

Elevation of Village Settlements by Municipalities in the River Basin of CrnaReka and Their Importance for Development of Tourism in the Republic of Macedonia^{*}

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The drainage area of CrnaReka is a spatial area that extends into two states in the southwestern part of the Republic of Macedonia. The boundaries of Macedonia and the northern part of the Republic of Greece are naturally clearly defined. The drainage area of CrnaReka in the Republic of Macedonia extends between 40°51'56" and 41°36'20" s.š.i 20°56'45" and 22°4'58". The total length of CrnaReka is 207 km², with a total area of the catchment area (in both countries) of 5,774.99 km², of which the Republic of Macedonia belongs the largest part of 4,869.72 km², while the Republic of Greece belongs 905,27 km². The research paper presents 335 village settlements located in 13 municipalities in the CrnaRekaBasin in the Republic of Macedonia. Macedonia and another 50 settlements settlement plus the city of Lerin are located in the neighboring Republic of Greece. Let us see how spatial and which rural settlements are located in the Crna River Basin in both countries. The villages will be represented by municipalities according to their main characteristics, municipal belonging, and altitude.

Keywords: river basin, village settlements, altitude

Introduction

The rural settlements differ from the cities according to their physiognomy, or type, size, and population, have different construction and urban design, after the occupation of the population where the main activity is agriculture and the modest beginnings for the development of rural tourism in the villages of infrastructure facilities. In the Crna River Basin, there are 335 villages and three towns that belong to 13 municipalities in the Republic of Macedonia and 50 villages and plus the city of Lerin in the neighboring Republic of Greece. To see the spatial distribution of rural settlements in the Crna Reka Basin will be presented the villages according to their municipal belonging and altitude (Koteski, 2011, pp. 178-194).

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The height distribution of rural settlements is a very important element in the study of settlements,

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especially for road infrastructure, the size of arable land, urbanization of rural settlements, migrations, and other characteristics. To see the distribution of the villages according to the altitude of the Black River Basin in the Republic of Macedonia, their categorization was done in the villages from: 0-600 m, 600-700 m, 700-900 m, and above 900 m elevation (Koteski, 2011, pp. 203-209). Field research for 50 villages in the neighboring Republic of Greece is conducted due to the bad political relations between the Republic of Macedonia and the Republic of Greece.

