



**IDENTIFICATION OF THE SOCIO-ECONOMIC CHARACTERISTICS
OF THE POPULATION, MORBIDITY,
AND SCOPE OF HEALTH SERVICES IN THE REGION
OF THE MUNICIPALITIES OF MOMCHILGRAD AND KRUMOVGRAD -
PROVINCE OF KARDZHALI, REPUBLIC OF BULGARIA**

2018, Haskovo

This document was created within the framework of project B2.9a.09 "Policies for Ensuring Access to Health Services for Remote Places /HEALTHY MUNICIPALITY/", funded under the Cross-Border Cooperation Programme INTERREG V-A Greece - Bulgaria 2014-2020.



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The entire responsibility for the content of the publication lies with the Regional Health Inspectorate of Haskovo and under no circumstances can it be considered that this document reflects the official opinion of the European Union and the Managing Authority.

ABBREVIATIONS

ARM - The Association of Rhodope Municipalities
BAS - Bulgarian Academy of Sciences
BCP - Border Checkpoint
CEMC - Center for Emergency Medical Care
CFTA - Center for Family-type Accommodation
CMSCC - Center for Medical and Social Care for Children
CPS - Center for Public Support
CSPD - Center for the Support of Personal Development
DCC - Diagnostic and Consultation Center
DRES - Directorate "Regional Employment Service"
DWTP - Drinking Water Treatment Plant
EEA - Executive Environment Agency
FDKG - Full-day Kindergarten
GDP - General Development Plan
GDP - Gross Domestic Product
GDPM - General Development Plan of the Municipality
GHAC - General Hospital for Acute Care
GVA - Gross Value Added
ICA - Immovable Cultural Asset
IPPHC - Individual Practice for Primary Health Care
MC - Medical Center
MDL - Medical Diagnostic Laboratory
MPEP - Municipal Program for Environmental Protection
MTL - Medical Technical Laboratory
NCSP - National Concept for Spatial Development
NHIF - National Health Insurance Fund
NSI - National Statistical Institute
NSRD - National Strategy for Regional Development
OCIPPDC - Outpatient clinics for individual practice of primary dental care
OCIPPMC - Outpatient Clinic for Individual Practice of Primary Medical Care
OCIPSMC - Outpatient Clinic for Individual Practice of Special Medical Care
RDE - Regional Department of Education
RDPPDIU - Regional Dispensary for Pneumological and Phthisiological Diseases with an Inpatient Unit
RHI - Regional Health Inspectorate
RIEW - Regional Inspectorate of Environment and Water
SPH - State Psychiatric Hospital
SZZ - Sanitary Protection Zone
UDK - United Children Complex

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WSS - Water Supply and Sewerage

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Partners of RZI - Haskovo on the side of the Hellenic Republic are: Regional Development Agency of Rhodope S.A., Aristotle University of Thessaloniki - Department of Economics, Municipality of Ariana, Municipality of Iasmos and the Agency for Transnational Training and Development. On the Bulgarian side, partners of the Inspection are: the Association of Rhodope Municipalities (ARM), the Municipality of Krumovgrad and the Municipality of Momchilgrad.

The Project "Policies for Ensuring Access to Health Services for Remote Places /HEALTHY MUNICIPALITY/" aims at developing and implementing municipal-level policies for health prevention in remote areas of the cross-border area. The task of the project is to investigate the causes of morbidity, to develop maps of population morbidity, to study the access to healthcare services and the level meeting healthcare needs in the cross-border region, to identify vulnerable groups and to take various health prevention measures and policies.

This study for identifying the socio-economic characteristics of the population, mortality and scope of health services in the municipalities of Momchilgrad and Krumovgrad covers the following:

- Outline of the socio-economic profile of the target region;
- Examination and evaluation of population health indicators;
- Identification of potential public health issues in each area;
- Record and evaluation of available health services in the region;
- Definition of existing needs / issues.

The survey is based on a unified methodology provided by the Contracting Authority Data of the National Statistical Institute from the latest Population and Housing Census in the Republic of Bulgaria in 2011 is used as a main basis for identification and comparison. Census is done in Bulgaria once every 10 years and is only source of accurate data.

This document consists of two parts - Part 1. Municipality of Momchilgrad; Part 2. Municipality of Krumovgrad. Each part contains six identical chapters with subtopics formulated for greater comprehensiveness of the examined issues:

Chapter 1: General Characteristics of the Area - Geographical Characteristics, Administrative Structure, Climate, Road Infrastructure, Identified Issues.

Chapter 2: Socio-economic characteristics of the area.

Chapter 3: Characteristics of public health - mortality, morbidity, life expectancy, etc.

Chapter 4: Health and welfare Services in the Region.

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PART 1. MUNICIPALITY OF MOMCHILGRAD

CHAPTER 1: GENERAL CHARACTERISTICS OF THE REGION

1.1. Geographical and geomorphological characteristics

The municipality of Momchilgrad is situated in South Bulgaria and occupies the southeastern parts of the Eastern Rhodopes. It falls within the central parts of the province of Kardzhali and has an area of 360 m². The municipality lies between 41° 53' N and 25° 42' E. To the east it borders with the municipality of Krumovgrad, to the south - with the municipality of Kirkovo, to the west - with the municipality of Dzhebel and to the north with the Municipality of Kardzhali.

The terrain of the municipality of Momchilgrad is predominantly mountainous, with the municipality falling within the highly segmented part of the East Rhodope Stramni Rid Ridge, which is about 40 km long and 15-22 km wide. The highest peaks in the region are Stramni Rid - 960m, Zdravets (Dambala) - 910m and Cherkovishte (Klise Tepe) 871m. The region of the Eastern Rhodopes as a whole is characterized by a relatively low altitude, with the foothill belt (200-600 m) accounting for 71.5% of the total area, while the highland belt (1,000-1,600 m) is represented on only 0.2% of the territory. It is in these highland parts that many of the tributaries of the rivers Varbitsa and Krumovitsa have their source, with the ridge Stramni Rid being a watershed between the two rivers. In general, the valleys in their lower basins differ sharply from the valleys in the Western Rhodopes. The low parts of their sides are gently sloping with a gradual transition to wide alluvial valley floors, which in places are narrowed by short, comparatively weakly carved ravines.

In terms of morphological structure, the municipality falls within the Eastern Rhodope structural depression, which in turn is occupied by marine Paleogene sediments and eruptive masses. It separates them from the structurally isolated East Rhodope upland, spanning the Maglenik Ridge and its northern foot to the Kamilskoldol threshold. The region has undergone the most extensive geological development in the Quaternary when a total epeirogenic upheaval occurred with an almost uniform amplitude except for the eastern parts of the Haskovo hilly area around Svilengrad. Owing to this alongside the Varbitsa and Krumovitsa rivers a complete sequence of Quaternary terraces was established. A great part of the slopes, especially those occupied by denudation volcanic tufts and tuffites and

Paleogene sandstones, clay schist limes and marl, are subjected to strong modern erosion. The intensive development of modern erosion is immensely facilitated by not only massive deforestation and but also prolonged summer droughts and heavy autumn rains. Erosion, as well as the specific nature of the terrain, have a negative impact on the urban and transport network in the region.

1.2. Administrative structure (municipalities, communities), main settlements

The municipality consists of 49 settlements, most of them with a population of less than 200, with one of the settlements - Yunatsi Village - being depopulated. The population of the entire municipality is 16,263 (as of 01.02.2011), with the central town of the municipality - Momchilgrad, having a population of 7,831. The second largest settlement is Guevo Village with a population of merely 715, followed by Zvezdel (491) and Nanovitsa (478).

1.3. Climate Data

Occupying the eastern parts of the Rhodope Mountains, the climate in the municipality of Momchilgrad falls within the moderately Mediterranean climate and is described as temperate continental to Mediterranean. The province is under a predominantly Mediterranean climatic influence - especially in relation to Mediterranean cyclones. Moreover, due to its greater openness to the north during the winter year-half, the impact of cold continental air masses invading from the north is felt noticeably. The active cyclones during the winter half-year is a cause for both the sustained relatively high temperature levels and for the increased precipitation, which for the most part is of a frontal nature. The average January temperatures are positive and range between 1° and 2°C. Sometimes the precipitation is too intensive, with over 80mm of it observed over a single day. It is precisely because of high winter and autumn precipitation that the annual precipitation rate is relatively high and ranges between 650 mm and 750 mm. In most cases precipitation consists of rain, while snow falls mainly during the second half of December, January and February. Only rarely does the snow cover last for 5-6 days. The melting of the snow usually happens too fast, which leads to flooding of rivers, occasionally of disastrous nature.

Despite the relatively mild winter, warming in spring is relatively slow. As late as mid-April spring frosts are observed, with thermal conditions in the spring being more favorable in the south where harmful frosts are over earlier than indicated above. According to the Geographic Atlas of Bulgaria (2010) the average precipitation for the period 1976-2005 is between 150 mm and 200 mm.

Summer is characterized by less precipitation, too high extreme temperatures, average July temperatures between 23° and 25° and many sunny days. Drought periods are

also caused by the invasion of hot tropical air masses. The total precipitation in the summer (June, July, and August) for the period 1976-2005 just as in spring ranged between 150 mm and 200 mm.

The described climatic conditions are favorable for the growth of a number of thermophilic annual crops and especially for high-quality tobacco varieties. On the other hand, according to the Bulgarian Geographic Atlas (2010), the potential for production of electricity from solar energy or the so-called average annual helioenergy potential for the region of the municipality of Momchilgrad ranges from satisfactory to moderate in the southern parts.

The wind energy potential in turn is mostly satisfactory. The high temperature sum of the active growing season (3,100-3,500 ° C) as well as the low winter temperatures also warrant good potential for growing outdoor perennial subtropical species.

1.4. Road and transport infrastructure and transport links

Through the territory of the municipality of Momchilgrad passes Pan-European transport corridor 9: Helsinki - Vyborg - St. Petersburg - Pskov - Moscow - Kaliningrad - Kiev - Rozdilna - Kishinev - Bucharest - Ruse - Veliko Tarnovo - Stara Zagora - Haskovo - Momchilgrad - Alexandroupolis. The importance of the road has been growing since the opening of the Makaza - Nimfea Border Checkpoint (BCP) between Bulgaria and Greece in 2013.

The distance from the municipality to BCP Makaza is 42 km, which allows the export of goods at comparatively low transportation costs. The national road network on the territory of the municipality is 81.5 km long. The parameters of this network are as follows:

Table 1. *Distribution of the Republican Road Network (km)*

road No.	beginning	end	length	1st class	2nd class	3rd class
5	349,600	367,800	18,200	18,200		
59	0.000	23,600	23,600		23,600	
508	0.000	3,400	3,400			3,400
5901	0.000	27,400	27,400			27,400
5902	0.000	8,900	8,900			8,900
Total:			81,200	18,200	26,600	39,700

Source: Specification for GDP, 2017

A major part in the transport network of the municipality plays Republican road I-5, which provides connection not only to the neighboring municipalities of Kardzhali and Kirkovo but also to BCP Makaza. It has a length of 18,200 km on the territory of the municipality, is in good condition and of fundamental importance for the future development of the municipality of Momchilgrad.

Republican Road II-59 connects the municipality of Momchilgrad with the municipalities of Krumovgrad and Ivaylovgrad. It is 23,600 km long and in good technical condition. The third-class road network is made up of roads III-508, III-5901 and III-5902, with a total length of 39,700 km. Republican Road III- 508 provides connection between the municipality of Momchilgrad and the municipality of Dzhebel. The roads of the third-class road network are in a relatively good condition. The municipal road network is 174,400 km long as of 31.12.2012. The road network is well developed. There are no settlements without access to the municipal center. There are no roads in the municipal road network without pavement. The condition of the road surface is as follows:

- Good condition - 9,900 km;
- Average condition - 72,100 km;
- Poor condition - 92,400 km.

As evident, most of the roads are in poor condition. The asphalt pavement is worn out and roads need rehabilitation. Due to a shortage of funds for rehabilitation and reconstruction of municipal roads, the problem continues to grow. Two projects of Rural Development Programme 2007 - 2013 are currently under way - "Reconstruction and rehabilitation of the existing municipal roads in the municipality of Momchilgrad" and "Improvement of public access and provision of services through the construction of a transport link between Momchilgrad and I-5 Kardzhali- Podkova from 0+000 km to 1+205 km." Reconstructed and rehabilitated were road KRZ1060 /III+508/ Dzhebel - Chakaltsi - Slanchohled -Dzhebel - Momchilgrad - Zagorsko - Sadovitsa, road KRZ2384 /III-508/ Balabanovo - Dzhebel / Sedlari - Sadovitsa, KRZ1060 and road KRZ3410 / KRZ2384 Road Junction 508 - Sedlari / Varhari with minor site Zagorsko Village - Sadovitsa Village and minor site Sedlari Village - Garden Village with a total length of 4,035 km; reconstructed and rehabilitated was municipal local road 2403 / III - 5901, Momchilgrad - Nanovitsa / Raven - Bivoljane with a length of 8.37720 km.

Railway Infrastructure

The Kardzhali - Momchilgrad - Podkova Village railway line with a length of 22 km passes through the territory of the municipality. Connection to the villages of Zagorsko,

Kamenets, Sadovitsa and Grievno is provided through the railway stations of Dzhebel, Gorsko Dyulevo Village and Momchilgrad, with the only reliable transport link in the village of Ptichar being the railway station. Loading and unloading activities independent of the system of the Bulgarian National Railway Company are carried out at the Momchilgrad station. There are two railway crossings nearby Ptichar Village, and one between the Momchilgrad station and the farmyard of VK "Mladost - 95", serviced by Railway Section - Simeonovgrad. In general, the rail network is on a good technical level and rail transport plays is of significance for the municipality.

Drinking and Domestic Water Supply Network and Wastewater Network

Public water supply is provided by "Water Supply and Sewerage" (WSS) OOD - Kardzhali. Out of the total of 49 settlements in the municipality 33 are supplied with water supply. In some of the settlements water is rationed permanently and/or on seasonal basis. This is due to the largely depreciated pipes, which lead to significant losses along the water transmission network - over 63% of water loss. The existing water supply network uses pipes of different types and diameters (eternit, steel, cast iron, polyethylene, etc.).

The length of the water supply network is 134 090 m, out of which:

- Eternit pipes - 118380 m;
- Steel pipes - 6829 m;
- PEHD, PEHP pipes etc. - 8881 m.

Eternit (asbestos-cement) pipes predominate, accounting for more than 88% of all pipes. They are depreciated, unreliable, and obsolete. Eternit pipes lead to frequent failures and significant loss of drinking water as well as the deterioration of its hygienic properties. In 2012 was launched the still ongoing project "Reconstruction, Modernization and Completion of the Water Supply and Sewerage Network and Construction of WWTP, Momchilgrad" with the aim to: improve and preserve water resources of the Momchilgrad agglomeration through capturing the wastewater on the entire territory of the Momchilgrad agglomeration and ensuring its treatment in accordance with the needs of the target region, European requirements and standards; improve, preserve and restore the natural environment by preventing pollution with domestic wastewater of Varbitsa River and respectively the Studen Kladenets Dam into which the river flows; improve the state and development of the ecological infrastructure in the Momchilgrad agglomeration through rehabilitation and completion of the sewerage network, as well as reconstruction of the water supply network to reduce the infiltration and hydraulic load of the envisaged wastewater treatment plant.

Water is supplied to Momchilgrad from the Borovitsa Dam. The municipality has the following number of pumping stations, wells etc.:

- Pumping stations - 11;
- Catchments- 1;

- Shaft Wells - 11;
- Drainages - 2;
- Mountain intakes - 1.

A sewerage network is only constructed in the municipal center - the town of Momchilgrad and in Sokolino Village. The system is made of concrete pipes and is of mixed type - it conducts domestic, industrial and waste waters. There is a partly constructed sewerage system in the villages of Raven, Gruevo, Nanovitsa and Zvezdel. In the villages there are local septic tanks attached to public buildings, which lead to deterioration of the quality of the soil and risk of pollution of local water sources. The only water treatment plant on the territory of the municipality is in Sokolino Village and serves the local population.

Power supply

Both maintenance of the power transmission and distribution network and its facilities on the territory of the Municipality of Momchilgrad and power supply are carried out by ENV Bulgaria. All settlements on the territory of the municipality are electrified and none of them is subject to power rationing. In the municipality the power is supplied from a substation at the town of Momchilgrad that also supplies the municipalities of Dzhebel and Kirkovo. Electrification is available through 104 transformer substations. An important problem is street lighting and its energy efficiency. Part of it has been rebuilt and replaced over the years 2009-2013, but in places street lightning still needs to be replaced with LED, which will lead to better energy efficiency and will reduce the cost of street lighting significantly.

Gas transmission network and heat supply

There is no gas transmission network or central heat supply on the territory of the municipality. Public buildings and schools are heated by locally constructed heating systems running on liquid fuel. The installations are obsolete, with high operational costs and low efficiency. Gasification of public buildings in the municipality may become possible if a joint project with the municipalities of Kardzhali and Krumovgrad is prepared, as the nearest point of the national gas network is Gas Distribution Station - Haskovo. The impact of such a project would be great. It will reduce the cost of maintaining social and health care and community activities, improve competitiveness, reduce emissions from solid and liquid fuels, etc.

Communication networks, telecommunications and mail

On the territory of the Municipality of Momchilgrad has been established a Telecommunications Technical Unit, which also serves the municipalities of Dzhebel and Kirkovo. Through the territory of the municipality passes an optic-cable route, enabling high-speed data transfer.

Internet access is available through several local providers from the town of Kardzhali - BIA Net, TTM and Digital Systems, Link +, as well as the Center for Telematics

Services at the Bulgarian Telecommunications Company. The three national mobile operators MTel (A1), Globul and Vivatel provide 100% signal coverage on the territory of the municipality. This provides a full range of their services.

1.5. Identified Issues

The municipality of Momchilgrad falls within the region of the Eastern Rhodopes, which is characterized by a complex geological setting, specific climatic conditions and active anthropogenic influence, which in turn favor the development of an almost full range of natural disasters. Generally speaking in terms of their manifestation geo-geomorphological risk factors include destructive processes with sudden effect or periodic activation, processes and phenomena with continuous effect and processes and phenomena leading to sudden risk situations.

According to a study by the Bulgarian Academy of Sciences (BAS) most of the municipality of Momchilgrad is characterized by a high degree of geological hazard as per analysis of the following main factors: liability of the geological base to destruction and disintegration, seismic activity, characteristics of the spatial distribution of land cover, river network, actual slopes of hillsides, horizontal and vertical segmentation of the terrain, climatic conditions etc. The most widespread natural hazards in the region of the municipality of Momchilgrad are landslides which have been a major problem for many years for both the municipality and the local population directly affected by these hazardous natural phenomena. According to data by the Ministry of Regional Development at present there are two active landslides in the region. Generally speaking, the geological structure, and in particular the presence of clay engineering-geological varieties with low strength characteristics, have led to the emergence and development of landslide processes. In this respect, several projects have been implemented in recent years to strengthen and permanently stabilize landslides, yet the risk of activation is large and additional investment is needed to prevent it.

1.6. Synthesis of Chapter 1

The municipality of Momchilgrad is situated in South Bulgaria and occupies the southeastern parts of the Eastern Rhodopes. It falls within the central parts of the province of Kardzhali and has an area of 360 m². The municipality lies between 41° 53' N and 25° 42' E. To the east it borders with the municipality of Krumovgrad, to the south - with the municipality of Kirkovo, to the west - with the municipality of Dzhebel and to the north with the Municipality of Kardzhali.

The terrain of the municipality of Momchilgrad is predominantly mountainous, with the municipality falling within the highly segmented part of the East Rhodope Stranmi Rid Ridge, which is about 40 km long and 15-22 km wide. In terms of morphological structure, the municipality falls within the Eastern Rhodope structural depression, which in turn is occupied by marine Paleogene sediments and eruptive masses. The intensive development

of modern erosion facilitates greatly not only mass deforestation but also prolonged summer droughts and heavy autumn precipitation.

The municipality consists of 49 settlements, most of them with a population of less than 200, with one of the settlements - Yunatsi Village - being depopulated. The population of the entire municipality is 16,263 (as of 01.02.2011), with the central town of the municipality - Momchilgrad, having a population of 7,831. The second largest settlement is Gruevo Village with a population of merely 715, followed by Zvezdel (491) and Nanovitsa (478).

The climate in the municipality of Momchilgrad falls within the moderately Mediterranean climate and is described as temperate continental to Mediterranean. The province is under a predominantly Mediterranean climatic influence - especially in relation to Mediterranean cyclones. Moreover, due to its greater openness to the north during the winter year-half, the impact of cold continental air masses invading from the north is felt noticeably.

Pan-European transport corridor 9 passes through the territory of the municipality of Momchilgrad. The distance from the municipality to BCP Makaza is 42 km, which allows the export of goods at comparatively low transportation costs. The national road network on the territory of the municipality is 81.5 km long. The municipal road network is well developed. There are no settlements without access to the municipal center. The majority of roads are in poor condition. The asphalt pavement is worn out and roads need rehabilitation.

The Kardzhali - Momchilgrad - Podkova Village railway line with a length of 22 km passes through the territory of the municipality.

Water is supplied to the population from the Borovitsa Dam and is distributed by "Water Supply and Sewerage" OOD - Kardzhali. 33 of the 49 settlements in the municipality are supplied with water. In some of the settlements water is rationed permanently and/or on seasonal basis.

A sewerage network is only constructed in the municipal center - the town of Momchilgrad and in Sokolino Village. The only water treatment plant on the territory of the municipality is in Sokolino Village and serves the local population.

Both maintenance of the power transmission and distribution network and its facilities on the territory of the Municipality of Momchilgrad and power supply are carried out by ENV Bulgaria. All settlements on the territory of the municipality are electrified and none of them is subject to power rationing.

There is no gas transmission network or central heat supply on the territory of the municipality. Public buildings and schools are heated by locally constructed heating systems running on liquid fuel. The installations are obsolete, with high operational costs and low efficiency.

On the territory of the Municipality of Momchilgrad has been established a Telecommunications Technical Unit, which also serves the municipalities of Dzhebel and



Kirkovo. Through the territory of the municipality passes an optic-cable route, enabling high-speed data transfer. The three national mobile network operators provide 100% signal coverage on the territory of the municipality.

