#### VILLAGE WATER SUPPLY INVENTORY OF BITOLA FORMER MUNICIPALITY Table 1.19(3/3)

Ordinal	Surface	Village/City	-1	Popu	ation				by water s			Economically	Subsidy	Period of		thof	Potability	Water	Capacity	Water
umber	arca		1971	1991	1994	Rate		in 1971		in 1		Under-	of MUPCE	construction	Pipeline		of water	source	of	balance
N 12	(m <sup>2</sup> )						Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)	12	Турео				(m <sup>1</sup> )	
							Network		communat			Village	(1000MKD)	01 05	RIHP 1.8	Village 2.7	s	SP		<u> </u>
8.12	11,183,619		453	258	256			88	365	258				81 - 85	1.8	4.1	<u>s</u>		80	
8.13	11,663,690		873	651	435			163	710					81 - 86	1.5	1.5	5		1	
9.01	5,513,487		277	208	146	75.1		86	191	208				91-90		.ر	NS	SP		+
9.02	3,992,977	Dragarino	130	113	81	86.9		30	100		113						NS	SP		+
9.03	11,528,597		468	242	209	\$1.7		248	-220	242	64		· · ·				NS	SP		+
9.04	16,428,575		147	64	47	43.5		557	147	1203		yes		75 -80	0,0	3.5	S			-
9.05	18,543,007		1637	1203	1001	73.5	40	557	503	302				81 - 85	1.2	2.3	s			) +
9,06	19,950,692		563	302	276	53,6 68,7		100	- 491	406	1			75 -80	2.0	3.0	S	-		) +
9.07	24,006,485		591	406	331	43,3		140	17					75 -80	2.0	0.0	S	SW		+
9.08		N.Zmirnevo	158	68	00	43.3		140	77		3	yes					NS	SP		+
9.09	9,893,217		77		126	40.7		140	204			<b>,</b>		81 - 85	1.6	2.3	S	SP	50	) +
9.10	12,828,931		25			68.0		140	25		17						NS	GW		+
9 11		St.Zmimevo	803	666		82.9		360	443				<u> </u>	75 -80	1.5	2.2	S	SW	50	- 10
9.12	16,115,796		571			44.3		80	491				· · · ·	80 - 85		2.5	S	SP	60	> +
9.13	14,597,179 9,233,693		98		3			00	- 98	-+-	2	yes					NS	SP		+
10.01	7,569,989		482	367	•	76.1		62				yes		75 -80	2.0	0.0	S			+
10.02	22,060,878		829	272	162	32.8		206	623			yes		76 - 80	3.0	2.5	· S			+
10.03	7,752,601		180	126		70.0		10						75 -80	2.5	1.8	S	SP	60	) +
10.04	12,983,623		378	271		71.7		120	258			yes					NS			
10.05	29,344,342		309	129		41,7			309		129	yes					NS			
10.00	5,357,626		128	14				28	100	14	·	yes		81 - 85	1.8	1.2				_
10.08	7,387,322		285	94	86	33.0		135	150			yes					S			
10.09	10.371.084		566	222	193	39.2		116	450	222		yes		75 -80	4.0	3.0	S	SP	100	
10.10	4,258,806		164	0				64		1			1						<u> </u>	4
10.11	33,311,289		497	169	111	34.0		40				yes		81 - 85	2.5	2.6	S	SP	50	_
10.12	8,938,975	Strezevo	263	0			·	50												1
10.13	33,654,929		1468	796	565	54.2		48				yes		75 -80	3.2	3.8				
11.01	3,942,265		260	120	79			• 97				yes		L			S			_
11.02	5,626,929	Budakovo	279					40			289		120				NS	· · · ·		
11.03	12,078,880	Dedebalci	509	478	322			450						81 - 85						1 1
11.04	16,491,673	Dobrushevo	1104	893				587						81 - 85	2,0	3.5		-		
11.05	13,354,074	Моіло	266					66			136		1				NS	A		+
11.06	11,575,573	Musinci	396			73.2		6			1	yes	450							
11.07	10,478,013	Noshpal	546		360			146			431		<u> </u>	81 - 85		1		<u> </u>	1	
11.08	6,451,975		272					12				yes	· <b> </b>	81 - 85	1.5	1.2	NS NS			
11.09	6,226,825		282					.170			. 240		ļ	76 80	l	2.6			1	
11.10	12,515,934		185					5				ye	·	75 -80	1.5	141.1			3190	
		Sub-total*	\$9795				<u>.</u>	15477					l	<b> </b>		2.1	ļ		70.7	
		Average*	413.1			57.2		126.6							2.1		<b> </b>	<u> </u>	3190	
		Total	59795	39107	30795	7162.7	1543	15477	42868	31442	7665	EUDV:Economic	29005		138.8	141.1	S:Suitable	SW:Surface	1	<u></u>

NS:Not suitable SP:Spring water GW:Groundwater

# Table 1.20(1/3) VILLAGE WATER SUPPLY INVENTORY OF PRILEP FORMER MUNICIPALITY

<u></u>	C	V(1)	1	Popul	ation	· · ·		Population	by water si	upply type		Economically	Subsidy	Period of	Leng		Potability	Water	Capacity	Water
Ordinal	Surface	Village/City	1971	1991	1994	Rate		in 1971		in 1	991	Under-	of MUPCE	construction	Pipelin	es (km)	of water	source	of	balance
number	area		1 19/1	1991	1754	Raid	Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)			of fund			reservoir	1.
	(m <sup>2</sup> )						Network	Dereil	communal	10,000		Village	(1000MKD)	1	RIHP	Village			(m3)	
66.01	28,010,588	Belovodica	182	25	18	13.7	ITCLWOIK -	-	182		25		1				NS	SP	40	
66.02	11,116,561		375	351	353		-	280	95	351		yes		85 - 90	0.0	4.5	S	GW	80	
66.03	56,938,556		2555	3274	3251												S	SP,GW	400	
66.04	6,179,136		79	. 33	41			-	79	-	33						NS	SP	-	+
66,05	7,420,065		359	270	253		-	280	79	-	270						NS	G₩	-	+
66.06	25,136,722		304	104	108		-	-	304		104						NS	SP,GW	-	*
66.07	21,788,416		922	718	685		-	256	666	-	718		400				NS	GW	-	+
66.08	16,781,713		41	15	13			-	41	-	15	yes					NS	SP	-	+
66.09	19,337,495		- 19	11	7	57.9	-		. 19	-	11						NS	SP	-	+
66.10		Kadino Selo	521	334	314		-	120	401	-	334		600				NS	GW	-	+
66.11	15,649,872		21	6	8	28.6			21	-	6	yes					NS	SP	•	+
66,12	15,673,629		265	6	2	2.3	1	-	265	-	6	yes					NS	SP	-	+
66.13		Mazhuchishte	474	383		L		80	384	383	-			80 - 85	2.0	3.0	S	SP	<u> </u>	+
66.14	1	Mal Radobil	63	20				•	63		20						NS	SP		+
66,15		Malo Konjari	804	745			-	350	454	745				75 - 80	1,0	2.0	S			+
66.16		Malo Ruvci	250	26	27	10,4	-	60	190	•	26						NŜ	SP	-	+
66.17	52,624,513		212	29	- 10	13.7	-	•	212	-	29						NS	SP		+
66.18		Novo Lagovo	238	231	189	97.0	•	158	- 80	•	231						NS	GW	-	+
66,19	19,205,906		172	28	16	16.3	-	-	172	28		yes		80 - 85	1.5	0.0	S	SP	50	
66.20	18,803,597		177	43	30	24.3		-	177	43	-	ycs		75 - 87	3.0	0.0	S	SP		[
66.21	31,403,490		48202	66614	64897	138.2							8350				S	SP,GW	1600	
66.22	7,783,502	and the second se	119	19	16	15.9		10	109	-	19						NS	SP		+
66.23	27,001,427		95	9	9	9.4		-	95		9	yes					NS	SP		+
66,24	17,252,720	f	145	19	7	13.1		-	145	-	19						NS	<u> </u>		1
66.25	15,321,132	the second se	295	297	310	100.7		8	287	297	-			80 - 85	2.0	1.5		SP		
66.26	9,732,442		2	• 0				-	-	· ·	-						NS	SP		+
66.27		Staro Lagovo	. 93	49	49	45.2	-		93	49	-	•	•	85 - 90	1.0	1,5		GW		+
66.28	14,197,410		73	8	6	10.9	-	-	73	•	8						NS			+
66.29	19,709,832		119	29	30	24.4	-	-	119	•	29			83 - 91	3.0	0,0	NS			+
66.30	20,150,974		77	15	12	19.5	-	-	77	•	15	· ·		85 - 90	2.0	0.0	NS	SP		+
66,31		Chumovo	171	46	33	26.9	-	-	171	-	46	·	L				NS	SP SP		
66.32	17.354.324	Shtavica	413	129	107	31.2	-	20		• •	129						NS			+
67.01	7,946,639		481	234			•	60		•	234				L	·	NS NS	GW SP,GW	ļ	+ +
67.02	16,994,755	Brailovo	578	299	268		•	130	448		299								ļ	+
67.03	13,354,092	Vranche	506	163	147		-	40			163		ļ	·	·	·	NS	SP		+
67.04		Gomo Selo	159				-	. 30			60		<u> </u>			ļ	NS	SP SP		+++++++++++++++++++++++++++++++++++++++
67.05	13,454,585		280	150	. 110	53.6	15	40	225	15	135	·	· ·			<b></b>	NS	SP	·	<u>.</u>
67.06		Dabjani	0	0		-	-		-	•	-	· · · · · · · · · · · · · · · · · · ·				ļ	<u> </u>			+
67.07	27,830,924		2405	2483	2319	103.2	30			2483	-	·		71 - 80	4.0	4.0	S			
67.08	24,394,000		1481	1072	1080				1136		1072		1385	l			NS			+
67.09	13,826,844		381	106	101	27.8		140	241	-	106					<u> </u>	NS		2	+
67.10	14,231,167		685	461			10			461	-		· · · · ·	71 - 85		1.5	S			• •
67.11	12,435,891		616	265	238			112	504	•	265		ļ	75 - 80	1.0	0.0	NS			+
67.12		Dupjachani	216	160	163		-	150			160		· · ·		· . · · ·		NS	1		• +
67.13		Zhabjani	. 42	. 51	56	121.4	-	-	42	51				71 - 75	1.0	0.0	NS			-
67,14	5,374,600	Zabrchani	-187	82			-	87		-	82				ļ		NS			· <u>+</u>
67.15		Zapolzhani	439	310			-	220			310	ļ			L	<u> </u>	NS			+
67.16		Annual Contraction of the Contra	503	100	97	19.9		123	380		100		300	-	<u> </u>	L	NS	SP	L	<u>+</u> +

Table 1.20(2/3)

## 3) VILLAGE WATER SUPPLY INVENTORY OF PRILEP FORMER MUNICIPALITY

Ordinal	Surface	Village/City		Рори	lation			Populatio	by water s	upply type		Economically	Subsidy	Period of	Leng	th of	Potability	Water	Capacity	
number	Area	,Be end	1971	1991	1994	Rate		in 1971			1991	Under-	of MUPCE	construction	Pipelin	es (km)	of water	SOURCE	of	balance
Internet 1	(m <sup>2</sup> )						Level 3/	Level I	Level2/	Level3	Others	Developped	(1991-1997)		Туре с	of fund			reservoir	
	(,		· ·				Network		communal			Village	(1000MKD)		RIHP	Village			(m3).	<u> </u>
67.17	4,550,585	Kostinci	333	148	123	44,4	120	20	193	-	148						NS	SP,GW	-	+
67,18	10.247,944		402	139	[35	34.6	-	100	302	-	139						NS	SP,GW	-	+
67.19		Kutleshevo	145	53	34	36.5	•	25	120	-	53						NS	SP	-	+
67.20	11,881,731	Lazhani	1709	1952	1827	114.2		1540	169	1952	-			85 - 90	0,0	6.0	\$	SP		-
67.21		M.Mramorani	96	49	52	51,0	-	. 6	90	-	49						NS	\$P		+
67.22	7,108,777		200	36	. 35	18.0	-	60	140		36						NS	SP		+
67.23	16,868,026		282	162	155	57.4		5	277	-	162	-					NS	SP		<u> </u>
67.24		Novoselani	328	171	145	52,1	10	278	40	171				65 - 70	1.5	1.5	NS	GW,SP		+
67.25		Peshtalevo	500	456	448	91.2		250	250	-	456						NS	SP	-	+
67.26	12,561,428		671	140	106	20.8		410	251		140						NS	SP,GW	-	+
67.27	16,738,616		822	617	597	75.1	-	10	\$12	617				65 - 75	2.0	3.0	S	SP	-	+
67.28		Sarandinovo	165	107	99	64.8		100	65	-	107						NS	GW,SP	-	+
67.29	8,939,216		473	330	258		<u>  </u>	134	339		330						NS	GW,SP	-	+
67.30	8 296,487		386	287	298			156	230	-	287	l		80 - 90	2.5	2,5	S	SP	-	+
67.31	16,708,839		577	135	102		· .	17	560	-	135		700				NS	SP	-	+
67.32	2,608,281		196	46		À	-	6	190	-	46	1. The second					NS	SP	-	+
67.33	7,483,763		179	76				124	55	-	76						NS	GW	•	+
67.34	25,940,199		400	73			40	80	280	73				80 - 85	4.0	0.0	S	SP	80	+
67.35	12,602,595		1108	1529				740	368	-	1529		500				NS	ĠŴ	-	-
68.01	11,736,192		486	286			-	30	456	286		yes		1975-80	2.5	1.5	S	GW	60	+
68.02	20,786,380	· · · · · · · · · · · · · · · · · · ·	475	95				-	475		95						NS	SP		+
68.03		Veselchani	319	129				230	89		129						NS	G₩	-	-
68.04	12,100,256	A	643	520			10	416	217		520						NS	GW		+
68,05	10,440,442		455	275				35	420		275			75 - 85	2.5	0.0	NS	SP,GW	-	+
68.06	21,695,427		1031	1023	990	1	35	76			1023		300				NS	GW	-	+
68.07	4,246,795		389	206				320	69		206						NS	GW,SP	-	+ +
68.08	16,458,120		417	113					417		113	yes					NS	SP,GW	-	+
68.09	14,192,724		280	40				80	200		40						NS	SP	-	+
68.10	11,515,508	the second state of the se	448	212				80	388		212	yes					NS	SP,GW		+
68.11	13,702,460		857	571	505		22	260	575	571				65 - 70	2.0	3.0	S	GW	100	+
68,12	2,421,303		258	100				20	238		100						NS	GW		+
68.12		Chepigovo	197	187		A			197	.187	1			80 - 85	3,0	0.0	S	GW	-	+
68.14		Sheleverci	137	44				27	- 110		44						NS	SP		+
69.01		Bela Crkva	831	676	1			760	71		676		··· · ···				NS	1		+
69.01			353	270	i			320	33		270	<u> </u>					NS			· -
69.02	9,279,626 4,467,991		551	516				511	40		516						NS			. +
69.03	4,467,991		468	333				100	368		333	ł · · · · · · · · · · · · · · · · · · ·	259.635				NS	have		+
69.04	5,536,196		346	231				76				1		71 - 75	2.5	0.0	S		50	+
69.05	3,463,313	And the second sec	181	91			<u> </u>	90	91	L	. 91	t	300				NS			. +
69.06			2380	2181			96	2014	270		2181	t · · · · · · · · · · · · · · · · · · ·	300		-	ļ	NS			1 -
		Krivogashtani	837	741		88.5		160	677		741						s			+
69.08	8,014,780	Krusheani	44	/41			20	24		<u> </u>	t							<u> </u>		+
69.09	7750.00	Mirche Acev	1247	865		69.4		810	437	<u> </u>	865	i					NS	GW	<del> </del>	+
69.10	6,659,051		976	707				884	80		707						NS			. +
69,11	8,469,829	Pashino Ruvei	437	423	1			17			423	l	215				NS	<u> </u>		+
69.12	(200) 010	Slavej	1016	108		1		245	771		108	yes					NS	5		+
70,01	67,206,043		203	21		1		245	203		21						NS	SP	-	. +
70.02	29,245,801 63,425,227	Veprchani Vitolishte	1110	376				<u> </u>	1110	L		yes yes	<u> </u>	80 - 85	2.0	3.0				+

