	
Sub-total (Civil work cost)							638.43	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							638.43	12,277
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								6,139
3 Annual O/M cost								
(1) Salary for workers								569
(2) Electricity								297
(3) Maintenance cost								123
Sub-total								989
4 Replacement								
(1) Well pump							10.30	198
Sub-total								198
Financial cost								18,416
Economic cost (90% of financial cost) 90%								
(1) Investment cost								16,575
(2) O&M cost								890
(3) Replacement cost								178
Total								17,643

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 31068	18	2,834,955		52	991
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
Total				52	991
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	2,834,955		46	892
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			1	28
3 Negative income tax	(MKD/month) (month)				
	200 12			67	1,291
Total				115	2,211

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-17,789 x10^{3}US$	B-C :	932 x10^{3}US$
B/C :	0.39	B/C :	1.04
FIRR :	- %	EIRR :	8.6 %

Financial and Economic Analyses of Project

Name of Project : Kriva Palanka & Kumanovo Circle Rural Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	96						53.04	
(2) Well	20						54.20	
(3) River intake	0						0.00	
(4) Main pipeline	495	km					669.00	
(5) Secondary pipeline	174	km					124.80	
(6) Reservoir	52						76.90	
(7) Filter station	20						36.86	
Sub-total (Civil work cost)							1,014.80	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							1,014.80	19,515
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								9,758
3 Annual O/M cost								
(1) Salary for workers								599
(2) Electricity								312
(3) Maintenance cost								195
Sub-total								1,106
4 Replacement								
(1) Well pump							10.84	208
Sub-total								208
Financial cost								29,273
Economic cost (90% of financial cost) 90%								
(1) Investment cost								26,346
(2) O&M cost								996
(3) Replacement cost								188
Total								27,529

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 34771	18	3,172,854		58	1,109
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
Total				58	1,109
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	3,172,854		52	998
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			2	32
3 Negative income tax	(MKD/month) (month)				
	200 12			75	1,444
Total				129	2,474

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-27,210 x10^{3}US$	B-C :	-5,550 x10^{3}US$
B/C :	0.31	B/C :	0.84
FIRR :	- %	EIRR :	5.4 %

Financial and Economic Analyses of Project

Name of Project:	Bregalnica River Basin Rural Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	139						53.91	
(2) Well	7						18.97	
(3) River intake	0						0.00	
(4) Main pipeline	700	km					832.00	
(5) Secondary pipeline	102	km					76.80	
(6) Reservoir	32						41.30	
(7) Filter station	7						11.47	
Sub-total (Civil work cost)							1,034.45	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							1,034.45	19,893
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								9,947
3 Annual O/M cost								
(1) Salary for workers								207
(2) Electricity								108
(3) Maintenance cost								216
Sub-total								531
4 Replacement								
(1) Well pump							3.79	73
Sub-total								73
Financial cost								29,840
Economic cost (90% of financial cost) 90%								
(1) Investment cost								26,856
(2) O&M cost								478
(3) Replacement cost								66
Total								27,400

Conditions:
a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 12258	18	1,118,543		20	391
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
Total				20	391
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	1,118,543		18	352
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			1	11
3 Negative income tax	(MKD/month) (month)				
	200 12			26	509
Total				45	872

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-28,454 x10^{3}US$	B-C :	-20,358 x10^{3}US$
B/C :	0.12	B/C :	0.30
FIRR :	- %	EIRR :	- %

Financial and Economic Analyses of Project

Name of Project:	Pelagonia Circle Rural Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	105						44.38	
(2) Well	50						124.66	
(3) River intake	1						0.26	
(4) Main pipeline	525	km					682.50	
(5) Secondary pipeline	168	km					132.00	
(6) Reservoir	55						71.20	
(7) Filter station	51						69.72	
Sub-total (Civil work cost)							1,124.71	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							1,124.71	21,629
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								10,815
3 Annual O/M cost								
(1) Salary for workers								796
(2) Electricity								1,524
(3) Maintenance cost								216
Sub-total								2,536
4 Replacement								
(1) Well pump								
Sub-total							24.93	479
Financial cost								32,444
Economic cost (90% of financial cost) 90%								
(1) Investment cost								29,199
(2) O&M cost								2,283
(3) Replacement cost								432
Total								31,913

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 21211	18	1,935,504		35	677
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
				35	677
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	1,935,504		32	609
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			1	19
3 Negative income tax	(MKD/month) (month)				
	200 12			46	881
Total				78	1,509

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-48,844 x10^{3}US$	B-C :	-32,409 x10^{3}US$
B/C :	0.13	B/C :	0.36
FIRR :	- %	EIRR :	- %

Financial and Economic Analyses of Project

Name of Project : Regional Water Supply Project "Medzitlija"

COST Item	Work quantity Amount	Unit	Unit price D/C (MKD)	F/C (US$)	Amout D/C (MKD)	F/C (US$)	Total amount (MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake								
(2) Well								
(3) River intake								
(4) Main pipeline (200mm)	15	km						
(5) Secondary pipeline (150mm)	1	km						
(6) Reservoir								
(7) Filter station								
Sub-total (Civil work cost)							104.00	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							104.00	2,000
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								1,000
3 Annual O/M cost								
(1) Salary for workers								
(2) Electricity								
(3) Maintenance cost								
Sub-total								20
4 Replacement								
(1) Well pump							0.00	0
								0
Financial cost								3,000
Economic cost (90% of financial cost) 90%								
(1) Investment cost								2,700
(2) O&M cost								18
(3) Replacement cost								0
Total								2,718

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT Item	Unit rate (MKD/m^3)	Quantity (m^3/year)		Total amount (MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 2,352	18	214,620		4	75
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax					
				0	0
				4	75
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	214,620		4	68
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			0	2
3 Negative income tax	(MKD/month) (month)				
	200 12			5	98
Total				9	167