The most widespread natural hazards in the region of municipality of Momchilgrad are the landslides that have been a major problem for many years for the municipality as well as for the local population directly affected by these risky natural phenomena. According to data by the Ministry of Regional Development at present there are two active landslides in the region.

CHAPTER 2: SOCIO-ECONOMIC CHARACTERISTICS OF THE REGION

2.1. Demographic and social characteristics

2.1.1. Population by municipality, municipal unit, community up to 2011

The demographic development of the municipality of Momchilgrad is influenced by factors and conditions of different nature. Data from the latest censuses indicates the existence of a lasting tendency for decrease of the population in the municipality of Momchilgrad. The decline began way back following the 1965 census when population in the municipality peaked, but it has been more pronounced since the census in 1985.

Table 2.

	Census years								
	1934	1946	1956	1965	1975	1985	1992	2001	2011
Number	18	23	26	31	29	31	20	17	16
	482	064	911	319	790	227	836	126	155

Source: NSI

During the period between the 1985 and 2011 censuses, the decrease in the population of the municipality is widespread and affects, to one degree or another, all 49 settlements, incl. the municipal center - the town of Momchilgrad. Only for the period 2005-2012 the inhabitants of the municipality have decreased by 612 as a result of both the negative natural and the negative mechanical growth. The rate of decline during the period was 3.67% with the average annual rate of decline being 0.46%.

Changes in the population of the municipality of Momchilgrad also reflect on its density and territorial distribution. Its values also have dropped from 47.7 people per km² in 2001 to 45.2 people per km² in 2011. The population density in the municipality is significantly lower than the average for the country (67 people per km²).

In terms of territory the population of the municipality is distributed between 49 settlements, incl. the municipal center - the town of Momchilgrad. It accounts for 48.2% of the total population of the municipality. About half of the municipal population lives in the villages. In the censuses of 2001 and 2011, two of them (the villages of Yunatsi and Syartsi) had no registered permanent population. The average population of the remaining 46 villages in 2011 is 183.



Negative changes in population size are one of the main disadvantages for the future demographic and socio-economic development of the municipality. The negative consequences are associated with the reduction of labor force and reproductive potential in the municipality. In this respect municipality of Momchilgrad does not stand out from the general trend of population decline in the country and the province of Kardzhali.

Table 3. *Population growth in the municipality of Momchilgrad and the province of Kardzhali*

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Population of the Municipality of Momchilgrad	17,126	16,961	16,861	16,799	16,657	16,562	16,434	16,354	16,190	15,956	16,155
Population growth relative to the previous year (%)		-0.97	-0.96	-0.37	-0.85	-0.57	-0.77	-0.49	-1.00	-1.44	1.25
Population of the Province of Kardzhali	163,341	162,332	161,002	159,878	158,541	157,463	156,652	156,008	154,719	153,571	152,009

Source: NSI

2.1.2. Age synthesis by municipality, municipal unit, community up to 2011

The age structure of the population informs of the distribution of the population by age groups. The importance of the age structure of the population stems from the fact that people in different age groups have different life and labor opportunities and are involved in a different way in the material production and spiritual life of the society. On the other hand, the population is also divided into age groups depending on their reproductive capacity, defining their role in the process of natural reproduction.

Table 4. *Age synthesis of the Municipality of Momchilgrad and the Republic of Bulgaria for 2011 (%)*

	0-14 years	15-49 years	50+ years
Municipality of Momchilgrad	13.09	49.65	37.25
Republic of Bulgaria	13.24	46.79	39.96

Source: NSI



Table 5. *Age Fusion of province of Kardzhali 2001-2011*

Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
0-14 years	28,363	27,255	26,155	25,192	24,445	23,671	23,095	22,861	22,588	22,502	21 170
15-65 years	113,242	112,690	112,032	111,704	110,665	109,934	10,949	108,804	107,850	106,463	104,779
65+	21,736	22,387	22,815	22,982	23,431	23,858	24,308	24,343	24,281	24,606	26,060

Source: NSI

More recent data on the number of youth in the municipality since the latest census in 2011 are presented in Table 6:

Table 6. *Population aged 15-29 in the municipality of Momchilgrad as of 30.12.2016*

Years Number	
15 to 19 years old	774
20 to 24 years	985
25 to 29 years old	1 453
Total 15-29 years	3 212

Source: Municipal Youth Plan for 2017

Compared to 2015, in 2016 the number of young people in the municipality of Momchilgrad was increased by 581.

Age-sex pyramid of the population of municipality of Momchilgrad

The age-sex pyramid of the population is irregular. It has a narrow base and an expanded middle section. The deformation in its shape shows a trend of population aging for both sexes. The shape of the pyramid clearly shows the predominance of men in younger age groups, after which the number of the population in both genders is equalized. The prevalence of women begins after the age of 50, their share gradually increasing, and then doubling after the age of 80. This is a trend is characteristic of both the municipality and the province and the country as a whole.

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Figure 1. Age-sex pyramid of the municipality of Momchilgrad, 2011, source: NSI

2.1.3. Aging index, dependency index (aged 0-14 years, 65+ years)

In the classification of the Swedish statistician and demographer Sundberg, the age structure of the population in the municipality of Momchilgrad in 2011 is of a regressive type. This means that the relative share of the generation of grandparents (50 years and above) is significantly larger than that of the generation of children (0-14 years of age). In 2008 the ratio between the generations of children, parents and grandparents is 14.5: 52.0: 33.5, while in 2011 it is 13.1: 49.7: 37.2.

Comparison of the data shows a clear trend towards aging of the population that will have a negative impact on its natural reproduction in the future. In this sense, the changes in the population of the municipality of Momchilgrad don't significantly differ from the general tendencies in change of the age structure of the population in Bulgaria. The relatively more favorable conditions in the municipality are determined by the presence of a larger proportion of the population aged between 15 and 49 and a smaller proportion of the population aged 50 and above.

2.1.4. Population by sex (by municipality, municipal unit, community) up to 2011

Sex structure

The sex structure of the population shows the ratio between the number of men and the number of women in the population of a particular territorial unit or settlement. The importance of the sex structure is related to the differences and peculiarities of men and women as parties in the process of natural reproduction, their part in the family, their social status and labor participation.

The male-to-female ratio is mainly determined by differences in mortality and birth-rate dynamics in both sexes.

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Table 7. Sex structure of the population of municipality of Momchilgrad (number)

Year	Population by sex in the municipality of Momchilgrad		
	Total	Men	Women
2001	17,126	8,639	8,487
2002	16,961	8,542	8,419
2003	16,861	8,476	8,385
2004	68,956	33,605	35,351
2005	16,657	8,353	8,304
2006	16,562	8,284	8,278
2007	16,434	8,196	8,238
2008	16,354	8,148	8,206
2009	16,190	8,057	8,133
2010	15,956	7,952	8,004
2011	16,155	8,173	7,982
2012	16,045	8,122	7,923

Source: NSI

During the 2008-2012 period certain changes are observed in the sex ratio of the population on territory under study. The sex ratio is 100.0:100.7 at the beginning of the period and 100.0:97.5 in 2012. As a result, in 2012 there is a certain prevalence of the male population. A major factor in this is the increased migration of working-age women.

According to data of the General Directorate of Civil Registration and Administrative Service as of 06 January 2017 the population with registered permanent address in the town of Momchilgrad is 18,925. The share of youth aged between 15 and 29 is 3,212, which is 16.97% of the total population.

2.1.5 Evolution of birth rate by municipality

The natural reproduction of the population is manifested through the replacement of generations of parents with the generations of children. This process also involves the renewal of a number of structural features of the population such as sex, age, family status, etc.

The quantitative dimensions of the reproduction process are described by indicators and ratios of birth rate, mortality, marriage, divorce and natural growth. There are prominent dependencies and interrelations between those. For example, birth rates depend considerably on the number of marriages and the number of divorces. At the same time, the number of marriages is affected by the birth rate in past time periods. In those periods the population groups currently in marriageable age were formed. The connection between natural reproduction and the demographic structures of the population (gender, age and family status) as well as its ethnic and religious structure, etc., is clearly expressed.

Table 8. Birth rate, mortality and natural growth of the population in the municipality of Momchilgrad for the period 2007-2012. (‰)

Year	Birth rate	Mortality rate	Natural growth rate
2007	12.2	9.5	2.7
2008	11.8	10.2	1.6
2009	11.4	9.3	2.1
2010	10.0	12.0	-2.0
2011	9.4	10.8	-1.4
2012	8.0	10.6	-2.6

Source: NSI

In the first half of the 2007-2012 period the birth rate of the population in the municipality of Momchilgrad was higher than the average for the country, the Southern Central Statistical Region and the province of Kardzhali. This is definitely influenced by the preserved traditions in the reproductive behavior of the population, especially in the villages. The increased migration of the population of reproductive age in recent years reflects unfavorably on the age structure of the population. As a result, since 2009 the birth rate has

been decreasing and in 2012 it was already lower than the average for the country, the region and the province.

Birth rates after 2009 were not sufficient to ensure a positive natural growth of the population in the municipality. Negative influence in this respect is the significant deterioration of demographic structures of the population as a result of the emigration of youth. The most significant problem is the decreasing number of women of reproductive age. Migration attitudes among this part of the population also adversely affects the total fertility rate (the average number of children (boys and girls) that a woman gives birth throughout her fertile period). The ongoing migration of youth will continue to have an adverse effect on the present and future natural reproduction of the population in the municipality of Momchilgrad.

Table 9. *Evolution of birth rates in the municipality of Momchilgrad and the province of Kardzhali for the period 2001-2011*

Births	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Municipality of Momchilgrad	182	172	194	241	203	190	186	194	169	173	196
Province of Kardzhali	1,572	1,527	1,591	1,811	2,100	1,701	1,525	1,643	1,617	1,668	1,700

Source: NSI

2.1.6. Level of education, evolution by municipality, municipal unit Common characteristics

The municipality of Momchilgrad has a sufficiently developed network of educational institutions with an optimal structure for meeting the current needs for general education and vocational training. The municipality includes 49 settlements located in South-Eastern Rhodopes, characterized by mountainous and semi-mountainous rugged terrain with many small villages and neighborhoods, with underdeveloped communication links and infrastructure. Increasing migration leads to drastic depopulation of some settlements and a decrease in the number of students leading to school closures. All this reflects in a peculiar way on the state of the school network and the educational process, creating additional difficulties in designing an optimal school network model. The secondary schools are concentrated in the municipal center and have a good material and technical base. In primary schools remote from the municipal center reduction of class caps and combining of grades is allowed. As a tendency, there is a decrease in the number of students and respectively classes.

School education

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The school network of the municipality of Momchilgrad is optimal for the needs of the municipality's population.

Table 10. Municipality of Momchilgrad - educational establishments for the period 2008 - 2013

Indicator	2008/2009	2009/2010	2010/2011	2011/2012
Total	9	9	9	9
General education schools	6	6	6	6
Vocational high schools	3	3	3	3

Source: NSI

During academic year 2013/2014 nine educational establishments operated on the territory of the municipality of Momchilgrad, in which 1 350 students distributed in 86 classes from the first to the twelfth grade were trained.

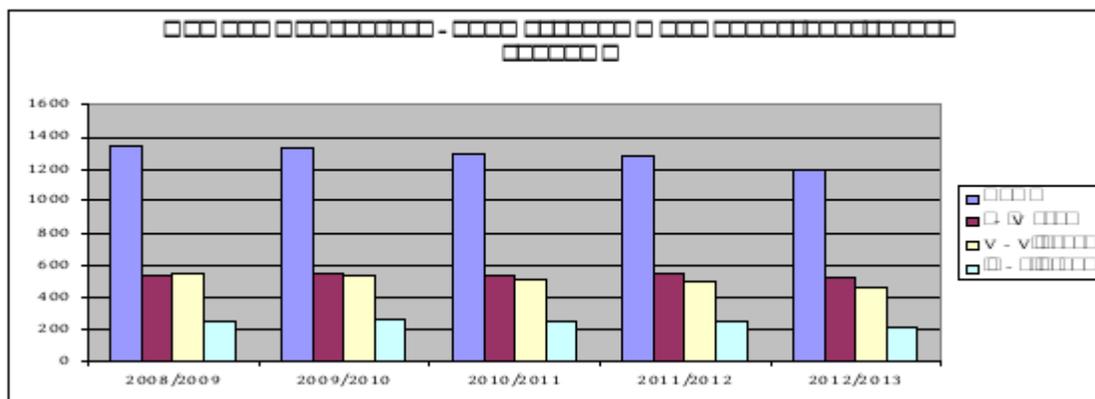


Figure 2. Evolution of the number of students for the period 2008 - 2013. Source: NSI

During academic year 2017/2018 on the territory of the municipality of Momchilgrad operated eight educational establishments in which 1 345 students distributed in 81 classes from the 1st to the 12th grade were trained; six kindergartens attended by 369 children aged 3 to 7; one nursery working with 55 children up to 3 years of age and one service unit - Center for the Support of Personal Development - Municipal Children Complex (CSPD - MCC).

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Educational structure

The educational structure of the population is important for the qualitative characterization of human resources and their participation in the creation of material goods and spiritual values. The educational level of the population is also related to its reproductive attitudes and behavior. The educational structure is dependent on other structural characteristics of the population related to its age, sex, ethnicity, etc.

The data for the municipality of Momchilgrad shows a largest relative share of primary school graduates. Those are followed by persons with completed secondary and elementary education. There is a similar distribution for the whole province of Kardzhali, with the values of shares of different educational categories being too close together. Compared to the country average, it shows a lower level of education among the population.

The greatest differences are between the shares of persons with higher education. In the municipality of Momchilgrad, the share of university graduates is almost 2.5 times smaller than the average for the country. At the same time, the share of persons in the municipality who have never attended school is higher than the average for the province and the country. An unfavorable fact is also the relatively high number of students from 1st to 7th grade who leave general education schools prematurely. In academic year 2011/2012 they total to 18. The lower educational level is an unfavorable factor for the condition of human resources in the municipality.

Table 11. *Population by level of education, 2011. (%)*

	Population aged 7+	Higher education	Secondary education	Primary education	Elementary education	Didn't graduate elementary school	Never attended school	Child
Republic of Bulgaria	100.0	19.6	43.4	23.1	7.8	4.8	1.0	0.2
Province of Kardzhali	100.0	10.3	32.5	35.7	11.4	6.3	3.6	0.2
Municipality of Momchilgrad	100.0	8.1	32.2	37.7	10.7	6.7	4.4	0, 2

Source: NSI

2.1.7. Economically active population, evolution

According to data from the census in 2011 the total population in the municipality of Momchilgrad aged 15 and above is 14 139, or 10.7 % of the total size of this population in the province of Kardzhali. The economically active population encompasses all persons aged 15 and above who both employed and unemployed. The number of economically active persons in the municipality is 6,561, which represents 46.4 % of the population aged 15 and above. This indicator of the municipality of Momchilgrad is equal to the average for the province of Kardzhali - 4.5 per cent. The number of employed persons in the municipality is 5,276 and of unemployed - 1,285. The ratio of their shares - 80.4: 19.6 - is also close to the average for the area - 81.0: 19.0.

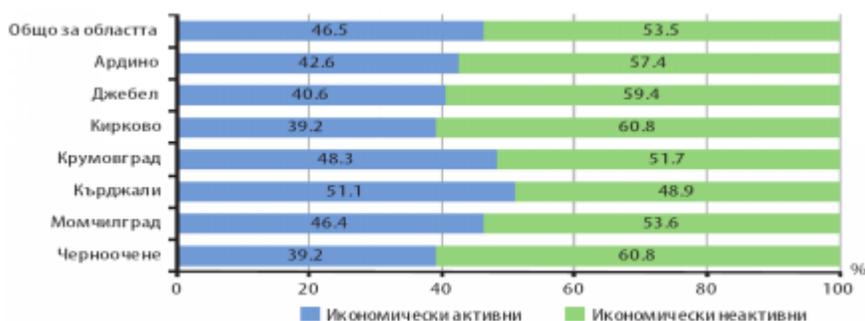


Figure 3. Structure of the population aged 15 and above by economic activity and municipality, 2011 (%), source: NSI

In regards to economically inactive persons, the municipality of Momchilgrad ranks first for students (12.2%) along with the municipality of Dzhebel. Retirees occupy a relatively small share (50.7%) compared to the other municipalities in the territory of the province of Kardzhali.

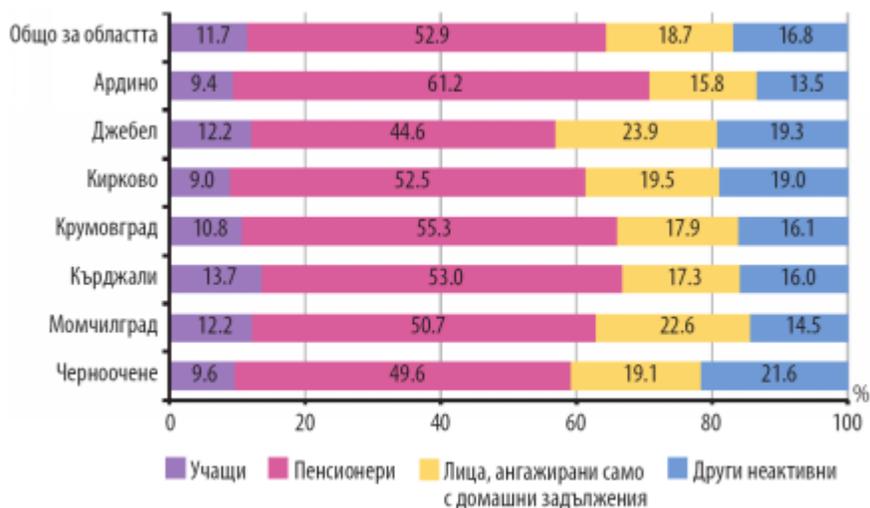


Figure 4. Structure of economically inactive persons aged 15 and above by municipality (%), 2011, Source: NSI

Employment rate is the highest in the municipality of Kardzhali - 51.0%, or by 4.6 percentage points higher than that of the province. The municipality of Momchilgrad is ranked fourth with 45.5 per cent. Employment rate is the lowest in the municipalities of Chernoochene (37.1%) and Dzhebel (38.9%).

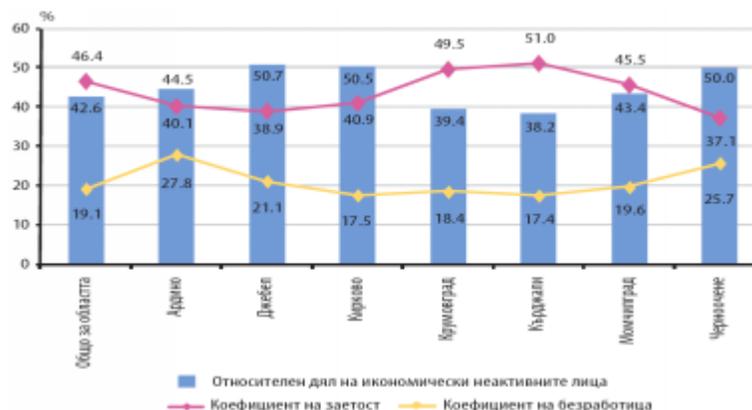


Figure 5. *Relative share of economically inactive persons*

2.1.8. Unemployment, evolution by municipality

Unemployment is an important indicator of the economic situation in each administrative-territorial unit.

In recent years the number of unemployed persons in the municipality of Momchilgrad has remained relatively high. The number of registered unemployed person at the Labour Office in 2012 was higher than in 2011, but still remained lower than that of 2010. The unemployment rate in the municipality of Momchilgrad in 2012 was 14.2%. This value is above the average for the country (11.1%), but lower than the that for the province of Kardzhali (15.1%). The value for the municipality is significantly lower than in other municipalities in the province - Dzhebel (29.9%), Kirkovo (23.8%), Ardino (25.8%) and Krumovgrad (18.0%). In this respect, only the municipalities of Kardzhali (9.7%) and Chernoochene (11.0%) have better indicators.

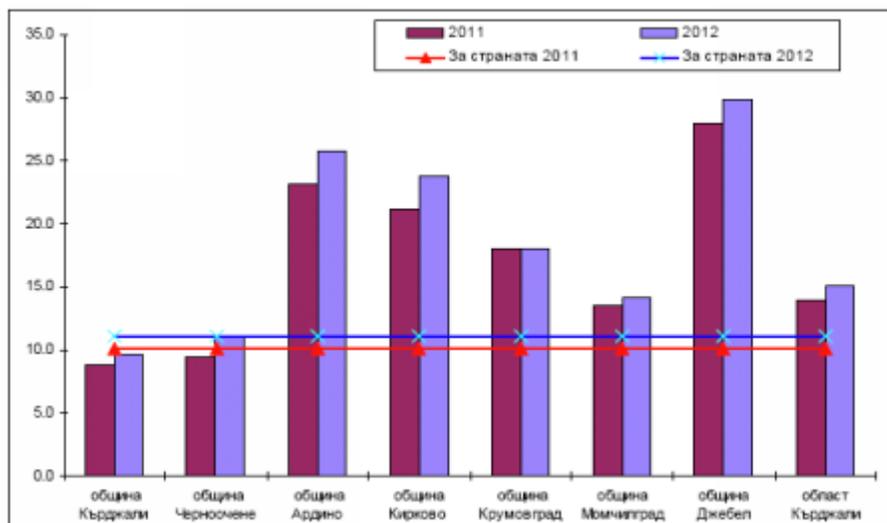


Figure 6. Relative share of unemployed person in the municipalities of the province of Kardzhali, source: DRES - Haskovo

The number of registered unemployed women exceeds that of registered unemployed men, both in the municipality of Momchilgrad and in all municipalities in the province of Kardzhali. This is mainly due to the lower education and qualification level of the female population.