	C. C.	Village/City	F	Popul	ation			Population	by water s	upply type		Economically	Subsidy	Period of	Leng	th of	Potability	Water	Capacity	
Ordina)	Surface	v magorenty	1971	1991	1994	Rate	·	in 1971		in l	991	Under-	of MUPCE	construction	Pipelin		of water	source	of	balance
number	arca (m <sup>2</sup> )					•	Level 3/	Level i	Level2/	Level3	Others	Developped	(1991-1997)		Туре с	of fund		-	reservoir	
	(m)						Network		communal			Village	(1000MKD)		RIHP	Village			(m3)	<u> </u>
70.04	16,060,530	Vensko	46	2	2	4.3	-	-	46		2	yes					NS	SP	-	+
70.04		Gjugjakovo	41			-		-	- 41		-	yes	1							+
70.05	43,814,117		731		145	23.9	-	61	670		175	yes	700				NS	SW		<u> </u>
70.08	17,245,011		79		5	6.3			79	-	5	yes					NS	SP	-	+
	22,587,999		287		38	16.0			287		46	yes					NS	SP		-
70.08	21,636,801		206			9.2		20	186		19						NS	SP	-	+
70.09	27,686,778		595		117	24.5		15		· • •	146	yes		80 - 85	1.5	1.5	NS		\$0	-
70.11	13,539,271		139			9.3			139	13	-	yes		65 - 70	0,0	1.0	NS	SP	-	+
70.12	18,600,887		149			18.1	-		149		27	yes				•	NS	SP		<u>}</u> -
	83,996,934		479				-	. 9	470		64	yes		12			NS	SP		+
70,13	36,768,650		552				•	12	540		102	· yes					NS	SP	-	-
70.14	30,708,030	Sub-totai*	48242				505	16008	29182	9383	19056				50.6	41			1350	
	·····		455.1		287.1		38.8	222.3		469.2					2.0	1,6			96.4	1
		Average*	96444						29182						50.6	41			2950	1
	·	Total	70444	90527	74105	5.00.0						EUDV:Economical	lly Under-develop	oed Village			S:Suitable	SW:Surface w	ater	

#### VILLAGE WATER SUPPLY INVENTORY OF PRILEP FORMER MUNICIPALITY

\*:excluding city

NS:Not suitable SP:Spring water GW:Groundwater Table ...1.21(1/2)

## VILLAGE WATER SUPPLY INVENTORY KAVADARCI FORMER MUNICIPALITY

Ordinal number	Surface			ropu	lation			Population	n by water s	upply type		Economically	Subsidy	Period of	Leng		Potability	Water	Capacity	Water
	area	Village/City	1971	1991	1994	Rate		in 1971		in	991	Under-	ofMUPCE	construction	Pipeline		of water	source	of	balance
	(km <sup>2</sup> )						Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)		Турс о				reservoir	
	(8.11.)						Network		communal			Village	(1000MKD)		RIHP	Village			(m <sup>3</sup> )	<b></b>
37.01	14,769,064	Begnishte	600	469	413	78.2	-	-	600		19			1980 - 85	2.5	1.5	S	SP,SW	-	+
37.02	5,273,906	Brushani	14	0			-	-	14									0.0.011		+
37.03	24,499,428	Vatasha	2225	2984	3120	134,1	140	805	1280	2984	-			80 - 85	2.2	0,1	S	SP,SW	-	+
37.04	6,996,382	Vozarci	652	881	884	135.1	-	350	302		-			80 - 85	3.0	0.4	S	SP,SW		+
37.05	52,090,789	Galishie	292	2	2	0.7	-	-	292		2	yes	· ·				NS	SP SP,SW		+
37.06	16,869,910	Gamikovo	123	15		12.2	-	-	123		. 15					0.6	<u>S</u>	SP,SW SP,SW		+
37.07	7,370,992	Glishik	652	1256	1365	192.6	180	390	82					71 - 75	2.0	0.0	3	31,3 1		+
37.08	15,216,798		3	0			-	-	3					(0, (2)	1.0	0.2	NS	SP		+
37.09	8,576,506	Dabnishte	249	48			-	-	249		48			60 - 62	1.0	0.2	NS	SP SP		+
37.10	5,740,991	Dobrotino	25	2	2	8,0	-		25		2						NS	SP		+
37.11	16,317,720	Dragozhel	87	9	· · · · · · · · · · · · · · · · · · ·		-		87		9						NS	SP		+
37.12	10,325,217	Dradnja	39	5	3		-	-	39	1	5			76 00	4.7	1.5	NS S	SP SP		<u> </u>
37,13	19,879,750		1066	731	699	68.5	-	26	1040	220	511		3850	75 - 90	4./		<u>s</u>	SP,SW		
37.14	38,753,022	KAVADARCI	18170	28251	28288	155.5				<u> </u>							S NS	SP,SW SP		+
37.15	10,490,978	Kesendre	158	7	. 9	4.4		•	158		7						NS	SP		+
37.16	6,439,248	Koshani	35	6		17.1	-		35		6			75 - 85	2,3	0.5	N	SP,SW		+
37.17	12,421,753		805	967			<u>.</u>	489	316					(5 - 8)	2,5	0.5	NS	SP.SV		+
37.18	32,036,383	Pravednik	26	18			· ·	-	26		18			(8. 70	1,2	0.3	S S	SP SP		
37.19	10,880,349	Raec	229	137					229				1000	68 - 70		0.3	<u> </u>	SP SP		
37.20	11,889,180	Resava	492	197				5	487		197		1200	65 - 68		1.5	S	SP,SW		+
37.21	19,845,042		894	851			8	666	220					67 - 82	1.8	0.6	NS	SF, SV SP		+
37.22	16,230,762	Farish	166	54		32.5			166		54			65-67	0.0	0.0	NS	SP SP		· · ·
37,23	20,091,903		87	4	16	4.6		-	87	1	4			76 06		10	S			. +
37.24	8,284,109	Shivec	285	138				5	280			· · · · · · · · · · · · · · · · · · ·		75 - 85		1.2	S	-		. +
38.01	31,815,495	Bojanchishte	282	59					282			yes		81 - 90			S			
38.02	55,962,701	Bohula	256	35				14			35	yes		<u>68 - 72</u> 89 - 90		0.2	NS		and the second sec	· +
38.03		Bunarche	24	6		25.0		·	24		6			89 - 90 75 - 80		0,3	NS S			
38.04	43,603,957	Gorna Boshava	253	74				13				yes		75 - 80		0.3	S			
38.05		Dolna Boshava	177					-	177		2	yes		/3 - 80	2.5	0.4	NS			<u> </u>
38.06	76,831,067		15			13.3		-	15			yes		75 - 85	3.0	0,0	S			
38.07	82,104,044	Konopishte	392	108		27.5		22		-			1200	80 - 85	2.5		S			
38.08			226	65		28.8		50			- 65		1200	00-85	2.3	0.0	NS			
38.09	29,593,304		148			14.9			148		- 22	· · · · · · · · · · · · · · · · · · ·			i		NS	SP		+
38.10		Majden	39	_	<u> </u>	12.8			39 253			1			<u> </u>		S			_
38.11	57,706,215	Mrezhichko	253		57						37	K			<b>├</b> ───		NS			
38.12		R'zhanovo	20		2	35.0			20			yes					NS	SP		+
38.13	95,882,349	and the second se	35	-			ļ		35		- 30	yes		65 - 68	1.0	0,0	NS	SP		+
38.14	81,924,988		446					32			- 30			67 - 68			S S			
38.15	27,852,320	the second s	340					10		-	- 33			65 - 66			S			
38.16		Chemersko	187					7			- 24 - 114		500	68 - 70			NS		1	- +
39.01	12,831,758		203	114				ļ	203				300	75 - 85			S			
39.02		Kamen Dol	127						127		22			1.1 - 0.1	2.0	0.5	NS			- +
39.03	8,311,081	Krushevica	136									<b> </b>	300	75 - 85	3.2	0.4				+
39.04		Manastirec	413					93			- 25			,,,,,,			NS			+
39.05		M.Oraorec Palikura	179					10					ł	71 - 80	3.0	1.0	· · · · · · · · · · · · · · · · · · ·			- +

Ordinal	Surface	Village/City	· · · · · · · · · · · · · · · · · · ·	Popul	ation			Population	by water s	upply type		Economically		Period of	Leng		Potability		Capacity	
number	area	Things only	1971	1991	1994	Rate		in 1971		in l	991	Under-	of MUPCE	construction	Pipelin		of water	source	of	balance
number	(km <sup>2</sup> )						Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)		Туре с	of fund			reservoir	
	(Kin )		·	· 1			Network	·	communal			Village	(1000MKD)		RIHP	Village		ļ	(m <sup>3</sup> )	<b></b>
39.07	6,749,466	Piharei	142	50	39	35.2	-	50	92	- 34	16			75 - 85	2.5	0,2	S	SP,SW		+
	19,916,844		1914	2465	2489		-	1320	594	2465	-		550	75 - 85	3.0	3.5	S	SP,SW		+
39.08			894	694	657		18	286	590	680	14		3600	65 - 68	3.0	1.0	<u>S</u>	SP SP	100	+
39.09	22,954,220	the second s	328	257	248			320		257				75 - 88	3.0	0.4	S	SP,SW	-	+
39.10			16958	13648	13649		388								59.1	19.9			700	1
		Sub-total*			296.7		97.0								2.0	0.7		1	58.3	
		Average*	346,1	278.5			· · · · · · · · · · · · · · · · · · ·								59.1	19.9		[	2700	J.
		Total	35128	41899	41937	2255.5			11372	11/2/	1		FUDV:Feanomic	ally Under-develop			S:Suitable	SW:Surface v	vater	
		*:excluding city					SW:Surface w						5007.4000000	any onder-develop	peo			SP:Spring wa		
							SP:Spring wat											GW Groundy		

#### VILLAGE WATER SUPPLY INVENTORY KAVADARCI FORMER MUNICIPALITY Table 1.21(2/2)

GW:Groundwater

Ordinal	Surface	Village/City	r	Popul	ation			Population	i by water s	ipply type		Economically	Subsidy	Period of	Leng	th of	Potability	Water	Capacity	Water
number	arca		1971	1991	1994	Rate		in 1971		in l	991	Under-	of MUPCE	construction	Pipelin		of water	source	of	balance
	(m²)			1			Level 3/	Levei 1	Level2/	Level3	Others	Developped	(1991-1997)		Type o	of fund			reservoir	1
				[]			Network		communal			Village	(1000MKD)		RIHP	Village			$(m^{J})$	
60.01	14,610,466	Brusnik	76	2													NS	SP		+
60.02	18,560,755		348	88	68	25.3	-	5	343	-	88	yes	200	80 - 85	1.2	0.0	S	SP	50	
60,03	15,042,613	Vojshanci	438	445	441	101.6	55	270	262	445	-			71 - 75	2.0	0,0	<u> </u>	GW	80	+
60.04	15,111,736	Gomi Disan	173	37	25	21.4	-	-	173	-	37	yes		75 - 80	1,3		NS	SP		+
60.05	29,925,136	Dolni Disan	967	1004	991	103.8	22	185	760	1004				75 - 80	5.0	1.5	S	SP	125	
60.06	7,138,072	Dubrovo	111	73	65	65.7	-	-	111	73	•			75 - 80	0,6	2.0	S	GW	50	+
60.07		Janoshevo	0	0													NS	SP		+
60.08	27,542,026	Kalanievo	6	0								yes					NS	SP		+
60.09	9,058,844	Krivolak	757	.974	897	128.6	-	63	694	974	-	1		71 - 75	3.5		S	GW	100	
60.10	16,232,495	Kjurija	338	216	234	63.9	-	- 10	328	216	-			75 - 80	2.6	0,0	S	SP	80	+
60.11		Lipa	. 0	0				• •				yes	1. A.							+
60.12		NEGOTINO	7139	12356	12516	173.1				·			2400				S	SW,SP	400	+
60.13		Pepelishte	863	1036	1033	120.0	46	450	367	1036	6 A 🖬			75 - 85	3.2	0.0	S	SW,SP	100	+
60.14		Peshternica	12		3							yes					NS	SP		·· +
60.15		Timjanik	607		1094	179.2	-	190	117	1088	-			71 - 75	2.2	0.0	S	SW,SP		+
60,16		Tremnik	639		818	129.2	15	406	218	826	-			75 - 85	2.0	0.0	S	GW	80	+
60,17		Crveni Bregovi	330		156	47.9	-	115	215	-	158						NS	GW	-	+
60,18		Dzidimirci	0	÷																+
60,19	15,900,372		0	0								yes								+
61.01	14,491,845		106	26	28	24.5	11		95		26	yes	300				NS	SP	-	+
61.02	20,722,517		304	69	81	22.7	21	-	283	· · · · •	. 69	yes	2000	1990 - 91	2.0	3.5	ŝ	SP		+
61.03	23,908,155		394	330	347	83.7	-	160	234	330	· · · •		460	71 - 75	2.4	0.0	S S	GW		+
61.04		Demir Kapija	2547	3388	3249	133.0	50	1330	1167	3388	-		1000	71 - 75	2,6	2.0	S	SP	200	+
61.05		Drachevica	87		4				"			yes					NS	SP		+
61.06	46,040,939		260		151	55,4		77	183	144	-		550	75 - 85	4.0	0,0	S	SP	50	+
61.07		Iberli	59		6							yes					NS	SP		+
61.08		Klisura	27														NS	SP		+
61.09		Koprishnica	0	··· · · · · · · · · · · · · · · · · ·																÷
61.10	18,137,816		315	440	434	139,7	-	150	165	440	-		900	71 - 80	3.0	0.0	S	GW	80	+
61.11	14,636,160		42		44	95,2	-	-	42	-	40	yes					NS	SP		+
61.12		Przhdevo	609		316		-	159	450	326		· · · ·	1	75 - 85	2.4	0.0	S	SP	80	+
61.12	,	Strmashevo	0									yes	1							+
61.14	12,076,660	Chelevec	64	53	49	82.8	-	6	58	-	53						NS	SP	-	+
61,15		Chiflik	166	1	106	64.5	12	. 40		107		· · · · ·		75 - 85	2.4	0,0	S	SP	-	-
	0,000,000	Sub-total*	10645		10640		232		6379	10397	471		1		42.4	9			1205	
		Average*	322.6	330.0	443.3	82.9	33.1	241,1	319.0	799.8	78.5				2.7	0.6			86.1	
┝───┤		Total	17784				232	3616	6379	10397					42,4	. 9			1605	
					20.00							EUDV:Economica	llu 1 luite develoe	ned Villeon		·,	S:Suitable	SW:Surface w	alor	