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-2,346 x10^{3}US$	B-C :	-828 x10^{3}US$
B/C :	0.28	B/C :	0.72
FIRR :	- %	EIRR :	4.8 %

Financial and Economic Analyses of Project

Name of Project : Vardar River Lower Reach/Strumica River Basin Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	68						29.30	
(2) Well	26						70.46	
(3) River intake	0						0.00	
(4) Main pipeline	340	km					442.00	
(5) Secondary pipeline	114	km					91.20	
(6) Reservoir	38						61.30	
(7) Filter station	26						46.25	
Sub-total (Civil work cost)							740.52	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							740.52	14,241
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								7,120
3 Annual O/M cost								
(1) Salary for workers								775
(2) Electricity								403
(3) Maintenance cost								142
Sub-total								1,320
4 Replacement								
(1) Well pump							14.09	271
Sub-total								271
Financial cost								21,361
Economic cost (90% of financial cost) 90%								
(1) Investment cost								19,225
(2) O&M cost								1,188
(3) Replacement cost								244
Total								20,657

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 29,371	18	2,680,104		49	937
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
				49	937
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	2,680,104		44	843
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			1	27
3 Negative income tax	(MKD/month) (month)				
	200 12			63	1,220
Total				109	2,090

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-24,138 x10^{3}US$	B-C :	-5,719 x10^{3}US$
B/C :	0.30	B/C :	0.82
FIRR :	- %	EIRR :	4.2 %

Financial and Economic Analyses of Project

Name of Project : Southwest Mountainous Area Rural Water Supply Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake	29						12.60	
(2) Well	3						8.13	
(3) Lake intake	1						0.25	
(4) Main pipeline	145	km					188.50	
(5) Secondary pipeline	39	km					31.20	
(6) Reservoir	13						15.40	
(7) Filter station	4						5.54	
Sub-total (Civil work cost)							261.62	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							261.62	5,031
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								2,516
3 Annual O/M cost								
(1) Salary for workers								114
(2) Electricity								55
(3) Maintenance cost								50
Sub-total								219
4 Replacement								
(1) Well pump							1.63	31
								31
Financial cost								7,547
Economic cost (90% of financial cost) 90%								
(1) Investment cost								6,792
(2) O&M cost								197
(3) Replacement cost								28
Total								7,018

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 2,853	18	260,336		5	91
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
				5	91
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	260,336		4	82
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			0	3
3 Negative income tax	(MKD/month) (month)				
	200 12			6	119
Total				11	203

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-9,084 x10^{3}US$	B-C :	-6,618 x10^{3}US$
B/C :	0.11	B/C :	0.28
FIRR :	- %	EIRR :	- %

Financial and Economic Analyses of Project

Name of Project:	Nationwide Rural Water Supply Extension/Improvement Project

COST	Work quantity		Unit price		Amout		Total amount	
Item	Amount	Unit	D/C (MKD)	F/C (US$)	D/C (MKD)	F/C (US$)	(MKD.mil.)	(US$10^3)
1. Direct construction cost								
1.1 Civil work								
1.1.1 Main construction works								
(1) Spring intake							90.86	
(2) Well							114.25	
(3) River intake							0.31	
(4) Main pipeline							1,244.96	
(5) Secondary pipeline							213.53	
(6) Reservoir							130.73	
(7) Filter station							72.72	
Sub-total (Civil work cost)							1,867.36	
(Including electrical work and mechanical work)								
Sub-total (Direct construction cost)							1,867.36	35,911
2. Indirect cost (50% of Direect construction cost) (including land acquisition and compensation, engineering fee, administration cost and physical/price contingencies)								17,955
3 Annual O/M cost								
(1) Salary for workers								1,347
(2) Electricity								655
(3) Maintenance cost								364
Sub-total								2,366
4 Replacement								
(1) Well pump							22.85	439
Sub-total								439
Financial cost								53,866
Economic cost (90% of financial cost) 90%								
(1) Investment cost								48,480
(2) O&M cost								2,130
(3) Replacement cost								395
Total								51,005

Conditions:

a. Exchage rate : US$1.0= MKD52. (Jan.15, 1999 by The National Bank)

BENEFIT	Unit rate	Quantity		Total amount	
Item	(MKD/m^3)	(m^3/year)		(MKD.mil.)	(US$10^3)
Financial benefit (revenue)					
1 Water charge (CE Tetovo)					
1.1 Domestic water 90,000	18	8,212,500		149	2,871
(increase of current tariff (%)) : 50					
2 Health					
2.1 Salary instead of no work due to water-borne diseases				0	0
3 Negative income tax				0	0
Total				149	2,871
Economic benefit (90% of financial benefit)					
1 Water charge (CE Tetovo)					
1.1 Domestic water	16	8,212,500		134	2,584
2 Health	(MKD/day) (day)				
2.1 Salary instead of no work	500 7			4	82
3 Negative income tax	(MKD/month) (month)				
	200 12			194	3,738
Total				333	6,404

