

INSTITUTIONAL INFRASTRUCTURE OF MUNICIPAL SETTLEMENTS IN THE BLACK RIVER BASIN IN THE REPUBLIC OF NORTH MACEDONIA

Abstract: The purpose or the reason for writing this research paper is to show the existing institutions in settlements and municipalities in the Black River Basin. Crna Reka has a length of 207 km, with a total catchment area of 5 774.99 km², of which the Republic of Macedonia Northern Macedonia belongs to 4 869,72 km², while the Republic of Macedonia belongs to Northern Macedonia. Greece 905.27km². Considering the enormous importance of every day life of the population in the neighborhoods, the following researches have identified: Elementary Schools up to IV grade, Elementary School up to 9th grade, asphalt road, water supply, sewage, ambulance, post office, shop, business building, church, church and a mosque. A thematic map of the Black River Basin has also been prepared. The methods used in the scientific work are: geographical, statistical - mathematical, cartographic and informational. The results are not favorable for the population.

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1. Municipality of Bitola

The Black River Basin covers an area of 13 municipalities in the Republic of Northern Macedonia. To see how the institutions and some important facilities are distributed in the settlements and municipalities in the Crna Reka watershed we will use the data given in

Table 1.

Table 1. Institutional infrastructure of settlements by municipalities in the Black River basin in the Republic of Northern Macedonia.

Municipality	No. of villages	Elementary School to 4th grade.	Primary School to Grade IX	Asphalt to the village	Plumbing	Sewer	Ambulance	Mail	Shop	Commercial object	Church	Mosque	Mosque
Bitola	65	30	22	55	55	9	14	12	52	25	54	34	9
Gradsko part of the watershed	1	/	/	/	/	/	/	/	/	/	/	/	/
Demir Hisar	40	16	2	40	14	6	4	3	13	4	21	3	/
Dolneni	37	8	8	23	23	1	8	6	23	3	11	4	5
Drugovo part of the watershed	3	1	/	1	1	/	1	/	1	/	3	/	/
Kavadarci part of the watershed	25	4	3	16	3	/	3	3	9	2	6	/	/

Krivogastani	12	9	2	11	11	2	3	4	10	6	11	1	/
Krusevo	18	8	1	13	8	/	3	1	12	/	8	/	6
Mogila	23	11	5	19	13	1	6	4	20	12	21	5	1
Novaci	41	5	2	17	19	1	4	4	16	8	33	12	1
Prilep	59	21	5	27	27	4	5	4	25	12	42	10	1
Rosoman	10	1	1	8	3	2	2	2	4	/	3	/	/
Caska Part of the watershed	1	/	/	/	/	/	/	/	/	/	/	/	/
Total	335	114	51	230	177	26	53	43	185	72	213	69	23

Source: Author's Field Surveys, June 2003, August - September 2008, and May 2009.

According to the data in Table 1., we conclude that in the Black River basin in the Republic of Northern Macedonia there are a total of 1255 institutional buildings in 335 villages located in 13 municipalities, of which 114 Elementary Schools to 4th grade, 51 Elementary Schools to 9th grade. 230 villages have asphalt to the village, 177 villages have water supply, 26 villages have sewage, 53 villages have an ambulance, 43 villages have a post office, 185 villages have a shop, 72 villages have a business building, 212 villages have a church, 69 villages have a monastery and 23 villages have a mosque.

There are 65 villages in the Municipality of Bitola: Baresani, Bistrica, Bratin Dol, Brusnik, Bukovo, Velushina, Gabalovci, Gopesh, Gorno Egri, Gorno Orizari, Gorno Srpci, Graeshnica, Dihovo, Dolenci, Dolno Egrino, Dolno Orizari, Dolno Orizari, D, Drevenik, Javato, Zabeni, Zlokukjani, Kazhani, Kanino, Karamani, Kishava, Kravari, Kremenica, Krklino, Krstoar, Kukurechani, Lavci, Lazhec, Lera, Lisolaj, Logovardi, Lopatica, Magarevo, Magarevo, Magarevi, Malovi, Malovi, Malovi Zmirovo, Obakovo, Oleven, Optic, Oreovo Gorno, Ostrets, Poeshevo, Porodin, Ramna, Rastani, Otinja, Svijnishte, axes, snow, average Egri, Staro Zmirново, Strezevo, Thorn, Trново, Capari, Crnobuki and Crnovec.