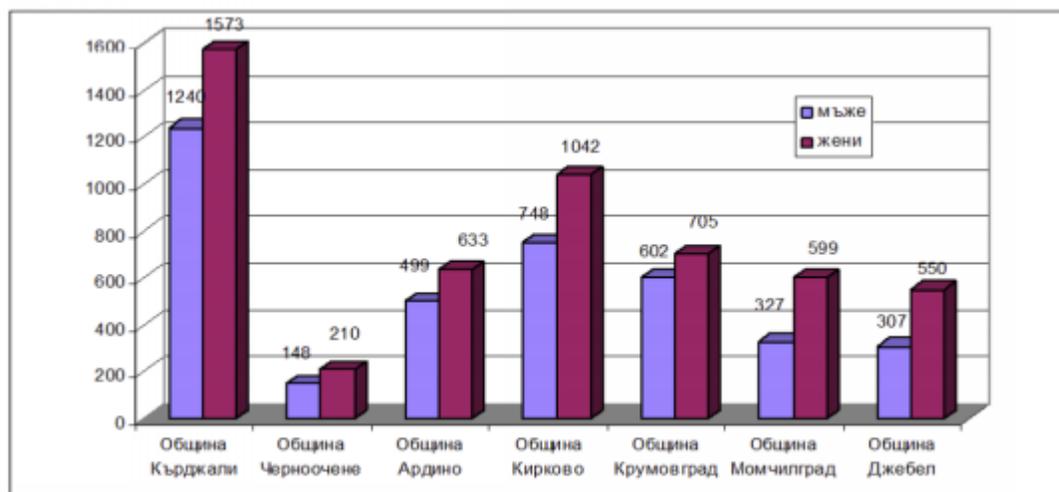


Figure 7. Unemployed men and women registered in the Labour Offices in the province of Kardzhali, source: DRES – Haskovo

In terms of age, the relative share of registered unemployed persons in the age groups of 55 years and above and 50-54 years is the largest. As in the rest of the country, it is most difficult for people in pre-retirement age to find a job. In this case municipality of Momchilgrad is not an exception to the general trends in the country and the province.

Besides the population in pre-retirement age, a risk group in respect to unemployment are young people up to 29 years of age. An additional disadvantage for the municipality and the province as a whole is the lower education and qualification of young people. The relative share of unemployed youth below 29 in the municipality is 12.1 %. By this indicator, the municipality of Momchilgrad ranks third in the province after the municipalities of Krumovgrad and Kardzhali.



Figure 8. Relative share of young people below 29 of the total number of unemployed, source: DRES - Haskovo

The distribution of unemployed persons by level of completed education shows a pronounced predominance of those with primary and lower education. In terms of relative share the unemployed persons with primary or elementary education are 73.3% of the total number of unemployed in the municipality of Momchilgrad.

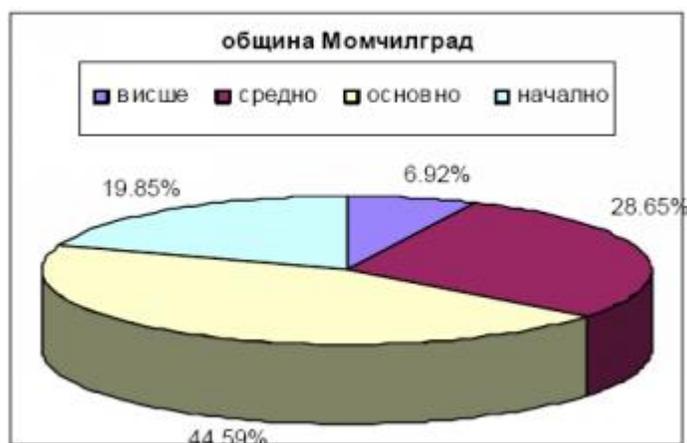


Figure 9. Distribution of unemployed by level of education, source: DRES - Haskovo

Permanently unemployed persons (unemployed for over 1 year) are also a risk group. They have the largest share in the small municipalities, incl. Momchilgrad.

Permanently unemployed persons generally have a lower level of education and training and this is an obstacle to their rapid adaptation to the requirements of employers.

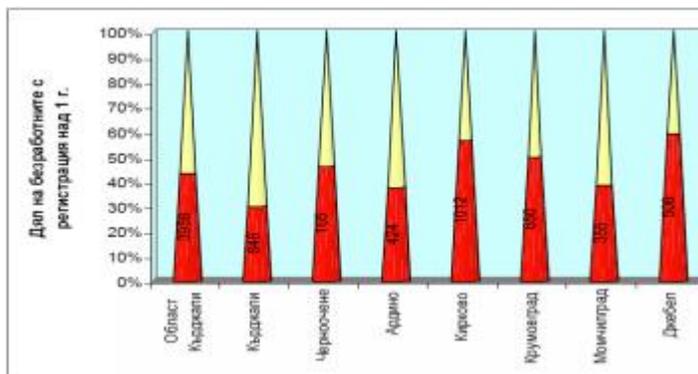


Figure 10. Share of unemployed persons registered for over 1 year, source: DRES - Haskovo

Analysis of the data for the municipality of Momchilgrad shows that problems with unemployment are particularly difficult to solve in small municipalities and settlements. Measures in this respect should combine opportunities for opening work places with implementation of programs for increase of the education and professional training of the population.

2.1.9. Housing characteristics by municipality 2011 (toilet, kitchen, internet access) Qualitative and quantitative status of the housing stock

Functional system "Habitation" is extremely important for the spatial planning of settlements, as it requires significant spatial resources. On the other hand, quantitative parameters of the housing stock form the population's standard in terms of its satisfaction with housings and living area.

The analysis of habitation is of a socio-economic nature that examines the characteristics of the housings and the residential buildings in which they are situated and the achieved levels of housing satisfaction.

The quantitative parameters of the housing stock in the settlements of the municipality of Momchilgrad according to the Population and Housing Census of 2011 include:

- residential buildings - 5 587 in the municipality;
- housings - 7 759 in the municipality.

Housing stock

Table 12. *Newly built residential buildings and housings approved for habitation*

		2010	2011	2012	2013
Buildings	Number	4	5	3	6
Housings	Number	6	13	10	31
Useful area	m ²	946	2,030	1,715	4,395
incl. living area	m ²	395	840	595	1,696

Source: NSI

With the available housing stock and the available living area, relative to the existing population in the municipality, a relatively good standard of living has been achieved in all settlements.

The quality characteristics of a part of the housings show reduced values in terms of level of development. This refers to the existence of housings without bathroom and such with external bathroom.

Property Structure

Form of ownership

The majority of the 7,759 housings available as of 2011 are privately owned, i.e. are property of private natural persons. By homeowner status, they are distributed as follows:

- owned by private natural persons - 7592 housings, or 97.8% of the total number;
- state or municipal property - 140 housings, or 1.8%;
- owned by private legal entities - 27 housings, or 0.4%.

Types of spatial structures of habitation

The main types of spatial structures of habitation are: the street-neighborhood structure with single-family buildings, as well as multifamily complexes, which are only encountered in the town of Momchilgrad. In the villages the main housing unit is the single-family, low-rise building in an independent lot.

Table 13. *Types of buildings*

Indicator	type	2010	2011	2012	2013
Residential buildings	Number	5,799	5,294	5,297	5,303
<i>By material of the external walls</i>					
Reinforced concrete and panel	Number	131	130	133	138
Brick	Number	2,291	2,218	2,218	2,219
Other	Number	3,377	2,946	2,946	2,946
Housing	Number	8,059	7,772	7,782	7,813

Source: NSI

Techno-economic characteristics of habitation types

A subject of more detailed characterization are the housings in the municipality of Momchilgrad. Some of the basic parameters of the housings are presented in the table above (Table 13).

The housing stock is built in consideration of the needs of the population. The juxtaposition of the number of residential buildings and the number of housings in them shows that the municipality is dominated by single-family housings. Another juxtaposition of the number of housing and the total useful floor area of housings, which in 2011 amounts to 676,101 m² shows that the average area per housing is 87.1 m².

There is a significant number of uninhabited housings, whose total number for the municipality amounts to 2723, which is 35.1 % of all available housings. The number of uninhabited housings by settlement varies widely. This is in fact free housing stock that can be used as intended - either for permanent residence in relation to the future development of tourism by persons employed in this sector or as a second home for people from other parts of the country.

Effective living area

One of the highlights of analytical study of the housing sector is the size of the living area and its share of the available useful floor area. As absolute figures, these indicators are informative, but relative to the size of the population they indicate its living standard. In order to determine how housing stock has evolved in the municipality, some aggregated data about the main indicators for the period between the two last censuses is juxtaposed:

Table 14. *Results from the Population and Housings Census in the Republic of Bulgaria. 2011*

Housings - specification	2010	2011
Number of housings	7,939	7,759
Size of the useful area in housings	581,131 m ²	676,101 m ²
Size of living area	368,323 m ²	508,403 m ²

Source: NSI

During the analyzed period there has been a decrease in the number of housings, but an increase in the total area of the housings, incl. the net living area.

The data in Table 14 shows that the territorial distribution of both housings and living area is largely determined by the population. From the ratio of the two indicators is also formed the housing standard of the population.

The average living area per inhabitant for the municipality of Momchilgrad is 22.4 m² as of 2001 and 31.5 m² as of 2011. Below are the indicators for housing standard, considering the living area per person only in inhabited housings - on average for the municipality it is lower - 21.2 m² in 2011. However, spatial planning uses the ratio of total available living area (not only in inhabited housings) to population.

An important parameter of the area of housings is the ratio between total useful area and net living area. The values of these indicators for larger settlements are shown in the table below.

Table 15. *Ratio of total to living area in housings in the bigger settlements of the municipality of Momchilgrad as of 2001 and 2011*

Settlements	2001		2011		% living to total area	
	Total m ²	Including living area m ²	Total m ²	Including living area m ²	2001	2011
Municipality of Momchilgrad	581,131	368,323	676,101	508,403	63.4	75.2
Incl. the town of Momchilgrad	236,283	143,803	275,312	207,267	60.9	75.3
Gruevo Village	20,292	14,163	24,776	19,253	69.8	77.7
Zvezdel Village	19,225	11,599	29,154	21,677	60.3	74.4
Nanovitsa Village	17,264	12,009	17,568	16,181	69.6	92.1

Results from the Population and Housings Census in the Republic of Bulgaria. 2001, 2011

Source: NSI

Analysis of the data shows that over the past 10 years there have been significant changes in the ratio between the total area of housings and the net living area. These ratios range within a margin of increase in net living area by about 11-12%, which is accounted for by the implementation of the current norms for design of residential buildings.

Structure of housings by number of rooms

In the housing structure of the municipality predominate multi-room (3 or more rooms) housings. Their number is 5,383 out of a total of 7,759 housings, or 69.4 % of all available housings. The small one-room apartments are 5.7%.

There are three mobile network operators - Vivacom, Globul and Mobiltel / A1 (with coverage of approximately 100%) on the territory of the area. They offer access to wireless internet as a service.

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The opportunities for the development of the communications network of municipality of Momchilgrad are related to the proximity to the optical cable network Haskovo-Kavala.

The optical cable route through the territory of municipality of Kirkovo could be further developed, thus creating in the province of Kardzhali a modern communication infrastructure, providing the quality international connections necessary for the business, education and management of the territory.

The share of housing in the territory of province of Kardzhali with access to the Internet is lower than the average for Bulgaria.

As of 01.02.2011, the housings with access to the Internet are 31.7 per cent compared to 43.9 per cent on average for the country, while the housings with access to computer are 35.3% compared to 46.6% on average for the country (data: NSI, census 2011). This is an important factor reinforcing the business development by creating conditions for the introduction of modern information services and technologies.

The telecommunication network in the region needs further development to create conditions for the introduction of innovations and modern information and communication technologies.

2.1.10. Population below the poverty line

The standard of living in the province of Kardzhali is considered in terms of the level of poverty in the province and the share of people living in material deprivation compared to the general level for the country. This indicates how many households in the province can afford to meet their needs and how many of them live below the average national standard of living.

Table 16.

	One person				Two adults with 2 children under 14			
	2007	2008	2009	2010	2007	2008	2009	2010
Total for the country	2,548	3,318	3,540	3,405	5,351	6,968	7,434	7,150
Province of Kardzhali	2,190	2,388	2,444	2,636	4,600	5,015	5,132	5,536

Source: NSI

It is evident from the presented data on poverty for the country and for the province of Kardzhali, that both single persons and families with two children under the age of 14 in the province live below the poverty line for the country.

Lowest is the difference in 2007 - 358 BGN per person and 769 BGN per family with two children under 14 and the highest in 2009 - 1096 BGN per person and 2302 BGN per family with two children under the age of 14.

There is an improvement in this indicator in the last year with available statistics 2010 - an increase of 327 BGN per person and 688 BGN per family with two children under 14 years.

Table 17.

	2007		2008		2009		2010					
	total	men	women	total	men	women	total	men	women			
Total for												
The country	41.2	39.6	42.8	41.9	40.1	43.5	45.7	44.2	47.2	43.6	42.5	44.6
Province of												
Kardzhali	35.6	37.3	33.8	49.0	47.9	50.2	69.2	68.1	70.3	38.6	36.7	40.6

Source: NSI

Regarding the percentage of the population in the province of Kardzhali, living in material deprivation, a fluctuation is noticeable in the examined years. While in 2007 this percentage is below the national average, in the next two years the percentage of the population living in material deprivation is significantly higher in the province than the rest of the country. 2010 shows a significant improvement in this indicator with the population in the province living in material deprivation being again less than average.

2.1.11. School drop outs

According to data of the NSI and Regional Department of Education (RDE) - Kardzhali, the total number of dropouts in the municipality of Momchilgrad for the period 2008-2012 is 75. For the school year 2008/2009 17 students dropped out of school and in 2011/2012 they were 18. An average of 18.7 students drop out annually, representing 1.6% of the total number of students. There is a decrease in the number of children with educational problems, which is largely due to the practice of not recording the absences of the students.

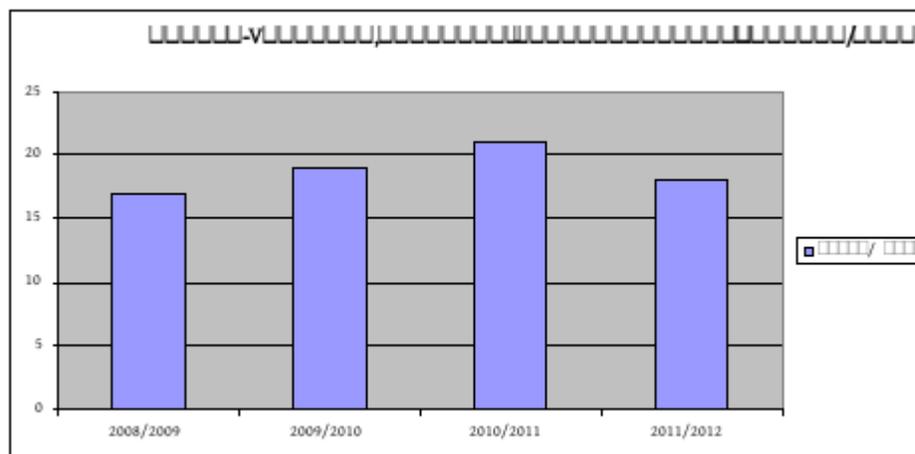


Figure 11. *Students from the 1st to the 8th grade who left the education system*

2.2 Economic Data

2.2.1. GDP per capita, evolution in prefecture and region

The Gross domestic product (GDP) per capita in the municipality of Momchilgrad is at relatively low levels compared to the average for the country. However the municipality shows improvement - in recent years there has been an increase in the expenses on fixed tangible assets in the main sectors of the economy.

The unemployment rate (11%) is above the national average, but the low value of net sales revenue per employee is an indirect indicator of lower productivity and competitiveness of the local economy and the production of the municipality.

At the height of the financial crisis (2011), the employment rate in the municipality was one of the lowest in the country, but it shows improvement over the last two years and has already reached 45% among the population aged 15 and above. Official unemployment figures show hard-to-explain low levels, but the statistic itself questions the validity of data. The divergence is somewhat explained by the very low level of economic activity, which means that many people who do not work are not accounted for officially as unemployed. In recent years, there has been a certain increase in the number of enterprises, but the municipality is still characterized by few enterprises relative to the size of the population, which have lower productivity and competitiveness compared to the average for the country. There is a certain link between the economic realities in the municipality and the political processes in the country, for example in public projects in construction and the policy towards the tobacco growers.

2.2.2. GVA per capita, evolution in prefecture and region

In terms of sectors the tobacco and processing industry, in particular the food and beverage industry and the textile and clothing industry, are of major importance for the economy of the municipality. Labor market data shows that industry provides relatively more jobs in comparison with the rest of the country, while trade is failing to reach the employment levels observed in other areas of the country. By relative share of net sales revenue, the weights of the most significant sectors in the provincial economy in 2011 were as follows:

- Manufacturing - 39.92% (increase by 4% compared to 2009)
- Trade and repair - 33% (increase by 3% compared to 2009)
- Construction - 9.37% (significant decrease compared to 2009, by about 8.5%)
- Transport and Communications - 3.4% (a sustainable share compared to 2009 when this sector accounted for 3.56% of the regional economy)
- Agriculture, hunting, forestry and fish farming - 3.10% (increase compared to 2009 when it was 2.34%)

Gross Value Added (GVA) is a measure of the contribution of an individual producer, economic activity, and institutional sector in GDP. GVA is the difference between the value of the goods and services produced (output) and the value of the goods and services consumed for their production (intermediate consumption). Gross value added, unlike net value added, includes the consumption of fixed capital during the period. The Gross value added indicator is a measure of the vitality of the economy and in this sense its consideration is essential for the economic analysis of the province of Kardzhali.

Table 18. Gross added value (in millions of BGN)

	2007	2008	2009	2010	2011
Bulgaria	46 401	57 733	58 695	60 716	64 830
South Central Region	7 345.7	8 145.0	8 240.1	8 545.4	.....
Province of Kardzhali	584.7	.....	.....	.....	.....

Source: NSI

GVA is also one way to trace how dominance of certain sectors is related to the degree of poverty or wealth in that region. Data for 2009 (the last one we have) show that the undisputed leader in the province of Kardzhali (51%) and in most areas is the services sector. The agricultural sector has a small share of GVA, but it is significantly higher in the province compared to other regions. At the same time, there is a correlation between the size of the agrarian sector on the one hand and the economic development of the province and poverty on the other. The agricultural sector in 2009 represented 19.2% of the total GVA of the province of Kardzhali and has decreased compared to 2007 when it was 25.9%. A great part of the agricultural land is rented or leased (90%). The activity is focused on the cultivation of basic agricultural crops and large-stock breeding. Crop production in the province is dominated by Oriental tobacco and is almost monocultural. Other widespread crops in the province are the cereal food and fodder crops (mainly wheat and rye) as well as vegetables (mostly potatoes and pepper). Perennials such as vines, fruit trees and oil crops have an insignificant share but potential for expansion. Until 2009 there was a steady decline in livestock breeding and in particular pig breeding, but thereafter it has stabilized. Beekeeping developed at a rapid pace until 2009, but ever since, including in 2011, there has been a decline compared to previous years. Industry has about 30.0% share in the GVA of the province, while in 2007 it was 25.1%. Processing plants use agricultural products as raw materials, and light industry - mainly imported or produced outside of the region textile raw materials. Characteristic of the local economy in 2011 is the concentration of industrial production, mainly in the municipal centers and especially in the municipality of Kardzhali.

2.2.3. Economic activities (description)

In recent years, the municipal economy has seen the unfavorable downward trend in all key economic indicators (revenues, employees, companies, etc.), especially in comparison with processes occurring on national level.

In the municipality Momchilgrad livestock breeding is one of the main activities.

Plant breeding is represented mainly by tobacco growing, while wheat and barley growing in recent years are negligible. Beans, potatoes and vegetables are grown for personal needs.

The textile and food industry subsectors are of utmost importance for the development of manufacture in the municipality.

On the territory of the municipality there are significant deposits of mineral resources, which enable the development of the mining industry.

The municipality of Momchilgrad has a high natural potential and a rich cultural history, which is a prerequisite for the development of tourism as well as related economic activities.

The service sector is represented by trade. The largest number of registered business units is in retail trade and repair of personal and household goods. The main activities are retail and wholesale. On basis of the comparison of municipal enterprises with data on national level, as well as with municipalities similar to Momchilgrad in terms of population size, it is clear the municipality lags behind in its degree of enterprise innovation.

In respect of the technological branches in the municipality, the number of SME in machine building is twice as low as the average for the country. In recent years there has been an increase in the cost of fixed tangible assets in all three sectors of the economy, yet the competitiveness of the municipal economy is extremely low.

2.2.4. Employment, evolution by branch of economic activity

Agriculture

In the municipality of Momchilgrad, livestock farming has the character of subsistence farming - it is observed on family properties (5-7 animals) and there are no large farms. Cows and sheep are bred most frequently for their milk and meat. Birds, goats, and beehives are also kept.

Prominent are tobacco production, until recently a main means of livelihood, and plant breeding - mainly the growing of fruit and vegetables on private property for domestic needs.

Industry

The textile and food industry subsectors are of utmost importance for the development of manufacture in the municipality. Processing plants use agricultural products as raw materials, and light industry - mainly imported or produced outside of the region textile raw materials. The low level of labor remuneration is a competitive advantage, which stimulates the investment activity in sectors with low gross value added, an example of which on the territory of the municipality is textile industry. Typical of the local economy is the concentration of industrial production in the municipal center. Processing and light industry with small exceptions are located in the town of Momchilgrad and some of the bigger villages in the municipality - Gruevo Village, Zvezdets Village, Raven Village, Nanovitsa Village.

On the territory of the municipality there are significant deposits of mineral resources, which enable the development of the mining industry. Polymetallic ores with silver and gold content are obtained in the municipality in three mines of the mining company GORUBSO - AD, Kardzhali. The ores obtained by an open-pit method are processed into the operating capacity of the Refinement Factory. There is a problem with the restoration of terrains near mines, and the control of industrial waste water treatment is not effective.

Important for the municipality are the deposits of perlite, which are a basis for the development of business and new technologies, yet the main problem here is also related to environmental pollution.

During the formulation of the net revenues sub-sector Manufacture emerges as a leading industry in the economy of the municipality of Momchilgrad in 2011, accounting for a significant part of the revenues - 42.4% and engaging 31.7% of the employees. This data confirms the traditionally high importance of this industry for the local economy.

Those employed in the textile industry and food industry sub-sectors account for approximately 90% of the total number of persons employed in manufacture, with almost 60%, mainly females, engaged in the textile industry (including sewing industry).

An important place in the local economic structure, with about 26% of the revenue and 10% of the employees, is the Trade and Service sub-sector. Construction contributes 13.9% of the total net income and 8.4% of the employees.