Table 1

Basin of Crnar		-		-		A	
Municipality	0.000	Municipality	(00 7 00	Municipality	700.000	Municipality	
and settlements	0-600m	and settlements		and settlements	700-900m	and settlements	
Municipality of	sea level	Municipality of	sea level	Municipality of	sea level	Municipality of	sea level
Bitola		Bitola		Bitola		Bitola	
Gorno Egri	585m	D	690 m	Bratindol	830 m	Gopes	1,140 m
Dolno Egri	572m	Baresani	630 m	Brusnik	860 m	Drevenik	1,200 m
Dolno Orizari	577m	Bistrica	695 m	Bukovo	720 m	Zlokukani	980 m
Dragarino	590m	Velusina	660 m	Dihovo	830 m	Magarevo	1,040 m
Zabeni	585m	Gabalevci	605 m	Dolenci	790 m	Maloviste	1,140 m
Karamani	574m	Gorno Orizari		Gavato	860 m	Nizepole	1,030 m
Kravari	587m	Graesnica	680 m	Kazani	880 m	Oblakovo	1,100 m
Kremenica	588m	Dragozani	620 m	Kisava	860 m	Ostrec	970 m
Logovardi	578m	Dragos	680 m	Krstoar	700 m	Rotino	920 m
Novo	595m	Kanino	670 m	Lavci	760 m	Sviniste	1,200 m
Zmirnovo		Krklino	670 m	Lera	750 m	Snegovo	1,100 m
Opticari	578m	Kukurecani	680 m	Lopatica	780 m	Trnovo	960 m
Poesevo	578m	Lazec	660 m	Megitlija	820 m	Capari	1,010 m
Porodin	600m	Lisolaj	700 m	Metimir	820 m	Municipality of	
Sredno Egri	576m	Oleveni	650 m	Orehovo	720 m	not	
Trn	573m	Sekirani	665 m	Ramna	820 m	villages of this g	roun
Crnobuki	600m	Crnovec	650 m	Rastani	780 m	Municipality De	
emoouki	ooom			Srpci	900 m		
		Municipality Gra	adsko	Staro	850 m	Bazernik	950 m
		D 11	<	Zmirnovo	050 m	Boiste	910 m
		Podles	640m	Strezevo	740 m	Brezovo	940 m
Municipality of (Municipality of		Velmevci	950 m
	JIAUSKO WIII	Municipality De	mirHisar	are no villages in		Golemo Ilino	980 m
not		Barakovo	620 m		<u> </u>	Zasle	1,220 m
villages of this g		Belce	650 m	Municipality De	mirHisar	Leskovo	1,000 m
The municipality		Vardino	660 m			Malo Ilino	910 m
DemirHisar has 1	no villages	Graiste	610 m			Radovo	1010 m
in this group		Edinakovci	670 m	Babino	750 m	Cerovo	970 m
Municipality Do	Ineni	Zvan		Virovo	840 m		
7 1	(00	Zvan Zurce	690 m 700 m	Dolenci	700 m	The municipality	of Dolneni
Zapolzani	600m		700 m	Zeleznec	730 m	has no villages in	
Municipality Dru	igovo does	Zagorice	674 m	Kociste	730 m	Municipality Dr	v ,
not have villages		Kutretino	650 m	Mrenoga	760 m	Winnerpanty Di	ugovo
group		Novoselo	670 m	Obednik	750 m	Golemo Crsko	1,000 m
Municipality Kay	vadarci	Pribilci	670 m	Rastoica	720 m	Malo Crsko	980 m
× *		Rakitnica	690 m	Sveta	710 m	Cer	1,010 m
Begniste	400 m	Sladuevo	635 m	Sloestica	770 m		,
Brusani	280 m	Slepce	680 m	Smilevo	880 m	Municipality Ka	vadarci
Vozarci	160 m	Sopotnica	670 m	Strugovo	710 m	Rozden	920m
Dabniste	420 m	Suvodol	670 m	SuvoGrlo	720 m		
Dobrotino	600 m	Utovo	690 m	54.00110	, <u>_</u> , <u>m</u>	The municipality of Krivogastani has no villages in	
Drenovo	330 m						no villages in
Kosani Mrezicko	500 m 500 m			Municipality Do		this group Municipality Kr	

A Review of the Villages That Are Located From 0-600 m, 600-700 m, 700-900 m, and above 900m, in the River Basin of CrnaReka in Municipalities and Settlements in the Republic of Macedonia