#### Table 1.22 VILLAGE WATER SUPPLY INVENTORY NEGOTINO FORMER MUNICIPALITY

\*:excluding city

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EUDV:Economically Under-developped Village

S:Suitable SW:Surface water NS:Not suitable SP:Spring water

GW:Groundwater

Ordinal	Surface	Village/City		Popu	lation				n by water s			Economically	Subsidy	Period of	Leng		Potability	Water	+	Water
number	arca		1971	1991	1994	Rate		in 1971		in l	991	Under-	of MUPCE	construction	Pipeline		of water	source	of	balance
	(m <sup>2</sup> )						Level 3/	Level I	Level2/	Level3	Others	Developped	(1991-1997)		Туре о				reservoir (m <sup>3</sup> )	
				н. Т			Network		communal			Village	(1000MKD)	·	RIHP	Village			(m)	<u>+</u>
15.01		Ajranli	0										[						ļ	+
15.02		Arazli	0	<u>~</u>													NS	SP		+
15.03	22,326,581		32		8	18.7	-		32			yes					NS	Sr GW		
15.04	5,567,200		284	338	333	119,0	-	70	214	338	-		150	81 - 87	4.5	0.0	NS	Gw	100	+ +
15.05		Barakli	· 0									yes								+
15.06	8,018,004	Bashali	57	1								yes					S	SP	50	-
15.07	3,213,424	Bashibos	194	269	201	138.7	-		194		-	yes		86 -	3.2	0.0	+			
15.08	6,066,671	Brajkovci	437	423	424	96.8	-	122	315		423	·	1220	86 -	4.0	0.0	NS NS			/ <del>+</del>
15.09	6,586,965	Bulantali	55	5		9.1	-	-	55		5		· · · ·				<u></u>		600	
15.10	15,385,649	VALANDOVO city	2779	4418	4357	159.0	1100	1400	279				3680				S	SP,GW	600	
45.11		Vejseli	0	· 0									· · · · · · · · · · · · · · · · · · ·					CUU		+
15.12	112,236,596	Gradec	355	4		1.1	-	60			·	yes					NS	GW	1	<u>+</u>
15,13	15,658,360	Grchishte	423	303	286	71.6	-	15		303			450		3.5	0.0	<u> </u>		60 80	
15,14	9,073,506	Dedeli	182	268	252	155.8	-	-	182	268	· · ·	yes	1040	80 - 86	2.9	0.0	<u> </u>	SP	80	
15.15		Gjulelc	0	0	•						· · · · · ·	· · · ·								+
15.16	18,979,423	Josifovo	1199	1730	1721	144.3	15	720					340		11.0	1.8	<u> </u>			
15.17	18,651,190	Kazandol	124	158	152	127.4	24		100		158	yes		71 - 75	0.0	1.0	NS			· <u>  +</u>
15.18	4,851,483	Kochuli	64	109	95	170.3	<b>.</b>	-	64		109	.yes		86 - 91	2.0		S		L	
15.19	7,638,482	Marvinci	462	524	519		-	115			-		50		3.5	0,0	S		1 million 100	
15.20	20,359,060	Pirava	1368	1808	1839	132.1	140	1100	128	1808	.*		650	73 - 85	8.0	1.0	S	SP	200	
15,21	22,614,408	Playush	- 23	0						1 A		yes	t							+
15.22	2,088,359	Prsten	83	107	105		-	• . •	83		· · 107	ycs		73 - 85	2.0	0.0	<u>S</u>			
15.23	10,003,646	Rabrovo	216	267	271	123.6	30				-			73 - 85	3.0	1.0	<u> </u>			<u>+</u> +
15.24	7,677,209	Sobri	241	244	250		-	216			-	yes			3.6	0.0	<u> </u>			
15.25	1	Tatarli	- 24	121	116	504.2	-	-	24	-	121	yes		81-91	1.0	2.0	S	GW		•
15.26	3,064,025	Terzeli	8	· .0								· · · ·	- 50					00.000		+
15.27	1.11	Udovo	- 505		886		-	300	205				790		11.0	1.0	NS	SP,SW	150	<u> </u>
15.28	9,097,327	Chalakli	85	297	277	349,4	-	-	- 85	297		yes		75 - 80	5.0	0.0	S	SP,SW	100	+
15.29	2,282,542	Cheshtovo	. 0	0	1.1			·				yes	·····				·			+
	and the second	Sub-total*	6421	7846	7735	2676.9	209	2854			923				68.2	7.8			1200	
		Average*	229.3	280.2	455.0	140.9	52.3	285.4	172.1	691.3	184.6				4.5	0,5		ļ	100.0	
		Total	9200	12264	12092	2835.9	1309	4254	3549	6913	923				68.2	7.8			1800	<u>H</u>

#### VILLAGE WATER SUPPLY INVENTORY OF VALANDOVO FORMER MUNICIPALITY Table .1.23

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NS:Not suitable SP:Spring water

GW:Groundwater

Ordinal	Surface	Village/City	T	Popul	ation			Population	by water s	upply type		Economically	Subsidy	Period of	Leng		Potability	Water		Water
number	arca	* III	1971	1991	1994	Rate		in 1971		. in 1	991	Under-	of MUPCE	construction	Pipelin		of water	source		balance
	(m <sup>2</sup> )				1		Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)		Туре о				teservoir	ł
							Network		communal			Village	(1000MKD)		RIHP	Village			(m <sup>3</sup> )	<u> </u>
18.01	15,182,121	Bogorodica	894	1010	1011	112.9	130	620	144	1010	-			76 - 85	7.5	1.0	S	GW		+++++++++++++++++++++++++++++++++++++++
18.02	14,259,500	GEVGELIJA city			14974						·							SP	50	
18.03	17,580,087	Kovanci	246	230	212	93.5	-	50	196	-	230		200	71 - 75	3.0	0.0	S	1		
18.04	66 315,565	Konsko	. 4	. 1	1	25.0			· · · .	<u> </u>		yes				0.0	s S			
18.05	16,429,773	Moin	291	263	273	90.4	-	50	241			yes		71 - 73	4.0	3.0				+
18.06	6,892,422	Mrzenci	379	475	480	125.3		290	49				1700	71 - 73		2.0		1		+
18.07	29,467,303	Negorci	1594	2108	1837	132.2	145	. 1109				i	1500	71 - 80		0.0				
18.08	17,365,714	Novo Konsko	224	158	145	70.5	. •	•	224				600	73 - 80		2.0			1	1
18.09	18,196,241	Prdejci	493	532	538	107.9	100	393		532			600	71 - 80		0.0	S			+
18.10	73,940,398		388	48	18	12,4	-	-	388	48	48		100		2.5 2.3	0.0	S			
18,11	41,861,276		7	. 1		. 14,3	-	-	7	1	·	yes	100	75 - 80		0.0	NS			+
19.01	24,001,173		175	41		23.4	•	35	140		41		25			0.0	S			+ +
19.02	25,264,964		419		364	84,9	10	150					800			1.0	NS			+ +
19.03	6,465,102		165	121	122	73.3		40			. 121		1825			3,0	S		1	1
19.04	28,869,864		1525	1683	1667	110.4	125	1020	380		267		500				s			+
19.05	57,709,515		431	267	269	61.9		30				· · · ·	400				s			
19.06	24,385,729		493	361	326	73.2	200	250	43 390			<u> </u>	2850							
20.01	67,014,326		4152		6031	141.9	1992					· · · · · · · · · · · · · · · · · · ·	.2000	71 - 80	1	2.0				+
20.02	13,815,952		512		485	99.6	50	360			335	yes		65 - 70						. +
20.03	6,085,532		303	335	342		· · · ·	140	463			yes		75 - 80		1.5				+ +
20.04	27,462,233		2063	2054	2041	99.6	540	1060	69		45	yes	· · · · ·	71 - 75						
21.01	2,207,913		69				· · ·	-	34		254	yes yes		71 - 80		1.0				<del></del>
21.02	8,403,239		34	254	257		· ·		126		234	yes		75 - 80	-			-		+
21.03		Kurtamzali	126		187			•	470			ycs ycs								<u>, - </u>
21.04	14,636,746		470		529		420	50				<u>ycs</u>	1350	1				-		
21.05		Nov Dojran	1033	1175		1		50	363		21	yes		65 - 70			NS			
21.06		Organdzali	11	21	22				70		43	ves		65 - 70			NS			+ +
21.07		Sevendekli	70		20		66	70	1	241		yes	·	71 - 75						- +
21,08	15,673,168		260										600			4,0	5	S GW	200	1 -
21.09		Star Dojran	681					40			1	<u>†</u>	650			0.0	5	S GW	100	- 10
21,10	21,444,759		214		214			70	214			yes				0.0	2	S SF	50	0 +
21.11	10,196,913		214	223		104.2	·			+	· · · · ·	yes			<u> </u>			1	1	+
21.12	4,467,602		8			<b> </b>			<u> </u>			yes						1	1	+
21.13	2,003,254	Djumabos					<u> </u>							1			1	1	1	1
		Gornichet	200			3637.5	3898	7612	6348	18553	1632	<u> </u>	<u> </u>	1	95,1	37			1460	)
·		Sub-total*	18070					400.6					<u> </u>	<u> </u>	3.3				112.3	
		Average*	547.6		_			400.6							95.1	37			1460	
		Total *:excluding city	18070	20138	34817	3037.3	3898	/012	0348	1 10000	1052	EUDV:Economica	Jan dan dawala	L Villano			S:Suitable	SW:Surface	water	-

#### VILLAGE WATER SUPPLY INVENTORY OF GEVGERIA FORMER MUNICIPALITY Table 1.24

\*:excluding city

SW:Surface water NS:Not suitable SP:Spring water GW:Groundwaler

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## Table 1.25(1/2) VILLAGE WATER SUPPLY INVENTORY OF OHRID FORMER MUNICIPALITY

Ordinal	Surface	Village/City	<b></b>	Popu	lation		· · ·	Populatio	n by water s	upply type		Economically	Subsidy	Period of	Leng	thof	Potability	Water	Capacity	Water
		vinage/City	1971	1991	1994	Rate		in 1971			991	Under-	of MUPCE	construction	Pipelin	es (km)	of water	source	of	balance
number	area (m <sup>2</sup> )		1			itate	Level 3/	Level I	Level2/	Levei3	Others	Developped	(1991-1997)		Туре с	offund			reservoir	
	(14.)						Network		communal			Village	(1000MKD)		RIHP	Village			$(m^3)$	
62.01	17,917,184	Velgoshti	1677	2372	2241	141.4	532	850	295	2372	· -			80 - 85	0.0	5.0	S	SP	125	+
62.02	29,765,707		1123	1213	1103	108.0	25	90	1008	1213	· · -	yes		75 - 85	2.5	0.0	S	SP	100	÷
62.03		G.Lakocherej	663	867	582		-	345	318	867				80 - 85	4.8	0.0	S	SP	80	+
62.04	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Dolno Konisko							· ·			· · · ·								+
62.05	11.367.690	D.Lakocherej	826	933	646	112.9	190	523	113	933	-		400	75 - 80	1.2	1.0	S	SP	100	
62.06		Elesec																		+
62.07	17,174,082		619	678	674	109.5		14	605	678	-	yes		70 - 72	0.3	L.2	S	SP	80	<u> </u>
62.08	20,143,264		706	658	590	93.2		53	653	658	-	yes		80 - 85	2,0	0.0	<u> </u>	GW,L	-	+
62.09		Lagadin		· · · ·			· · ·	· ·							·					+
62,10	7,944,701		1339	3051	2668	227.8	306	910			-		1.1	71 - 80	3.3		S	SP	125	. •
62.11	38,583,337	Ljubanishta	- 348	197	185	56.7	. 91	222	35	197	-			75 - 85	4.8	3.3	S	SP	80	
62.12		Naselba Istok																		+
62.13		Orman	160	161	121	100.6		80	80	161	-	6		89 - 90	2,5	1.0	S	SP,GW	•	•
62,14	18,800,809	OHRID	26369	42060	41146	159.4							1000				S	SP,GW,L	2000	+
62.15	6,240,927		1222	1415	1346	115.8	15	533	674	1415	-			73 - 75	. 0,9	4.0	S	<u> </u>	150	-
62.16		Podmole	176	239	269	135,8	10	- 60	106	-	239		2160				<u> </u>	- ,- ,-	-	+
62,17	19,197,623	and the second se	279	628	589	225.1		-	279	· -	628	·					. S	SP	-	+
62.18		Racha		960		-	-	-	•	960				90 - 91	0	2.5	S	SP,GW,L	50	
62.19			1																	+
62.20	13,188,625	Тгрејса	392	358	360	91.3	- 36	320	36	358	-			75 - 80	2.3	. 3.2	S	SP		+
62.21		Shipokno	109	119	212	109.1	-	9	100		119						NS		-	-
63.01	7,363,908		195	43	32	22.0	-	25	170	· •	43	yes					NS		-	+
63.02	9,206,860	Belchishta	788	608	489	77.1	•	290		603	•	yes	200	1971 - 85	4.0		S		100	
63.03	12,552,814	Botun	453	323	212	71.3	-	138		323	-	yes		75 - 80	3.0		S		60	
63.04	34,951,634	Brezhani	425	53	56	12;5	<b></b>	5	420	53		. yes		80 - 85	1,5		S	SP	80	1
63.05	39,298,218	Veimej	1091	653	582		-	208		653		yes	:	75 - 85	6.0		S		80	. · · · ·
63.06	31,516,169	Vrbjani	371	129	106		-	21		-	129			68 - 69	2.0		NS		-	+
63.07	29,002,097	Godivje	479	. 152	104		<b>.</b> -	35		52				62 - 64			NS			
63.08	2,824,921	G.Sredorechje	140	49	- 38			-	-140	49		ycs		75 - 80	2.3	0.0	S		50	
63.09		Grko Pole	63	37	27		-	•	63	-	47						NS			+
63.10	an the second	D.Sredorechje	. 70		55		-					yes	200	80 - 85	2.3	0.0	S		50	
63.11	14,769,724	Zlesti	552	382	333		-	22		382		yes		80 - 85	3.2	2.2	S		80	
63.12	13,530,410	Izdeglavje	445	167	150		-	92			167				<u> </u>		NS			+
63,13		Laktinje	365	127	93		· ·	-	. 365		127		1050	80 - 85	1.7		NS	SP		+
63,14	16,552,662		703	593	472		· · · ·	230		593	<u> </u>	yes	. 200	71 - 75	2.6	0,0	S	SP		+
63.15	18,629,860		132	19	15			-	132	-	19				<u>,</u>		NS			
63.16		Novo Selo (Be)	176	137	92		al a 🔸	125			137		200	80 - 85	. 1.0	0.0	<u> </u>	SP		
63.17	18,250,551		325	99	79		-	325		99		yes					S	SP	60	
63.18	23,672,032		268	126	106		-	-	268	126		yes	an a a a'	80 - 85	2.0		S		59 80	
63.19	27,283,980		800		204			50		222		yes		80 - 90	3.0	2.0	<u> </u>	SP		÷
63.20	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	S.Chiflik	92		14		-		92	•							S			
63.21	11,776,069		194	38	24		-	20		38		yes		75 - 80	1,4	0.0	NS		40	
63.22		Soshani	111	24	. 18		•	-	111	•	24				ļ		NS	SP	-	+
63.23	11,718,874		205	45				-	205	. 45		yes	·		ļ		NS		40	
63.24	17,137,856	Crvena Voda	127	26			-	-	127	26		yes		80 - 85	2.1		<u>S</u>		50	
64.01	8,540,557	Vapila	285	163	124		•	165		163		1. M		80 - 85	2.0	0.0	S.	SP	60	
64.02	18,240,789	Zavoj	531	54	- 41		11	-	520	54	-	yes		85 - 90	3.5	0.0	\$		60	+
64.03	8,939,822	Kosel	798	697	657	87.3	130	530	138	697	-		L	62 - 89	1.0	2.0	S	SP	100	+