In 30 villages of the Municipality of Bitola there is Primary School up to 4th grade, in 22 villages there is Primary School up to 9th grade, in 55 villages there is asphalt, in 55 villages there is a sewage system, in 9 villages there is a sewage system, in 14 villages there is an ambulance, in 12 villages there is a post office, in 52 villages there is a shop, in 25 villages there is a business building, in 54 villages there is a church, in 34 villages there is a monastery and in 9 villages there is a mosque.

2. Municipality of Gradsko

According to the data in Table 1, we can see that only one village in the Municipality of Gradsko belongs to the Black River basin in the Republic of Northern Macedonia and there is no institution listed in the table. As part of the Black River Watershed There is one village in the Municipality of Gradsko: the village of Podles.

3. Municipality of Demir Hisar

In the Municipality of Demir Hisar there are 40 villages: Babino, Bazernik, Barakovo, Belce, Boiste, Brezovo, Vardino, Velmevci, Virovo, Greater Ilino, Graiste, Dolenci, Edinakovci, Zvan, Zeleznec, Kurchi, Zurche, Zurche, Zurce, Zurce, , Malo Ilino, Mrenoga, Novo Selo, Obednik, Pribilci, Radovo, Rakitnica, Rastoica, Sveta, Sladuevo, Slepce, Sloestica, Smilevo, Sopotnica, Struga, Suvo Grlo, Suvodol, Utovo and Cerovo.

In 16 villages of the Municipality of Demir Hisar there is a Primary School up to the 4th grade, in 2 villages there is a Primary School up to the 9th grade.

In 40 villages there is asphalt road, in 14 villages there is water supply, in 6 villages there is sewage, in 3 villages there is a post office, in 13 villages there is a shop, in 4 villages there is a business building, in 21 villages there is a church, in 3 villages there is a monastery and no village has a mosque.

4. Municipality of Dolneni

In the Municipality there are 37 villages Bilopillia, braille, Vrancea, Upper Village, Gostirazhni, Dabjani Debreste, Desovo, Dolgaec, bottom, Drenovci, Dupjachani, Zhabjani, grain, Zabrchani, Zapolzhani, Zrze Kostinci, Koshi, Kutleshevo, Lažani, Lokveni, Little Marmorani, Margari, Nebregovo, Novoselani, Pestalevo, Rilevo, Ropotovo, Sarandinovo, Sekirci, Senokos, Slepce, Slivier, Sredorek, Strovija and Crnilishte.

In 8 villages of Dolneni Municipality there is Primary School up to 4th grade, in 8 villages there is Primary School up to 9th grade, in 23 villages there is asphalt road, in 23 villages there is water supply, in 1 village there is sewage system, in 8 villages there is sewage. there is a post office in 6 villages, a shop in 23 villages, a business building in 3 villages, a church in 11 villages, a monastery in 4 villages and a mosque in 5 villages.

5. Municipality of Drugovo

As part of the Black River Watershed There are 3 villages in the Municipality of Drugovo: Big Frsko, Malo Frsko and Cher.

In 1 village of the Municipality of Drugovo there is a Primary School up to the 4th grade, in no village there is a Primary School up to the 9th grade.

In 1 village there is asphalt road to the village, in 1 village there is water supply, in one village there is no sewage, in one village there is no post office, in 1 village there is a shop, in one village there is no commercial building, in 3 villages there is church, there is no monastery in any village and no mosque in any village.