Tourism

The municipality of Momchilgrad has a high natural potential and a rich cultural history, which is a prerequisite for the development of tourism as well as the related economic activities. The presence of natural phenomena and attractions, the combination of various terrains and favorable climatic conditions, varied forest vegetation and animals are excellent conditions for the development of recreation and tourism.

The area is accessible and has good conditions for almost all types and forms of alternative tourism. The opening of the Makaza mountain pass increased travel and visits of tourists from Greece. These additional factors define Momchilgrad as a convenient starting point for the organization tourist visits to cultural and historical monuments, hikes, excursions and walks to the natural landmarks in the region, but for the time being their contribution is only 3.4% to the net income.

Sites of tourist interest in the municipality are: the Orpheus Sanctuary, Harman Kaya, Religious Complex "Elmala Baba" , the Petrified Forest, Dambala, Rock niches, Wildlife Breeding Center "Studen Kladenets" (The Deer Farm), Forest Park "Momchil Yunak", Reserve "Borovets", the Water Lily Lake of Letovnik Village etc.

Services

The service sector is represented by trade. The largest number of registered business units is in retail trade and repair of personal and household goods. The main activities are retail and wholesale. The number of companies in the Retail Sector decreased by 20% in the period 2008-2012. This owes to an increased number of bankruptcies. Companies operating in the industry sharply cut their costs while newly established companies are quick to occupy free market niches. Due to a strong fragmentation in those industries, the companies engaged in trade in food products (increase + 5%), and trade by mail, telephone and internet

(+ 23%) have multiplied. Most companies are engaged in trade in clothing, shoes, cosmetics, jewelry and pharmaceuticals (35% in 2012), followed by retail in non-specialized stores (this sector takes up a share of 33% in 2012).Trade in food products is third in relative share - 11%.

2.2.5. Main features of rural activity

In the municipality of Momchilgrad, 2,734 households are engaged in livestock farming (78.45% of the households engaged in agricultural activities), which is above the county average of 74.5%, with nearly 100% of the animals being privately owned. In the municipality are grown the typical animals - cattle (including cows), birds, goats, sheep and bees. Animals are raised on family properties (5-7 animals), there are no large farms. In the majority of cases the animals are kept under primitive conditions, there is no quality control of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies and better market realization. Livestock farming in the municipality has the character of subsistence farming. Cows are bred most frequently for their milk and meat, sheep breeding is also well developed. Birds, goats, and beehives are also kept on private properties.

More than 50% of the agricultural land of the municipality is represented by pastures and meadows, while the arable land in the municipality of Momchilgrad makes up about 40% of it. Forest area exceeds agricultural area, with only 1.2% of it being privately owned. There is a total of abandoned land in the municipality amounting to 35,401 decares (24% of the agricultural land).There are several causes of desertification in the province: depopulation in some of the villages, weak and low-productive land and the associated with this low incomes of the population, whose main livelihood is agriculture, high costs required for farming, difficulties in preserving the crops and the unwillingness of a large part of the population to grow crops other than tobacco.

The financial condition of the farms is poor, there is a lack of funds for the purchase of modern equipment and for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity. The absence of large agricultural farms reduces the potential for introducing agricultural machinery and maintaining the installed irrigation systems. As a result, productivity and labor productivity decline, which largely determines the low competitiveness of the agricultural sector. The potential for successful market placement of the production are diminished due to its higher cost. The land market in the region is underdeveloped, which further contributes to the low efficiency of agriculture. Agriculture in the municipality is based on subsistence farming, with a single industry structure and low efficiency.

Vegetable production is a possible alternative for settlements located mainly along Varbitsa and Nanovitsa rivers. Good markets and irrigation facilities are required, with the

potential for development of organic production of certain vegetables. It is necessary to reduce areas planted with tobacco and to orient farms towards cultivation of other types of crops which allow the utilization of comparative economic advantages in terms of climate, soil and human resources. It is necessary to diversify agricultural products to ensure the sustainability of agricultural producers. In this respect, there are favorable conditions for the cultivation of medicinal plants and the creation of durable plantations of forest crops (hazelnuts, almonds, walnuts).

Organic farming can only be implemented at this stage as a pilot project, as there is still no experience, practices and, above all, a developed market and processing capacities that can retain most of the added value in local communities.

Measures are needed to consolidate farmland and build up an adjoining infrastructure (irrigation, processing, and transport) to justify and allow investment in technology and human resources for the development of plant breeding.

The development of efficient agriculture also requires the consolidation of existing agricultural areas. This would have not only economic, but also social and environmental significance for the municipality. Land consolidation can be facilitated by the creation of a farmland database that maintains data on land ownership and cadaster.

2.2.6. Main features of the secondary sector

Described above.

2.2.7. Main features of the tertiary sector

Described above.

2.3. Specific features of the region

2.3.1. Specific groups of the population

The ethnic structure of the population influences the way of life and the behavior of the population in a single administrative-territorial unit. Particularly strong is the relationship between ethnicity and reproductive attitudes and behavior of the population. The province of Kardzhali and the municipality of Momchilgrad have some specific features in their ethnic structure compared to the rest of Bulgaria. From the table below the higher relative share of the population of Turkish ethnicity in the municipality and the province compared to the average for the country is clearly visible. In the municipality of Momchilgrad the relative share of the Turkish ethnicity is 84.8%, and in the province of Kardzhali - 66.2% of the number of the respondents who have volunteered information on the ethnicity poll. This peculiarity, characteristic of the municipalities of the Eastern Rhodopes, is important for the reproductive process of the population. Preserved traditions in the reproductive attitude and behavior of the local population are a major factor in maintaining a higher birth rate than the average for the country. Ethnicity also affects the external migration of the population in the municipality and the region, as well as its employment, education, etc.

Table 19. Ethnic Structure of the Population, 2011 (%)

	Individuals who volunteered information on the ethnicity poll	Ethnic group				
		Bulgarian	Turkish	Roma	Other	do not self-identify
Republic of Bulgaria	100.0	84.8	8.8	4.9	0.7	0.8
Province of Kardzhali	100.0	30.2	66.2	1.	0.6	2.0
Municipality of Momchilgrad	100.0	10.7	84.8	1.4	0.2	2.9

Source: NSI

2.3.2. Cultural and social characteristics

The geographical characteristics and the spatial development of the settlement structure in the municipality of Momchilgrad, located in the southeastern part of the Eastern Rhodopes and along the valley of the Varbitsa River, have led to the settlement of different civilizations on its territory since antiquity. In this regard, the cultural heritage of the region is the result of the age-long aggregation of artifacts of past civilizations and epochs, which contribute to the specific identity and customs of the area.

The National Concept of Spatial Development of the Republic of Bulgaria lists cultural corridors and assesses the degree of significance of their cultural layers. The municipality of Momchilgrad is described as having low level of significance with the presence of only a weak cultural layer. Through the territory of the municipality pass cultural routes with linearly located sites from one or two historical periods with identical stylistic and symbolic features. All of those parameters which determine the existence of a linear structure.

EU policy is geared towards managing and linking the ecological, landscape and cultural values of the regions and realizing the local development potential of municipalities and regions. In this sense, the spatial and socio-economic development of the territory should be oriented towards the cultural heritage of the municipality and the natural and cultural landscapes that express the special features of the region. These are the factors that have a leading role in spatial planning and regional development.

This approach in spatial development is also a starting point for spatial policies related to the tangible and intangible cultural heritage of Bulgaria embedded in the National Strategy for Regional Development of the Republic of Bulgaria (NSRF) and the National Concept of Spatial Development (NCSP). They are directly related to the quality of life. A changed attitude towards cultural values and expansion of the spatial extent of the cultural heritage is also notable - from individual assets to sets with their surroundings and the overall urban and / or natural environment around them, from the interior of a building and its construction to its characteristic landscape, from cultural corridors/routes to underwater cultural assets.

The main guidelines for the preservation of cultural values in all their temporal diversity and variety are related to preservation of their unique characteristics through conservation and active protection, public engagement and adaptation in the broadest sense, preservation and development of the genius loci, their spatial identity and the development of their potential for stimulating economic growth.

The interaction of nature and man has formed numerous cultural landscapes in the municipality. Generally speaking, cultural heritage includes intangible and tangible immovable and movable heritage as a collection of cultural values that carry historical memory and national identity. Cultural values are present on the territory of the municipality - tangible and intangible evidence of human presence and activity, which are of high scientific and cultural value to the individual, community and society in the region. The cultural heritage in the municipality of Momchilgrad is represented by archaeological and historical as well as natural values, folk traditions and cultural customs.

2.3.3. Other details

The intangible cultural heritage of the municipality is represented by folk traditions and cultural customs. The cultural calendar includes a number of events that express an active cultural life of the locality community. The main cultural events in the municipality Momchilgrad are associated with the celebration of national and traditional holidays. On the territory of the municipality are celebrated local holidays, which express the identity of the municipality of Momchilgrad, namely the celebration of the religious holidays Hidirellez and St. George's Day, through the organization of a Public Fair in the Dambala area. The municipality celebrates specific holidays such as the Traditional May Days of Culture, the Momchilgrad Holidays, Ulker etc. The cultural calendar of the municipality includes the International Day for the Protection of Cultural Monuments, the celebration of which aims to promote the cultural heritage and build community commitment in the process of preservation and adaptation of cultural values bearing discernible identity.

The municipality works on projects that seek, preserve and pass on to the upcoming generations the traditions, rituals and customs that have existed through the ages. The

projects are aimed at identifying the traditions and preserving the customs of the different ethnic groups in the Rhodope Mountains. This in turn has led to mutual influence and the formation of a specific lifestyle, culture and crafts. Traditional Rhodope cuisine is represented by the dishes: Vine Leaf Rolls (Sarmi), Banitsa with Bulgur and Leek, Zelnik, Patannik, Blanched Banitsa, Borone, Kashnik, Baklava Snails, Baklava etc. In the municipality there are preserved traditional Rhodope games from the past Chilik, Gugal, Babka, Bechka (or Besh Besh), Svine, Stoy tuk, Zhivo Zeleno, as well as folk healing recipes.

Cultural sites of national and local importance are an asset that should be used to attract socio-economic activity in the municipality.

It is necessary to prepare projects for the conservation, restoration and adaptation of the sites and their integration into a common network, bound to the settlement structure of the municipality. It is also necessary to prepare exploratory hiking paths and routes and the differentiation of cultural zones.

2.3. Identified Issues

The main problems facing the local economy are:

- low general economic development of the municipality and lack of a diversified economy;
- remoteness from any major economic and administrative center;
- low competitiveness of local businesses, obsolete building stock and depreciated equipment, as well as low level of technological development;
- low educational level of employees;
- lack of financial resources for technological renewal
- low level of investment activity on the part of external investors

A key issue of major socio-economic importance is the future of tobacco production as well as the sustainable use of forest resources.

To the achievement of economic growth are expected to contribute the opening of BCP Makaza and the operation of International Transport Corridor 8, which is to influence favorably business development, not only by attracting investments by Greek and Bulgarian entrepreneurs and developing subcontracting chains and suppliers but also by providing access to foreign markets for export of products by local enterprises.

The opportunities for achieving sustainable economic growth are related to the development of agriculture as a sector with potential for expansion in the municipal economy. Prospects for economic development are related to encouraging the emergence and development of related industries in agriculture, forestry and processing.

2.5. Synthesis of Chapter 2

The demographic development of the municipality of Momchilgrad is influenced by factors and conditions of different nature. Data from the latest censuses indicates the existence of a lasting tendency for decrease in the population. During the period between

the 1985 and 2011 censuses, the decrease in the population of the municipality is widespread and affects, to one degree or another, all 49 settlements, incl. the municipal center - the town of Momchilgrad. Only for the period 2005-2012 the inhabitants of the municipality have decreased by 612 as a result of both the negative natural and the negative mechanical growth. The rate of decline during the period was 3.67% with the average annual rate of decline being 0.46%. The population density in the municipality is significantly lower than the average for the country (67 people per km²). About half of the municipal population lives in the villages. Negative changes in population size are one of the main disadvantages for the future demographic and socio-economic development of the municipality.

Age synthesis of the population (2011) shows that 13.09% of the population is aged 0-14; 49.65% aged 15-49 and 37.25% - 65+. Compared to 2015, in 2016 the number of young people in the municipality of Momchilgrad was increased by 581.

The age-sex pyramid of the population is irregular. It has a narrow base and an expanded middle section.

The deformation in its shape shows a trend of population aging for both sexes. The sex ratio is 100.0:100.7 at the beginning of the period and 100.0:97.5 in 2012. As a result, in 2012 there is a certain prevalence of the male population. A major factor in this is the increased migration of working-age women.

According to data of the General Directorate of Civil Registration and Administrative Service as of 06 January 2017 the population with registered permanent address in the town of Momchilgrad is 18,925. The share of youth aged between 15 and 29 is 3,212, which is 16.97% of the total population.

In the first half of 2007-2012 on the birth rate of the population in Momchilgrad is higher than the average for the country, the Southern Central Statistical Region and the province of Kardzhali. The preserved traditions in reproductive behavior of the population are definitely influenced by this, especially in the villages. The increased migration of the population of reproductive age in recent years reflects unfavorably on the age structure of the population. As a result, since 2009 the birth rate has been decreasing and in 2012 it was already lower than the average for the country, the region and the province.

The municipality of Momchilgrad has a sufficiently developed network of educational institutions with an optimal structure for meeting the current needs for general education and vocational training. The secondary schools are concentrated in the municipal center and have a good material and technical base. In primary schools remote from the municipal center reduction of class caps and combining of grades is allowed.

As a tendency, there is a decrease in the number of students and respectively classes. During the school year 2017/2018 on the territory of municipality of Momchilgrad there are eight educational establishments in which 1 345 students are trained in 81 classes from the 1st to the 12th grade; six kindergartens that are visited by 369 children aged 3 to 7; one crèche

which works with 55 children up to age 3 and one service unit - Center for the Support of Personal Development - United Children Complex (CPLC - ODK).

The data for the municipality of Momchilgrad shows a largest relative share of primary school graduates. Those are followed by persons with completed secondary and elementary education. There is a similar distribution for the whole province of Kardzhali, with the values of shares of different educational categories being too close together. Compared to the country average, it shows a lower level of education among the population.

The greatest differences are between the shares of persons with higher education. In the municipality of Momchilgrad the share of graduates is almost 2.5 times lower than the country average. At the same time, the share of persons in the municipality who have never attended school is higher than the average for the province and the country.

According to data from the census in 2011 the total population of 15 and more years in the municipality of Momchilgrad is 14 139 people, or 10.7 % of the total number of this population in province of Kardzhali. The number of economically active persons in the municipality is 6,561, which represents 46.4 % of the population aged 15 and above. This indicator of the municipality of Momchilgrad is equal to the average for the province of Kardzhali - 4.5 per cent. The number of employed persons in the municipality is 5,276 and of unemployed - 1,285. The ratio of their shares - 80.4: 19.6 - is also close to the average for the area - 81.0: 19.0.

In regard to economically inactive persons, the municipality of Momchilgrad ranks first for students (12.2%) along with the municipality of Dzhebel. The pensioners occupy a relatively small share (50.7%) compared to the other municipalities in the territory of province of Kardzhali.

In recent years the number of unemployed persons in the municipality of Momchilgrad has remained relatively high. The unemployment rate in the municipality of Momchilgrad in 2012 was 14.2%. This value is above the country average (11.1%), but lower than the one for province of Kardzhali (15.1%). In terms of age, the relative share of registered unemployed persons in the age groups of 55 years and above and 50-54 years is the largest. The analysis of the data for the municipality of Momchilgrad shows that problems with unemployment are particularly difficult to solve in small municipalities and settlements. Measures in this respect should combine opportunities for opening work places with implementation of programs for increase of the education and professional training of the population.

With the available housing stock and the available living area, relative to the existing population in the municipality, a relatively good standard of living has been achieved in all settlements. The majority of the 7,759 housings available as of 2011 are privately owned.

There is a significant number of uninhabited housings, whose total number for the municipality amounts to 2723, which is 35.1 % of all available housings. The quality characteristics of a part of the housings show reduced values in terms of level of development. This refers to the existence of housings without bathroom and such with external bathroom.

The Gross domestic product (GDP) per capita in the municipality of Momchilgrad is at relatively low levels compared to the average for the country. However the municipality shows improvement - in recent years there has been an increase in the expenses on fixed tangible assets in all three sectors of the economy, yet the competitiveness of the municipal economy is extremely low.

The unemployment rate (11%) is above the national average, but the low value of net sales revenue per employee is an indirect indicator of lower productivity and competitiveness of the local economy and the production of the municipality.

In terms of sectors the tobacco and processing industry, in particular the food and beverage industry and the textile and clothing industry, are of major importance for the economy of the municipality. In the municipality Momchilgrad livestock breeding is one of the main activities. Plant breeding is represented mainly by tobacco growing, while wheat and barley growing in recent years are negligible. Beans, potatoes and vegetables are grown for personal needs. The municipality of Momchilgrad has a high natural potential and a rich cultural history, which is a prerequisite for the development of tourism as well as related economic activities. The service sector is represented by trade.

More than 50% of the agricultural land of the municipality is represented by pastures and meadows, while the arable land in the municipality of Momchilgrad makes up about 40% of it. Forest area exceeds agricultural area, with only 1.2% of it being privately owned.

There is a total of abandoned land in the municipality amounting to 35 401 decares (24% of the agricultural land).

Measures are needed to consolidate farmland and build up an adjoining infrastructure (irrigation, processing, and transport) to justify and allow investment in technology and human resources for the development of plant breeding.

In the municipality of Momchilgrad the relative share of the Turkish ethnicity is 84.8%, and in the province of Kardzhali - 66.2% of the number of the respondents who have volunteered information on the ethnicity poll.

Cultural sites of national and local importance are an asset that should be used to attract socio-economic activity in the municipality. It is necessary to prepare projects for the conservation, restoration and adaptation of the sites and their integration into a common network, bound to the settlement structure of the municipality.

CHAPTER 3: CHARACTERISTICS OF PUBLIC HEALTH

3.1. Mortality, deaths by place of residence, evolution in the region, prefecture, by municipality (if data is available)

Table 20.

<i>Total mortality rate for the province of Kardzhali</i>										
years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
total mortality	10.8	10.3	10.9	10.8	11.0	11.0	11.4	11.7	11.3	11.1

Source: NSI

The total mortality rate for the province of Kardzhali in 2011 is 12.7 ‰. It is highest in the municipality of Ardino - 15.6 ‰, followed by the municipalities of: Kirkovo - 14.7 ‰; Krumovgrad - 13.9 ‰, Chernoochene - 13.6 ‰; Dzhebel 12.2 ‰, Momchilgrad - 11.6 ‰ and Kardzhali - 11.4 ‰. The difference between the values of the indicator in towns and villages is significant: Ardino / villages - 17.8 ‰, Krumovgrad / villages - 15.4 ‰, Momchilgrad / villages - 15.2 ‰, Dzhebel / villages - 13.6 ‰, Kardzhali / villages - 13.3 ‰. The notable difference in mortality between urban and rural populations is mainly due to the more intensive aging process in rural areas. The increase in mortality and emigration processes determine the negative natural growth - minus 1.5, with significant differences by municipality: Kirkovo - minus 5.8; Chernoochene - minus 4.2; Ardino - minus 3.9; Krumovgrad - minus 1.2; Dzhebel - minus 0.2; Kardzhali - 0. It is positive - 0.5 in the municipality of Momchilgrad.

The difference in values of mortality and fertility rates (higher in towns) results in a drastic decrease of the natural growth in the villages compared to towns: Ardino / villages - minus 7.8; Momchilgrad / villages - minus 3.7; Kardzhali / villages - minus 2.7.

Among the reasons for the increase in mortality in the province are:

- Increasing aging of the population;
- Increase of the mortality in active age from socially significant diseases;
- Risk factors related to the lifestyle of the population: irrational nutrition, smoking, hypodynamia and stress;
- Socio-economic and environmental factors.

Table 21.

Deaths for the municipality of Momchilgrad

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Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Deaths (number)	182	186	173	179	150	174	156	167	150	192
Mortality	-	-	-	-	9.0	10.5	9.5	10.2	9.3	12.0

Source: NSI

3.2. Child mortality, evolution in the region, prefecture, municipality

In recent years, there has been a steady trend for decline in child mortality. In 2011, 5 children under the age of one died in the province - a child mortality rate of 2.9 ‰. In 2011 the highest child mortality rate is in the municipality of Krumovgrad - 8.9 ‰. In the municipality of Kardzhali the child mortality rate is 3.9 ‰. No child mortality was recorded in 2011 for the municipalities of Ardino, Dzhebel, Momchilgrad, Kirkovo and Chernoochene.

The main cause of death of children under 1 year in 2011 are a number of conditions occurring in the perinatal period - 7.6. Relatively lower is the incidence of deaths among neonatal infants - 2.9. In 2011, there were no children who died in the post-neonatal period.

Table 22.

Child mortality rate for the province of Kardzhali										
Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
child mortality	14.5	13.5	11.6	8.2	11.9	7.6	11.2	10.8	8.7	8.7

Source: NSI

3.3. Percentage of perinatal mortality, evolution in region, prefecture, by municipality

Table 23.

Year	Perinatal Child Mortality 2015	Perinatal Child Mortality 2016	Perinatal Child Mortality 2017
Province of Kardzhali	14.8	6.2	6.7
Municipality of Momchilgrad	31.3	16.0	10.10

Source: RHI - Kardzhali

3.4. Percentage of deaths by main cause (number of deaths, evolution, key causes of death)

Table 24.