#### Table 1.25(2/2)

## yillage water supply inventory of ohrid former municipality

NS:Not suitable SP:Spring water

GW:Groundwater

Ordinal	Surface	Village/City	r	Popula	ation			Population	by water si	ipply type		Economically	Subsidy	Period of	Leng		Potability	Water		Water
number	area		1971	1991	1994	Rate		in 1971		in l	991	Under-	of MUPCE	construction	Pipeline		of water	source	of	balance
	(m <sup>2</sup> )				.		Level 3/	Level I	Level2/	Level3	Others	Developped	(1991-1997)		Туре о				reservoir	1
					. [		Network		communal			Village	(1000MKD)		RIHP	Village			$(m^2)$	<u> </u>
64.04	24,125,104	Kuratica	895	494	417	55.2	40	125	730	494	-	yes	70	75 - 85		0.5	S	SP		
64.05	7,880,720		282	252	196	89,3	-	220	62	252	-			78 - 79	0.0	3.0	S	SP	60	4
64.06	16,621,360		509	124	104	24.3		9	500	-	124	yes					NS			<u> </u>
64.07	19,460,471		163	38	34	23.3	-	-	163	-	38	yes					S	SP	50	
64.08		Rasino	56	14	. 13	25.0	-	6	50		]4	yes		80 - 85	1.5	0.0	S	1	40	
64.09	10,206,016	Rechica (Ko)	166	12	5	7.2	-	-	166		12						S	SP	40	
64,10	26,523,070		. 701	126	130	17.9	-	56	645	-	126	yes	400				NS		-	+
64,11	23,641,843		363	. 36	25	<b>9</b> .9	•	3	360	-	36	yes					NS			
64.12	18,073,202		271	13	. 13	4,5	•	- 11	260	-	13						NS	<u>i</u>		<u> </u>
65.01	5,081,057		752	681	512	90.5	15	577	160	15							S	SW,GW,L	80	
65,02	5,348,642		605	465	369	76.8		340	265	-	465		1790	<b>8</b> 0 - <b>8</b> 5		0.0	S	SP,GW,L	80	
65.03		Klimeshtani	156	116	57	74.3		136	20		116		600			0,0	S	SP	60	
65.04		Mesheishta	1586	1257	904	79.2	25	735	826				3260			1.6	S		100	_
65.05	9,512,273		454	578	489	127,3	44	400	10				1790	70 - 72	1.5	3.0	<u>S</u>	SP,L		+
65.06	12,172,438	Trebenishta	.868	816	587	94.0	-	\$30						71 - 80	3.5	3.4	\$	SP SP	125	
		Sub-total*	27650	23921	19617	3734.5	1470	9438	16742				L		87.2	48.3	Ì	ļ	2855	
		Average*	.493.8	419.7	350.3	66.7	113.1	230.2			154.9				2.3	1.3	<u> </u>	<b> </b>	75.1	
		Total	.54019	65981	60763	3893.9	1470	9438	16742	20524	3407		L	!	87.2	48.3	l	1	4855	1
		":excluding city										EUDV:Economica	illy Under-develop	ped Village			S:Suitable NS:Not suitable	SW:Surface v SP:Soriae we		

# Table 1.26(1/2) VILLAGE WATER SUPPLY INVENTORY OF STRUGA FORMER MUNICIPALITY

					1.26	(1/2)	·					Economically	Subsidy	Period of	Lenc	thof	Potability	Water	Capacity	Water
Ordinal	Surface	Village/City	L	Рори					n by water s		991	Under-	of MUPCE	construction	ç -	es (km)	of water	source		balance
number	area		1971	1991	1994	Rate		in 1971		Level3	Others	Developped	(1991-1997)	CONSTRUCTION		of fund			reservoir	Í
	(m²)						Level 3/	Level 1	Level2/	Levels	Others	Village	(1000MKD)		RIHP	Village		1	( <i>m</i> 3)	
							Network	334	communal 76	191		Village.	(1000/4/102)/	1975 - 80			S	SP	-	+
85.01		Bidzhevo	410 168	191 25	450 25	46.6 14.9		334	168	25		yes		75 - 80	2.0	0.0	S	SP	-	+
85.02	20,334,045			1454	1420	19.9		754	47					71 - 75	1.5	2.4	S	SP	-	+
85.03	5,874,806		801	1454	1420	191.3		, <u>, , , , , , , , , , , , , , , , , , </u>				yes	500	85 - 91	2.0	1.0				+
85,04		G.Belica	200	920	894	133.9			687	920				80 - 85	2.2	2.4	S			+
85.05	6,423,229		805	920	894	104.7		560	245					80 - 85	2.5	1,0	S			+
85.06	4,573,608		617	950	1008	153.9	210	387	20					75 - 80	2.0	1,5	S			+
85.07	4,822,891		785	1100	992	140.1	15							75 - 80			S			
85.08	3,760,335		684	727	710	106.3		305						75 - 80		1.0	5			+
85.09	5,725,977 9,830,059		312		161	51.9	12		300	162		yes		80 - 85		0.0	S			+
85,10		Misleshevo	1308	3095	3246		274			3095				75 - 80			S			·
85,11	6.070,991		799	950	909	118.9	50			950	-			71 - 75	3.0		S			+
85.12			2278	3083	2806	135.3	645	1308			-	yes	1200	80 - 85			S			
85.13	13,377,443		777	818	849	105.2		25						71 - 75	1		S			<u> </u>
85.14	14.388.629		2097	3600	2892	171.6	420	1207			· -	yes		75 - 80	2.0	2.0	S			
85.15 85.16	8,270,924		11475		16037	174.3							10100		L		S			
	9,463,582	A REAL PROPERTY AND A REAL	1088	1500	1554	137.8	117	262	709	1500	-	yes		85 - 90			2			
85.17	9,403,382	Shum	503	800	750				380	800	-			75 - 80	2.5	0.0	S			+
85.18	2,507,399		199				120	39	40	-	80	yes					NS			+
86.01	7.116.154		308				6	6		50	-	yes		80 - 85						
86.02 86.03	7,1:0,124	Burinec	2	0				-	-	-	-	yes		80 - 85	3.6	0.0	2	S SP	80	
86,04		Globochica	Ő																<u> </u>	+
86.05	7,451,178	Drenok	22			18.2	-		22	4	-	yes	·.	80 - 85	3.0	0,0	5			) +
\$6.05		Zbazhdi	92						92	-	16	yes	[		L		N		- <u>i</u>	· · · · · ·
86.07	39,110,431	the second s	1393	832	741	59.7	25	25	1343	832	-	yes	·	80 - 85	2.0	3.0				0 +
86.08	39,110,451	Lakaica	60		7		-		-	-	-	yes			L	<u> </u>	N	S SF	<sup>-</sup>	+
86.09		Lokov	0	0								yes		1					<del></del>	- +
86.10	13,122,166		1025	528	511	. 51.5	16	162	847	528		yes	200					s sr		
\$6.11	16,267,355		405			15.0	5	-	400			yes	· · · · · ·	75 - 85				S SF		
\$6.12		Nerezi (Lu)	539	257	232	. 47.7	-	30	509			ycs		71 - 75						-
86.13		Piskupshtina	284	265	256		-		284	265		yes		71 - 75						0 + - +
\$6.14	20,288,911		222	18	. 13	8,1	46		176	-	18	yes		89 - 92	2.5	0,0	N	s si	<u> </u>	
86,15	20,200,711	R'zhanovo	0	·	•		1					yes	{		<u></u>					+
86.15 86.16	27,971,662		2	i o	4	1		-				yes		75 - 90	3.0	1.5				+
87.01	4,519,129		228	200	156	87.7	-	8	220			yes	· · · · ·	· · · · ·	<u> </u>	<b></b>	N			0  - - +
87.02		Delogozhda	1717			139.8	562					·		80 - 85						
87.03		Koroshishta	1075	1400	1516	130.2	15					·	ļ	71 - 75						
87.04	3,548,809		909		1332	148.5	-	879					ļ	85 - 90				S SI		- +
87.05		Mislodezhda	.547		582	127,9	182					yes	ļ	71 - 75				S SI SI SI		- + - +
87.06		Novo Selo (De)	144					88					· · · · ·	85 - 88	0.0	2.0	N			
87.07	12,375,668		335	250	188	74.6		130	205	· · · · · ·	250	yesyes	l		<b>_</b>			<u></u>	<u> </u>	+
87.08		Toska	69	0				· · ·	<b></b>	<u> </u>	·	·	·			J	N	s si	<del>, </del>	- +
87.09		Dzhepin	189				-	50			450		L	90 - 91						
88.01	13,893,809	the second s	779	922	970	118.3						yes		·						
88.02	20,006,264		3611	5657	5901	156.6	980				1	yes						s si		
88.03	13,646,259		1390			156.3	-	150				yc:	800					<u>s i</u>		
88.04	9,459,248	and the second se	419			44.1			419			-	<u> </u>	80 - 85				S SI		
89.01	9,350,394		3355		5034	149.9	56	2178	1121	5000		- <u> </u>	2000	75 - 80	) 1.4	4.5	Į !	S 53	P 50	<u>ין -</u>

rdinal	Surface	Village/City		Рори	ation			Population	n by water si	upply type		Economically	Subsidy	Period of	Leng	ih of	Potability	Water	Capacity	
umber	arca		1971	1991	1994	Rate		in 1971		in I	991	Under-	of MUPCE	construction	Pipelin	es (km)	of water	source		balance
	(m <sup>2</sup> )						Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)	[	Туре с	of fund			reservoir	
							Network		communal			Village	(1000MKD)		RIHP	Village	l		(m3)	
89,02	7,390,747	G.Tateshi	719	900	869	125.2	-	445	274	900	-			80 - 85	2.0		S	SP		+
89.03	1,069,359	Dobovjani	306	430	424	140,5	36	270	<u>ند.</u> .	430				80 - 85	2.0		S	SP		+
89.04		D.Tateshi	434	530	590	122.1	-	408	26	530	-	1		85 - 90	1.5		S	SP		+
90.01	35,677,574	Vevchani	2467	2482	2448	100.6	1015	1010	442	2482	-	yes	2000	75 - 80	1.5			SP		+
		Sub-total*	37565	47610	46642	4599.8	5064	15556	16612	46794	814				91.5	66.7			2000	1
		Average*	736.6	933.5	1014.0	107.0	230.2	471.4	405.2	1264.7	203,5				2.2	1.6			105.3	
· ·		Total	49040	67610	62679	4774.	5064	15556	16612	46794	814				91.5	66.7	l	<u> </u>	2600	L
		*texcluding city										EUDV:Economical	lly Under-develop;	od Village			S:Suitable	SW:Surface w		
		1															NS:Not suitable	SP.Spring wat		
			-															GW:Groundw	ter	
· · ·				· · ·																
·																				

#### Table 1.26(2/2) VILLAGE WATER SUPPLY INVENTORY OF STRUGA FORMER MUNICIPALITY

Ordinal	Surface	Village/City	1	Popu	ation			Population	n by water si			Economically	Subsidy	Period of	Lengi		Potability	Water	Capacity of	Water balance
number	area	vitagereny	1971	1991	1994	Rate		in 1971		in 1	991	Under-	of MUPCE	construction	Pipeline		of water	source	¥-	
namoer	$(m^2)$						Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)	1	Type o				reservoir (m <sup>1</sup> )	
	()						Network		communal			Village	(1000MKD)		RIHP	Village		SP		+
31.01	9,788,838	Banishte	174	220	195	126.4	-	-	174	220	-	yes		75 - 85	2.8	1.0	S	SP	120	+
31.02	5,169,728		166	0			-	-	166	-		yes								+
31.02		Vlasiki	0	0													S	SP	80	
31.04		G.Kosovrasti	607	723	867	119.1	-	-	607	585	138	yes		81 - 91	3.6	1.5	<u>s</u>			
31.05	12,109,204		8823	15000	13340	170.0	-	-								0.0				
31.06		D.Kosovrasti	394	667	689	169.2	-	20			-		150	85 - 90	4.2	0.0	3	or or		<u> </u>
31.07	6.468.387		415	0			-	40			-	yes					NS	SP		<u>+</u>
31.08		Krivci	100	3	54	3.0	-	-	100		3					0.0	S	SP		
31.09	8,485,027		355	566	544	159.4		-	355		566	yes	100	75 - 80	2.5	0.0	S			
31.10		Odzovci	132	231	241	175.0		-	-132					75 - 80	0,9	0.0	<u>s</u>			
31.11	2,606,963	Rajchica	77	30		38,9	-	-	77		15		100	85 - 91 80 -90	4.0	0.4	S	<u></u>		+
31.12	4,228,436		593	550	608	92.7	-	-	593			yes				0.0		SP		+
31.13	4,962,231		322	100	275	31.0		-	322			yes		75 - 80 80 - 85		0.0	<u>s</u>			<u> </u>
31.14	4,437,460		44	23	13	52.3	-	-	44			yes		80-85	V.61	0.0				+ +
31.15		Trnanik	45	0			-	-	45			yes		75 - 80	2.2	0.0	S	SP	50	) +
31.16	6,966,781	Hame	258	280	307	108.5		-	258			yes		75 - 80	2.2	0.0	S			
31.17	3,417,385		303	477		157.4	-	-	303		477	yes	·····	75 - 80		2.0	S			
32.01		Bajramovci	241	248		102.9			241			yes		75 - 80 80 - 90	2.5	2.0	S			<u>+</u>
32.02	2,953,635		344	410	359	119.2		-	344				ļ	85 - 90			S			) +
32.03	2,785,081		70			157.1		-	70		110		-	78 - 91	3.0	t.5	S			
32.04	9,707,493		559			137.6	-		559		-	yes	050	75 - 85			s			
32,05	3,728,076	G.Papradnik	1012	1044	962	103,1		300			-			80 - 85				SP		<u>+ +</u>
32.06	2,545,095		284	318	363	111.9	-		284		-	yes		80-85		0.0				+
32,07	5,707,686	G.Melnichani	18	0			-		18			yes	1				NS	SP	<u>,</u>	. <del> </del>
32.08	4,734,417		60	1	117	185,0			60		111	yes		75 - 80	1,5	0.0				<del>, ,</del>
32.09	3,769,341	D.Melnichani	69	17	23	24.6	-		69	17			<u></u>	75400					1	+
32,10	4,042,254	Evia	0							ļ		yes		80 - 90	1.2	0.0	NS	SP	30	0 +
32,11	11,463,052	Elevci	114	201		176.3			114		201		· · · · · · · · · · · · · · · · · · ·	80 - 85				SP		0 +
32.12	6,112,239	Zhitineni	316	429	536	135.6			316	429	ļ	yes		00-05						+
32,13	10,960,748		0	0			Ļ					yes		80 - 91	2.5	0,0	S	SF	50	0 -
32.14	12,604,343	Kodzadzik	79			254.4			79		123	ye	120	75 - 85				1		- +
32.15	3,064,089	M.Papradnik	653	772		118.2		30			931		950	<u> </u>						0 +
32.16	8,846,284	Novak	539			172.7		<u> </u>	539		931			63-91		0.0	NS			- +
32.17	4,469,982	Osolnica	10	<u> </u>		30,0	<u>ا</u> ــــــــــــــــــــــــــــــــــــ	<del>_</del>	10	+	- 3	ye		<u> </u>						+
32.18	2,175,176	Pareshi	0	· · · ·			<u> </u>	<b></b>	0			yes			<u> </u>		NS	SF	,	- +
32.19	1,522,012	Pralenik	104	149		143.2			104		142	ye	6530				140		+	+
32.20	······	Center Z			466		·	ļ	ļ	ļ		<u> </u>	6530	}			NS	SF	, · · · · · ·	- +
32.21		Crnoboci	59			83.0			. 59		49				53.9	12.7		, <u> </u>	1340	ot
		Sub-total*	8516	9632		3287.7		· ·	8126				1		2,5				74,4	
· · · ·		Average*	236.6			117,4		<u> </u>	253.9		233.8			l	53.9			+	2040	
		Total	17339	24632	23788	3457.7	1	390	8126	6586	3039	the second se	aller Harden develor	[		14:7	S:Sudtable	SW:Surface		<u></u>