6. Municipality of Kavadarci

As part of the Crna Reka watershed in the Municipality of Kavadarci there are 25 villages: Begniste, Bojanchiste, Brusani, Vozarci, Galishte, Garnikovo, Grbovec, Dabniste, Dobrotino, Dragozel, Dradnja, Drenovo, Klinovo, Ksenojen, Kusendjeni, Kessendjeni, Kessendren, , Righteous, Raec, Resava, Rozden, Harish, Ceskovo and Shivec.

In 4 villages of the Municipality of Kavadarci there is Primary School up to IV grade, in 3 villages there is Primary School up to IX grade, in 16 villages there is asphalt road to the village, in 3 villages there is water supply, in no village there is sewage, in 3 villages there is there is a post office in 3 villages, a shop in 9 villages, a business building in 2 villages, a church in 6 villages, no monastery in any village and no mosque in any village.

7. Municipality of Krivogashtani

There are 12 villages in the Municipality of Krivogashtani: Bela Crkva, Borotino, Vodjani, Vrbjani, Godivje, Korenica, Krivogashtani, Kruceani, Mirce Acev, Obrshani, Pashino Ruvci and Slavej.

In 9 villages of the Municipality of Krivogashtani there is Primary School up to 4th grade, in 2 villages there is Primary School up to 9th grade, in 11 villages there is asphalt road, in 11 villages there is water supply, in 2 villages there is sewage system, in 3 villages there is there is a post office in 4 villages, a shop in 10 villages, a business building in 6 villages, a church in 11 villages, a monastery in one village, no mosque in any village.

8. Municipality of Krusevo

There are 18 villages in the Municipality of Krusevo: Aldanci, Arilevo, Belushino, Birino, Borino, Bucin, Vrbojec, Gorno Divjaci, Dolno Divjaci, Chakrenovo, Miloshevo, Norovo, Ostrilci, Presil, Pustareka, Sazdelevo and Svetomitevo.

In 8 villages of the Municipality of Krushevo there is Primary School up to 4th grade, in 1 village there is Primary School up to 9th grade, in 13 villages there is an asphalt road to the village, in 8 villages there is water supply, in no village there is sewage, in 3 villages there is there is a post office in 1 village, there is a shop in 12 villages, there is no business building in any village, in 8 villages there is a church, in no village there is a monastery, in 6 villages there is a mosque.

9. Municipality Mogila

There are 23 villages in the Municipality of Mogila: Alinci, Beranci, Budakovo, Vasherejca, Upper Jarlija, Dedebalci, Dobrushevo, Lower Jarlija, Lower Serbs, Ivanjevci, Loznani, Mogila, Monjo, Musinci, Novoselani, Noshboru, Noshpalu, Posh , Trap, Trnovci and Crnichani.

In 11 villages of the Municipality of Mogila there is Primary School up to 4th grade, in 5 villages there is Primary School up to 9th grade, in 19 villages there is asphalt road, in 13 villages there is water supply, in 1 village there is sewage system, in 6 villages there is sewage. there is a post office in 4 villages, a shop in 20 villages, a business building in 12 villages, a church in 21 villages, a monastery in 5 villages and a mosque in 1 village.

10. Municipality Novaci

There are 41 villages in the Municipality of Novaci: Armatush, Baldovenci, Bach, Biljanik, Brnik, Brod, Budimirci, Veleselo, Vranevci, Germanian, Gneotino, Gnilezh, Gorno Aglarci, Gradeshnica, Grumazi, Grunista, Dolberovci, Dolberogovci, Dolberovci, Doleborgovi Orehovo, Zivojno, Zovi 1 1, Zovi 2 2, Iveni, Makovo, Meglen, Novaci, Novo Selo, Orle, Paralovo, Petalino, Polog, Rapes, Fishermen, Skocivir, Slivica, Soviќ, Staravina, Suvodol and Tepavci.

In 5 villages of the Municipality of Novaci there is Primary School up to 4th grade, in 2 villages there is Primary School up to 9th grade, in 17 villages there is asphalt road, in 19 villages there is water supply, in 1 village there is sewage system, in 4 villages there is sewage. there is a post office in 4 villages, a shop in 16 villages, a business building in 8 villages, a church in 33 villages, a monastery in 12 villages and a mosque in 1 village.