Province of Kardzhali		2015	2016	2017
class	Mortality by cause per 100,000 of the population	1,261.57	1,260.96	1,263.95
I	Certain infectious and parasitic diseases	7.27	10.61	9.93
II	Neoplasms	168.52	181.65	192.57
III	Diseases of the blood and blood-forming and specific disorders involving the immune mechanism			
IV	Diseases of the endocrine system, eating and metabolism disorders	3.30	5.97	6.62
V	Psychiatric and behavioral disorders			
VI	Diseases of the nervous system	4.62	2.65	2.65
VII	Diseases of the eye and its appendages			
VIII	Diseases of the ear and mastoid growth			
IX	Diseases of the circulatory system	776.50	795.56	798.74
X	Diseases of the respiratory system	68.07	40.44	52.28
XI	Diseases of the digestive system	35.02	44.41	39.04
XII	Diseases of the skin and subcutaneous tissue			1.32
XIII	Diseases of the musculoskeletal system and connective tissue	0.66		
XIV	Diseases of the genitourinary system	18.50	17.90	17.87
XV	Pregnancy, childbirth and postpartum period			

XVI	Certain conditions occurring during the perinatal period	3.96	3.98	3.97
XVII	Congenital abnormalities [developmental windows], deformities and chromosome aberrations	1.32	1.33	1.32
XVIII	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	139.44	117.34	137.64
XIX	Injuries, poisoning and some other external causes	34.36	39.11	32.43
Municipality of Momchilgrad		2015	2016	2017
class	Mortality by cause per 100,000 of the population	1,210.96	1,003.02	1,199.41
I	Certain infectious and parasitic diseases	12.75	6.43	12.83
II	Neoplasms	178.46	160.74	173.18
III	Diseases of the blood and blood-forming and specific disorders involving the immune mechanism			
IV	Endocrine, nutritional and metabolic diseases.		19.29	19.24
V	Psychiatric and behavioral disorders			
VI	Diseases of the nervous system	12.75		
VII	Diseases of the eye and its appendages			
VIII	Diseases of the ear and mastoid growth			
IX	Diseases of the circulatory system	605.48	495.08	622.15
X	Diseases of the respiratory system	25.49	25.72	76.97
XI	Diseases of the digestive system	44.61	25.72	12.83
XII	Diseases of the skin and subcutaneous tissue			

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XIII	Diseases of the musculoskeletal system and connective tissue	6.37		
XIV	Diseases of the genitourinary system	19.12	6.43	25.66
XV	Pregnancy, childbirth and postpartum period			
XVI	Certain conditions originating in perinatal period	6.37		
XVII	Congenital abnormalities [malformations], deformities and chromosome aberrations			
XVIII	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	235.82	244.33	211.66
XIX	Injury, poisoning and certain other consequences of external causes.	63.73	19.29	44.90

Source: RHI – Kardzhali

3.5. Life expectancy at birth by gender, evolution

The dependency index is the number of persons in "dependent" age groups (population aged under 15 and over 65+) per 100 persons in the "independent" age group (15 to 64). It is calculated as a percentage.

The dependency index for the municipality of Momchilgrad in 2016 is 19.2 for the population below 15 years of age.

The indicator measures how many years on average a newborn is expected to live under current age-specific mortality conditions. Expected lifespan is a key indicator closely related to health conditions which are an indivisible part of development. Mortality, fertility and migration determine the size of the population, its composition (distribution) by gender and age and its potential for future growth. Extending life expectancy is a major objective of public health. The average life expectancy (ex) is the ratio of the remaining years of the projected lifespan of a person of a certain age (x) - Tx (expected lifespan minus x), to the number of people who lived to age x - (lx)

The average life expectancy for the population of the country for the period 2015-2017 is 74.8 years.

The average life expectancy for men is 71.3 years, while for women it is higher by 7.1 years - 78.4 years.

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3.6. Life expectancy at age 65 by gender, evolution

The dependency index (senior age) is the number of people aged 65 and above per 100 of the population aged 15-64. It is calculated as a percentage.

The dependency index for the municipality of Momchilgrad in 2016 is 174.1% for the population above 65 years of age.

Table 25. Projected population for the municipality of Kardzhali

Sex	Option 1 (under the convergence hypothesis) ¹												
	Years												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
Kardzhali	146907	141002	134548	128043	121519	114945	108414	102087	96125	90542	85368	80648	76606
Men	72813	69641	66256	62913	59630	56365	53145	50000	47016	44220	41681	39435	37585
Women	74094	71361	68292	65130	61889	58580	55269	52087	49109	46322	43687	41213	39021
Sex	Option II (relative acceleration) ²												
	Years												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
Kardzhali	147106	141822	136231	130760	125350	119865	114293	108807	103585	98655	94022	89644	85897
Men	72926	70073	67158	64370	61671	58990	56291	53617	51029	48542	46218	44099	42415
Women	74180	71749	69073	66390	63679	60875	58002	55190	52556	50113	47804	45545	43482
Sex	Option III (relative delay) ³												
	Years												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
Kardzhali	146815	140625	133748	126745	119677	112577	105566	98816	92469	86565	81130	76239	72059
Men	72769	69432	65823	62210	58636	55095	51615	48238	45053	42109	39463	37143	35218

Women	74046	71193	67925	64535	61041	57482	53951	50578	47416	44456	41667	39096	36841
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¹ Option I (under the convergence hypothesis): This option is defined as realistic and complies with the European Union's statutory requirements for the demographic and socio-economic development of the member states

² Option II (relative acceleration): This version suggests that demographic development will take place under favorable socio-economic conditions in the country.

³ Option III (relative delay): In this scenario, the development of the population is predicted under hypotheses about unfavorable socio-economic conditions in the country.

3.7 Discharged patients by category of disease and province (in the region, prefecture, municipality) over the last three years (data from findings in the respective hospital)

Table 26.

DESIGNATION OF THE DISEASES IN ICD-10	Discharged		
	2015	2016	2017
<i>Province of Kardzhali</i>	1	2	3
TOTAL	28,278	26,515	26,054
I. Certain infectious and parasitic diseases A00-B99	1,208	1,479	1,210
II. Neoplasms C00-D48	229	191	175

III. Diseases of the blood and blood-forming and specific disorders involving the immune mechanism D50-D89	1	1	1
IV. Endocrine, nutritional and metabolic diseases E00-E90	1,183	1,253	1,357
V. Psychiatric and Behavioral Disorders F00-F99	1,715	1,622	1,591
Non-organic enuresis F98.0		0	0
VI. Diseases of the nervous system G00-G99	190	263	408
VII. Diseases of the eye and its appendages H00-H59	1,096	837	602
VIII. Diseases of the ear and mastoid growth H60-H95	545	489	509
IX. Diseases of the circulatory system I00-I99	4,537	4,647	4,546
X. Diseases of the Respiratory System J00-J99	4,010	3,629	3,842
XI. Diseases of the digestive system K00-K93	2,728	2,524	2,459
XII. Diseases of the skin and subcutaneous tissue L00-L99	1,027	982	1,099
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99	1,588	1,558	1,701
XIV. Diseases of the genitourinary system N00-N99	1,837	1,363	1,277
XV. Pregnancy, childbirth and postpartum period O00-O99	3,217	3,090	2,816
XVI. Certain conditions originating in perinatal period P00-P96	202	227	203
XVII. Congenital abnormalities [malformations], deformities and chromosome aberrations Q00-Q99	16	13	13
XVIII. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified R00-R99	264	293	197
XIX. Injury, poisoning and certain other consequences of external causes S00-T98	1,430	1,238	1,231
XXI. Factors influencing public health status and contact with health services Z00-Z99	1,055	816	817

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GHAC "Dr. Sergey Rostovtsev" EOOD - town of Momchilgrad

DESIGNATION OF THE DISEASES IN ICD-10	Discharged		
	2015	2016	2017
<i>a</i>	1	2	3
TOTAL	2,316	2,359	2,198
I. Certain infectious and parasitic diseases A00-B99			
II. Neoplasms C00-D48	6	5	5
III. Diseases of the blood and blood-forming and specific disorders involving the immune mechanism D50-D89	1		
IV. Endocrine, nutritional and metabolic diseases E00-E90		1	
V. Psychiatric and Behavioral Disorders F00-F99			
VI. Diseases of the nervous system G00-G99	30	22	20
VII. Diseases of the eye and its appendages H00-H59			
VIII. Diseases of the ear and mastoid growth H60-H95			
IX. Diseases of the circulatory system I00-I99	801	756	698
X. Diseases of the Respiratory System J00-J99	482	447	545
XI. Diseases of the digestive system K00-K93	1		0
XII. Diseases of the skin and subcutaneous tissue L00-L99			
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99	388	371	364
XIV. Diseases of the genitourinary system N00-N99	123	95	91
XV. Pregnancy, childbirth and postpartum period O00-O99	416	414	326
XVI. Certain conditions originating in perinatal period P00-P96	8	4	5

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XVII. Congenital abnormalities [malformations], deformities and chromosome aberrations Q00-Q99	0	1	1
XVIII. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified R00-R99	60	94	18
XIX. Injury, poisoning and certain other consequences of external causes S00-T98			
XXI. Factors influencing public health status and contact with health services Z00-Z99	126	149	125

Source: RHI - Kardzhali

3.8. Main diagnosis by province (local community) over the last 3 years (data from findings in health centers and regional or rural offices)

In the structure of the hospitalized patients in the province of Kardzhali during the last 3 years the leading diseases are: Diseases of the circulatory system followed by Diseases of the respiratory system and in third place Pregnancy, childbirth and postpartum period. The situation in the municipality Momchilgrad is similar.

3.9. Identified Issues

The state of public health in the municipality is a summation of the health issues of the population as a whole. It is the reflection of:

- Lifestyle;
- Health culture;
- Quality of Healthcare;
- Range of clinical pathways.

Part of the negative healthcare processes in the municipality of Momchilgrad are linked to some extent to the shortcomings of the health system.

3.10. Synthesis of Chapter 3

The total mortality rate for the province of Kardzhali in 2011 is 12.7 ‰. It is highest in the municipality of Ardino - 15.6 ‰, followed by the municipalities of: Kirkovo - 14.7 ‰; Krumovgrad - 13.9 ‰, Chernoochene - 13.6 ‰; Dzhebel 12.2 ‰, Momchilgrad - 11.6 ‰ and Kardzhali - 11.4 ‰. The difference between the values of the indicator in towns and villages is significant.

Among the reasons for the increase in mortality in the province are:

- Increasing aging of the population;
- Increase of the mortality in active age from socially significant diseases;

➤ Risk factors related to the lifestyle of the population: irrational nutrition, smoking, hypodynamia and stress;

➤ Socio-economic and environmental factors.

There has been a steady trend for decline in child mortality.

The average life expectancy for the population of the country for the period 2015-2017 is 74.8 years.

The average life expectancy for men is 71.3 years, while for women it is higher by 7.1 years - 78.4 years.

In the structure of the hospitalized patients in the province of Kardzhali during the last 3 years the leading diseases are: Diseases of the circulatory system followed by Diseases of the respiratory system and in third place Pregnancy, childbirth and postpartum period. The situation in the municipality Momchilgrad is similar.

CHAPTER 4: HEALTH AND WELFARE SERVICES IN THE REGION

4.1. Infrastructure and health services (provision of health care)

4.1.1. Structure of the health system

A) In the country

The Bulgarian health system has undergone many changes since 1990. Before then, there was a Semashko-type healthcare system, in which health services were free, and establishments are state-owned and entirely financed from the state budget.

In the mid-1990s began reforms aimed at alleviating government expenditure through decentralization and the introduction of a social security system. Thus in 1999 the National Health Insurance Fund was created, which currently works with 88 private and 312 state and municipal healthcare establishments through 28 regional funds. NHIF income is generated mostly by private sector employees. The fund in its turn concludes contracts with healthcare establishments and thus pays for the services they provide. The NHIF receives additional income from the state and local budgets, and the local administration finances all healthcare establishments in its territory that do not have a contract with the NHIF. Private uncontacted medical establishments can provide healthcare services against payment.

By law, Bulgarian citizens receive health services against payment of social security contributions. In practice, however, nearly 50% of the health services are paid directly by patients. This is due to the chronic shortcomings in the financing of hospitals and services by the National Health Insurance Fund (NHIF), mainly due to inappropriate clinical pathways and abuses in the system. Most state and municipal hospitals operate at a loss. Thus, out of

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33 European countries (including the 27 in the EU), Bulgaria ranks last in the quality of health services.

SWOT analysis of the health system in the Republic of Bulgaria

<p>STRENGTHS <i>Internal factors</i></p> <ul style="list-style-type: none"> * Availability of administrative, executive and scientific capacity for the functioning of the health system and the implementation of reforms. * A well-developed health network covering the entire country. * Availability of well-qualified senior medical staff is above the average for EU member states. * Well developed system of medical education. 	<p>WEAKNESSES <i>Internal factors</i></p> <ul style="list-style-type: none"> * A great number of medical establishments in the absence of categorization and indicative standards. * Insufficient funding of the healthcare system. * Inefficient use of the provided financial resources. * Insufficient awareness of citizens about their rights and obligations. * Insufficient preventive care. * Difficult access to quality health services. * Poor utilization of natural resources for treatment and rehabilitation purposes. * Unregulated practices. * Unsatisfactory state of the post-graduate and continuing education system for medical staff. * Ineffective coordination between the different structural units in the system and poor management of hospitals. * Weaknesses and inconsistencies in the legislative and regulatory framework. * Insufficient and inefficient cross-sectorial cooperation. * No modern integrated system for effective information exchange in the healthcare system.
<p>OPPORTUNITIES <i>External factors</i></p> <ul style="list-style-type: none"> * Raising the awareness of healthcare users. * Membership in the EU and inclusion in the European health system. * Planning and provision of medical specialists for each type of activity in the long term, in 	<p>THREATS <i>External factors</i></p> <ul style="list-style-type: none"> * Aging population. * Decrease in the number of specialists from certain specialties, including anesthesiology and intensive care,



<p>accordance to the demands of the population for particular health services.</p> <ul style="list-style-type: none"> * Streamlining the opportunities for specialization and continuing education of health care providers. * Utilization of the favorable geographical climatic conditions for the development of balneotherapy and health tourism. * Utilization of EU funds to achieve the objectives of the reform. * Development of services related to convalescence care, rehabilitation and elderly care; * Expanding the Emergency Response Capacity of the healthcare system. * Introduction of on-line health services and establishment of an integrated information system. 	<p>pathoanatomy, neonatology, psychiatry and clinical laboratory.</p> <ul style="list-style-type: none"> * Decrease in the number of nurses - two times lower than the same indicator for EU member states. * Insufficiency of funds for the renovation and maintenance of the material and technical base and the supply of modern medical equipment. * Insufficient funding of the health care system. * Risk of potential occurrence and spread of epidemics and pandemics. * Risk of potential occurrence of environmental crises and disasters in the country and abroad.
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B) In the region

In 2011 66 general practitioners and 63 individual practices were registered in province of Kardzhali. There are still unoccupied medical practices in the province. A significant proportion of the physicians, especially those in small settlements, are in retirement or pre-retirement age, and the number of young physicians is extremely low. This in turn leads to an imbalance among qualified cadres and a lack of continuity. There is also a consolidation of medical practices, which leads to a decrease in the quality of public healthcare.

The large distances between small settlements and urban centers hamper the access of inhabitants of remote and hard-to-reach settlements and neighborhoods to medical help. The present state of the healthcare system in the province is characterized mainly by the fact that some of the inhabitants of the villages do not have access to primary medical care.

Emergency medical care as a whole is insufficiently effective due to difficult access. Medical staff is more abundant in towns than in the countryside. This is mainly due to the

specific infrastructure - fragmentation and remoteness of small settlements. For this reason, emphasis should be placed on preventive medicine.

Healthcare establishments for primary medical care and dental outpatient care in the municipality of Kardzhali in 2011 amount to 199, of which 63 are Outpatient clinics for individual practice of primary medical care (OCIPPMC) and 136 are Outpatient clinics for individual practice of primary dental care (OCIPPDC). The number of this type of medical establishments is largest in the municipality of Kardzhali - 33 and 76 respectively, and smallest in the municipality of Dzhebel - 2 and 5.

Table 27. *Medical establishments for primary medical and dental outpatient care by municipality in the province of Kardzhali in 2011*

Municipality	OCIPPMC	OCIPPDC
Municipality of Ardino	3	11
Municipality of Krumovgrad	7	10
Municipality of Momchilgrad	5	10
Municipality of Kirkovo	8	14
Municipality of Dzhebel	2	5
Municipality of Chernoochene	5	8
Municipality of Kardzhali	33	76

Source: RHI - Kardzhali

Table 28. *Establishments for Outpatient Care in the province of Kardzhali in 2011*

Outpatient clinics for individual practice of primary medical care (OCIPPMC)	63
Outpatient clinics for individual practice of primary dental care (OCIPPDC)	136
Outpatient clinics for individual practice of special medical care (OCIPSMC)	68
Medical Centers	6
Diagnostic Consultation Center (DCC)	1
Medical Technical Laboratory (MTL)	9
Medical Diagnostic Laboratory (MDL)	4
Hospices	2

Source: RHI - Kardzhali

In the province of Kardzhali there are 136 OCIPPD, followed by 68 OCIPSMC, and 63 OCIPPMC. Smallest is the number of Diagnostic Consultation Centers (DCC) and hospices.

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Specialized outpatient care is a major integrative element in the healthcare system that provides the population with affordable, high-quality medical care and reduces the need for more expensive inpatient care through active prevention, early diagnosis and treatment in ambulatory conditions.

Evaluation of the demand for specialized medical staff in outpatient care detected the need to expand the package of services in each specialty and to relocate some diagnostic and treatment services from inpatient to outpatient care. Providers of specialized outpatient medical care are also unevenly distributed, with their concentration being predominantly in the municipal centers. This obstructs public access to this type of service, increases the number of cases with late diagnosis and complications, and increases the number of hospitalizations.

Table 29. *Number of GHAC, SPH, RDPPDIU, number of beds and their utilization in 2011 in province of Kardzhali*

Type of medical establishment	Number	Beds	Patients	Utilization in days	Utilization in %	Total bed-days	Clinical Pathways
GHAC	5	598	14,991	189.16	51.82	137,409	282
SPH	1	320	2,178	354.73	97.19	113,514	
CMSCC	1	140	190	273.26	88.15	38,257	-

Source: RHI – Kardzhali

The system of medical establishments in the Municipality of Kardzhali is capable of meeting the public healthcare needs of both the municipality and the province.

In the territory of province of Kardzhali operate the following GHAC:

- GHAC "Dr. At. Dafovski "AD - Kardzhali;
- GHAC "Kardzhali" OOD;
- GHAC "Ardino" EOOD, town of Ardino;
- GHAC "Dr. S. Rostovski" EOOD, town of Momchilgrad;
- GHAC "Life +", town of Krumovgrad.

Their total number of beds amounts to 598, and in the last year their utilization in days is 189.16, which is 51.82% of the total available bed days.

The total number of patients who underwent hospital treatment in 2011 is 14 991. The available beds in the currently operation State Psychiatric Hospital and the Center for Medical and Social Care for Children are 460, which number is relatively close to the total number of beds available in all GHAC in the province. These two establishments manage to utilize their capacity almost entirely - 97.19% in the SPH and 88.15% in the CMSCC, but the

number of patients hospitalized in them is significantly lower than in that in GHAC - only 2 368 people.

The equipment in hospitals is at a good level and physicians have the opportunities to exchange experience with specialists visiting from the entire country. In connection with the healthcare reform, the activity of RDPPDIU "Dr. V. Vlasakiev" EOOD has been terminated as of 01.01.2011, but a department of Pneumology and Phthysiatry was opened at GHAC "Dr. At. Dafovski "AD.

Because of the uneven distribution of pre-hospital care, the number of hospitalizations in many hospitals in the province has been increasing. Consultations with a specialist are impossible in remote places. Patients have no access to a laboratories, imaging diagnostic units, etc. and prefer to refer to directly a hospital as a single complex in which they can receive any needed medical care. In primary outpatient care there is no established system for 24-hour admission. This increases the flow of patients to specialists and hospitals. This practice increases the number of secondary care visits and hospitalizations.

In the territory of the provincial center Kardzhali there is a Center for Emergency Medical Care (CEMC), which has 8 branches in the rest of the province. The number of emergency outpatient examinations performed in 2011 was 25,962, incl. 13,704 responses to emergency calls. Of those 6,821 were for emergency cases, 4,963 for non-emergency cases and 1,920 for sanitary transport. The permanently employed medical is sufficient, but the qualifications of senior and middle-level medical staff are insufficient. Turnover among physicians is great. The main burden in the branches falls on the middle-level medical staff.

In order to improve the quality of emergency medical care it is necessary to provide resources, improve the qualification of the personnel and the preparedness for rapid response to accidents, disasters and catastrophes in accordance with the European standards. It is also necessary to improve synchronization between existing health establishments and key units in the sector of health care - emergency medical centers, family doctors, specialized offices, health offices in educational establishments etc. in order to organize better prevention and diagnostics.

Since 2001 in the town of Kardzhali operates the first and only Center for Battling Hypertension in the country, which offers free measurement of blood pressure. Thus the inhabitants of the entire province are given the opportunity to constantly monitor their health and receive qualified help.

The experts of the RHI of Kardzhali periodically prepare and disseminate health information materials for this risk factor. The total number of patients who had visited the Center by 2009 was 42,346. In the RHI has been established and operates permanently a Health Center, which has constant exposure and hosts organized clubs. It is visited both by citizens and by students and guests from the province and the entire country.

Some of the main issues in health care that need to be addressed are:

1. Increasing tendency for aging of the qualified medical staff - lack of young physicians in certain specialties.

2. Unoccupied practices in the villages are unattractive. The main reasons are a large number of uninsured people, elderly people with specific health problems, scattered settlements, poor roads and irregular transport.

3. Insufficient number of group medical practices.

4. As a serious problem RHI - Kardzhali indicates the large number of uninsured persons.

4.1.2. Hospitals in the region - Covered subjects - Medical Staff - Equipment - Needs etc.

In the municipality of Momchilgrad there is a single general hospital - GHAC "Dr. Sergei Rostovtsev". The facility was established in 1952. It occupies an important place in the healthcare system of the province of Kardzhali. It directly serves the population of the municipalities Momchilgrad and Kirkovo. The medical establishment is situated in a separate plot in the northeastern part of Momchilgrad and consists of a massive three-storey building and two independent one-storey buildings. The total number of staff in the medical establishment is 65 persons (doctors, nurses, midwives, laboratory technicians, and service staff). The structure is built according to the specific needs of the serviced population and includes 2 functionally separate blocks:

I. Diagnostic Consultation Block

1. Consultation Offices for: Internal Diseases, Child Diseases, Nervous System Diseases, Obstetrics and Gynecology.

2. Diagnostic Imaging Department - no beds - The unit has the following equipment: X-ray, scanner, Doppler, echocardiograph, abdominal echograph.