RESULT OF FINANCIAL/ECONOMIC EVALUATION

B-C :	-41,507 x10^{3}US$	B-C :	11,603 x10^{3}US$
B/C :	0.41	B/C :	1.18
FIRR :	- %	EIRR :	11.5 %

Annex 13

Results of Evaluation from Technical Aspect

Table AN13.1 Result of Project Evaluation from Technical Aspect (1/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Vardar River Upper Reach	1	A1-1	Water Supply Project for Tetovo - River Pena Intake	M & I	The river intake in the Pena River would be appropriate ro be tyrolean type. It is practically conventional method of tapping water from river.	It can be recognized that the operation and maintenance are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	An application for implementation of the project was submitted to the Government of Japan.
	2	A1-2	Studena Voda Groundwater Development Project	M	Since the component of the project is well and pipeline, which is most common configuration of water supply project in Macedonia, no difficulty is foreseen.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	3	A1-3	Kichevsko Pole Area Irrigation Rehabilitation Project	RI	Rehabilitation of the existing irrigation systems might be belong to familiarized construction works in the county. No difficulty is foreseen.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	4	A1-4	Construction of By-pass Channel Raven Rechica	A	The route of the bypass channel is the skirts of mountain range stretching at west of the Polog ravine. It is necessary to overcome intensive undulation for placement of the pipeline.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	Since pipeline is over 26 km, subsurface condition for foundation might differ in the valley and ridges.	Listed in PIP
	5	A1-5	Patishka Reka Water Supply Project	M	The pipeline would be around 40 km. But, undulation of topography is not conspicuous in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	An application for implementation of the project was submitted to the Government of Japan.
	6	A1-6	Paligrad Multipurpose Dam Project	M & I, A, P	Design of Slupchanka dam will be conventional rock fill type dam. This is most dominant dam type in Macedonia	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	7	A1-7	Slupchanka Dam Project	M	Type of Slupchanka dam will be conventional rock fill. This is most dominant dam type in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	New pipeline financed by PHARE counterpart fund. An application for conducting of F/S was submitted to the Government of Japan.
	8	A1-8	Lipkovo - Glaznja Area Irrigation Rehabilitation Project	RI	Rehabilitation of the existing irrigation systems might be belong to familiarized construction works in the country. No difficulty is foreseen.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP. No technical study and survey has not been done yet.

Table AN13.1 Result of Project Evaluation from Technical Aspect (2/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Vardar River Upper Reach	9	A1-9	Kiselichka Dam Project	M & A	Type of Kiselichka dam will be conventional rock fill. This is most dominant dam type in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	10	A1-10	Vakuf Dam Project	M & I, A, P	Since the Vakuf dam is multipurpose dam, design will be little complicate than single purpose one.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	An application for conducting of F/S was submitted to the Government of Japan. A study at pre-F/S level has been conducted.
	11	A1-11	Pelince Dam Project	A	Design of Pelince dam will be conventional rock fill type dam. This is most dominant dam type in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	The reservoir area might be close to the border with Yugoslavia. In case that water is captured by her, the discharge is not dependable upon natural condition.	Not listed in PIP
	12	A2-1	Razlovci Dam Project	M & I, A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
Vardar River Middle Reach	13	A2-2	Balatec Dam Project	M & I, A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	14	A2-3	Rechani Multipurpose Dam Project	M & I, P	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	An application for implementation of the project was issued to the Government of Japan.
	15	A2-4	Zletovica Multipurpose Dam Project	M & I	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	An application for loan to implement the Project was submitted to the Government of Japan.
	16	A2-5	Construction of Irrigation Sub-system Shtipsko Pole, left side	A	As for extension of the existing system, construction of new canal network will be required. Common type of design and construction work are required.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP

Table AN13.1 Result of Project Evaluation from Technical Aspect (3/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Vardar River Lower Reach	17	A3-1	Krapa Dam Project	M & I, A	Krapa dam is located in the karstic terrain and captured water will be transferred from the Treska River to the Crna River. The design and construction will need high level of knowledge/experiences on protection of leakage of reservoir and construction of tunnel pipeline.	Maintenance and management will be little complicated due to complex system of trans-basin water transfer.	It can be recognized no serious problem might happen in construction. In case it happens, additional survey might be required especially for leakage of the future reservoir.	Not listed in PIP. No technical study and survey has not been done yet.
	18	A3-3	Zhvan Dam Project	A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	To meet total water demand for irrigation in the Pelagonija field, integrated operation and maintenance of plural dams will be required for efficient water utilization.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP. No technical study and survey has not been done yet.
	19	A3-4	Obednik Dam Project	A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	To meet total water demand for irrigation in the Pelagonija field, integrated operation and maintenance of plural dams will be required for efficient water utilization.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP. No technical study and survey has not been done yet.
	20	A3-5	Kochishte Dam project	A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	To meet total water demand for irrigation in the Pelagonija field, integrated operation and maintenance of plural dams will be required for efficient water utilization.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP. No technical study and survey has not been done yet.
	21	A3-6	Zhurche Dam Project	A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	To meet total water demand for irrigation in the Pelagonija field, integrated operation and maintenance of plural dams will be required for efficient water utilization	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP. No technical study and survey has not been done yet.
	22	A3-7	Konjarka Dam Project	A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP. No technical study and survey has not been done yet.
	23	A3-8	Studencica Supplemental Water Supply Project	M & I	Development of spring and transporting water for long distance by pipeline is practical way of its construction in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP

Table AN13.1 Result of Project Evaluation from Technical Aspect (4/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Vardar River Lower Reach	24	A3-9	Petrushka Dam Project	A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	25	A3-10	Kovanska Dam Project	A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	26	A3-11	Konsko Dam Project	M & I, A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	27	A3-12	Valandovo Area Irrigation Project	RI	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
Crn Drim River Basin	28	A4-1	Irrigation System Betterment Project in Resen	RI	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	An application for implementation was sumitted to the Japanese Government.
	29	A4-2	Ohrid Area Irrigation Rehabilitation Project	RI	Rehabilitation of the existing irrigation systems might be belong to familiarized construction works in the country. No difficulty can be seen.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
Strumica River Basin	30	A5-1	Podares Dam Project	M & I, A	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	31	A5-2	Oraovica Dam Project	M & E	Dam type will be rock fill. Many cases and experience of design and construction are accumulated in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP

Table AN13.1 Result of Project Evaluation from Technical Aspect (5/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Strumica River Basin	32	A5-3	Mantovo Area Irrigation Project	RI	Rehabilitation of the existing irrigation systems might be belong to familiarized construction works in the country. No difficulty can be seen.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP
	33	A5-4	Strumica Area Irrigation Project	RI	Rehabilitation of the existing irrigation systems might be belong to familiarized construction works in the country. No difficulty can be seen.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary to ensure the technical know-how.	It can be recognized no serious problem might happen in construction. In case it happens, practical countermeasure will be taken.	Not listed in PIP

Rural water supply projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Vardar River Upper Reach	34	B1-1	Vardar River Upper Reach Rural Water Supply Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
	35	B1-2	Treska River Upper Reach Rural Water Supply Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
	36	B1-4	Petrovec Rural Water Supply Project	RS	It can be recognized that the design are generally applied for inter-village water supply projects in Macedonia.	It can be recognized that the maintenance and management are not complicated, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There is a preliminary study and technical report, but a feasibility study including topographical and geological surveys should be necessary to review the project again in new political and economical environment.