## Table 1.27 VILLAGE WATER SUPPLY INVENTORY OF DEBAR FORMER MUNICIPALITY

\*:excluding city

EUDV:Economically Under-developped Village

S:Suitable SW:Surface water

۲

NS:Not suitable SP:Spring water GW:Groundwater

1.44

Ordinal number	Surface	Village/City			ation			roputation	by water su	ippiy type		Economically	Subsidy	Period of	Leng		Potability	Water		Vater
	arca		1971	1991	1994	Rate		in 1971	·	in.1	991	Under-	of MUPCE	construction	Pipeline	es (km)	of water	source	of ba	alance
	(m <sup>2</sup> )						Level 3/	Level I	Level2/	Level3	Others	Developped	(1991-1997)		Туре о	ffund			reservoir	
	( )	ny ny na sang sa					Network		communai		· · ·	Village	(1000MKD)		RIHP	Village	1. Contract (1997)		( <i>m</i> 3)	
76.01	29.073,202	Arvati	536	515	183	96.01		235	301	515	-	yes	300	1971 - 75	3.0	1.0	S		80	+
76.02	1,900,508		202	234	195	115,84		108	94	234	-		860	71 - 75	1.5	2.0	S	SP	150	<del>+</del> .
76.03	29,459,248		480	433	289	90,21		257	223	433		•		80 - 85	5.0	1.0	\$	SP	80	+
76.04	17,122,672	Kriveni	302	58	212	19.21		180	122		58						NS	SP		+
76.05	13,525,091		248	176	102	70.97		8		176	-		670	71 - 75	2.5	1.0	S			+ .
76.06	16,670,796	Lavci	312	197	215	63.14		44		197		yes		80 - 87	1.9	0.0	S	SP	80	+
76.07	60,283,621	Brajchino	698	810	104	117.60	28	22	639	810	-	yes		75 - 80	2.5	1.5	S	SP	<u>+</u>	+
76.08	5,913,411	Volkoderi	70	103	123	147.14			70	-	103	yes				·	S			+
76.09	2,672,582	G.B.Crkva	506	467	476	92,29		350	156	467				80 - 90	2.6	2.0	S	SP.GW		+
76:10	6,733,670	G.Dupeni	304	150	249	49.34			304	150		yes		85 - 90	2.8	0,0	S	SP.GW	50	+
76.11	21,170,320	Gorno Krushje	281	137	260	48,70		142	139	137	-		- 150	75 - 80	2.7	0.0	S	SP		+
76.12	11,349,945	Grnchari	1049	809	213	77.12	· · · 155	673	221	809			1700	71 - 80	3.0	2.0	<u> </u>		100	÷
76.13	5,403,366	D.B.Crkva	404	292	460	72.28		210	194	292	-			80 - 90	2.5	0.0	S	SP,GW		÷
76.14	14,213,473		434	399	138	91,94	8	- 90		399		yes		71 - 85	4.0	1,5	S	SP	100	+
76.15	4,007,823		351	189	217	53.85		100	251		- 189		275.365	71 - 75	2.0	0.0	NS	GW		+
76.16	4,556,659		810	827	124	102.10	12		588	20		<u> </u>				·	<u> </u>		120	*
76.17	26,146,315	Evia	313	175	198	55.91		- 25	288	· · · •	175	yes		80 - 85	2.0	0.0	NS			
76.18	6,670,863	the second s	272	253		93.01		260	12	253	·		600	85 - 90	1.8	0.0	<u>\$</u>	SP,GW		+
76,19	15,790,432		210	127	1214	60,50		10		127				80 - 85	2.2	0.0	<u> </u>		60	+
76.20	6,933,412		263	212	120	80.61		90	153	212	-	yes		80 - 85	2.6	0.0	\$	SP SP		+
76.21		llino	2	• 0	4														<u>+</u>	
76,22	9,505,398		925	1292	529	139,68	375	170	380	1292		·	·	75 - 80	2.5	0,0	<u> </u>			+
76.23	6,294,255		352	271	49			230	122	271	-	yes	·	85 - 90	2.0	0.0	<u>S</u>			+
76.24	3,956,907		46		122	26.10		6		· •	12			80 - 85	1.5	0.0	NS			
76.25	6,115,004	and the second se	1207	978	145	\$1.80	: 12	500	695	987	-	· · · · · · · · · · · · · · · · · · ·	- 750	71 - 80	3.0	1,6	S NS		100	+
76.26	25,149,018		207	125	73	60.39		25		· -	125							SP SP,GW		+
76.27	24,910,876		160	16	13	10.00		30		•	16			80 - 85	2,0	0.0	NS		100	+
76.28	13,576,166		753	425	238	56.44	20		600	425		yes yes		71 - 80	4.0	1.2	<u> </u>		80	+ +
76.29	4,869,859		739		295	68,34	20	280	439	505	-	yes		75 - 85	3.0	1.0	<u> </u>	69	80	+
76.30	13,208,565		52				12		40	,,										+
76.31	11,340,163		29						29				1500	75 - 80	2.7	0.0	S	SP	80	
76.32		Podmochani	742	565	350		20	160	562	565			1300	73 - 80 80 - 85	2.4	0.0		SP.GW		+
76.33	10,562,886		132	107	100	\$1.00		50	82 70		24			05	2.4	0,0	NS			
76,34	2,597,461		70		23	34.29	126	70				yes	670	71 - 75	2.5	0.0	S			
76.35	3,944,628		234	164	153	70.09	136	29		164			070	80 - 85	2.3	0.0	<u> </u>		50	+
76.36	4,606,412		159		72			29	130				5000	60-05	2,3		<u> </u>		600	+
76.37	16,177,380		7142	9736	8684 166	136.32 77.07		. 36	230	205	· · ·		5000	75 - 80	3.0	0.0	S		80	+
76.38	10,369,318		266	205	246	60.23		116		321				75 - 85	3.5	0.0	5		80	
76.39		Sopotsko	454	321	324	72.91		74	380	321	<u> </u>			71 - 85	4.0	0.0	NS		80	
76.40	3.272.021	Stenje Stinone	454		.⇒∠4	14.71		/4	46									Ĭ		+
76.41		Stipona Carev Dvor	1152	1046	708	90.80	· · · ·	720	432	1046			1500	80 - 85	2.2	0,0	s	SP.GW		+
76.42	<u>, , , , , , , , , , , , , , , , , , , </u>	Shtrbovo	290	320	195			100	432					75 - 85	3,0	0.0	s		80	+
76.43		Shurlenci	290	108	195	97,30	i	21	90	108		yes		80 - 85	1.5	0.0	s			+
- 10.44	11,445,030	Sub-total*	16706	13458	8997	2938	798	5764	10113	11958		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			89.7	15.8	<u>~</u>		1550	
		Average*	388.5	313.0	230.7	75,3	79.8	164.7	246.7	398.6					2.7	0.5	<u>.</u>		86,1	

#### VILLAGE WATER SUPPLY INVENTORY OF RESEN FORMER MUNICIPALITY Table 1.28

\*:excluding city

EUDV:Economically Under-developped Village

S:Suitable SW:Surface water

NS:Not suitable SP:Spring water GW:Groundwater

# Table 1.29(1/2) VILLAGE WATER SUPPLY INVENTORY OF RADOVISH FORMER MUNICIPALITY

					1.25	(1/2)			by water su			Economically	Subsidy	Period of	Leng	thof	Potability	Water	Capacity	Water
Ordinal	Surface	Village/City		Popul				in 1971	a by water st		991	Under-	of MUPCE	construction	Pipeline		of water	source		balance
number	arca		1971.	1991	1994	Rate			Level2/	Level3	Others	Developped	(1991-1997)		Турс о				reservoir	i
	(m²)		1 i				Level 3/	Level 1		Levels	Ouncis	Village	(1000MKD)			Village			(m3)	
							Network		communal 293		351	yes	1590	1971 - 85	2.2		NS	SP	-	-
73.01		Ali Koch	293	351	356	119.8		-	293			yes								+
73.02	4,854,939		13	0				22	176		338			80 - 85	1.5	1.0	NS	SP	-	-
73.03	18,331,148		198	338	337	170.7		112	672	803				80 - 85	3.0	1.5	S	GW	120	4
73.04	10,338,474		784	803	798			112	576	371				75 - 85	2,0	1.5	S	GW	60	+
73.05	16,864,844		591	371	348	62.8		13				yes								+
73.06	12,959,333		11	0								yes								4
73.07	2,843,091		0	0		100.0	18	557	614	1492				80 - 85	2.5	2.0	S	GW	150	+
73.08	21,879,127		1189	1492	1546			557	64	1472	219	yes		80 - 85	1,2	0.0	S	SP	-	
73.09	8,856,220		64	219	235			570	41	961				80 - 85	2,5	1.5	S	GW,SP	-	+
73.10	15,467,738	Kalugjerica	708	961	812	135.7	97	570	41	501									i	+
73.11	1,797,810	Karalobasi	0	0								yes								+
73.12		Karadzhalar	0	0					118		35			80 - 85	1.5	0.0	NŠ	SP	-	+
73.13	29,125,331	Kozbunar	118	35			·		351	•	415				1.5	0.0	NS	SP	-	-
73,14	16,827,378	Kodzhalija	351	415	398	118.2	··		351		415	yes yes								+
73.15	24,352,909	Novo Selo (Ra)	7	2					125	1668		303	200	80 - 85	3.0	1.5	S	SP,GW	.125	+
73.16	17,400,513	Oraovica	1555	1668	1687	107.3		1120	435	1006		yes					NS			+
73.17	10,070,391	Papavnica	79	3	. 3				- 95		27						NS	GW.SP	-	+
73.18	5,309,368	Pogulevo	105	27	18			10	153		168			· · · · · · · · ·			NS	SP		· ·
73.19	10,223,995	Prnalija	153	168	136	109.8			153		100	ycs	3500				S	<u> </u>	1200	+
73.20	24,433,544	RADOVISH city	9639	15178		157,4								80 - 85	1.8	1.5	S	GW	-	+
73.21	6,643,005		429	466	479	108.6	80	280	69	466				80-05				· · · · ·		+
73.22	6,010,772	Sarigici	0	• • 0					700	288				85 - 88	2.6	2.0	S	GW,SP	80	) +
73.23	9,859,940	Suldurci	401	288	262			81			66	yes					NS	SP		
73.24	4,424,944	Supurge	46	66					46		<u> </u>	763		85 - 88	2.0	1.0	<u> </u>		80	) -
73.25	16,106,427	Topolnica	541	650	532	120,1	-	241	300	650		yes	<u> </u>			-				+
73.26	9,084,655	Kjoselija	· · 0	0	· .	<b>L</b>	<b></b>					<u>yts</u>	1	· · · · · · · · · · · · · · · · · · ·						+
73.27	9,584,103	Hudaverlija	0	0		ļ	ļ	· ·		·	· · · · · · · · · · · · · · · · · · ·	yes								+
73.28	7,180,671	Cheshma Male	0	6			ļ					yes yes								+
73.29	16,116,960		4	- 0		<u> </u>	<u> </u>		133		30			80 - 85	2.4	0.0	NS	SP	1.	+
73,30	21,387,945	Shipkovica	133	30					102		30			80 - 85	2.1		NS	SF	1.	+ +
73.31	6,206,610		102	35					436		· · · · · · · · · · · · · · · · · · ·	yes	1	80 - 85			S	SF	60	+
74.01	12,874,253		436	398				-	430		23				· · · · · ·	1	NS	SF	· ·	+
74.02	10,432,061		165	23	23	13.9			105		23	yes yes				1	1		1	+
74.03		G. Vrashtica	2	0		l	+	· · · ·	439	<u> </u>	179			80 - 85	1.5	0.0	S	SF	> 60	) +
74.04		G.Lipovikj	439	179				118				yes yes		and the second se					100	) +
74.05	22,191,467		762	774	779	101,5	<u>'</u>	118	044	1.4		yes yes		1		1		1		+
74.06		D.Vrashtica	56	0		-	<u>.</u>	52	522	468	l	yes yes		71 - 75	2,8	0,0	S S	SP	80	+
74.07		D.Lipovikj	574	468	467	81.5	<u>'</u>	52	311	400	·	yes yes		1		<u> </u>			1	+
74.08		Doini Radesh	86	1			<u></u>	10	148	14		ycs ycs		90 - 91	2.6	0.0	NS	SI	,,	+
74.09	7,387,111		158	14										75 - 85						) +
74.10	42,126,882		966	1003				15				ycs ycs		75 - 85		<u> </u>				+ 10
74.11	44,686,850		595	379		63.7	<u> </u>	ļ,		3/3	4	yes		1	1	<u>                                     </u>	1	1	1	+
74,12		Negrenovci	0			+	<u></u>		448	510		yes yes		80 - 85	2.0	1.0	S	ST	> 80	+ (
74.13	20,810,770		468	516				20	448		- 23			<u></u>		†	NS			- +
74.14	15,218,227		231	23										75 - 80	2.3	1.4				+ 0
75.01	17,388,208		931	910				211				1		75 - 80				_		- +
75,02	17,947,861	Jargulica	650	777	811	119.	<u>'</u>	80	<u> </u>	<u> </u>	<u>a                                     </u>		<u> </u>	1 70-00					·	

## Table 1.29(2/2) VILLAGE WATER SUPPLY INVENTORY OF RADOVISH FORMER MUNICIPALITY

Ordinal	Surface	Village/City		Popul	ation			Population	n by water si	pply type		Economically	Subsidy	Period of	Leng	th of	Potability	Water	Capacity	Water
number	arca		1971	1991	1994	Rate		in 1971		in 1	991	Under-	of MUPCE	construction .	Pipelin	es (km)	of water	source	of	balance
	(m <sup>2</sup> )						Level 3/	Level 1	Level2/	Level3	Others	Developped	(1991-1997)		Туре с	of fund			reservoir	
1.1.11	na lina	12 J. A. 1997			·		Network		communal			Village	(1000MKD)		RIHP	Village			( <i>m3</i> )	
75.03	34,642,460	Podaresh	1359	1393	1413	102.5	-		626	1393			800	80 - 85	2.5	1.0	S	SW	250	+
75.04	6,596,623	Pokrajchevo	324	433	415	133.6	-	50	274	433	· · · · ·			71 - 80	1.5	0,0	S	GW	-	+
75.05	51,321,293	Smilanci	309	112	71	36.2	. <b>-</b>	•	309	<b>.</b>	112			80 - 85	2.3	0,0	NS	SP	-	+
		Sub-total*	16386	15797	- 15457	.3065.8	210	4302	11616	13461	2324	- A. A.			61.7	21.6			1725	1
	1.1. A.	Average*	334,4	322.4	454.6	92.9	70.0	226.4	363.0	747.8	- 166.0				2.3	0.8			115.0	1
		Total	26025	30975	30525	3223.2	210	4302	11616	13461	2324				61.7	21.6		1	2925	1
		* * II *										CHOND C		13891			C.C. 3-11-	C11/ C		