3. Clinical laboratory, which has advanced high-capacity automatic analyzers - hematological, biochemical, ion-selective, blood-gas analyzer, coagulometer and glucagon analyzer, hormone-immunological analyzer, glycated hemoglobin and microalbuminuria device.

4. Manipulation room

5. Duty Room.

II. Inpatient Block - 69 beds as follows:

Internal ward - 24 beds with the following sections:

➤ Cardiology - 16 beds;

➤ Pneumology and Phthysiatry - 6 beds;

➤ Internal diseases - 2 beds.

The department has a modern stationary bike and an echocardiograph.

Children's ward - 10 beds.

The department has an Intensive Surveillance and Treatment Room equipped with equipment for monitoring of basic vital signs.

Neurology ward - 13 beds.

Performs the following activities:

- Diagnosis and treatment of diseases of the peripheral and central nervous system;
- Diagnosis and treatment of diseases of the cranial nerves, nerve roots and plexuses, polyneuropathy, etc.

The department is equipped with modern diagnostic equipment, which guarantees the certainty and reliability of the diagnosis. Specialists provide consulting services for inpatients and receive throughout the day.

The Neurology Ward has:

- Doppler sonography room;
- Electromyography room;
- Electroencephalography room.

Obstetrics and Gynecology Ward - 10 beds as follows:

- Maternity - 2 beds;
- Pathological pregnancy - 5 beds;
- Gynecology - 1 bed
- Neonatology - 2 beds.

In connection with the implementation of activities under the National Program for Improvement of Maternal and Children's Health in GHAC "Dr. Sergey Rostovtsev" - Momchilgrad is performed neonatal auditory screening of newborns. The hospital has an ultrasound emission device located in the maternity ward.

Anesthesiology department without beds

The main goal is to preserve the health and life of the patients through diagnostics and adequate monitoring by means of guaranteed 24-hour uninterrupted planned and emergency anesthesiological assistance to patients from all departments of GHAC "Dr. Sergei Rostovtsev" - Momchilgrad.

Department for continuous treatment of internal diseases - 10 beds.

It has high and low frequency equipment, ultrasound and magnetotherapy devices, electrotherapy device, InterVac, iontophoresis device, etc.

Diagnostic Imaging Department.

Diagnostic Imaging Department - no beds - The unit has the following equipment: X-ray, scanner, Doppler, echocardiograph, abdominal echograph. All kinds of roentgenoscopic, roentgenographic and contrast roentgen scans are performed - venous urography, cytography, fistulography, CT. Contrast scans of gallbladder and bile ducts, scans of the gastrointestinal tract, ovaries and uterus, echography of abdominal organs are also performed.

III. Administrative and Business Block:

- Sterilization room;

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- Automobile transport;
- Administration.

The Duty Room has been providing medical assistance to health-insured and uninsured persons between 8.00 pm and 8.00 am on working days and 24 hours a day during weekends and holidays as of 01.11.2014. In the health establishment is opened a paid manipulation room for the needs of the population, which operates 24 hours a day.

4.1.3 Health centers in the region - covered subjects - Medical Staff - Equipment - Needs etc.

Pre-hospital service is provided by a single Medical Center for Outpatient Care with the following rooms:

- Obstetrics and Gynecology Room;
- Pulmonary Room;
- Internal diseases;
- Neurological Room;
- Surgical Room.

The staff consists of 5 doctors and 2 nurses.

Table 30. Registered medical practices and concluded to the municipality of Momchilgrad and RHIF contractors for 2018

Indicator	Number of practices	RHIF contractors for 2018
Physicians - total	26	
Including general practitioners	4	4
Doctors of dental medicine	12	12
Specialists	10	6 contracts for IPSMC
Medical healthcare specialists	73	
MC	1	1 contract for MC

Source: RHI – Kardzhali and RHIF - Kardzhali

4.1.4. Private Clinics

None.

4.1.5. Private Doctors

None.

4.1.6. Distance of settlements from health services in the region

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The distance of all settlement in the municipality of Momchilgrad (in km) to the municipal center ranges from 3 to 29 km. The village nearest to the municipal center - Bagryanka, is 3 km away, and the one farthest - Sindeltsi, is 26 km away. Most of the villages are 10 to 24 km away.

This makes it difficult for the population to receive timely and quality health care.

2. Provision of health services (indicators)

4.2.1. Physicians per 1000 inhabitants (in the province, municipality) as of 31.12.2017

Table 31.

	number	Per 1000 inhabitants
Province of Kardzhali	539	3.6
Municipality of Momchilgrad	26	1.7

Source: RHI - Kardzhali

4.2.2. Health care specialists per 1,000 inhabitants as of 31.12.2017

Table 32.

	number	Per 1000 inhabitants
Province of Kardzhali	854	5.7
Municipality of Momchilgrad	73	4.7

Source: RHI - Kardzhali

4.2.3. Hospital beds per 1000 inhabitants as of 31.12.2017

Table 33.

	number	Per 1000 inhabitants
Province of Kardzhali	826	5.5
Municipality of Momchilgrad	69	4.4

Source: RHI - Kardzhali

4.2.4. Number of people using health services / 1,000 inhabitants in the prefecture, by municipality

By Bulgarian laws the population is not deprived of health services. In this case of the population of province of Kardzhali and respectively the municipality of Momchilgrad.

Table 34.

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Number of people using health services1000 inhabitants	2015	2016	2017
Province of Kardzhali	151,319	150,837	151,113
Municipality of Momchilgrad	45,153	44,908	44,888

Source: RHI - Kardzhali

4.2.5 Number of hospitalized persons / 1000 inhabitants in prefecture, by municipality

Table 35.

Hospitalized persons / 1,000 inhabitants	2015	2016	2017
Province of Kardzhali	189.33	178.34	175.12
Municipality of Momchilgrad	156.53	152.12	141.56

4.3. Health programs in the region by other institutions

4.3.1. Health programs by the municipality (vaccinations, information events, programs for the elderly, etc.)

None.

4.3.2. Health programs by other organizations

None.

4.3.3. Prevention policies in the province

Outside of the municipal center Momchilgrad, there is a lack of quality health care, most affected being the population in remote villages. In many of them lacks medical service and medical care is sought only as a last resort, often late. It is necessary to work on improving the health culture and hygiene habits of parts of the population. The distance from specialized hospitals and health centers can be compensated by preventive health measures and the conduct of health information campaigns among the population to increase the ability of people to lead a full and productive life.

To improve the quality of health services, it is necessary to rehabilitate the health fund, to do prevention and early diagnosis of socially significant diseases, to provide opportunities for pre- and post-natal healthcare. This is particularly important because the health status in the villages is significantly lower.

The analysis of newly registered diseases and morbidity shows that chronic noninfectious diseases of the circulation and respiratory system are determinants in the pathology of the population. The observed reduced morbidity is probably related to the seeking for medical services outside the municipal health system. The demographic aging of the population puts additional pressure on the health needs structure due to the fact that older people have more than one chronic illness, which also leads to higher healthcare costs.

In recent years there has been a tendency for the increase of patients hospitalized due to myocardial infarction and stroke in the municipality of Momchilgrad. The reduced number of admitted patients is due to the fact that most of them are sent to the hospital in the province center. GHAC "Dr. Sergey Rostovtsev" - Momchilgrad cannot offer these patients convalescence care through the application of rehabilitation and physiotherapy, which is extremely important for restoring their motor functions. This shows that resources - human and financial - need to be invested for the rehabilitation of the physiotherapy and rehabilitation room that is vital to this risk group.

4.4. Infrastructure - social services in the region

4.4.1. Kindergartens

In 2014 in the municipality operate 9 Full-day Kindergartens (FDKG), two of which - in Novo Sokolino Village and Karamfil Village, are branches of FDKG "Happy Childhood", Momchilgrad and Zvezdel Village. They are visited by 521 children aged 3 to 7 years. There is also a single nursery - "Third March", Momchilgrad, which works with 55 children.

Table 36. Kindergartens in municipality of Momchilgrad (2008 - 2012),

Indicator	2008/2009	2009/2010	2010/2011	2011/2012
Kindergartens - total	7	7	7	7
Kindergarten teachers	57	54	50	50
Children	559	553	530	520
Full-day kindergartens	7	7	7	7

Source: municipality of Momchilgrad

Table 37. Kindergartens in the province of Kardzhali (2010-2013)

Indicator - Kindergartens	2010/2011	2011/2012
Kindergartens - total	64	63
Kindergarten teachers	434	434
Children	4 993	5 002
Full-day kindergartens	64	63
Kindergarten teachers	402	405
Children	4 537	4,617

Source: NSI

This data shows that in the municipality of Momchilgrad there is a tendency for decrease in the number of children in Full-day Kindergartens (6.8% compared to 2009), in contrast to this indicator at a provincial level, where the number of children in these establishments has increased in recent years.

4.4.2. Creative centers for children

The following social services are provided in the municipality of Momchilgrad:

Day Care Center for Children with Disabilities

Founded as a state delegated activity on 01.03.2008 it has vacancies for 24 children, who will be cared for by a social worker, educators, a psychologist, a rehabilitator and a speech therapist. There is a trend towards the increased demand for this type of service. Most children who have used the services of the center are 8 to 18 years of age. Children receive support for day-to-day activities, educational activities - both group and individual, health prevention, medical rehabilitation, logopedic and psychological support, free activities and games according to their interests. The Center also supports the parents of the children in the center.

The number of users of this service is greater than its capacity. At the end of 2012 a proposal was made by the Mayor of the municipality of Momchilgrad for increasing the capacity of the social service. As of 01.01.2014, the capacity of Day Care Center for Children with Disabilities "Rainbow" has been increased from 24 to 28.

Center for public support (CPS)

A Center for Public Support (CPS) is a set of social services related to the prevention of abandonment, violence and dropping out of school.

Users of the service are children at risk and their families (one-parent children, children in large families, children abandoned at birth and children accommodated in Centers for Medical and Social Care for Children; children of underage parents; children at risk of dropping out of school; children with deviant behavior; children victims of violence and trafficking).

Activities:

- Prevention of abandonment (counseling, mediation, pregnancy school);
- Family Planning Program, Positive Parenting Programs;
- Foster care and adoption (training, selection and evaluation of foster parents and adoptive parents, foster parent campaigns);
- Support of relatives in taking care of the child;
- Reintegration into the biological family and integration into an extended family;
- Prevention of dropping out of school (counseling, training in social skills);
- Leisure programs and school support;
- Prevention of addictions.

Training in independent living skills and social integration of young people, leaving the education system, assistance in providing support and counseling to people over the age of 18 who leave specialized institutions and are about to lead an independent lifestyle.

Support for children with deviant behavior and their families (counseling for children and families, social skills programs, programs to prevent deviant behavior, leisure programs);

Support for children who have suffered violence and their families - preparation for pre-trial hearing, psychological counseling.

CPS - Momchilgrad

From 07.04.2011 to 29.02.2012 the social service was provided and financed within the project "Center for Public Support - Momchilgrad" with a capacity for 40 children at risk and their families. It has existed as a delegated state activity since 01.03.2012 by Order No. PД01-148/10.02.2012 of the Executive Director of the Agency for Social Assistance. The center has a capacity of 35.

Foster care

Funded under the Human Resources Development Operational Programme, grant scheme "Accept me", project "I Have a Family Too".

The Social Service "Foster Care" provides: Individual work with children, preparation for accommodation and follow-up on a case-by-case basis; Training and support of the families of relatives who have accommodated children.

4.2.3. Elderly care facilities

Social patronage at home

The service is preferred by elderly people living alone. The capacity of the service is 70 people, but in recent years the average number of users is 30. This service is mainly used by residents of Momchilgrad for food delivery. A general trend for the staff of the Social Patronage at Home is the lack of methodological support and training.

Social Services in a Family Environment:

➤ "Personal assistant" - a person providing constant care for a child or elderly person with a permanent disability, or a severely ill person to meet their daily needs.

➤ "Social Assistant" - a person providing a set of services aimed at social work and user consultations related to the satisfaction of the needs for organization of leisure time and the establishing of contacts.

➤ "Home Assistant" - a home care provider, aiming to maintain the hygiene of the living quarters, shop and prepare food, do laundry and other communal and domestic activities.

Table 38. *Social service "personal assistant"*

MUNICIPALITIES	Number of personal assistants	
	For 2011	For 2012
Municipality of Ardino	9	8
Municipality of Dzhebel	5	4
Municipality of Kirkovo	11	13
Municipality of Krumovgrad	15	16
Municipality of Kardzhali	27	24
Municipality of Momchilgrad	2	2
Municipality of Chernoochene	1	1
Total for the province of Kardzhali	70	68

** Province of Kardzhali - number of personal assistants under the National Program "Assistants for people with disabilities" 2001-2012, source: Monitoring report on the implementation of the Regional Strategy for Development of Social Services*

Social Assistant and Home Assistant

For scheme "Family care for independence and dignified life of people with various disabilities and people living alone", activities "Social Assistant" and "Home Assistant", Phase 3 of the Human Resources Development Operational Programme in the province of Kardzhali in 2012 were approved the following municipalities:

Table 39. *Care in a family environment*

Municipality	Social Assistants (number)	Home assistants (number)
Krumovgrad	-	60
Momchilgrad	13	20

** Number of social assistants and domestic helpers under the HRD OP - 2012, source: Monitoring report on the implementation of the Regional Strategy for the Development of Social Services*

Center for family-type accommodation

Project under the Human Resources Development Operational Program - providing municipal land and a building for CFTA with a capacity of 12 persons.

Unit for Service in a Home Environment

Funded under the "Quality of Life in the Community" Project of HRD OP, Scheme "Home Assistance" 2013-2014:

- Provision of daily care in a family environment to lonely old people and people with disabilities who, due to various health restrictions, are excluded from social life and at risk of dependence on institutional care;
- Building of skills for independent living.

4.4.4. Welfare programs in the municipality

Program "Provision of social assistance through applying differentiated approach": Aims to provide basic needs and supplement the incomes of poor individuals and families to the differentiated minimum income by providing monthly, targeted and lump sum aid under the Social Assistance Act and its Application Regulations. Aid shall be granted on the basis of an assessment of the income and wealth status, marital and health status of the persons and families, applying a differentiated approach on a case-by-case basis; to supply individual healthcare contributions; to provide targeted funds for hospital diagnosis and treatment to Bulgarian citizens with discontinued health insurance rights. Priority is given to elderly people, who live alone, people with disabilities, single parents. For them, the differentiated minimum income for determining the amount of monthly aid is higher. There is a decrease in the number of cases subject to social assistance, which is largely due to the change in eligibility conditions.

Program "Target Social Aid for Heating": To cover part of the heating costs during the winter period, targeted heating aid is provided. The main priority is elderly people, who live alone, people with permanent disabilities and parents who raise their children themselves by providing easy access to help. There is a tendency for decrease in the number of persons receiving targeted aid under this program.

Child Protection Program: Gives financial support to families and is in line with/implements the principles of protection/raising of children in a family environment. It is part of the activities for abandonment prevention, reintegration and accommodation of children in the families of relatives or in foster families. There has been a slight increase of the cases in this program in recent years. Support for children was also provided through lump sum aid for first-graders.

Municipal Social Protection Measure: As a measure to support persons in severe social and/or health conditions the municipality of Momchilgrad by an order of the mayor has formed a commission that meets once a month. This commission examines submitted

applications and makes a proposal to the mayor for the granting of lump sum social benefits to persons in need.

4.5. Other infrastructures - services related to health in the region.

4.5.1. Sport facilities

Sports traditions are well developed in the municipality. The town of Momchilgrad is accommodates the Rhodope Stadium, a swimming pool and a sports hall. Under the patronage of the municipality annual sports competitions and events are organized and held. At the moment are successful table tennis and football. Two sports clubs - the Rhodope-1935 Football Club and the Rhodope Table Tennis Club are licensed in the municipality of Momchilgrad.

Table 40. *Sports infrastructure in the municipality of Momchilgrad*

No	Designation of the facility	Functional Purpose	Location
1.	Sport complex	Sports for all and team preparation	town of Momchilgrad, province of Kardzhali, 23, Gyumyurdzinska Str.
2.	Sports Hall	Sports for all and team preparation	town of Momchilgrad, province of Kardzhali, 23, Gyumyurdzinska Str.
3.	Football stadium and dressing room	Sports for all and team preparation	town of Momchilgrad, province of Kardzhali, 23, Gyumyurdzinska Str.
4.	Outdoor swimming pools with a dressing room	Sports for all	town of Momchilgrad, province of Kardzhali, 23, Gyumyurdzinska Str.
5.	Football stadium and dressing room	Sports for all	Zvezdel Village, municipality of Momchilgrad, province of Kardzhali
6.	Wrestling gym	Sport for all and classes on Physical Education	Zvezdel Village, municipality of Momchilgrad, province of Kardzhali
7.	Gymnasium	Sport for all and classes on Physical Education	town of Momchilgrad, province of Kardzhali, district 15, plot 1, lot No. 424
8.	Gymnasium	Sport for all and classes on Physical Education	town of Momchilgrad, province of Kardzhali, District 13, 33, Makaza Str.

Source: official website of the municipality of Momchilgrad

4.5.2. Cultural sites

In the municipality of Momchilgrad are identified 40 archaeological and historical sites, declared as immovable cultural assets, examined by settlements in the analysis of municipality of Momchilgrad. The cultural heritage of the municipality includes some of the most important immovable cultural assets in the region and Bulgaria - with a category of national significance: Cult Center Tatul, declared as an immovable cultural asset (ICA) group, comprising the following 8 individual ICA - disk-shaped rocks in the southern end of the village, Medieval fortress in the "Kaya Basha" area (Medieval necropolis in the "Halka Tarla" area), Medieval Necropolis in the "Halka Tarla" area, Medieval Settlement in the "Halka Tarla" area, Rock niches in the "Vezhitsa" area, Rock Sanctuary in the "Kaya Basha" Area in the "Vezhitsa" area, Flat Necropolis on the Harmandzhik Elevation and Burial Mound on the Eltepe Hill.

The historical heritage is related to the remains of the old fortress of the Sanctuary of Orpheus. The findings suggest of a spectacular sanctuary that has been functioning for at least 2,000 years without interruption. The facility is one of the largest megalithic monuments in Europe and is a good basis for the development of cultural and historical tourism.

Other significant sites in the municipality of Momchilgrad are the Thracian rock niches, the remnants of settlement mounds, medieval fortresses and necropolises, etc. The highest concentration of prehistoric stone sanctuaries is observed in the region of municipality of Momchilgrad. Dated to the Neolithic Age, they are a testimony of the existence of an unexplored ancient civilization on these lands. Rock niches can now be seen in the villages of Tatul, Raven, Bivoljane, Neofit Bozvelievo, Chayka, Drumche, Obichnik, Chukovo, Kos, Lale and Chomakovo. Some of them are located nearby rock tombs and sanctuaries.

The cultural heritage of the municipality is concentrated mainly in the village of Tatul, as well as in the villages of Chobanka, Sedlari, Raven and Karamfil (Fig. 18). The immovable cultural assets in the municipality testify to the history, life and cultural development of the local population and allow the realization of the cultural identity of the municipality.

4.6. Identified Issues

For the provision of **health services** in the municipality, the following conclusions can be drawn:

- Unequal territorial distribution of practices, resulting in unmet medical and health care needs;
- There is no permanent 24-hour access to medical services, most prominent in the villages;

- Difficult access to timely emergency and medical care due to scattered and remote mountain villages;
- Outdated material and technical base;
- Unattractive medical practices that remain unoccupied;

- Increasing lack of young physicians in certain specialties;
- The demographic aging of the population puts additional pressure on the health needs structure due to the fact that older people have more than one chronic illness, which also leads to higher healthcare costs.
 - Typical is a decrease in both the quantity and the quality of health services;
 - Untimely provision of emergency medical care in remote villages and those without medical practices;
 - Persons without health insurance, especially in villages where a large proportion of the population is not insured (from 30 to 80% in individual settlements);
 - Lack of normative and financial instruments through which the municipality can solve these problems.

There is a need to **improve the sports** infrastructure.

It is necessary to update the list of immovable **cultural assets** and to include new sites of scientific and cultural value. In this update, it is necessary to take into account the degree of preservation of material, visual and functional authenticity. An assessment of the scientific and artistic value of the sites must be made and their place and importance in the contemporary environment must be traced. It is important to assess to what extent the sites are a part of the contemporary social and cultural area (environment) and enrich the environment and society. The evaluation of the exploratory value shows the scientific and educational potential of the sites as a testimony of the development of the material and spiritual culture of society. It is necessary to assess the utilitarian value of the sites and to what extent they allow restoration of the original function or introduction of a new one. An economic feasibility analysis should also be made for their inclusion in the cultural-historical industry or another investment system.

In general, it is necessary to create and apply specific rules and norms to the General Development Plan of the Municipality (GDPM) for protection and preservation of the immovable cultural assets, the specific characteristics of the settlement structure and the identity of the municipality and the region.

4.7. Synthesis of Chapter 4

By law Bulgarian citizens receive health services against paid social security contributions. In practice, however, nearly 50% of the health services are paid directly by patients. This is due to the chronic shortcomings in the financing of hospitals and services by the National Health Insurance Fund (NHIF), mainly due to inappropriate clinical pathways and abuses in the system. Most state and municipal hospitals operate at a loss. Thus, out of

33 European countries (including the 27 in the EU), Bulgaria ranks last in the quality of health services.

There are still unoccupied medical practices in the province. The practices in most of the settlements in the municipality of Momchilgrad are mostly occupied by retirees or persons in pre-retirement age.

Emergency medical care as a whole is insufficiently effective due to difficult access. Medical staff is more abundant in towns than in the countryside. This is mainly due to the specific infrastructure - fragmentation and remoteness of small settlements. For this reason, emphasis should be placed on preventive medicine.

In the province of Kardzhali there are 136 OCIPPD, followed by 68 OCIPSMC, and 63 OCIPPMC. Smallest is the number of Diagnostic Consultation Centers (DCC) and hospices. Specialized outpatient care is a major integrative element in the healthcare system that provides the population with affordable, high-quality medical care and reduces the need for more expensive inpatient care through active prevention, early diagnosis and treatment in ambulatory conditions.

The system of medical establishments in the Municipality of Kardzhali is capable of meeting the public healthcare needs of both the municipality and the province. On the territory of province of Kardzhali operate the following GHAC: GHAC "Dr. Atanas Dafovski" - town of Kardzhali, GHAC "Kardzhali" OOD, GHAC "Ardino" EOOD, town of Ardino, GHAC "Dr. S. Rostovtsev" EOOD, town of Momchilgrad, GHAC "Life+", town of Krumovgrad.