11. Municipality Prilep

There are 59 villages in the Municipality of Prilep: Alinci, Belovodica, Berovci, Besiste, Bonce, Varosh, Vepchran, Veselchani, Vitolishte, Volkovo, Vrpsko, Galichani, Golem Radobil, Golemo Konjari, Gudjakovo, Dabnitsa, Drenovi, Dunce, Dunje, Dunej , Kadino Selo, Kalen, Kanatlarci, Klepach, Kokre, Krstec, Krusevica, Leniste, Lopica, Mazhucishte, Mali Radobil, Malo Konjari, Malo Ruvci, Monastery, Marul, Nikodin, Novo Lagovo, Orevojec, Pestani, Plashti, Pestani, Pleti, Prilepec, Prasad, Rakle, Selce, Smolani, Staro Lagovo, Toplica, Topolcani, Trojacs, Tri-Crosses, Carevic, Jani they Cepigovo, Čumovo, Sheleverci and Shtavica.

In 21 villages of the Municipality of Prilep there is Primary School up to 4th grade, in 5 villages there is Primary School up to 9th grade, in 27 villages there is asphalt road, in 27 villages there is water supply, in 4 villages there is sewage system, in 5 villages there is sewage. there is a post office in 4 villages, a shop in 25 villages, a business building in 12 villages, a church in 41 villages, a monastery in 10 villages and a mosque in 1 village.

12. Municipality Rosoman

In the Municipality of Rosoman there are 10 villages: Debrishte, Kamen Dol, Krusevica, Manastirec, Mrzen Oreovec, Palikura, Fishermen, Rosoman, Sirkovo and Trstenik.

In 1 village of the Municipality of Rosoman there is Primary School up to 4th grade, in 1 village there is Primary School up to 9th grade, in 8 villages there is asphalt road, in 3 villages there is water

supply, in 2 villages there is sewage system, in 2 villages there is there is a post office in 2 villages, there is a shop in 4 villages, there is no business building in any village, in 3 villages there is a church, there is no monastery in any village and no mosque in any village.

13. Municipality Caska

According to the data in Table 1, we see that only one village in the municipality of Caska belongs to the Black River basin in the Republic of Northern Macedonia and there is no institution listed in the table. As part of the Black River Watershed In the municipality of Caska there is one village: the village of Popadija.

With the help of such classified data on rural settlements by municipalities in the Black River Basin in the Republic of Northern Macedonia, geographical mapping was performed and a thematic map of institutional infrastructure for settlements and municipalities was prepared.

Conclusion

According to the data from the field surveys in the Black River basin in the Republic of Northern Macedonia we conclude that in the period 1961 - 2019,

- The number of Primary Schools up to 4th grade, and of Primary Schools up to 9th grade, is reduced in all municipalities in the Black River Basin;
- We note intensive construction of asphalt roads to villages in all municipalities of the Crna Reka watershed;
- The number of water supply systems is increasing intensively in settlements in all municipalities in the Black River Basin;
- Increased number of newly built sewage networks in settlements in the Crna River watershed;
- Efforts are being made to maintain existing outpatient clinics in the Crna Reka watershed;
- The number of post offices is maximally reduced according to the needs of the population in the settlements;
- The number of shops in settlements is constantly changing and decreasing in the Crna Reka watershed;
- The number of commercial buildings varies and is variable in all municipalities of the Crna Reka watershed;
- The number of churches and monasteries in the settlements of the Crna Reka watershed is slightly increasing and
- The number of mosques in Muslim villages in the period 1961-2019 has seen a slight increase.