\*:excluding city

EUDV: Economically Under-developped Village

S:Suitable SW:Surface water

NS:Not suitable

SP:Spring water GW:Groundwater

	_				1.30							Faaromically	Subsidy	Period of	Lene	th of [	Potability	Water	Capacity	Water
Ordinal	Surface	Village/City			lation				n by water s			Economically Under-	of MUPCE	construction	Pipelin	· .	of water	source		balance
number	arca		1971	1991	1994	Rate	,	in 1971		in l			(1991-1997)	construction	Type of		01		reservoir	į į
	(m <sup>2</sup> )						Level 3/	Level 1	Level2/	Level3	Others	Developped	(1000MKD)		RIHP	Village			( <i>m3</i> )	
							Network		communal			Village	(1000MRD) 500	1980 - 85	2.0		NS	GW		+
79.01	7,429,403	Banica	895	1283	1163	143,3	30	50	815		1283			1780 - 85	2.0		NS	SP	-	+
79.02	8,108,509	Belotino	127	51		40.1	-	-	127	-	51	yes		68 - 72	2.0	3.0	S	SP	200	
79.03	26,880,781	Veljusa	1808	1693	1577	93.6	15	25	1768	1693	343		1000	80 - 85	2.0		NS	SW	60	
79.04	9,435,374		255	343		134.5		200	250 300	-	776		1000				NS	GW,SP	-	÷
79.05		G.Baldovci	532	776	732	145.8	-	232			1969			71 - 75	2.5	0.0	NS	GW	-	-
79.06	. 7,609,224		1671	1969	1962	117.8	-	755 695	427		1505						NS	GW	-	-
79.07	5,521,655		1122	1693	1693	150.9		695	707		459	yes	1170	85 - 91	8.0	0.0	S	SP	120	+
79.08	15,314,860		707	459		64,9		70			1494						S	GW		-
79.09		Prosenikovo	1170	1494		127.7		6	485		376	ycs	120	80 - 85	2.0	0.0	S	SP	60	+
79.10	24,501,916		491	376	365	76.6		0	40,		3,0	,	5600				S	SW	4350	+
79.11	20,446,057	STRUMICA city	23034	34424	34067	149.4			304		2	yes					NS	SP	-	+
80.01		Badilen	304	2	2	0.7		······	273	<u> </u>							NS	SP	•	+
80.02	9,041,868	the second s	273	11		4.0 27.4		<u> </u>	375		103	yes					NS	SP	•	+
80.03	31,407,815		375	103			·	375		486				81 - 85	1.0	2.0	NS	GW	-	+
80.04	9,480,382	the second s	415	486		117.1								68 - 71	1.0		S	SP	80	+
80.05	18,839,538		561	443		78.9			650	· · · · · · · · · · · · · · · · · · ·		yes		80 - 85	2.5	0.0	S	SP	150	+
80.06	10,931,809		650	579		89.1		260	397		735						NS	GW	-	+
80.07	4,113,601		657	735	694	111.8	300	200	50		152			70 - 83	4.0	2.0	S	SP	120	÷
80.08	9,611,027	the second se	1140	1028		90,1 101.0	18		73					65 - 71	1.5	2.0	S	SP	120	+
80.09	21,566,303		1471	1486	1324	88,0	30		35					65 - 71	1,2	2.0	S	SP	100	+
80.10	9,404,681		997	878		158.6		30	1	1190		yes		71 - 81	3.5	2.0	S	GW		<u> </u>
80.11		N.Konjarevo	750	1190 2894		135.0			1	2894			920	65 - 71	1.5	5.0	S		250	-
80.12	19,284,520	Novo Selo (NS)	2143	2894		135.0	40	110			360	yes	120	85 - 91	1.2	0.0	NS			
80.13		Samoilovo	986	811	628	82.2			986	811	· · · · · · · · · · · · · · · · · · ·		320	65 - 71	1.5	2.0	S			<u>[</u>
80,14	16,526,909		980	900		106.2	7		840			yes	100	65 - 71	1,6	2.2	S			+ (
80.15	12,023,702		341	131	113	38.4	····· ·		341		131	yes					NS			· · ·
80.16	24,822,531		1852	1953		105.4	12	236		1953	-			84 - 90	6,0	2.0	S			
80.17	23,778,383		787	911		115.7	60				911						NS			. +
81.01	5,822,794		150	14		9.3			150		14	yes					NS			+
81.02	8,202,857	the second se	1332	2106	<u>.</u>	158.1	107	936			2106			85 - 90	1.5	0.0	NS			
81.03	7,768,167		213	405		190.1			213		405			85 - 86	7.0	0.0	S			
81.04	19,644,265		535	733		137.0	<u>                                      </u>	212			733		1200				NS			+
81.05	7,649,061		1077	1486		137.9	1				1486		1100				NS	GW	· · · · · ·	
81.06	8,456,750		10.7	1400		<u> </u>	<sup>*</sup>					yes	<u>ا را ا</u>					Ļ	·	<u> </u>
81.07	27,378,264 33,067,643	Kukushlija	302	5		1.6	-		302	-	5						NS			+
81.08		Nova Masla	540	816		151.1		6	516	816	-		1000				S			
81.09	7,418,011		1018	1310		128.7		378	640	1310		· · · · · · · ·		80 - 85						+
81.10		Radichevo	543	594		109.4		37						85 - 90					<u>[</u>	
	4,469,364		322	357		110.8		30		357	-			85 - 91						) +
81.12		Dobroshinci -	682	956		140.1					506			68 - 72			NS			<u></u>
81.13		Dobrosainci	426	484		113.6	1	120						80 - 85			S			
		Edrenikovo	322	230		71.4		100			230		200		3.5	0.0				
81.15			648				1	448			740		2270			<u> </u>	NS			. +
81.16	10,691,062		201	37		18.4			201		37	yes	5	80 - 85			S			
81.17	9,219,303		413			136.4			413			1	1	80 - 85	4.5	0.0	S			
81.18		Chanaklija	754			113.2		30			854	1			·		NS			- +
82.01	4,981,448		1575	<u>.</u>		111.3		25			1754						NS	GW	1	<u>1                                    </u>
82.02	9,337,263	Bosilovo	1. 15/5	F. 17.34	1.1/1	1	1			*****										

#### VILLAGE WATER SUPPLY INVENTORY OF STRUMICA FORMER MUNICIPALITY Table 1.30(1/2)

Table .1.30(2/2)

## VILLAGE WATER SUPPLY INVENTORY OF STRUMICA FORMER MUNICIPALITY

Ordinal	Surface	Village/City		Popul	ation			Population	n by water si	apply type		Economically	Subsidy	Period of	Leng		Potability	Water		Water
number	arca		1971	1991	1994	Rate		in 1971		in l	991	Under-	of MUPCE	construction	Pipeline		of water	source	of	balance
	(m <sup>2</sup> )				i		Level 3/	Level I	Level2/	Level3	Others	Developped	(1991-1997)		Туре о				reservoir	4
							Network		communal			Village	(1000MKD)		RIHP	Village			(m3)	
82.03	9,204,172	Gecherlija	333	376	394	112.9	-	240	93	•	376						NS		-	+
82.04	23,060,586	Drvosh	639	674	695	105.5	•	20	619	674	-			80 - 85	12.0	0.0	S	SP	120	
82.05		Ednokukjevo	504	662	654	131.3	-	84	420	-	662						S	GW	-	+
82.06	32,214,253	Ilovica	1724	1928	1912	111.8	-	154	1570	1928	-			75 - 80	2.5	3.0	S		150	
82.07	3,430,711	Petralinci	420	590	600	140.4	-	400	20		590						NS		-	+
82.08	4,351,541	Radovo	679	881	884	129,7	20	496	163		881						NS		-	·
82.09	3,473,063	Robovo	628	577	576	91.9	•	160	468		577						NS		-	+
82,10	3,891,940	Saraj (Bo)	712	879	940	123.4		27			879						NS			+
82.11	9,188,009		1174	1249	1198	106.4	•	1054	120		1249						NS			+
82.12	3,407,554	S.Baldovci	189	266	262	140.7	-	180	9		266						NS			+
82.13	5,383,443	Turnovo	1066	1177	929	110,4	-	896	170		1177	L		75 - 80	2.0	0,0	NS			+
82.14	20,767,593	Hamzali	81	26		32,1	-	68	13		26						NS			+
82.15	16,445,622	Shtuka	749	858	822	H14.5	•	31	718		-		500	71 - 80	2.5	0.0	Ś	[	150	+
83.01	11,563,917	Dorlombos	305	274	274	89.8	-	-	305	-	274	yes		75 - 80	3.5	0.0	NS	SP		<u> </u>
83.02	8,229,087	Zleshevo	0	0							[		L							+
83.03	24,558,601	Kosturino	1626	1398	1235	85.9	-	256	1370			· · · · · · · · · · · · · · · · · · ·		71 - 80		0,0	. <u>S</u>			
83.04	21,988,556	Kuklish	2057	2560	2517	124,4	24	323	1710		-			80 - 90	7.0	1.0	S		150	
83.05	10,474,273	Memeshli	105	122	82	116.2	-	15			122	<u> </u>		75 - 80	3.0	0.0	S	1		+
83.06	6,828,454	Ormanli	80	102	94	127.5	-	5	75		102	yes yes		80 - 85	2.0	0.0	NS			<u> </u>
83,07	4,195,880	Raborci	155	107	112	69.0	-	25	130	107	-			85 - 91	2.0	0.0	S	SP		
83.08	12,053,514	Svidovica	364	369	352	101,3	-	180	184	-	369		320				S			
83.09	7,121,658		121	23	16	19.0	-	-	121	-	23						N\$	SP		+
83.10	18,234,164	Chepeli	26	0		-	-	•	26		-									+
84.01	23,735,632		1205	1766	1645	146.5	•	35	1170	1600	166			84 - 85		2.0	S			
84.02		Monospitovo	1825	1962	1872	107.5	15	-	1810	1962				85 - 90	10.0	1.0	S			
84.03	16,407,382		2175	2223	2159	102.2	-	217			2223						NS			<u>⊢ •      </u>
84.04	3,055,232		579	569	554	98.3		30			569						NS	GW		+
		Sub-total*	53901	60093	56980	7136.4		15068			30098				141			ļ	3570	
		Average*	574.7	645,4	646.4			268,3	397.7	825.3	583.3				2,5			ļ	81.5	
		Total	76935	94517	91047	7285.9	767	15068	38056	29944	30098		I	ļ	141	48.7		1	7920	<u>i</u>
·		*:excluding city										EUDV:Economica	illy Under-develop	oped Village			S:Suitable	SW:Surface v	ater	

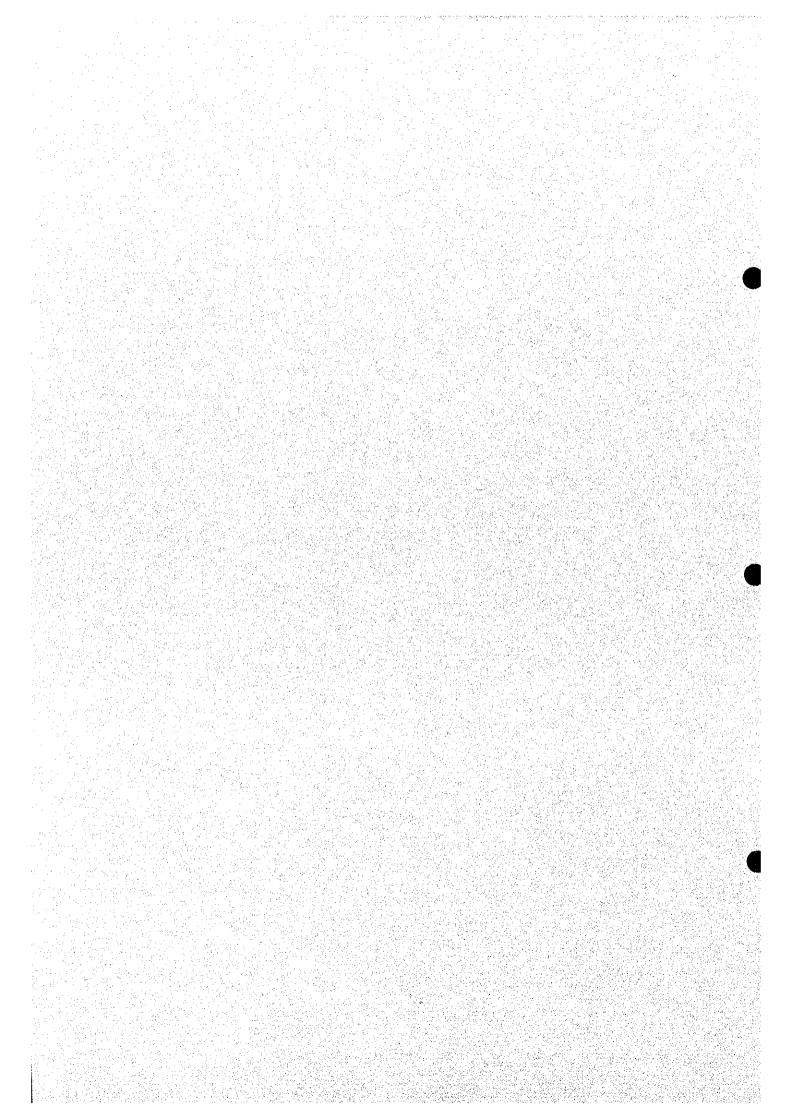
\*:excluding city

NS:Not suitable SP:Spring water

GW:Groundwater

# Annex 21

# MCIC Village Water Supply Program and Projects





# Macedonian Center for International Cooperation

DRAFT

# VILLAGE WATER SUPPLY PROGRAM 1998 - 2000

Macedonia, March 1998

Ann.21 - 1

## VILLAGE WATER SUPPLY PROGRAMME

Number of the program	MCIC 98-08 PVS
Location, region	Republic Macedonia
Target group	Citizens of 1700 villages
Direct beneficiaries	<ul> <li>27.000 citizens of 54 villages which have a problem with their water supply</li> </ul>
	<ul> <li>- 45 "Associations" for the management of water supply</li> </ul>
Activity	Reconstruction of the water supply
Instrument	Financial support for the construction of waterworks, training, informing and representing
Period of implementation	1998 - 2000
Participating organizations	MCIC, village boards, national and local authorities
Budget	74.400.000 MKD (the MCIC part only)
Status	In the phase of identification/formulation

### EXCERPT

471 villages or 82% of the identified villages in the Central and the Eastern part of Macedonia have constant or periodical problems with the water supply, mainly because of bacteriological pollution of the water, insufficient capacity (especially in the period of May-September) and a much too great distance from the existing sources of water used.