18 ELEVATION OF VILLAGE SETTLEMENTS BY MUNICIPALITIES IN THE RIVER BASIN

Raec	300 m				750 m	D	070
Resava	330 m		1 .	Gorno Selo		Birino	970 m
Faris	415 m	Municipality Do	olneni	Gostirazni	740 m	PustaReka	940 m
Sivec	180 m			Drenovci	770 m	Selce	920 m
Sivee	100 111			Zrze	720 m	Municipality of	Mogila has no
				Lazani	780 m	villages in this g	
		-		MaloMramorani	715 m	Municipality No	
Municipality Kr	ivogastani	Belopole	610 m	Margari		Municipality No	ovaci
		Brailovo	660 m	Strovija	760 m	Grumazi	1,090 m
Borotino	590 m	Vrance	603 m	Suovija	720 m	Iveni	940 m
Vrbjani	548 m	Dabjani	605 m	Municipality Dr	ugava daag mat	Polog	940 m
Kruseani	597 m	Debreste	680 m	have villages fro		Sovic	1,080 m
Obrsani	589 m	Desovo	680 m				1
Pasino Ruvci	585 m	Dolgaec	700 m	Municipality Ka		Municipality Pr	llep
Slavej	600 m	Dolneni	622 m	Bojanciste	900 m	7:	020
Slavej	000 111	Dupjacani	660 m	Galiste	740 m	Zivovo	920 m
		Zabjani	630 m	Klinovo	770 m	Krstec	1,080 m
		Zitose	630 m	Kumanicevo	900 m	Pletvar	990 m
The municipality	y of Krusevo	Zabrcani	660 m	Majden	780 m	Polciste	910 m
has no villages i	n this group					Prisad	940 m
Ŭ	U	Kostinci	620 m	ОпштинаКривогаштани немаселаодоваагрупа		T1	. CD
		Kosino	690 m			The municipalit	
		Kutlesevo	660 m			has no villages in this group	
		Lokveni	625 m	Municipality Krusevo		Municipality of Caska has no	
Municipality Mo	ogila	Nebregovo	700 m	~ -		villages in this g	roup
		Novoselani	620 m	Belusino	880 m		
Budakovo	525 m	Pestalevo	610 m	Gorno	800 m		
Vasarejca	584 m	Rilevo	660 m	Divjaci			
Gorna Carlija	583 m	Ropotovo	610 m	Dolno	860 m		
Dedebalci	592 m	Sarandinovo	610 m	Divjaci			
Dobrusevo	592 m	Sekirci	620 m	Jakrenovo	730 m		
	594 m	Senokos	623 m	Norovo	785 m		
Dolna Carlija		Slepce	700 m	Ostrilci	860 m		
Loznani	600 m	Slivje	625 m	Municipality Mo		-	
Mogila	582 m	Sredorek	602 m		Č	-	
Nospal	588 m	Crniliste	662 m	Mojno	710m		
Radobor	531 m	Cimiliste	002 111	Municipality No	vaci]	
Trap	573 m	-		Withine parity 100	Vaci	_	
Municipality No	ovaci			Armatus	840 m		
				Brnik	740 m		
Dilianile	580 m	Municipality of	Drugovo door	Brod	740 m		
Biljanik Gneotino				Budimirci	800 m		
	577 m	not have village		Gnilez	840 m		
GornoAglarci	590 m	group of village		Gradesnica	800 m		
Dalbegovci	592 m	Municipality Ka		Grunista	800 m		
Dobroveni	580 m	Garnikovo	680 m	Dolno	720 m		
Dobromiri	575 m	Grbovec	670 m	Orehovo	/20 III		
DolnoAglarci	582 m	Dradnja	610 m	Zivojno	710 m		
Novaci	576 m	Dragozel	610 m		740 m		
Ribarci	540 m	Kesendre	670 m	Meglenci Orle	740 m 830 m		
Skocivir	600 m	Pravednik	650 m				
		Seskovo	620 m	Paralovo	820 m		
Municipality Dri	100			Petalino	800 m		
Municipality Pri	1	Municipality Kr		Staravina	850 m		
Gugakovo	580 m	Bela Crkva	603 m	Tepavci	750 m		
Dren	570 m	Vogani	603 m	Municipality Pri	lep]	
Erekovci	600 m	Godivje	650 m		rî	1	
Klepac	590 m	Korenica	623 m	Belovodica	800 m		
Nikodin	600 m	Krivogastani	607 m	Besiste	900 m		
Podmol	600 m	MirceAcev	609 m	Varos	830 m		
Topolcani	600 m	Municipality Kr		Veprcani	800 m		
Trojaci	600 m			Vitoliste	830 m		
Trojkrsti	600 m	Aldanci	645 m	Volkovo	780 m		
Cepigovo	600 m	Arilevo	660 m	Vrpsko	800 m		
- P-0010	555 III	L	I	·	1	1	1