In the territory of province of Kardzhali, there is also a CEMC in the town of Kardzhali, which has 8 branches in the rest of the province.

The equipment in hospitals is at a good level and physicians have the opportunities to exchange experience with specialists visiting from the entire country. Because of the uneven distribution of pre-hospital care, the number of hospitalizations in many hospitals in the province has been increasing.

In the municipality of Momchilgrad there is a single general hospital - GHAC "Dr. Sergei Rostovtsev".

The Diagnostic Consultation Block of the hospital has:

1. Consultative Rooms for: Internal Diseases, Child Diseases, Nervous Diseases, Obstetrics and Gynecology.
2. Diagnostic Imaging Department - no beds - The unit has the following equipment: X-ray, scanner, Doppler, echocardiograph, abdominal echograph.
3. Clinical laboratory, which has advanced high-capacity automatic analyzers - haematological, biochemical, ion-selective, blood-gas analyzer, coagulometer and glucagon analyzer, hormone-immunological analyzer, glycated hemoglobin and microalbuminuria device.

4. Manipulation room

5. Duty Room

The Inpatient Block has 69 beds and the following compartments: Internal Ward; Children's Ward; Neurology Ward; Obstetrics and Gynecology Ward; Anesthesiology department without beds; Department for Continuous Treatment of Internal Diseases and Diagnostic Imaging Department.

The Duty Room is provides medical assistance to health-insured and uninsured persons.

The distance of all settlement in the municipality of Momchilgrad (in km) to the municipal center ranges from 39 to 3 km.

The analysis of newly registered diseases and morbidity shows that chronic noninfectious diseases of the circulation and respiratory system are determinants in the pathology of the population. In recent years there has been a tendency for the increase of patients hospitalized due to myocardial infarction and stroke in the municipality of Momchilgrad. GHAC "Dr. Sergey Rostovtsev" - Momchilgrad cannot offer these patients convalescence care through the application of rehabilitation and physiotherapy, which is extremely important for restoring their motor functions.

In 2014 the municipality operate 9 Full-day Kindergartens (FDKG). There is a tendency for decrease in the number of children in Full-day Kindergartens, in contrast to this indicator at a provincial level, where the number of children in these establishments has increased in recent years.

On the territory of municipality of Momchilgrad are provided only communal social services: Day Care Center for children with disabilities (the number of users of this service is greater than its capacity); Center for Public Support (CPS) - a set of social services related to the prevention of abandonment, violence and dropping out of school; Center for Public Support - Momchilgrad with the capacity to support 40 children at risk and their families; Social Service "Foster Care" provides: Individual work with children, preparation for accommodation and follow-up on a case-by-case basis; Training and support for families of relatives who have accommodated children; Home Social Patronage at Home; Social Services in a Family Environment: Personal Assistant, Social Assistant and Home Assistant;

In order to improve the welfare of the municipality, the following programs are being implemented: Program "Provision of social assistance through applying a differentiated approach"; Program "Target Social Aid for Heating"; Child Protection Program; Municipal Social Protection Measure to assist persons in severe social and/or health conditions.

Sports traditions are well developed in the municipality. In the town of Momchilgrad operate year-round the Rhodope Stadium, a swimming pool and a sports hall in which annual competitions and events in sports like able tennis and football are held. Two sports clubs - the Rhodope-1935 Football Club and the Rhodope Table Tennis Club are licensed in the municipality of Momchilgrad.

In the municipality of Momchilgrad are identified 40 archaeological and historical sites, declared as immovable cultural assets. With a category of national importance are : Cult Center Tatul, Medieval fortress in the "Kaya Basha" area, Medieval necropolis, Medieval Settlement in the "Halka Tarla" area, Rock niches in the "Vezhitsa" area, Rock Sanctuary in the "Kaya Basha" Area in the "Vezhitsa" area, Flat Necropolis on the Harmandzhik Elevation and Burial Mound on the Eltepe Hill, rock niches.

In general, it is necessary to create and apply specific rules and norms to the General Development Plan of the Municipality (GDPM) for protection and preservation of the immovable cultural assets, the specific characteristics of the settlement structure and the identity of the municipality and the region.

CHAPTER 5: PUBLIC HEALTH IN THE REGION

5.1. Status of the water supply infrastructure (safe drinking water), sewage system

The water supply and sewerage services in the territory of Kardzhali district are provided by the operator "Water Supply and Sewerage" (WSS) OOD - Kardzhali.

Table 41. *Water supply and sewerage services in the province*

Municipality	Total number of settlements, using the services of WSS	Total population, using the services of WSS
Ardino	12	8,830
Dzhebel	23	6,850
Kirkovo	44	18,559
Krumovgrad	41	15,203
Kardzhali	67	63,621
Momchilgrad	28	14,797
Chernoochene	23	7,273
Total	238	135,133

Source: NSI

The population benefiting from water services in the province of Kardzhali is 135,133 of the total number of its inhabitants. This means that 89% of the settlements are supplied with water. For comparison in the country the percentage of the population using water supply services is 98.6 per cent. 238 settlements are supplied with water. Average consumption per day per capita in 2007 reached 90.08 liters, in 2008 it was 90.72 liters, in 2009 - 86.07 liters per day per capita, in 2010 - 83.17 liters and in 2011 - 85.69 liters.

Quantity and quality of water

WSS OOD - Kardzhali uses raw water from two water sources - the Borovitsa dam and a mountain intake for the village of Raven, municipality of Momchilgrad. The raw water from

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those does not only fit the criteria in terms of turbidity, owing to which purification stations (DWTP) and a purification facility - a self-cleaning filter, were constructed.

All other quantities of raw water are from underground water sources - drainages, shaft wells and drilled wells. There are no particular problems with the quality of the raw water.

It is safe and clean and there are no indicators which warrant purification except for microbiological indicators, which is why disinfection is carried out.

The quality of raw water is monitored in accordance with the regulatory legislation. It is performed by the Basin Directorate for Water Management in Plovdiv and by the Ministry of Health.

The quantity of raw water from the Borovitsa dam is sufficient for the planned water supply of the towns of Kardzhali and Momchilgrad and 36 villages. The other surface water source dries in summer. The quantity of groundwater in water sources constructed on the terraces of the Varbitsa, Nanovishka and Perpereshka rivers is affected by the level of water in the river beds, especially during the summer season.

Quality of water for drinking and domestic purposes

The quality of the drinking water is monitored in compliance with Ordinance No. 9/2001, but not in sufficient quantity in terms of number of samples and number of indicators according to the mandatory minimum of constant and periodic monitoring and not in a sufficient range of water sources per year.

The amount of drinking water in the province of Kardzhali is sufficient. Over the past seven years, the percentage of total compliance (in terms of microbiology and physicochemical indicators) has not fallen below 98%. A very good chlorination facility has been constructed. In the large water supply sections gas chlorination systems are used, while in the rest of the pumping stations sodium hypochlorite and flashchlor dosing pumps are installed.

Table 42. *Quality of drinking water over the years*

Years	2006	2007	2008	2009	2010	2011
Compliance with standards %	98,26	98,77	99,06	99,56	99,32	99,74

Source: NSI

Currently, there are several major issues related to the protection zones: maintenance of the zones and timely restoration of fences; bringing the zones established under Ordinance No. 2/1989 on sanitary protection zones (SPZ) around water sources and facilities for drinking and domestic water supply (State Gazette No.68/1989) into

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compliance with the requirements of Ordinance No. 3 / 2000 on the conditions and procedure for research, design, validation and exploitation of SPZ around water sources and facilities for drinking and domestic water supply and mineral water sources (State Gazette No. 88/2000) with regard to the boundaries and the security regimes in belt II and III within 10 years of its promulgation in the State Gazette. The boundaries of the innermost belt of the SPZ do not change. This deadline expires at the end of 2010. As of 2012 the company has no implementation under this provision. The necessary funds for designing and implementing the measures and activities prescribed in the project are estimated partially to be in the amount of 2,160 BGN.

5.2. Status of the environmental infrastructure

Atmospheric air quality

The main sources of emissions on the territory of the municipality controlled by RIEW - Haskovo are "B.V.K Vinifera" - greenhouses in Momchilgrad; "Gorski" OOD - Gruevo Village, municipality of Momchilgrad - production of charcoal and "Nek Group" OOD, Momchilgrad. According to data provided by RIEW-Haskovo, no violations of emission norms were found during the emission control of these sites. The rest of the sites on the territory of the municipality are small emission sources. According to the Municipal Environmental Protection Program (MEPP) of the municipality of Momchilgrad, the gas stations in the municipality comply with the requirements of Ordinance No 16/1999 on the limitation of emissions of volatile organic compounds during the storage, loading or unloading and transportation of gasoline. Inspections have been carried out and prescriptions have been given to sites using ozone depleting substances in their activities in compliance with the requirements of Decree No.254 of the Council of Ministers and the Ordinance on control and management of substances that disrupt the ozone layer.

In view of the above, we can conclude that the air quality in the municipality of Momchilgrad is good and there is no need for further development of an air quality improvement program.

Water resources

Water management takes place at national and basin level. In accordance with the Water Act, the Minister of Environment and Waters, through the Regional Inspectorate of Environment and Waters within their territorial scope, conducts waste water monitoring and control, maintains a database of the results of waste water monitoring and control and keeps up-to-date lists of the sites that generate emissions of priority and priority hazardous substances.

In designing the network for surface water monitoring, representative monitoring points for the respective river basins and the types of water bodies were selected. The total

number of monitoring points on territory controlled by RIEW Haskovo in 2012 is 9, 6 of which are situated on rivers and 3 - on dams. The results of 6 of these points (3 rivers and 3 dams) are reported to the European Commission. At these points physico-chemical monitoring is carried out to determine the ecological and chemical status of surface water. For the region of the municipality of Momchilgrad, the condition of surface waters is monitored at a point situated at Varli Dol Village on the Varbitsa River. According to data of RIEW-Haskovo on the ecological status of surface water in the municipality, its condition can be described as "good" and "moderate". Overall, data analysis shows a sustained trend for good water quality. Occasional deviations for Phenols and Total Phosphorus are detected. According to data of the Executive Environment Agency (EEA) in recent years the hydrobiological monitoring at monitoring points on the Varbitsa River shows no significant variation.

The Varbitsa River and its tributaries are defined as seasonal rivers with pronouncedly low water levels in summer. It is presumed that their status can be defined as good. An exception is the upper course of the Varbitsa River, which is heavily affected by mining and its waters are in poor condition. It is practically an ecologically damaged area due to waste waters discharged from the Flotation Plant in Erma Reka Village.

According to the municipal environmental program, the extraction of aggregates is a major problem. As a result of these activities, the natural state of the rivers flowing through the territory of the municipality - Varbitsa and its tributaries, has underwent heavily modification. This increases the risk of flooding, erosion/deforestation and desertification in the valley of the Varbitsa River.

Main receiver of industry and drinking/domestic waste water of the town of Momchilgrad is the Varbitsa River. Domestic wastewater is discharged directly in the river without purification. Concentrations of lead, zinc, cadmium, pH and insoluble substances exceeding the specified individual emission limits have been recorded.

Land and soils

On the territory of the municipality Momchilgrad there are predominantly cinnamon forest soils with a humus content of 2-4% with alluvial meadow and deluvial meadow soils along the rivers. The points at which soil sampling is carried out are determined by the EEA, Sofia. They are located throughout the territory of the RIEW depending on the sources of pollution. For the municipality of Momchilgrad there are three points, located in the lands of the villages of Petlinovo, Tatul and Ralitsa.

Generally speaking, soils in the region of the municipality are clean, with a tendency for decrease in soil pollution in recent years. This is mainly applicable to farmland and owes to the agricultural crisis, hence the limited use of pesticides and fertilizers. Soil quality control is performed annually at 3 points located on the territory of the municipality. All measured contents of heavy metals and metalloids are below the maximum permissible

concentrations, which are limit values for the assessment of contamination. An exception is the point at Ralitsa which shows abnormally high levels of arsenic. There is a significant fluctuation of the measured levels in three consecutive years, together with fluctuation at different depths, which confirms that there is no anthropogenic contamination.

Another serious problem related to soils is that of erosion, which has also affected the territory of the municipality of Momchilgrad due to climate change, increased temperatures and prolonged droughts. Erosion is a process that mechanically damages soils by destroying the humus layer, resulting in an annual reduction in soil fertility.

Protected Areas and Biodiversity

The area of municipality of Momchilgrad is characterized by rich biodiversity, varied relief, climatic conditions, species, habitats and landscapes.

The lack of highly polluting industries, the extensive forms of management of forests and lands in the municipality, combined with millennial traditions in the use of local natural resources, contribute to the relatively well preserved communities and populations of many species of European and world importance. The municipality is characterized by the presence of many birds and especially birds of prey, such as the Griffon, Black and Egyptian vultures, the Rock Eagle, the Black Stork, the Lanner falcon etc. Of interest are also both terrestrial tortoises and the rare species of reptiles and amphibians found in the municipality. In terms of plants of interest is the "Borovets" Reserve, established to preserve a natural black pine forest. At present, on the territory of the municipality two areas are declared protected under the Protected Areas Act, which are small in size and cannot provide adequate protection of the represented communities and species. The land in protected areas is mainly a state forest property and it is managed respectively by State Forestry - Momchilgrad for the "Petrified Forest" Natural Landmark and by RIEW-Haskovo.

5.3. Insecticide (mosquitoes, etc.)

The Municipality of Momchilgrad has not developed a Municipal program for insecticide control.

Based on the prescriptions by the RHI:

- Measures for control of tick populations on lawns in inhabited places, green urban areas, yards of kindergartens and schools are carried out twice a year;
- Disinsection measures for control of mosquito populations are carried out four times a year.

5.4. Agricultural practices, irrigation methods

The registered farmers in 2011 are 647. Registration is mainly related to agricultural subsidy policies.

Agriculture in the municipality is based on subsistence farming, with a single industry structure and low efficiency. Family farms are of confined type, the land is cultivated almost without the use of machinery, no agro-technical activities are conducted, which leads to low yields.

Table 42. Ownership of agricultural land

Municipality	Agricultural farmers, total including Arable Land	Arable Land	State	Municipal	Partial	Residual land	Religious	Foreign	Legal persons
	area decares	area decares	area decares	area decares	area decares	area decares	area decares	area decares	area decares
Momchilgrad	159 269	62 557	1 230	1 106	28 126	29 846	200	1 449	600

Source: General agrarian characterization of the province of Kardzhali for the period 01.01.2012 - 31.12.2012

On the territory of the municipality there is a system of 23 micro-dams and ponds with a total area of 3 628 decares. The irrigation facilities (the irrigation area is 18 879 decares) are largely unused and not maintained. The main reason is the restoration of private land ownership and the creation of new cooperatives without the financial resources to support and build new irrigation facilities. At present the usable irrigation systems are less than 5% of existing ones. Their technical condition is extremely unsatisfactory and in many places it is necessary to build new ones in place of the existing ones. In many places there are no basic irrigation facilities in the fields.

The preservation, renovation and creation of new irrigated areas will facilitate the development of more efficient and competitive agriculture. This is an important condition for the development of agriculture in the direction of alternative (organic) production, as well as the restoration of vegetable production in the region. The rebuilding of the irrigation network is related to attracting investment and should comply with the peculiarities of small farms.

5.5. Livestock farming, carcasses, causes of waste pollution

In the municipality of Momchilgrad, 2,734 households are engaged in livestock farming (78.45% of the households engaged in agricultural activities), which is above the county average of 74.5%, with nearly 100% of the animals being privately owned. In the municipality are grown the typical animals - cattle (including cows), birds, goats, sheep and bees.

Animals are raised on family properties (5-7 animals), there are no large farms. In the majority of cases the animals are kept under primitive conditions, there is no quality control

of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies and better market realization. Livestock farming in the municipality has the character of subsistence farming. Cows are bred most frequently for their milk and meat, sheep breeding is also well developed. Birds, goats, and beehives are also kept on private properties.

5.6. Living conditions

A strategic geographic location providing cross-border development prospects is the proximity of Transport Corridor 9 and BCP Makaza to the municipality.

Preserved nature, rich biodiversity and presence of attractive natural, cultural and historical landmarks.

Availability of sufficient water resources to meet the needs of the municipality. A comparatively favorable demographic situation, characterized by a higher birth rate than the average for the country due to preserved traditions in the reproductive attitude and behavior of the local population.

Well-distributed educational infrastructure on the territory of the municipality.

Agricultural traditions combined with available natural resources as a prerequisite for the development of organic farming and sustainable agribusiness with high added value.

Opportunities for developing a modern, compact industry.

Rich cultural calendar - folk traditions and cultural customs.

Good transportation and communication infrastructure, providing relatively good access to the municipal center.

Access to the National Railway Infrastructure, which determines a higher degree of investment attractiveness of the municipality.

All settlements on the territory of the municipality are electrified and none of them is subject to power rationing.

Through the territory of the municipality passes an optic-cable route, enabling high-speed data transfer.

Good environmental status without major pollutants.

The environmental status of the air and soil is good, there are no major pollutants in the region of the municipality.

5.7. Industries causing problems

On the territory of the municipality there are significant deposits of mineral resources, which enable the development of the mining industry. Polymetallic ores with silver and gold content are obtained in the municipality in a GORUBSO mine. The ores obtained by an open-pit method will be processed into the operating capacity of the Refinement Factory. There is a problem with the restoration of terrains near mines, and the control of industrial waste water treatment is not effective.

Important for the municipality are the deposits of perlite, which are a basis for the development of business and new technologies, yet the main problem here is also related to environmental pollution.

For the effective control of the noise emitted by industrial installations and facilities and in compliance with the provisions of the Law on protection against environmental noise, RIEW - Haskovo carries out officially scheduled control over 41 industrial sites. Out of these one falls into the municipality of Momchilgrad - "Yaytseprom" AD - Momchilgrad worksite. After checks were made it was found that the measured values did not exceed the limit values.

5.8. Solid and liquid waste management

Pursuant to the Waste Management Act, the mayor of municipality of Momchilgrad has organized the necessary structure to prevent the formation and the establishment of unregulated landfills, covering all 41 settlements in the system for organized waste collection and disposal.

The **municipal waste** generated on the territory of the municipality is transported for disposal to a temporary dump site on the land of Vishegrad Village. In 2013, the municipality of Momchilgrad finally finished the recultivation of the old municipal landfill for municipal solid waste. Generally speaking, waste management problems in the municipality of Momchilgrad are identical to those existing in most small municipalities in the country. Here, like elsewhere, the main problem is the lack of reliable information on the quantities of waste generated on the territory of the municipality and their composition due to the lack of available measuring facilities at the municipal solid waste landfill site. Scarce and unreliable data imply the use of indirect methods for determining the amount of waste generated, which entails considerable risks in the planning of the activity and the determining the capacity of specialized facilities.

In regards to **hospital waste**, a specialized repository for the temporary storage of human medical waste was established at the municipal hospital GHAC "Dr. S. Rostovtsev" EOOD and a system for separate collection has been introduced.

In regards to **street cleaning** neither has a standardized service delivery system been formulated nor is there a fixed rate at which the service is to be provided. Its provision in practice is unorganized in nature which is directly related to ineffective spending of the already limited resources of the municipality.

Another major problem is that on the territory of the municipality there is no well-functioning system for the separate collection of packaging waste. To implement the provisions of Art. 33 para. 1 of the Waste Management Act, the municipality has developed a Separate Waste Collection Program (2012) and has sought assistance from two package

waste recovery organizations in organizing a system for their collection. However, separate collection is one of the priorities of the municipal administration, which aims to reduce the amount of domestic waste deposited on the landfill in Kardzhali. In 2012, deposited waste was 6 000 tonnes and in 2013 - 4 500 tonnes. The plan of the local authorities is to reduce the amount of deposited waste to 1 500 tonnes per year by 2020.

5.9. Other details

Important religious sites and complexes in the municipality are represented by:

The Elmali Baba Religious Complex in the village of Bivoljane - Historically distinct and active religious complex, consisting of a tomb, a mosque, a ritual house and adjoining buildings. It was built in the second half of the 14th century. In the area there is also a centuries-old cemetery. In the period 2009-2011, reconstruction, restoration and renovation of the buildings in the complex were carried out. "Elmali Baba" has become a subject of strong tourist, and recently scientific interest, given the history of the Turkish and Muslim communities in the Balkans since their settlement on these lands to the present day;

The church "Sv. Tsar Boris I "in the town of Momchilgrad - Built in 1938/39, it underwent a major renovation in 2006 .Next to it, in 1970 was built an Ossuary, dedicated to the Russian-Turkish (1877-78) and Balkan wars (1912-13).The complex is complemented by a monument of General Nikola Genev - commander of the Kardzhali Detachment during the Balkan Wars; **The Old Town Mosque in Momchilgrad** - Build about 300 years ago today it still functions as a religious temple. This is the only mosque in the province with two minarets and it gathers for prayer hundreds of believers.

5.10. Identified Issues

Continuity of water supply, availability of regular water supply. In the summer, some of the water supply sections cannot cover the increased water needs (mainly for commercial purposes) and water regime is required. The main problem is that demands for water during the summer season exceed the capacity of a given water source and hence of the whole system to provide the necessary quantity. There is no adequately functioning infrastructure to provide water for irrigation purposes. During the three summer months, the Varbitsa, Nanovishka and Perpereshka Rivers dry up almost completely. However, most water sources exploited by WSS OOD are constructed along their valley. One of the reasons the rivers dry up is that dams are built on their tributaries. Under the Water Act, dam owners must release minimum water quantities to maintain the ecosystem in the river valleys, but this is not implemented in practice. The release of water from dams to the terraces has not yet been resolved and many settlements remain without water. A periodic release of water

volumes on the part of dam owners has to be ensured through the cooperation of municipal mayors.

Another problem disturbing of regularity of water supply are the high waves and the reduced protection of sewage facilities from damages and floods.

Most of the significant water sources are constructed on river terraces and are heavily dependent on the condition of river beds, their banks and water level. There is a real danger of destruction of sewage facilities of the "Fotinovo" and "Ostrovitsa" water supply network due disruption of the river bank of the Varbitsa River. A major threat to all sewage equipment, land, roads and other engineering facilities are the demolished levees of upgraded rivers, which are not maintained, and the supplier company cannot afford the maintenance and repair of facilities that are a part of its assets.