Due to such causes the intention of MCIC is to continue its work in the field of water supply in the forthcoming period 1998 - 2000, being one of the priorities in its activities.

The general goal of the Water Supply Program is to contribute to the creation of conditions for life in the villages, for all who live in them. The improvement of the water supply for the people in the villages is a goal of the Program leading to the realization of the general aim.

The solving of the problems with the water supply and achieving the Program goals will be implemented by carrying out the activities such as the following:

- financial support for the construction of the water supply systems;

- water supply training;
- education and informing; and

- representing and lobbying.

Participation of the target group in the implementation of the activities is of great importance for the work of the Village Development Department. The role of the Village Water Supply Program is to totally involve the beneficiaries in the project from its start (the idea) to its total realization. A special attention is given to the sustainability of the realized project, which is achieved through active participation of the beneficiaries of the project, as well as their education and training in the functioning of the system.

The total budget necessary for the realization of the middle term Program amounts to 74.400.00 MKD.

#### **PROJECT FRAME**

#### Essence

Water is one of the four essential natural resources on which rests the appearance, evolution and development of the live world, and of man.

The acute problem with the water supply in our country still exists. The droughts which occurred in the period 1980 to 1994 had dried out the existing sources and wells. The quality of water deteriorated. Many years were necessary for these sources to renew themselves once more as they were before.

The consequences from previous system are still visible in that they have left permanent tracks in the economy of the state. Problems in rural parts of the country are still very stressed. The farmers have no funds so that they might improve their own water supply by themselves, i.e. they can not realize their basic existential needs. Even though they give priority to their own water supply, yet the finances and the good organization are a chief hindrance for it to be realized (more in *Annex 1*).

The government has been making efforts in the past years to animate the villages through investments in the infra-structure, yet the limited funds are insufficient for a complete solution to these problems.

Because of such reasons, it is the intention of MCIC to continue with its work in the field of water supply in the forthcoming period 1998 - 2000 also, as a priority in its activities.

#### Justification

#### Statement of the problem

MCIC has identified the general needs of the villages and especially the needs for water supply in **574 villages in 19 municipalities** (according to the old territorial division) from the Central and Eastern parts of Macedonia from a total of 32 municipalities in the state (55,88%).

The previous knowledge and experiences were confirmed by the identification which was carried out by MCIC. From the 574 villages, 244 have a central waterworks, and public faucets and a well exist in 297 villages, while 33 villages have no waterworks nor a well. Yet, 471 villages or 82% of the villages have constant or periodical problems with the water supply because of bacteriological pollution of the water and the insufficient capacity, especially in the period May-September.

The lack of available and sufficient quantities of healthy water for the people, the damages which they suffered from its lack, as well as the bad socio-economic conditions in the country make the implementation of this Program urgent and justified.

#### Priority needs

If we review the internal assessment of the Village Development Department which was made in the second half of 1997 (9 municipalities were investigated encompassed by the PVS) we can see that the priority need of the villages is support in the reconstruction of the water supply (89% of the answers concerned the water supply). More detailed information is given in *Annex* 2.

Apart from that we can see from the assessment that receiving grants is the main need of the municipalities (89% of the answers give priority to grants in the infra-structure, the ones under 30.000 DEM as well as those above 30.000 DEM. The main reason for this is the still weak financial power of the villages as well as their enormous neglectedness. The state started with some initiatives in this sector, yet it still does not satisfy the existing enormous needs.

The Village Development Department is of the opinion that the grants as a measure still must exist. The reasons for this are numerous:

- financial and economic weakness of the society, and especially the villages;

- insufficient economic support from the state;
- motivation of the population for mobilization of their own funds;
- motivation for mobilization of other sources of funds;
- the need of creation of normal living conditions.

It should be specially stressed that one of the main problems which the women face in the villages is the bad water supply. MCIC has identified this problem based upon previous experience, as well as from the internal assessment of MCIC where in all villages it was stated that the main problem of the family, and especially of women, was no available and high quality water for use.

#### Other interventions

In the period 1994 - 1997 MCIC supported 106 villages where projects were implemented for improvement of the water supply for the people. Several governmental institutions (Ministry of Development, Urbanism and of Agriculture) supply every year certain funds which are intended for the construction of waterworks in the villages. In this current period, the greatest funds for this activity were supplied by the Ministry of Development, and yet only for a certain number of previously determined villages. Even though the other two governmental ministries have no limitations in the choice of villages, yet their funds are too small in order to solve the whole problem. Yet, apart from allocating funds for the construction of systems, there are no other activities carried out by these governmental institutions (training for the use and management of water, informing, lobbying, etc.) which has greatly contributed in lack of a complete and integral approach for the solving of this problem of water supply for the people.

The solving of the problem with water supply should start with the starting initiating component, which would create conditions for other initiatives to start

For the revitalization of the village, apart from water supply for people there are also other activities necessary such as:

 Construction of the other infra-structures (roads, sewage system, clinic for outpatients, PTT, etc.) because apart from the basic human need - "water", they are also of great importance for the creation of normal living conditions and possibilities for development.

#### Proposed approach and strategy

The work on the program for water supply is specific and unique because the activities are carried out "with the beneficiaries, for the beneficiaries", from the beginning and to their total implementation. The program will be carried out in cooperation with the beneficiaries (local population) but also with the local companies, local authorities and construction companies which are in the role of contractors. This means that there will be cooperation with relevant subjects which all have the goal to develop the village.

The training and the education of the beneficiaries will contribute to the long-term functioning and the sustainable development of the system. PVS will support and consult the villages in the choice of best options: organizational, financial, technical, civil engineering.

By representing and lobbying help will be made possible for the target group in their approach to other institutions and mobilization of additional funds.

PVS will supply support for the program with an information service (a data base on the villages in Macedonia) which will be described in detail in a separate program. The data base will make a quick and simple insight in conditions of rural communities, making the assessment and the selection of a village much easier. Apart from that, the database will greatly contribute to a quality and realistic lobbying among all international and domestic institutions.

PVS has developed a network of consultant, design, construction and other organizations for design, construction, purchase of materials, control etc. These organizations were selected

MCIC

through several years of experience and are the best option in quality and prices. The choice of partners will be solved through the existing "Procedure of purchase".

## GOALS AND TASKS

#### General goal

The general aim of the program is to contribute to the creation of conditions for life in the villages, for all who live there.

#### Goal of the project

The goal of the program is the improvement of the water supply for the people in the villages.

#### Tasks (Components)

To stimulate initiatives for the improvement of the supply of high quality drinking water for the people.

To support the realization of grants for the reconstruction of the water supply along with what will be supplied by the villagers, the local and state authorities, and the local companies.

To stimulate the founding of locally based "Associations for water supply of villages".

#### **Results (Products)**

Stimulation of initiatives which will make an improved water supply possible for the people.

Realization of grants for the reconstruction of water supply, i.e. the construction of functional water supply systems for the population with healthy drinking water along with what will be supplied by the villagers and the other institutions.

The founded (formed) "associations" for the organization, management and maintenance of the waterworks resources.

#### Target group and direct beneficiaries

The target group of the program are the citizens of the 1700 villages in Macedonia, with a specific focus upon the regions which have water supply problems.

Direst beneficiaries of the Program are:

 Approximately 27.000 citizens of 54 villages which have problems with the water supply. These beneficiaries will be supported with funds for the construction of the systems making improved water supply possible. Priority will be given to villages in the mountainous regions as well as to villages in which low income cultures are grown such as wheat and tobacco.

Specific of these villages is that a greatest part of these villages are old people, with no incomes or with minimum pensions. Beside them, the women of these surroundings are also faced with hardships. The greatest part of the women in the villages are not equal with the men because they are responsible for the purchase, transport and use of water which presents a hard and laborious work. It can generally be stated that in the central regions of Macedonia the traditional patriarchal manner of living still dominates, and the position of the women is subordinate.

2) 45 "Associations" for the management of the water supply. Under the term Association are meant the various forms (old and newly formed) which are responsible for the organization of projects for the village, their implementation and the maintenance of final products, also the water supply systems. These associations are direct beneficiaries in the water supply training.

## Identification of beneficiaries will be carried out in two phases, namely:

Selection of a municipality and selection of a village in the identified municipalities. The choice of municipality is done only for villages which will be financially supported in the construction of a system.

The selection of villages will be carried out through strictly defined criteria which will make an objective choice possible of the villages which are of priority for support in the domain of reconstruction of the water supply.

The choice of "Associations" will be made on the whole state territory, i.e. the selection will be in two levels:

- priority for the training will be given to "Associations" from villages which were already or are being supported with funds for the construction of systems by the MCIC;
- all other boards which have a problem in the field of their work will be encompassed.

#### A. Selecting a municipality

The main focus of the program will be upon the municipalities in this country, in which the villages have a problem with their water supply. In order to correctly select the territory on which the activities will be carried out PVS has prepared criteria which are based upon three fundaments stated in *Annex 3*.

### B. Selecting villages in the identified municipality

In the first phase of activities the villages are chosen based upon knowledge of the project team, talks with the villagers and the authorities, assessing the local participation and the total documentation by the municipal authorities and the village committees.

Priority among the villages was determined based upon project principles:

- Identification of the villages through an organizational form close to or of the beneficiaries, in order to make a good choice of the target group;
- Flexibility for the beneficiaries in order to direct the implemented help according to their needs;
- Maximum use of products and services from the Republic of Macedonia (in order to multiply the effects from the supplied help); and
- Priority reviewing of villages with urgent needs, good ideas for self-help and modest financial requests.

The second phase for selection includes a detailed analysis and assessment of the villages which should be encompassed with the Village Water Supply Program. In order to correctly select the villages to be included in the activities, PVS has worked out criteria given in *Annex 4*.

The general program philosophy is to supply the "tools" which lack for the selected project, which could be knowledge, materials, mediation or lobbying.

## Activities

The village water supply program integrates the following activities:

### 1. Financial support for the construction of a water supply system

These activities include the allocation of grants for financing of work which have a basic goal to ensure the constructions which would improve the conditions of water supply in the villages, and these may be:

- Reconstruction of the already existing, old waterworks. In a certain number of villages the water supply structures have been built before the Second World War. These structures are not adequate any more. With measures for repairs of the intakes, the replacement of pipes and replacement of the electro-mechanical part op the pump

stations it will be made possible to: reduce the losses and to eliminate the possibilities of pollution.

In this case MCIC, depending upon the needs, will help supply the part missing.

- Finishing the construction of new, already started waterworks. Because of the economic crisis the construction in some villages is lasting four years or it has been stopped and the systems are not functioning. In some villages only small financial funds are missing for the system to be completed.

MCMS will participate in the part necessary for these systems to start functioning.

- Finishing the construction of existing, old waterworks. In other villages, on the other hand, there are waterworks constructed in the past thirty years whose capacities do not satisfy the needs any more. These are waterworks which because of the drought or the increased population do not have a sufficient capacity any more.

In this case help will be in taking in new sources or a expansion of the already existing capacity.

- Complete construction of new waterworks. There are no waterworks in some villages. These are villages of two types: "the poorest of the poor" and "villages earlier rich with water". The first never had enough money to construct waterworks, and the second when they had money they also had water from private wells. Both now have no water and no money.

MCMS will help here in the construction of complete central waterworks of the gravitational or pump type.

Activities in the financing of the construction of waterworks in which MCIC will participate:

- a) construction works: construction of structures for taking in water (intakes, drainage, etc.) reservoirs, pump stations, public faucets and all other accompanying structures of the waterworks system (shafts, stop chambers, etc.)
- b) ground works for the waterworks system (pipe canals, reservoirs, intakes, etc.)
- c) purchase and installation of pipes/ hoses and special parts;
- d) purchase and installation of pumps and automatics;
- e) purchase and installation of water filters (chlorinators); and
- f) expert supervision of the work.

#### MCIC will not participate in the following work:

- a) research and design work (exploration drillings, exploitation wells, working out the idea and the main project, revisions of technical documentation, analysis of the quality of water);
- b) supplying an electricity source and the supply of electricity (wooden poles, energy cables, transformer stations, transformers, ground works for cable leads, taxes for the connection);
- c) financing of individual connections of the users (under individual connections we understand the part from the connection to the secondary pipe mains to the individual, domestic, connections).

#### 2. Training for water supply

The training for the water supply is stated as one of the priorities of this program but also of the state. It is a sole precondition for good and long-term maintenance (existence) of the water supply systems. The training includes activities which should eliminate bottle-necks in the program, especially in the part of the organization of the villages and the maintenance of the systems.

On the other hand, the insufficient information and the lack of knowledge and experience in this type of activities are the main reasons why they have not been carried out. The Village Development Department will make efforts first to train itself in this field, and then to pass the knowledge over to the beneficiaries.

The training has three aspects:

- building institutions;
- maintenance of waterworks; and
- rational and high quality use of water.

They will be carried out through:

## a) Current training

- work together with the beneficiaries during the implementation of the project carried out upon their visits (giving advice, explaining, short lectures, presentations, etc.); and
- b) Seminar work

- through courses and seminars held on a certain topic. The contents will be defined on the basis of foreign and local experience of MCIC. The training will be supported with adapted materials, and will be performed my the officers of PVS with the possibility of cooperation with experts from certain fields.

In Annex 6, Quantity and quality of products of PVS, in the part "Seminar on water supply training", are shown the planned activities for training of the beneficiaries.

In Annex 9, Review of resources, in the part "Water supply training", is given a description of the necessary resources and activities for the realization of this training.

### 3. Education and informing

Several activities will be included in this part:

1) Strengthening the public awareness through:

- issuing written materials and publications; and
- preparation of marketing materials (TV spots, posters, etc.)

The main contents of these materials will be concentrated on rational use of water in the households, livestock keeping, and agriculture. For this, appropriate materials will be prepared by local experts in cooperation with foreign experience;

- 2) Partnership and cooperation, which will include exchange by the beneficiaries with other similar organizations on a local, regional and broader level; and
- 3) Informing, i.e. supplying regular information in the MCIC bulletin on the newest events and achievements from the field of water supply in the state and the newest experiences from other parts of the world.

#### 4. Representing and lobbying

PVS will support and advise the villages in the choice of best options: organizational, financial, technical.

PVS will also supply support for the program with its information service (data-base).

PVS has a developed network of consulting, design, construction and other organizations for design, construction, purchase of materials, control, etc. These organizations are selected through several years of experience and are the best option in quality and price. Help will be supplied in selecting the best entrepreneur.

PVS will lobby among the appropriate government institutions (Agency for Economic Underdeveloped Regions, Ministry of Urbanism and Ministry of Agriculture) and other possible sources of funds.

## **ORGANIZATION OF THE PROJECT**

#### Management and personnel

The village water supply program will be carried out by the Department for Village Development. The necessary human resources for its implementation are:

- 1) Project coordinator responsible for the coordination and monitoring of the implementation of the work on the Program, informing and reporting on the flow of activities, representing and lobbying among the domestic and international institutions.
- Project assistant responsible for the work on training and education of the beneficiaries and realization of activities for financial support of the construction of water supply systems.
- 3) Information officer responsible for activities connected to the preparation and distribution of information educational materials for PVS.
- DTP officer support in the field of computer processing and designing of the information materials.
- 5) Additional administrative / bookkeeping and other support will be supplied by the appropriate department of MCIC;
- 6) Support from external experts and consultants (if necessary).

A specific description of the authorizations, justification and qualifications of the personnel is stated in Annex 9, Review of resources.