Municipality Ro	soman	Borino	690 m	Kokre	720 m	
Debriste	300 m	Bucin	607 m	Krusevica	759 m	1
Kamen Dol	260 m	Vrboec	640 m	Leniste	780 m	
Krusevica	280 m	Milosevo	651 m	Lopatica	750 m	l
Manastirec	145 m	Presil	640 m	Malo Ruvci	740 m	
		Sazdevo	650 m	Marul	780 m	l
Mrzen	570 m	SvetoMitrani	670 m	Oreovec	860 m	l
Oraovec				Prilepec	830 m	
Palikura	140 m	Municipality Mo	-	Selce	740 m	l
Ribarci	150 m	Alinci	604 m			l
Rosoman	135 m	Beranci	640 m	Caniste	720 m	l
Sirkovo	300 m	Dolno Srpci	640 m	Cumovo	860 m	l
Trstenik	140 m	Ivanjevci	630 m	Stavica	800 m	l
		Musinci	630 m			l
Municipality of		Novo Selani	610 m	The municipality	, of Docomon	l
villages in this g	roup	Podino				l
	1			has no villages in this group Municipality of Caska has no		l
		Sveta Todori				l
		Trnovci		villages in this g	roup	
						l
		Crnicani				l
		Municipality No	vaci			1
		Baldovenci	690 m			1
		Bac	620 m			l
		Vele Selo	700 m			1
		Vranjevci	660 m			l
		Germijan	610 m			l
		Zovik 1	680 m			l
						l
		Zovik 2	680 m			l
		Makovo	700 m			l
		Novo Selo	700 m			l
		Rapes	700 m			
		Slivica	610 m			l
		Suvodol	650 m			
		Municipality Pri	len			l
		Alinci	670 m			l
						l
		Berovci	628 m			l
		Bonce	620 m			l
		Veselcani	613 m			l
		Galicani	617 m			l
		Golem	620 m			l
		Radobil				
		Golemo	607 m			l
		Konjari				1
		Dabnica	605 m			1
		Dunje	690 m			1
		Zagorani	612 m			1
		Kadino Selo	612 m			1
						1
		Kalen	640 m			1
		Kanatlarci	620 m			1
		Mazuciste	660 m			1
		Mal Radobil	620 m			1
		Malo Konjari	613 m			1
		Manastir				1
		Novo	690 m			l
		Lagovo	640 m			1
		Pestani				1
		Rakle	670 m			1
		Smolani	700 m			1
						1
		Staro Lagovo	650 m			1
		Toplica	685 m			1
		Carevik				L

Seleverci	680 m 696 m 635 m
The municipalit	
has no villages in this group	
Municipality Caska	
Popadija—700m	

Notes.^aPanov, M. (1998). Encyclopaedia of the villages in the Republic of Macedonia, Skopje,^b Military Geographic Institute (1972).Printing maps with scale 1: 25000 (GausKriger's projection) for the territory of the Republic of Macedonia (216 sections), Belgrade.

For a clear view of the height distribution of rural settlements by municipalities and their total number of villages, especially for each category of altitude in the CrnaReka River Basin in the Republic of Macedonia, we will use the data from Table 2.

Table 2

Total Number of Villages by Municipalities According to the Categories of Altitude in the Black River Basin in the Republic of Macedonia

Општина	0-600м.н.в	600-700м.н.в.	700-900м.н.в.	над 900м.н.в	Total
Bitola	16	16	19	13	65
Gradsko	/	1	/	/	1
DemirHisar	/	17	14	10	40
Dolneni	1	28	8	/	37
Drugovo	/	/	/	3	3
Kavadarci	12	7	5	1	25
Krivogastani	6	6	/	/	12
Krusevo	/	9	6	3	18
Mogila	11	11	1	/	23
Novaci	10	12	15	4	41
Prilep	10	25	19	5	59
Rosoman	10	/	/	/	10
Caska	/	1	/	/	1
Total	76	133	87	39	335

Notes.^aPanov, M. (1998). Encyclopaedia of the villages in the Republic of Macedonia, Skopje;^bMilitary Geographic Institute (1972). Printing maps with scale 1: 25000 (GausKriger's projection) for the territory of the Republic of Macedonia (216 sections), Belgrade; ^cThe calculations are from the author.

According to the results from Table 2, we find that the largest number of villages 133 is located at an altitude of 600-700 m, in the CrnaRekaBasin in the Republic of Macedonia.