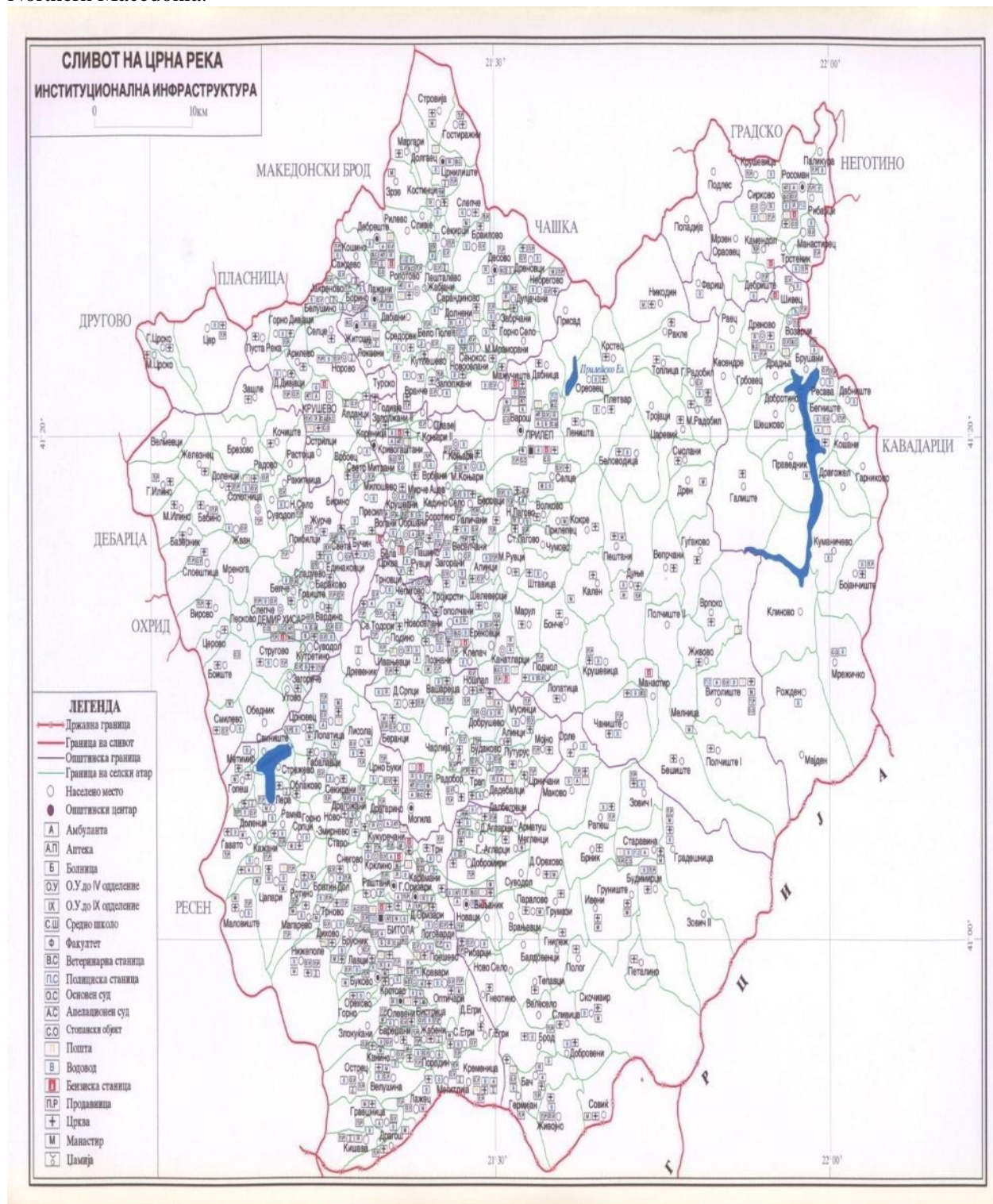
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Map 1. Geographical position of the Black River Basin in the Republic of Northern Macedonia



Source: Thematic map is made by the author.

Map 2. Institutional infrastructure of rural settlements in the Black River basin in the Republic of Northern Macedonia.



Source: Thematic map is made by the author.

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