Table AN13.1 Result of Project Evaluation from Technical Aspect (6/7)

Rural water supply projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Vardar River Upper Reach	37	B1-5	Skopje Circle Rural Water Supply Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
	38	B1-6	Kriva Palanka/Kumanovo Circle Rural Water Supply Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
Vardar Middle Reach	39	B2-1	Bregalnica River Basin Rural Water Supply Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
Vardar Lower Reach	40	B3-1	Pelagonija Circle Rural Water Supply Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
	41	B3-2	Medzitlija Rural Water Supply Project	RS	It can be recognized that the design are generally applied for extension of urban water supply to villages in Macedonia	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There is a preliminary study and technical report, but a feasibility study including topographical and geological surveys should be necessary to review the project again in new poitical and economical environment.

Table AN13.1 Result of Project Evaluation from Technical Aspect (7/7)

Rural water supply projects

River Name	No.	Code No.	Project Name	Purpose	Design/Construction	Maintenance/Management	Uncertainty in construction	Project maturity
Vardar Lower Reach/Strumica	42	B3-3	Vardar River Lower Reach/Strumica River Basin Rural Water Supply Project	RS	It can be recognized that the design and construction are generally applied for extension of urban water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
Crn Drim	43	B4-1	Southwest Mountains Area Rural Water Supply Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.
Nationwide	44	B6-1	Nationwide Rural Water Supply Extension/Improvement Project	RS	It can be recognized that the design are generally applied for rural water supply projects in Macedonia.	It can be recognized that the maintenance and management are relatively easy, but that kind of training or education should be necessary.	It can be recognized that although unexpected problems might appear, it is easy to take measures with the problems	There are preliminary studies and technical reports for some villages, but preliminary studies including topographical and geological surveys should be necessary in general.

Annex 14

Results of Evaluation from Social Aspect

Results of Evaluation from Social Aspect (1/6)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
Vardar River Upper Reach	1	A1-1	Water Supply Pipeline for Tetovo - River Pena Intake	M & I	To solve the seasonal water shortage in the urban area of Tetovo Improvement of water quality to prevent possible occurrence of communicable diseases	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	–
	2	A1-2	Studena Voda Groundwaer Developmenrt Project	M	To solve the seasonal water shortage in the urban areas of Tetovo and Gostivar	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	No big social risks expected Geader consideration is necessary in institutional strengthening and community participation	–
	3	A1-3	Kichevsko Pole Area Irrigation Rehabilitation Project	A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting the market of Skopje.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	–
	4	A1-4	Construction of By-pass Channel Raven Rechca	A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting the market of Skopje.	Water right issue should be considered Gender consideration is necessary in institutional strengthening and community participation	–
	5	A1-5	Patishka Reka Water Supply Project	A	Stable and safe water supply in the mountain area in the southern and southeastern area of Skopje Reduction of occurrence rate of communicable diseases among infants and school children Improvement of primary health care and productive health Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Large quantity of water usage in the urban area has increased the problem with seasonal shortage of domestic water in the villages located near the urban area. In the mountain villages, the complicated and time-consuming procedures of project approval, no proper survey conducted abut the water sources, undeveloped urban plan, and irrational use of groundwater were pointed out. Due to the limited access to the safe drinking water, the occurrence rate of water-born diseases is high among school children.
	6	A1-6	Paligrad Multipurpose Dam Project	M & I	To solve the seasonal water shortage in the metropolitan area Alleviation of the living conditions in the slam area.	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	There is not serious problems with the quantity of water supply. Important is the deteriorated quality of the water sources due to untreated wastewater.
				A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting the market of Skopje.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Shortage of agricultural water and inefficient usage of water resources were pointed out.
				P	–	The stable electric supply will contribute to improvement of living conditions and to activation of th domestic industries.	No big social risks expected	–
	7	A1-7	Slupchanka Dam Project	M	To solve severe seasonal water shortage in the urban area in Kumanovo due to its rapid population growth Decrease of occurrence of communicable diseases	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	There is a serious problem with the shortage of drinking water due to the rapid population growth in Kumanovo. Additionally, the occurrence rate of communicable diseases has been high because of limited access to safe water.