Second place is 87 villages at an altitude of 700-900 meters, in the Black River Basin in the Republic of Macedonia; In the third place, there are 76 villages at an altitude of 0-600 m, in the river basin of CrnaReka in the Republic of Macedonia; and the fourth place, there are 39 villages at an altitude above 900 meters, in the CrnaReka River Basin in the Republic of Macedonia.

The rural settlements located in the groups with altitudes 0-600 and 600-700 meters above sea level make up 209 villages as flatland in the river CrnaReka in the Republic of Macedonia. In these villages, there are favorable conditions for the development of agriculture, especially the cultivation of cereals, tobacco production, sunflower, and viticulture. In the plain part, there are also good conditions for growing large livestock and producing milk in small family farms. The rural settlements located in the groups with an altitude of 700-900 and above 900 meters above sea level comprise 126 villages as a hilly mountain in the river CrnaReka in the Republic of Macedonia. In these villages, there are favorable conditions for development of horse-breeding, sheep breeding, forestry, herbalism, and development of rural tourism. The CrnaRekaBasin includes part of the National Park Pelister and the village Nizhepole where there are ski lifts, hotels, and private houses for weekend tourists. In the basin of CrnaReka, it is quite interesting for the development of mountain and hunting tourism, the Mariovo region, which extends to the territory of three municipalities: Novaci, Prilep, and Kavadarci. In the Mariovo region, in the municipalities of Novaci and Prilep, there are large reserves of coal. The largest Mining Energy Combine (REK) located in the Municipality of Novaci where Thermo Power Plant works and produces more than 80% of the electricity in the Republic of Macedonia.

Conclusion

In the Crna River Basin in the Republic of Macedonia, there are 335 villages.

According to the obtained data in the group of villages with altitude of 0-600 m, there are 76 villages in the CrnaRekaBasin.

In the group of villages at an altitude of 600-700 meters, in the basin of CrnaReka, there is the largest number of 133 villages.

In the group of villages with an altitude of 700-900 meters, in the basin of CrnaReka, there is a second group of 87 villages.

In the group of villages with an altitude above 900 meters, in the basin of CrnaReka, there is the smallest group of 39 villages.

We can freely conclude that in both groups of villages with an altitude of 700-900 m and over 900m, there are good conditions for the development of rural tourism in the Black River Basin in the Republic of Macedonia.

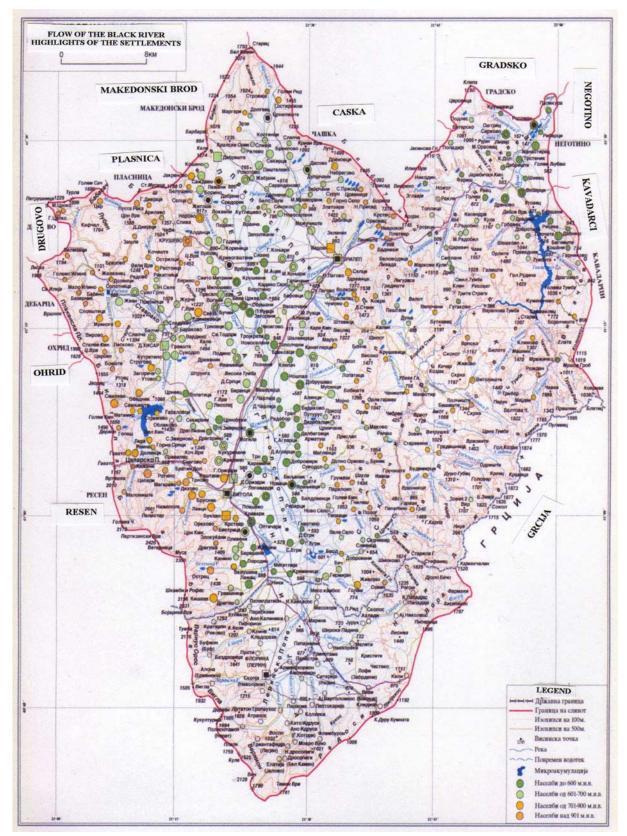


Figure 1. Figure of the Black River Basin in the Republic of Macedonia and the height distribution of the settlements.

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