#### Planning, reporting, monitoring, assessment

#### <u>Planning</u>

The realization of the activities will be carried after they have been previously planned. The plans will be made on the level of middle term planning, annual, monthly and weekly planning. A detailed action plan will be worked out on weekly meetings of the Department.

#### **Reporting**

Reporting will be done on the weekly coordination meetings, when the project team discusses the progress, the problems and the plans for implementation of the Program.

Weekly and monthly reports on the work on the project will be prepared as well as financial reports.

The implemented projects from the Program will be reported on through reporting forms, which will be separately prepared for each project after their completion.

A narrative and financial report will be prepared for the donors, each six months and a final report once at the end of the year.

#### **Monitoring**

During the implementation of the projects MCIC will monitor the realization of the work. The monitoring will be carried out separately for each project, the work will be followed (starting, the course of the work, and finishing), possible problems, omissions, irregularities etc., all in order to carry out the set tasks successfully and with high quality. For the control of constructions over 10.000 DEM, experts will be engaged, i.e. a civil engineer for expert supervision.

The monitoring of the planned will be done currently, and will be the task of the PVS program officers as well as of the officer who works on the information.

The monitoring of the part of implementation of law regulations on the functioning of the association for water supply, as well as the monitoring of the government policy, which are a precondition for the implementation of the Program goals, is the task of PVS. It will be monitored through informative gatherings and meetings with the government and local structures, as well as by monitoring the legal regulations which were passed last year (The Law on Waters and the Law on public utility activities).

The existence of initiatives for other economic activities as well as the supply of other necessary infra-structures in the villages which are necessary in order to achieve the general goal, will be monitored in a combined manner, through the data supplied by the information officer from the official journals, the daily press, as well as the reports received from governmental and other institutions, and from the data-base on the villages which will be developed in a separate program.

Variant: The above stated conditions could be controlled in a defined period namely once a year (at the beginning of the next year for information on the previous year). The control will be carried out based upon the received governmental reports (information) as well as from the daily press. Depending on when the data-base will be realized, it could also be used in controlling the conditions.

#### Assessment

The assessment of the registered applications on the project will be carried out based upon the determined support criteria.

MCIC will develop a system of internal assessment of the program including the assessment of results (relevance, efficiency, effectiveness) and the social impact.

The assessment of results will be carried out during the year 2000, and the assessment of the social impact is planned 10 years later.

## Time period

The time planned for the implementation of the activities is the period from 1998 to 2000. A detailed review of the implementation period is given in *Annex* 7.

#### Resources

Resources will be engaged for the realization of the activities which are available to PVS, the available logistics, as well as the support from the other structures of MCIC which will have their part in the realization (administrative, financial, technical and other sorts of support).

A review of necessary resources has been given in Annex 9.

In order to improve the realization of the Water Supply Program especially in the part for training of the beneficiaries, the training of the existing personnel is a priority. For a successful realization of the training of the beneficiaries which will be carried out by MCIC, it is necessary to train the personnel which will carry out the courses. A "training of the trainers" will be carried out in order to acquire the basic training skills. The course for the personnel is planned to be realized in the middle of 1998, with topics from the field of methods for education of grown-ups. The course will be held by experts from that field. Apart from the course, the personnel will use expert literature also in order to acquire the basic training skills.

It has been planned during the time of realization of the activities stated in Annex 7.

### PRESUMPTIONS, RISKS AD SUSTAINABILITY

#### Presumptions

The realization of the activities connected to the renewal of the water supply systems in villages requests a complex approach. Several subjects will participate in their realization, realization of the program by only one partner is almost impossible. Because of that the existence of some presumptions is important.

The presumptions which will contribute for the realization of the results of the Program are:

- to have initiatives from the villages for improvement of the water supply;
- to have financial and organizational support from local and national institutions; most of all from state institutions which work on these problems (Ministry of Urbanism and the agency for Economically Undeveloped Regions);

The presumptions which will contribute for the realization of the goals of the Program are:

- to have a good realization of the legal regulations for the functioning of the "Associations for water supply"; and
- to have a favorable governmental policy.

Most important presumptions which will make the realization possible of the general goal, apart from the improvement of water supply for the people in the villages, which is a program goal of PVS are:

- initiatives must exist for economic activities in the villages; and
- existence of other necessary infra-structure (roads, health structures, PTT, electricity).

### Risks

The expected risks could be divided into three groups, namely:

1) Financial

In this group are problems in the part of the financing, i.e. the non-closed financial construction. The reasons for this could be various: delays in approval of the funds by the state institutions; lack of participation by the beneficiaries and partners etc.

2) Institutional

Risks which include bad cooperation and self -organization of the target group, dividedness (ethnic, political, racial etc.).

Risks because of the relation and interference of governmental institutions.

3) Time

Time (periods) for the construction of the water supply systems is not favorable during the whole yea, it is seasonal. The villagers (farmers and livestock breeders) must carry out their part of the work in the period between the spring thawing of the snow until the start of the agricultural season and in the autumn from the finish of the harvest to the beginning of winter. If the activities are not carried out in the stated time period, there is risk that the planned time period will be prolonged as well as the activities.

#### Sustainability

The sustainability in water supply is set as a priority of this program, and in the state as a whole. The two passed Laws (on waters and on pubic utility activities) show that the state is setting the road toward a sustainable development of the water supply resources. The financial limitations of the state funds for village water supply is due mostly to the total bad economic situation in the country.

There id appropriate technology and expert personnel in the Republic, making it possible for most of the villages who do not have an appropriate water supply to improve it.

The renewal of the water supply is an improvement of the human hygiene and environment. Yet, partial improvement of the water supply opens additional problems, taking away the sewage waters. One of the following activities for the protection of the environment is a solution for waste waters.

The institutional and management capacity appears as the most important factor for realizing a long-term and sustainable development of the water supply systems. Good knowledge and expert trained human resources will make sustainable systems possible. Because of this PVS is dedicating more attention to the training and education of the human resources for correct management and maintenance of the systems.

Training is an activity which should remove bottle necks from the program, especially in the part of organization of the village and maintenance of the system.

Village Water Supply Program 1998 - 2000 (draft)

MUL				
Quantity and q	uality of product	Quantity and quality of products in PVS - definition of products (in	ly unique, internally homogenous, al	d with price possibilities) ANNEX 0
Supplier	Title			Quality To accurate that 12 of them will mensue to apply
Development group	Advice on projects	entification on of village capable to	Advice for 18 village communities	for solving the problem of water supply.
Development group	Assessment on project	start activities on their own. Assessment of the applications in accordance with determined criteria. The assessment includes: identification , facilitation coordination analysis recommendation for further activities and preparation of a report or identification.	Assessment of 180 applications for projects. The costs vary 10%.	To ensure that the handed applications are in accordance with the criteria, that they are assessed correctly, and the that time of carrying out the assessment is appropriate.
Development group	Grant for financial help on a project	Formulation of a project in accordance with determined criteria, preparation of documentation for approval and implementation, monitoring the activities, finishing the activities, report afterwards	its for the ly systems	To ensure that the projects are appropriate to the needs of the target group and that they are relevant; that the resources are used in an optimal manner; effective (complementary, with appropriate quantity and quality of the activities and the fulfillment on time); are sustainable and have a positive influence upon the situation of the beneficiaries.
Development group	Seminar training on water supply	- A course on building institutions - A course on maintaining waterworks A course in rational use of water	6 courses (16 hours each) 6 courses (18 hours each) 4 courses (16 hours each) A total of 45 associations included	To ensure that 60 % of the participants pass the course and have implemented the knowledge for the realized work.
Development group	Current training on water supply	Mutual work with the beneficiaries during the identification and realization of the project (giving advice, explaining, short lectures, presentations, etc.)		To ensure that 60% of the villages encompassed by such a training have improvement in their work.
Group for information and Development group	- PVS leaflet/brochure - Information poster - Spot	on, thinking out of leaflets / ers, their ot and its display.	<ul> <li>1 leaflet (possible description of quantity: A4 format, 2 pages, 3400 copies)</li> <li>3 brochures (A4 format, 6 pages, 2200 copies</li> <li>2 posters (A2 format, 1 page, 2000 copies</li> <li>2 spots</li> </ul>	To ensure that the target group, the direct beneficiaries, the partners, the participating organizations and the other public is well and timely informed and motivated.
Development group	Informing on realized projects	Preparation of current and final reports on each project, Preparation of a yearly final report.	55 final reports on projects 3 current ones (half year reports) 3 final annual reports.	To ensure timely and good informing of the personnel, the leadership, the Executive Board, the consortium and the MCIC partners.

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## MCIC RURAL WATER SUPPLY PROJECTS (1994-1998)

Mur	nicipality		Village	Status of project	Population	Y€
6 Kur	nanovo	1	Staro Nagorichani	completed (finished)	95	19
		2	Mlado Nagorichani	completed (finished)	208	19
		- 3	Chetirce	proceeding	600	19
7 Kra	tovo	1	Turalevo	completed (finished)	300	19
		and some internet	Filipovci	completed (finished)	168	19
			Vakav	completed (finished)	138	19
			Sakulica	completed (finished)	270	19
			Topolovikj	completed (finished)	60	1995/19
			Shlegovo	completed (finished)	560	19
			Prikovci	completed (finished)	170	19
			Mushkovo	completed (finished)	80	19
					135	19
			Stracin	completed (finished)		_
			Shopsko Rudari	proceeding	282	19
	/a Palanka		Durachka Reka	completed (finished)	430	19
	· · · · · · · · · · · · · · · · · · ·	and the second	Koshari	completed (finished)	625	19
			Trnovo	completed (finished)	83	19
9 Vel	es	1	Dolno Chichevo	completed (finished)	240	1994/19
		2	Bistrica	completed (finished)	236	19
	· · · · · · · · · · · · · · · · · · ·	.3	Melnica	completed (finished)	940	19
			Sogle	completed (finished)	158	19
	· · · · ·		Dolno Jabolchisnte	completed (finished)	560	19
	· · · · ·		Choloshevo	completed (finished)	200	19
			Теоvо	completed (finished)	285	19
	·		Sopot	completed (finished)	34	19
	······		Mamutchevo	completed (finished)	460	19
· · · · · ·	· · · · · · · · · · · · · · · · · · ·		Ivankovci	completed (finished)	1044	19
			Gorno Orizari	completed (finished)	2400	19
<u> </u>			Vladilovci		138	19
100				completed (finished)		
10 50	eti Nikole		Malino	completed (finished)	100	19
			Orel	completed (finished)	53	19
			Kjoselari	completed (finished)	182	19
			Kadrifakovo	completed (finished)	215	1995/19
:			Pavieshnica	completed (finished)	140	- 19
			Dorfulija	completed (finished)	1020	19
		: 7	Milino	completed (finished)	100	19
		8	Burilovci	completed (finished)	15	19
1		9	Karatmanovo	completed (finished)	550	19
		10	Lozovo	completed (finished)	1480	19
		11	Arrizabegovo	completed (finished)	620	19
	· · · · ·		Crnilishte	completed (finished)	550	1996/19
			Erdjelija	not comleted	1100	19
			Nemanjci	completed (finished)	377	19
11 Shi	lin		Baltalija	completed (finished)	25	19
	<u>uh</u>		Puhche	completed (finished)	70	1994/19
	· · · · · · · · · · · · · · · · · · ·			completed (finished)	50	1994/19
<u> </u>			Piperovo Viteobko		22	19
	·····		Vrteshka	completed (finished)		
			Gorachino	completed (finished)	36	19
			Argulica	completed (finished)	480	19
	·		Radanje	completed (finished)	750	19
·			Krupishte	completed (finished)	400	19
·			Crvulevo	in construction	124	15
12 Pro	obishtip	1	Trooio	completed (finished)	90	19
		2	Strisovci	completed (finished)	115	19
		3	Puzderci	completed (finished)	126	19
		4	Pleshenci	not comleted	350	19
			Gorni Stubol	proceeding	210	19
			Gorno Barbarevo	proceeding	106	19
17 De	mir Hisar	1 1	Barakovo	completed (finished)	90	19
- 20			Brezovo	completed (finished)	120	19
		× 4		Toombiered (initiatien)	1 120	13

## MCIC RURAL WATER SUPPLY PROJECTS (1994-1998)

ł	Municipality	١	Village	Status of project	Population	Yea
181	Krushevo	- 10	Gorno Divjaci	proceeding	97	199
			Borino	proceeding	598	199
201	Prilep	1	Slavej	completed (finished)	450	1994/199
		_	Brailovo	completed (finished)	350	1994/199
		31	Belovodica	completed (finished)	100	199
		4	Krushevica	completed (finished)	160	199
		5	Zrze	not comleted	230	199
<u> </u>		6	Drenovci	completed (finished)	256	199
	·	7,	Alinci	completed (finished)	300	199
		8	Kanatlarci	completed (finished)	1100	1995/199
		9	Desovo	completed (finished)	1400	1995/199
	·	10	Crnilishte	completed (finished)	1800	1995/96/9
Т			Vrbjani	completed (finished)	350	199
		12	Slepche	completed (finished)	270	199
		13	Margari	completed (finished)	104	199
			Korenica	completed (finished)	115	199
			Godivlje	completed (finished)	230	199
			Gorno Selo	proceeding	80	19
21	Kavadarci	1	Garnikovo	completed (finished)	110	19
		2	Debrishte	proceeding	166	19
22	Negotino	1	Veshje	completed (finished)	135	199
			Drenovci	completed (finished)	180	- 19
		3	Besvica	completed (finished)	45	19
		. 4	Chiflik	proceeding	170	19
		-5	Koreshnica	proceeding	550	19
23	Valandovo	1	Bashibos	completed (finished)	204	19
		2	Kochuli	completed (finished)	89	19
_		3	Brajkovci	completed (finished)	470	19
			Kalkovo	completed (finished)	250	19
			Grchishte	completed (finished)	320	19
		6	Prsten	proceeding	150	19
29	Radovish	1	Dedino	completed (finished)	700	1994/19
		- 2	Rakitec	completed (finished)	560	1994/19
	· · · · · · · · · · · · · · · · · · ·	3	Shturovo	completed (finished)	40	1994/19
		4	Oraovica	completed (finished)	1900	. 19
		. 5	D. Lipovik	completed (finished)	640	19
			Jargulica	completed (finished)	850	19
			Zleovo	completed (finished)	950	19
		8	Pokrajchevo	completed (finished)	420	19
	· · ·		Kozbunar	completed (finished)	38	19
		10	Ali Koch	completed (finished)	650	19
_		11	Damjan	completed (finished)	320	19
30	Strumica	1	Shtuka	completed (finished)	1000	1995/19
		2	Sushevo	completed (finished)	850	19
		-3	Edrenikovo	completed (finished)	240	19
		. 4	Madevci	completed (finished)	700	19
101	Gazi Baba (Skopje)	1	Binardjik	completed (finished)	592	1994/19
			Ajvatovci	completed (finished)	252	1994/19
		3	Jurumleri	completed (finished)	2950	19
			Creshevo	completed (finished)	1390	19
103	Karposh (Skopje)	<del></del>	Dolno Svilare	completed (finished)	1800	19
			Rashche	completed (finished)	2700	19
104	Kisela Voda (Skopje)	+	Morane	completed (finished)	1500	19
.04			Dobri Dol	completed (finished)	500	19
		the second se	Sopishte	completed (finished)	3300	19
				completed (finished)	850	19
400	Chair (Skopje)	┼─╴╴╴	Gornjani	completed (finished)	240	19
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