Results of Evaluation from Social Aspect (2/6)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
	8	A1-8	Lipkovo - Glaznja Area Irrigation Rehabilitation Project	RI	—	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting mainly the domestic market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Shortage of agricultural water, aged irrigation facilities, decreased agricultural production and poor market competitiveness were pointed out.
	9	A1-9	Kiselichka Dam Project	M & A	To solve the water shortage in the entire year due to limited water resources	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Serious shortage of domestic and agricultural water in all through the year was stressed. In the mountain area, inhabitants do not have the access to safe drinking water.
	10	A1-10	Vakuf Dam Prject	M & I, A	To solve the seasonal water shortage in urban area in Kumanovo and the nearby towns, where continuous population growth is expected.	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	Resettlement of 500 families Gender consideration is necessary in institutional strengthening and community participation	Limited volume of existing water sources and shortage of domestic and agricultural water was pointed out. Even after completion of the Slupchanka Dam, there will be seasonal water shortage due to the population growth in the long-term period.
				P	—	The stable electric supply will contribute to securing the improved living conditions activation of the domestic industries for the future population. Especially, the project covers one of the important industrial area, Kumanovo, in the country.	—	—
	11	A1-11	Pelince Dam Project	A	—	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting mainly the domestic market.	Coordination might be necessary with Yugoslavia because the dam site is located near the boundary Gender consideration is necessary in institutional strengthening and community participation	—
Vardar River Middle Reach	12	A2-1	Razlovci Dam Project	M & I, A	To solve the seasonal water shortage in the urban area in Delcevo etc.	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	—
	13	A2-2	Blartec Dam Project	M & I, A	To solve the seasonal water shortage in the urban area in Vinica etc.	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Instead of high potentiality of agricultural production, the area has suffered from the shortage of agricultural water and undeveloped irrigation system. This has negatively influenced on the quantitative and qualitative improvement of the products.
	14	A2-3	Rechani Multipurpose Dam Project	M & I, A	To solve the seasonal water shortage in the urban area in Kocani and Vinica etc.	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	Coordination should be considered between Kocani and Vinica Gender consideration is necessary in institutional strengthening and community participation	Limited water volume of the existing water sources, low temperature of groundwater, inefficient usage of water resources and irrigation systems, aged irrigation system, and undeveloped drainage systems were pointed out.

Results of Evaluation from Social Aspect (3/6)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
				P	–	The stable electric supply will contribute to securing the improved living conditions activization of the domestic industries for the future population.	–	–
	15	A2-4	Zletovica Multipupurpose Dam Project	M & I	To solve the seasonal water shortage in the urban area of Shtip etc. To reduce the high infant mortality rate To reduce the occurrence rate of the communicable diseases	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Limited water volume of the existing water sources, shortage of drinking water in all through the year, decreased economic activities due to the shortage of industrial and agricultural water supply, and deteriorated water quality due to the untreated industrial wastewater were pointed out.
				A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting domestic and international market.		
				P	–	The stable electric supply will contribute to securing the improved living conditions activization of the domestic industries for the future population.	–	–
	16	A2-5	Construction of Irrigation Sub-system Shtipsko Pole, left side	A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production, targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	–
Vardar River Lower Reach	17	A3-1	Krapa Dam Project	M & I, A	To solve the seasonal water shortage in the urban area of Prilep and the nearby towns.	The project will secure the stable and safe water supply to the urban area near Prilep. Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (tobacco, fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Seasonal shortage of drinking water and agricultural water, limited water volume of the existing water sources, undeveloped irrigation facilities, irrational use of water resources, undeveloped drainage system, and low collection rate of water charges were pointed out.
	18	A3-2	Zhvan Dam Project	A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables, grapes etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Seasonal shortage of drinking water and agricultural water, limited water volume of the existing water sources, undeveloped irrigation facilities, irrational use of water resources, undeveloped drainage system, and low collection rate of water charges were pointed out.
	19	A3-3	Obednik Dam Project	A				
	20	A3-4	Kochishte Dam project	A				
	21	A3-5	Zhurche Dam Project	A				
	22	A3-6	Konjarka Dam Project	A				
	23	A3-7	Studencica Supplemental Water Supply Project	M & I	To solve the seasonal water shortage in Kicevo, Krushevo, Bitola, Demir Hisar etc. To reduce the high infant mortality rate in Krushevo and Demir Hisar	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions	Water right and the way of maintenance should be well considered since the project covers several municipalities/villages.	Water shortage of the water sources in summer, aged and undeveloped water supply network, water shortage due to the growing population, and inefficient usage of water sources were pointed out.

Results of Evaluation from Social Aspect (4/6)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
	24	A3-8	Petrushka Dam Project	A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables, fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Inefficient use of water resources, very dry weather, undeveloped irrigation network/equipment, big distance between the joints, and big water loss were pointed out.
	25	A3-9	Kovanska Dam Project	A	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables and fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Inefficient use of water resources, very dry weather, undeveloped irrigation network/equipment, big distance between the joints, and big water loss were pointed out.
	26	A3-10	Konsko Dam Project	M & I, A	To solve the seasonal water shortage in the urban area in Gevgelija	The project will secure the stable and safe water supply to the urban area near Prilep. Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (early-grown vegetables, fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Undeveloped water resources, irrational use of water sources, aged pump station and network facilities, deteriorated water quality, untreated industrial wastewater, very dry weather, undeveloped irrigation facilities, and big difference between joints, and big water loss were pointed out.
	27	A3-11	Valandovo Area Irrigation Project	RI	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (early-grown vegetables, fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Inefficient use of water resources, very dry weather, undeveloped irrigation network/equipment, big distance between the joints, and big water loss were pointed out.
Crn Drim River Basin	28	A4-1	Irrigation System Betterment Project in Resen	RI	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables, fruit, apples), targeting international market. Improvement of post-harvest system	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	–
	29	A4-2	Ohrid Area Irrigation Rehabilitation Project	RI	–	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables, fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	–
Strumica River Basin	30	A5-1	Podares Dam Project	M & I	To solve the seasonal water shortage in the urban area in Strumica etc.	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables, fruit, apples), targeting international market. Improvement of post-harvest system	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Inefficient use of water resources, very dry weather, undeveloped irrigation network/equipment, big distance between the joints, and big water loss were pointed out.

Results of Evaluation from Social Aspect (5/6)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
	31	A5-2	Oraovica Dam Project	M & E	To solve the seasonal water shortage in the urban areas of Radovish and Strumica, and the nearby towns Improvement of the living environment	Positive impact through realization of stable water supply in the urban area with rapidly growing population and to improve living conditions Improvement of living conditions and awareness of inhabitants about the importance of environmental conservation	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	—
	32	A5-3	Mantovo Area Irrigation Project	RI	—	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables, fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Inefficient use of water resources, very dry weather, undeveloped irrigation network/equipment, big distance between the joints, and big water loss were pointed out.
	33	A5-4	Strumica Area Irrigation Project	RI	—	Through the stable agricultural water supply, the project will contribute to improvement of quantitative and qualitative production (vegetables, fruit etc.), targeting international market.	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Inefficient use of water resources, very dry weather, undeveloped irrigation network/equipment, big distance between the joints, and big water loss were pointed out.

Rural water supply projects

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
Vardar River Upper Reach	34	B1-1	Vardar River Upper Reach Rural Water Supply Project	RS	Stable and safe water supply in the mountain areas near Tetovo and Gostivar Improvement of primary health care and reproductive health Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	—
	35	B1-2	Treska River Upper Reach Rural Water Supply Project	RS	Stable and safe water supply in the mountain areas near Kichevo and M. Brod. Improvement of primary health care and reproductive health Improvement of infant mortality rate (especially in M. Brod) Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Undeveloped facilities of the existing reservoir, limited number of water sources, undeveloped distribution network, aged network facilities, shortage of groundwater due to the limited snowfall, and limited access to safe drinking water were the main problems in the mountain villages.
	36	B1-4	Petrovec Rural Water Supply Project	RS	Stable and safe water supply in the mountain area in the southern and southeastern area of Skopje Improvement of primary health care and productive health Improvement of living conditions Stable water supply to the Skopje International Airport	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Ditto
	37	B1-5	Skopje Circle Rural Water Supply Project	RS	Stable and safe water supply to the villages which are not covered by the other projects Improvement of primary health care and reproductive health Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Ditto

Results of Evaluation from Social Aspect (6/6)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
	38	B1-6	Kriva Palanka/Kumanovo Circle Rural Water Supply Project	RS	Stable water supply to the villages ranging on the boundary areas with Yugoslavia and Bulgaria from Kriva Palanka and Kumanovo Reduction of the occurrence rate of the communicable diseases Improvement of primary health care and reproductive health Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Limited water volume of the water sources, water shortag in all through the year, and severe restriction of water supply during the dry season were pointed out. The limited access to safe drinking water in the mountain villages causes various health problems.
Vardar Middle Reach	39	B2-1	Bregalnica River Basin Rural Water Supply Project	RS	Stable water supply to the villages located near Veles and Shtip Reduction of occurrence rate of the water-born communicable diseases Improvement of primary health care and reproductive health Improvement of infant mortality rate in Veles, Shtip and Sveti Nikole Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Limited water volume of the water sources and water shortage in all through the year were pointed out. Limited access to safe drinking water in the mountain villages was also serious problem. In Veles, deteriorated water quality of water sources and aged distribution system have seriously affected to the health conditions of the inhabitants.
Vardar Lower Reach	40	B3-1	Pelagonija Circle Rural Water Supply Project	RS	Stable water supply to the villages near Prilep, Bitola, Krushevo, and Demir Hisar Reduction of the occurrence rate of water-born communicable diseases Improvement of primary health care and reproductive health Reduction of infant mortality rate in Bitola and Krushevo Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Undeveloped facilities of the existing reservoir, limited number of water sources, undeveloped distribution network, aged network facilities, shortage of groundwater due to the limited snowfall, and limited access to safe drinking water were the main problems in the mountain villages.
	41	B3-3	Medzitlija Rural Water Supply Project	RS	Stable water supply to the villages in Megitoria located near Bitola Improvement of primary health care and reproductive health Reduction of infant mortality rate Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Undeveloped facilities of the existing reservoir, limited number of water sources, undeveloped distribution network, aged network facilities, shortage of groundwater due to the limited snowfall, and limited access to safe drinking water were the main problems in the mountain villages.
Vardar Lower Reach/ Strumica	42	B4-1	Vardar River Lower Reach/Strumica River Basin Rural Water Supply Project	RS	Stable water supply to the villages near Gevgelija, Valandovo, Strumica, and Radovish Improvement of primary health care and reproductive health Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Undeveloped and irrational use of water sources, inefficient use of water resources, aged pump station and distribution facilities, polluted water quality, untreated industrial wastewater, very dry weather, and serious seasonal shortage of domestic water were pointed out.
Crn Drim	43	B6-1	Southwest Mountains Area Rural Water Supply Project	RS	Stable water supply to the mountain villages near Ohrid, Struga, Debar, and Resen Improvement of primary health care and reproductive health Reduction of infant mortality rate in Debar Reduction of the occurrence rate of communicable diseases in Debar and Resen Improvement of living conditions	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	–
Nationwide	44	B6-1	Nationwide Rural Water Supply Extension/Improvement Project	RS	Further maintenance and improvement of the accomplished fulfillment rate of the Basic Human Needs in the villages	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	–

Annex 15

Results of Evaluation from Institutional Aspect

Results of Evaluation from Institutional Aspect (1/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Planned Organization	Human Resources and Facilities	Financial Situation	Others (Necessity of change of regulations etc.)
Vardar River Upper Reach	1	A1-1	Water Supply Pipeline for Tetovo - River Pena Intake	M & I	Communal Enterprise "Tetovo" The current organization is supposed to handle the new project, except the new department of water quality monitoring laboratory.	Human resources need to be enhanced for more effective project implementation and maintenance New personnel should be allocated for the water quality monitoring laboratory. Technical support is required from IHP、PWME HQ (WDI).	Operation cost for increased personnel for the water quality monitoring laboratory Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required
	2	A1-2	Studena Voda Groundwaer Developmenrt Project	M	Communal Enterprise "Tetovo" Operation and management division needs to be established for the project implementation.	Personnel for project management and engineers are required Should be promoted as the pilot project of groundwater development Technical support of PWME HQ (Geohydroproject)	Operation cost for increased personnel for the new project implementation, operation, and maintenance Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required
	3	A1-3	Kichevsko Pole Area Irrigation Rehabilitation Project	A	PWME Skopje The current organization is supposed to handle the project implementation.	Requiring institutional expert Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance of the irrigation system rehabilitation project	No special legal treatment required
	4	A1-4	Construction of By-pass Channel Raven Rechca	A	PWME Tetovo Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Water right issue should be considered Gender consideration is necessary in institutional strengthening and community participation	--
	5	A1-5	Patishka Reka Water Supply Project	A	Stable and safe water supply in the mountain area in the southern and southeastern area of Skopje Reduction of occurrence rate of communicable diseases among infants and school children Improvement of primary health care and productive health Improvement	Fulfillment of the Basic Human Needs	No big social risks expected Gender consideration is necessary in institutional strengthening and community participation	Large quantity of water usage in the urban area has increased the problem with seasonal shortage of domestic water in the villages located near the urban area. In the mountain villages, the complicated and time-consuming procedures of project approval
	6	A1-6	Paligrad Multipurpose Dam Project	M & I	PWME Skopje Communal Enterprise "Vodovod" Operation and management division needs to be established for the project implementation in PWME Skopje.	Requiring personnel of project management and engineers for the new dam operation Enhancement of service system for water utilization, water charge collection, and facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new multi dam construction project Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required
				A	PWME Skopje Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for personnel for implementation, operation, and maintenance of the new irrigation system construction project Operation cost for operation and maintenance	No special legal treatment required

Results of Evaluation from Institutional Aspect (2/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Planned Organization	Human Resources and Facilities	Financial Situation	Others (Necessity of change of regulations etc.)
				P	ECM Operation and management division needs to be established for the project implementation.	Personnel of project management and engineers required Improvement of equipment for facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new hydropower generation station construction project Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required
	7	A1-7	Slupchanka Dam Project	M	To solve severe seasonal water shortage in the urban area in Kumanovo due to its rapid population growth Decrease of occurrence of communicable diseases	PWME Kumanovo Communal Enterprise "Kumanovo" Operation and management division needs to be established for the project implementation in PWME Kumanovo.	Requiring personnel of project management and engineers for the new dam operation Enhancement of service system for water utilization, water charge collection, and facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new domestic water supply reservoir construction project Operation cost for operation and maintenance of facilities and equipment
	8	A1-8	Lipkovo - Glaznja Area Irrigation Rehabilitation Project	RI	PWME Kumanovo Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the irrigation system rehabilitation project	No special legal treatment required
	9	A1-9	Kiselichka Dam Project	M & A	PWME Kumanovo Communal Enterprise "Kriva Palanka" Operation and management division needs to be established for the project implementation in PWME Kumanovo.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new scale irrigation system and dam construction project	No special legal treatment required
	10	A1-10	Vakuf Dam Prject	M & I, A	PWME Kumanovo Communal Enterprise "Kumanovo" Operation and management division needs to be established for the project implementation in PWME Kumanovo.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new dam and large-scale irrigation system construction project	Resettlement of inhabitants
				P	ECM Operation and management division needs to be established for the project implementation.	Personnel of project management and engineers required Improvement of equipment for facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new hydropower generation station construction project Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required

Results of Evaluation from Institutional Aspect (3/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Planned Organization	Human Resources and Facilities	Financial Situation	Others (Necessity of change of regulations etc.)
	11	A1-11	Pelince Dam Project	A	PWME Kumanovo Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new irrigation system and dam construction project	No special legal treatment required
Vardar River Middle Reach	12	A2-1	Razlovci Dam Project	M & I, A	PWME Kochani Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new mid-scale irrigation system and dam construction project	No special legal treatment required
	13	A2-2	Blartec Dam Project	M & I, A	PWME Vinica Communal Enterprise "Solidarnost" Operation and management division needs to be established for the project implementation in PWME Vinica.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new small-scale irrigation system and dam construction project	No special legal treatment required
	14	A2-3	Rechani Multipurpose Dam Project	M & I, A	PWME Kochani and PWME Vinica Communal Enterprises "Kochani" and "Solidarnost" Operation and management division needs to be established for the project implementation in PWME Kochani. Coordination system needs to be improved with PWME Vinica.	Requiring personnel of project management and engineers for the new project Enhancement of service system for water utilization, water charge collection, and facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new multi purpose dam construction project Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required No special legal treatment required
				P	ECM Operation and management division needs to be established for the project implementation.	Personnel of project management and engineers required Improvement of equipment for facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new hydropower generation system construction project	No special legal treatment required
	15	A2-4	Zletovica Multipupurpose Dam Project	M & I	PWME Probishtip etc. Communal Enterprise "Linden" etc. Operation and management division needs to be established for the project implementation in PWME Probishtip. The coordination committee needs to be established among the relevant PWMEs and Communal Enterprises.	Requiring personnel of project management and engineers for the new project Enhancement of service system for water utilization, water charge collection, and facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new multi purpose dam construction project Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required
				A	PWME Probishtip etc. Communal Enterprise "Linden" etc. Operation and management division needs to be established for the project implementation in PWME Probishtip. The coordination committee needs to be established among the relevant PWMEs and Communal Enterprises.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new small-scale irrigation system and dam construction project	No special legal treatment required

Results of Evaluation from Institutional Aspect (4/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Planned Organization	Human Resources and Facilities	Financial Situation	Others (Necessity of change of regulations etc.)
				P	ECM Operation and management division needs to be established for the project implementation.	Personnel of project management and engineers required Improvement of equipment for facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new hydropower generation system construction project Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required
	16	A2-5	Construction of Irrigation Sub-system Shtipsko Pole, left side	A	PWME Shtip Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new small-scale irrigation system and dam construction project	No special legal treatment required
Vardar River Lower Reach	17	A3-1	Krapa Dam Project	M & I, A	PWME Prilep Communal Enterprise "Komunalec-Prilep" Operation and management division needs to be established for the project implementation in PWME Prilep.	Requiring personnel of project management and engineers Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new medium-scale irrigation system and dam construction project	No special legal treatment required
	18	A3-2	Zhvan Dam Project	A	PWME Prilep Coordination committee for managing and coordinating multiple dam construction projects needs to be established with the new divisions for management and operation of each project.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new large-scale irrigation system and multiple dams construction project	No special legal treatment required
	19	A3-3	Obednik Dam Project	A				
	20	A3-4	Kochishte Dam project	A				
	21	A3-5	Zhurche Dam Project	A				
	22	A3-6	Konjarka Dam Project	A	PWME Bitola Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance	Operation cost for operation and maintenance for the new small-scale irrigation system and dam construction project	No special legal treatment required
	23	A3-7	Studencica Supplemental Water Supply Project	M & I	"Studenchica" Operation and management division needs to be established for the project implementation, and the existing Studenchica needs to be strengthened.	Requiring personnel of project management and engineers for the new project Enhancement of service system for water utilization, water charge collection, and facility maintenance	Operation cost for personnel for implementation, operation, and maintenance of the new reservoir construction project Operation cost for operation and maintenance of facilities and equipment	No special legal treatment required
	24	A3-8	Petrushka Dam Project	A	PWME Valandovo Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new irrigation system and dam construction project	No special legal treatment required

Results of Evaluation from Institutional Aspect (5/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Planned Organization	Human Resources and Facilities	Financial Situation	Others (Necessity of change of regulations etc.)
	25	A3-9	Kovanska Dam Project	A	PWME Gevgelija Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new small-scale irrigation system and dam construction project	No special legal treatment required
	26	A3-10	Konsko Dam Project	M & I, A	PWME Gevgelija Communal Enterprise "Gevgelija" Operation and management division needs to be established for the project implementation in PWME Gevgelija.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new medium-scale irrigation system and dam construction project	No special legal treatment required
	27	A3-11	Valandovo Area Irrigation Project	RI	PWME Valandovo Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the irrigation system rehabilitation project	No special legal treatment required
Crn Drim River Basin	28	A4-1	Irrigation System Betterment Project in Resen	RI	PWME Resen Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the irrigation system rehabilitation project	No special legal treatment required
	29	A4-2	Ohrid Area Irrigation Rehabilitation Project	RI	PWME Ohrid Operation and management division needs to be established for the project implementation.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the irrigation system rehabilitation project	No special legal treatment required
Strumica River Basin	31	A5-1	Podares Dam Project	M & I	PWME Strumica Communal Enterprise "Strumica" Operation and management division needs to be established for the project implementation in PWME Strumica.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the new small-scale irrigation system and dam construction project	No special legal treatment required
	32	A5-2	Oraovica Dam Project	M & E	PWME Strumica Communal Enterprise "Strumica" Operation and management division needs to be established for the project implementation in PWME Strumica.	Requiring personnel of project management and engineers for the new project Enhancement of service system for water utilization, water charge collection, and facility maintenance Technical support from IHP and PWME HQ (WDI). Cooperation with the environmental protection projects of the Macedonian government and/or donors	Operation cost for operation and maintenance for the new dam construction project	No special legal treatment required

Results of Evaluation from Institutional Aspect (6/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Planned Organization	Human Resources and Facilities	Financial Situation	Others (Necessity of change of regulations etc.)
	33	A5-3	Mantovo Area Irrigation Project	RI	PWME Strumica Communal Enterprise "Strumica" Operation and management division needs to be established for the project implementation in PWME Strumica.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the irrigation system rehabilitation project	No special legal treatment required
	34	A5-4	Strumica Area Irrigation Project	RI	PWME Strumica Communal Enterprise "Strumica" Operation and management division needs to be established for the project implementation in PWME Strumica.	Requiring personnel of project management and engineers for the multi dam construction and operation Enhancement of service system for water utilization, water charge collection, and facility maintenance Cooperation with the MAFWE extension services Cooperation with WB irrigation rehabilitation project	Operation cost for operation and maintenance for the irrigation system rehabilitation project	No special legal treatment required

Rural water supply projecs

River Name	No.	Code No.	Project Name	Purpose	Fulfillment of BHN	Socioeconomic Impact	Social Consideration	Consistency with the Output of PCM Workshop
Vardar River Upper Reach	34	B1-1	Vardar River Upper Reach Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprise "Tetovo".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
	35	B1-2	Treska River Upper Reach Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprise "Kichevo".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
	36	B1-4	Petrovec Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprise "Vodovod".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
	37	B1-5	Skopje Circle Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprise "Vodovod".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
	38	B1-6	Kriva Palanka/Kumanovo Circle Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprises "Kliva Palanka" and "Kumanovo".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
Vardar Middle Reach	39	B2-1	Bregalnica River Basin Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprises "Veles" and "Shtip".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required

Results of Evaluation from Institutional Aspect (7/7)

Municipal, industrial, agricultural water supply and hydropower development projects

River Name	No.	Code No.	Project Name	Purpose	Planned Organization	Human Resources and Facilities	Financial Situation	Others (Necessity of change of regulations etc.)
Vardar Lower Reach	40	B3-1	Pelagonija Circle Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprises "Krushvo", "Prilep", and "Bitola".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
	41	B3-3	Medzitlija Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprise "Bitola".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
Vardar Lower Reach/ Strumica	42	B4-1	Vardar River Lower Reach/Strumica River Basin Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprises "Gevgelija" and "Strumica".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
Crn Drim	43	B6-1	Southwest Mountains Area Rural Water Supply Project	RS	Establishment of Rural Water Supply Unit Project Coordination Committee needs to be established in Communal Enterprises "Ohrid" and "Debar".	Institutional strengthening and personnel training are necessary Maintenance system of network facilities	New financial system needs to be established Operation cost for facility maintenance through collected water charges	No special legal treatment required
Nationwide	44	B6-1	Nationwide Rural Water Supply Extension/Improvement Project	RS	National Steering Committee of the Rural Water Supply Projects consisting of representatives of Communal Enterprises needs to be established in cooperation with MUPCE and MAKKOM.	—	—	—