At the moment, there are still problems along the route of the main water line, which runs alongside the municipal road that serves the villages of Panchevo, Blenika, Dazhdovnitsa, Nenkovovo, Borovitsa and Bezvodno. Drains on small rivers and gullies crossing the road often clog and are not timely cleaned. Roadside ditches are also not cleaned in a timely manner. In the event of flood due to rains and snow melting, water drainage is obstructed and this damages the integrity of the road, which is a prerequisite for failures of the main water line and disturbance of the water supply.

To overcome the problem, changes are needed in the regulatory framework to create companies that are more functional and more operational in a market economy, thus overcoming the monopoly situation.

5.11. Synthesis of Chapter 5

The water supply and sewerage services in the province of Kardzhali are provided by WSS OOD - Kardzhali. 238 settlements out of 471 i.e. 50.53% are supplied with water. 16,876 people live in the 233 villages not supplied with water.

There are no particular problems with the quality of raw water. It is safe and clean and there are no indicators which warrant purification except for microbiological indicators, which is why disinfection is carried out.

The quality of drinking water in province of Kardzhali, respectively the municipality of Momchilgrad is good.

The air quality in the municipality of Momchilgrad is good and there is no need for further development of an air quality improvement program.

The ecological status of surface water in the municipality can be described as "good" and "moderate". Overall, data analysis shows a sustained trend for good water quality. Occasional deviations are detected. Main receiver of industry and drinking/domestic waste water of the town of Momchilgrad is the Varbitsa River. Domestic wastewater is discharged

directly in the river without purification. Concentrations of lead, zinc, cadmium, pH and insoluble substances exceeding the specified individual emission limits have been recorded.

On the territory of the municipality Momchilgrad there are predominantly cinnamon forest soils with a humus content of 2-4% with alluvial meadow and deluvial meadow soils along the rivers. Soils in the region of the municipality are clean, with a tendency for decrease in pollution in recent years. All measured contents of heavy metals and metalloids are below the maximum permissible concentrations, which are limit values for the assessment of contamination. A serious problem related to soils is that of erosion.

The area of the municipality of Momchilgrad is characterized by a rich biodiversity - the presence of many birds and especially the birds of prey, such as the Griffon, Black and Egyptian vultures, the Rock Eagle, the Black Stork, the Lanner falcon etc. Of interest are also both terrestrial tortoises and the rare species of reptiles and amphibians found in the municipality. In terms of plants of interest is the "Borovets" Reserve, established to preserve a natural black pine forest.

The municipality of Momchilgrad has not developed a program for insecticide control, but prescriptions by RHI-Kardzhali of measures for control of tick populations on green spaces and disinsection for control of mosquito populations are observed.

Agriculture in the municipality is based on subsistence farming, with a single industry structure and low efficiency. Family farms are of confined type, the land is cultivated almost without the use of machinery, no agro-technical activities are conducted, which leads to low yields.

On the territory of the municipality there is a system of 23 micro-dams and ponds with a total area of 3 628 decares. The irrigation facilities (the irrigation area is 18 879 decares) are largely unused and not maintained. The rebuilding of the irrigation network is related to attracting investment and should take into account the peculiarities of small farms.

Livestock farming in the municipality has the character of natural farming. Cows are mainly grown for milk and meat, sheep are also well developed. Birds, goats, and bee families are also grown on private farms.

A strategic geographic location providing cross-border development prospects is the proximity of Transport Corridor 9 and BCP Makaza to the municipality. Living conditions are characterized by good climate and natural resources, good environmental status, access to rail transport, good transportation and communication infrastructure, a rich cultural calendar.

On the territory of the municipality there are significant deposits of mineral resources, which enable the development of the mining industry.

The necessary structure to prevent the formation and the establishment of unregulated landfills has been organized, covering all 41 settlements in the system for organized waste collection and disposal. Hospital waste is collected in a specialized repository for the temporary storage, a system for separate collection has been introduced.

No standardized street cleaning system has been formulated. On the territory of the municipality there is no well-functioning system for the separate collection of packaging waste.

Important religious sites and complexes in the municipality are: the Elmali Baba Religious Complex in the village of Bivoljane; The church "Sv. Tsar Boris I" in the town of Momchilgrad; The Old Town Mosque in Momchilgrad.

CHAPTER 6: CONCLUSIONS ON THE REGION

General features

The municipality of Momchilgrad is situated in the southeastern parts of the Eastern Rhodopes in South Bulgaria. It has an area of 360 km² and lies between 41° 53' N and 25° 42' E. To the east it borders with the municipality of Krumovgrad, to the south - with the municipality of Kirkovo, to the west - with the municipality of Dzhebel and to the north with the Municipality of Kardzhali.

The terrain is mostly mountainous.

The climate is described as temperate continental to Mediterranean.

The most common natural risks are landslides. There are two active landslides in the region. Several projects have been implemented to strengthen and permanently stabilize landslides, yet the risk of activation is large and additional investment is needed to prevent it.

The municipality consists of 49 settlements, most of them with a population of less than 200, with one of the settlements - Yunatsi Village - being depopulated. The population of the entire municipality is 16,263 (as of 01.02.2011), with the central town of the municipality - Momchilgrad, having a population of 7,831. The second largest settlement is Gruevo Village with a population of merely 715, followed by Zvezdel (491) and Nanovitsa (478).

Pan-European transport corridor 9 passes through the territory of the municipality of Momchilgrad. The distance from the municipality to BCP Makaza is 42 km, which allows the export of goods at comparatively low transportation costs. The national road network on the territory of the municipality is 81.5 km long. The municipal road network is well developed. There are no settlements without access to the municipal center. The majority of roads are in poor condition. The asphalt pavement is worn out and roads need rehabilitation.

The Kardzhali - Momchilgrad - Podkova Village railway line with a length of 22 km passes through the territory of the municipality.

Water is supplied to the population from the Borovitsa Dam and is distributed by "Water Supply and Sewerage" OOD - Kardzhali. 33 of the 49 settlements in the municipality

are supplied with water. In some of the settlements water is rationed permanently and/or on seasonal basis. A sewerage network is constructed in the town of Momchilgrad and in Sokolino Village, while the only water treatment plant on the territory of the municipality is in Sokolino Village.

Both maintenance of the power transmission and distribution network and its facilities on the territory of the Municipality of Momchilgrad and power supply are carried out by ENV Bulgaria. All settlements on the territory of the municipality are electrified and none of them is subject to power rationing. There is no gas transmission network or central heat supply on the territory of the municipality. Public buildings and schools are heated by locally constructed heating systems running on liquid fuel, which are obsolete, have high operational costs and low efficiency.

On the territory of the municipality there is an optic-cable route, enabling high-speed data transfer. The three national mobile network operators provide 100% signal coverage on the territory of the municipality.

The main problems facing the local economy are:

- low general economic development of the municipality and lack of a diversified economy;
- remoteness from any major economic and administrative center;
- low competitiveness of local businesses, obsolete building stock and depreciated equipment, as well as low level of technological development;
- low educational level of employees;
- lack of financial resources for technological renewal
- low level of investment activity on the part of external investors

A key issue of major socio-economic importance is the future of tobacco production as well as the sustainable use of forest resources.

An important factor for the achievement of economic growth are the opening of BCP Makaza and the operation of International Transport Corridor 8 which will influence favorably business development, not only by attracting investments by Greek and Bulgarian entrepreneurs and developing subcontracting chains and suppliers but also by providing access to foreign markets for export of products by local enterprises.

The opportunities for achieving sustainable economic growth are related to the development of agriculture as a sector with potential for expansion in the municipal economy. Prospects for economic development are related to encouraging the emergence and development of related industries in agriculture, forestry and processing.

Socio-economic characteristics of the area

The demographic development of municipality of Momchilgrad has different factors and conditions. Data from the latest censuses indicates the existence of a lasting tendency for decrease in the population. The rate of decline during the period was 3.67% with the

average annual rate of decline being 0.46%. The population density in the municipality is significantly lower than the average for the country (67 people per km²). About half of the municipal population lives in the villages. Negative changes in population size are one of the main disadvantages for the future demographic and socio-economic development of the municipality.

Age synthesis of the population (2011) shows that 13.09% of the population is aged 0-14; 49.65% aged 15-49 and 37.25% - 65+. Compared to 2015, in 2016 the number of young people in the municipality of Momchilgrad was increased by 581.

The deformation in its shape of the age-sex pyramid shows a trend of population aging for both sexes. In the first half of the period 2007-2012 the birth rate of the population in Momchilgrad is higher than the average for the country, the Southern Central Statistical Region and the province of Kardzhali. The increased migration of the population of reproductive age in recent years reflects unfavorably on the age structure of the population. As a result, since 2009 the birth rate has been decreasing and in 2012 it was already lower than the average for the country, the region and the province.

The municipality of Momchilgrad has a sufficiently developed network of educational institutions with an optimal structure for meeting the current needs for general education and vocational training. The secondary schools are concentrated in the municipal center and have a good material and technical base. In primary schools remote from the municipal center reduction of class caps and combining of grades is allowed. As a tendency, there is a decrease in the number of students and respectively classes.

During the school year 2017/2018 on the territory of municipality of Momchilgrad there are eight educational establishments in which 1 345 students are trained in 81 classes from the 1st to the 12th grade; six kindergartens that are visited by 369 children aged 3 to 7; one crèche which works with 55 children up to age 3 and one service unit - Center for the Support of Personal Development - United Children Complex (CPLC - UDK).

The data for the municipality of Momchilgrad show the largest relative share of primary education graduates. Those are followed by persons with completed secondary and elementary education. There is a similar distribution in the province of Kardzhali as the values for the shares of the educational categories are too close. Compared to the country average, it shows a lower level of education among the population.

The greatest differences are between the shares of persons with higher education. In municipality of Momchilgrad the share of graduates is almost 2.5 times lower than the country average. At the same time, the share of persons in the municipality who have never attended school is higher than the average for the province and the country.

According to data from the census in 2011 the total population of 15 and more years in the municipality of Momchilgrad is 14 139 people, or 10.7 % of the total number of this population in province of Kardzhali. The number of economically active persons in the municipality is 6,561, which represents 46.4 % of the population aged 15 and above. This indicator of the municipality of Momchilgrad is equal to the average for the province of Kardzhali - 4.5 per cent. The number of employed persons in the municipality is 5,276 and of unemployed - 1,285. The ratio of their shares - 80.4: 19.6 - is also close to the average for the area - 81.0: 19.0.

In regard to economically inactive persons, the municipality of Momchilgrad ranks first for students (12.2%) along with the municipality of Dzhebel. The pensioners occupy a relatively small share (50.7%) compared to the other municipalities in the territory of province of Kardzhali.

In recent years the number of unemployed persons in the municipality of Momchilgrad has remained relatively high. The unemployment rate in the municipality of Momchilgrad in 2012 was 14. 2%.

This value is above the national average (11.1%), but lower than the one for province of Kardzhali (15.1 %). In terms of age, the relative share of registered unemployed persons in the age groups of 55 years and above and 50-54 years is the largest. The analysis of the data for the municipality of Momchilgrad shows that problems with unemployment are particularly difficult to solve in small municipalities and settlements. Measures in this respect should combine opportunities for opening work places with implementation of programs for increase of the education and professional training of the population.

With the available housing stock and the available living area, relative to the existing population in the municipality, a relatively good standard of living has been achieved in all settlements.

The majority of the 7,759 housings available as of 2011 are privately owned. There is a significant number of uninhabited housings, whose total number for the municipality amounts to 2723, which is 35.1 % of all available housings. The quality characteristics of a part of the housings show reduced values in terms of level of development. This refers to the existence of housings without bathroom and such with external bathroom.

The Gross domestic product (GDP) per capita in the municipality of Momchilgrad is at relatively low levels compared to the average for the country. However the municipality shows improvement - in recent years there has been an increase in the expenses on fixed tangible assets in all three sectors of the economy, yet the competitiveness of the municipal economy is extremely low.

The unemployment rate (11%) is above the national average, but the low value of net sales revenue per employee is an indirect indicator of lower productivity and competitiveness of the local economy and the production of the municipality.

The tobacco and processing industry, in particular the food and beverage industry and the textile and clothing industry, are of major importance for the economy of the municipality. Livestock breeding is one of the main activities. Plant breeding is represented mainly by tobacco growing, while wheat and barley growing in recent years are negligible. Beans, potatoes and vegetables are grown for personal needs.

The municipality of Momchilgrad has a high natural potential and a rich cultural history, which is a prerequisite for the development of tourism as well as related economic activities. The service sector is represented by trade.

More than 50% of the agricultural land of the municipality is represented by pastures and meadows, while the arable land in the municipality of Momchilgrad makes up about 40% of it. Forest area exceeds agricultural area, with only 1.2% of it being privately owned. There is a total of abandoned land in the municipality amounting to 35,401 decares (24% of the agricultural land).

Measures are needed to consolidate farmland and build up an adjoining infrastructure (irrigation, processing, and transport) to justify and allow investment in technology and human resources for the development of plant breeding.

In the municipality of Momchilgrad the relative share of the Turkish ethnicity is 84.8%, and in the province of Kardzhali - 66.2% of the number of the respondents who have volunteered information on the ethnicity poll. 10.7% of the population in the municipality identify as Bulgarians, 1.4% as Roma, 0.2% as other and 2.9% do not identify by ethnicity.

Cultural sites of national and local importance are an asset that should be used to attract socio-economic activity in the municipality. It is necessary to prepare projects for the conservation, restoration and adaptation of the sites and their integration into a common network, bound to the settlement structure of the municipality.

Characteristics of public health

The total mortality rate for the municipality of Momchilgrad is 11.6 ‰. Among the reasons are the typical for the province of Kardzhali:

- Increasing aging of the population;
- Increase of the mortality in active age from socially significant diseases;
- Risk factors related to the lifestyle of the population: irrational nutrition, smoking, hypodynamia and stress;
- Socio-economic and environmental factors.

The percentage of mortality by main causes per 100,000 of the population for the Kardzhali district for 2017 is 1 263.95. For the municipality of Momchilgrad it is 1,199.41.

A sustained downward trend in child mortality is observed - 8.7 in 2010. The perinatal mortality rate for the 2015-2017 period was 31.3 and 10.10% respectively.

The dependency index for the municipality of Momchilgrad in 2016 is 19.2 for the population below 15 years of age.

The average life expectancy for the population of the country for the period 2015-2017 is 74.8 years. The average life expectancy for men is 71.3 years, while for women it is higher by 7.1 years - 78.4 years.

In the structure of the hospitalized patients in the province of Kardzhali during the last 3 years the leading diseases are: Diseases of the circulatory system followed by Diseases of the respiratory system and in third place Pregnancy, childbirth and postpartum period. The situation in the municipality Momchilgrad is similar.

Part of the negative healthcare processes are linked to some extent to the shortcomings of the health system.

Health and Welfare Services

By law Bulgarian citizens receive health services against paid social security contributions. In practice, however, nearly 50% of the health services are paid directly by patients. This is due to the chronic shortcomings in the financing of hospitals and services by the National Health Insurance Fund (NHIF), mainly due to inappropriate clinical pathways and abuses in the system. Most state and municipal hospitals operate at a loss. Thus, out of 33 European countries (including the 27 in the EU), Bulgaria ranks last in the quality of health services.

There are still unoccupied medical practices in the province. The practices in most of the settlements in the municipality of Momchilgrad are mostly occupied by retirees or persons in pre-retirement age. Pre-hospital service is provided by a single Medical Center for Outpatient Care with an Obstetrics and Gynecological room, a Pulmonology room, Internal diseases, a Neurology room and a Surgery room, which are serviced by 5 doctors and 2 nurses.

As of 31.12.2017 there are 1.7 doctors (26), 4.7 (73) healthcare specialists, and 4.4 (69) beds per 1,000 inhabitants in the municipality.

Emergency medical care as a whole is insufficiently effective due to difficult access. Medical staff is more abundant in towns than in the countryside. This is mainly due to the specific infrastructure - fragmentation and remoteness of small settlements. For this reason, emphasis should be placed on preventive medicine.

In the province of Kardzhali there are 136 OCIPPD, followed by 68 OCIPSMC, and 63 OCIPPMC. Smallest is the number of Diagnostic Consultation Centers (DCC) and hospices. Specialized outpatient care is a major integrative element in the healthcare system that provides the population with affordable, high-quality medical care and reduces the need for more expensive inpatient care through active prevention, early diagnosis and treatment in ambulatory conditions.

The system of medical establishments in the Municipality of Kardzhali is capable of meeting the needs of the entire province, on whose territory are 5 GHAC and a single CEMC with 8 branches. The equipment in hospitals is at a good level.

Specialists from the entire country are invited for consultation. Because of the uneven distribution of hospital care, the number of hospitalizations is high. For the municipality of Momchilgrad in 2017 it is 141.56 per 1000 inhabitants.

There is a single general hospital - GHAC "Dr. Sergey Rostovtsev" EOOD in the municipality of Momchilgrad.

The Diagnostic Consultation Block of the hospital has: Internal Diseases Consultation Rooms, Children's Diseases, Nervous System Diseases, Obstetrics and Gynecology; Diagnostic Imaging; Clinical laboratory with advanced high-capacity automatic analyzers; Manipulation Room and Duty Room.

The Inpatient Block has 69 beds.

The distance of all settlement in the municipality of Momchilgrad (in km) to the municipal center ranges from 39 to 3 km.

The analysis of newly registered diseases and morbidity shows that chronic noninfectious diseases of the circulation and respiratory system are determinants in the pathology of the population. There is a tendency for the increase of patients hospitalized due to myocardial infarction and stroke in the municipality of Momchilgrad. GHAC "Dr. Sergey Rostovtsev" - Momchilgrad cannot offer these patients convalescence care through the application of rehabilitation and physiotherapy, which is extremely important for restoring their motor functions.

In 2014 the municipality operate 9 Full-day Kindergartens (FDKG). There is a tendency for decrease in the number of children in FDKG.

On the territory of municipality of Momchilgrad are provided social services in the community: Day Center for Children with Disabilities; Public Support Center (CSD); Center for Community Support; Social Service "Foster Care"; Training and support for families of relatives and relatives in which children are accommodated; Home social patronage; Social Services in a Family Environment: Personal Assistant, Social Assistant and Home Assistant.

In order to improve the welfare of the municipality, the following programs are being implemented: Program "Provision of social assistance through applying a differentiated approach"; Program "Target Social Aid for Heating"; Child Protection Program; Municipal Social Protection Measure to assist persons in severe social and/or health conditions.

Sports traditions are well developed in the municipality. In the town of Momchilgrad operate year-round the Rhodope Stadium, a swimming pool and a sports hall in which annual competitions and events in sports like able tennis and football are held. Two sports clubs - the Rhodope-1935 Football Club and the Rhodope Table Tennis Club are licensed in the municipality of Momchilgrad.

In the municipality of Momchilgrad are identified 40 archaeological and historical sites, declared as immovable cultural assets.8 of them are in the category of "national importance".

The problems identified in the provision of health services in the municipality are:

- Unequal territorial distribution of practices, resulting in unmet medical and health care needs;
- There is no permanent 24-hour access to medical services, most prominent in the villages;
- Difficult access to timely emergency and medical care due to scattered and remote mountain villages;
- Outdated material and technical base;
- Unattractive medical practices that remain unoccupied;
- Increasing lack of young physicians in certain specialties;
- The demographic aging of the population puts additional pressure on the health needs structure due to the fact that older people have more than one chronic illness, which also leads to higher healthcare costs.
 - Typical is a decrease in both the quantity and the quality of health services;
 - Untimely provision of emergency medical care in remote villages and those without medical practices;
 - Persons without health insurance, especially in villages where a large proportion of the population is not insured (from 30 to 80% in individual settlements);
 - Lack of normative and financial instruments through which the municipality can solve these problems.

Public health care in the region

Water supply is uninterrupted, but occasionally water is rationed, especially during the summer season. There is no adequately functioning infrastructure to provide water for irrigation purposes.

The water supply and sewerage services in the province of Kardzhali are provided by WSS OOD - Kardzhali. 238 settlements out of 471 i.e. 50.53% are supplied with water. 16,876 people live in the 233 villages not supplied with water.

There are no particular problems with the quality of raw water. It is safe and clean. Regular disinfection is carried out for improvement of the microbiological parameters.

The quality of drinking water in province of Kardzhali, respectively the municipality of Momchilgrad is good.

The ecological status of surface water in the municipality can be described as "good" and "moderate". Overall, data analysis shows a sustained trend for good water quality. Only occasional deviations are detected.

The air quality in the municipality of Momchilgrad is good and there is no need for further development of an air quality improvement program.

Soils in the region of the municipality are clean, with a tendency for decrease in pollution in recent years. All measured contents of heavy metals and metalloids are below

the maximum permissible concentrations. A serious problem related to soils is that of erosion.

The area of the municipality of Momchilgrad is characterized by a rich biodiversity - the presence of many birds and especially the birds of prey, such as the Griffon, Black and Egyptian vultures, the Rock Eagle, the Black Stork, the Lanner falcon etc.

Of interest are also both terrestrial tortoises and the rare species of reptiles and amphibians found in the municipality. In terms of plants of interest is the "Borovets" Reserve, established to preserve a natural black pine forest.

The municipality of Momchilgrad has not developed a program for insecticide control, but prescriptions by RHI-Kardzhali of measures for control of tick populations on green spaces and disinsection for control of mosquito populations are observed.

Agriculture in the municipality is based on subsistence farming, with a single industry structure and low efficiency. Family farms are of confined type, the land is cultivated almost without the use of machinery, no agro-technical activities are conducted, which leads to low yields.

On the territory of the municipality there is a system of 23 micro-dams and ponds with a total area of 3 628 decares. The irrigation facilities (the irrigation area is 18 879 decares) are largely unused and not maintained.

Livestock farming in the municipality has the character of subsistence farming. Cows are bred most frequently for their milk and meat, sheep breeding is also well developed. Birds, goats, and bee families are also grown on private farms.

A strategic geographic location providing cross-border development prospects is the proximity of Transport Corridor 9 and BCP Makaza to the municipality. Living conditions are characterized by good climate and natural resources, good environmental status, access to rail transport, good transportation and communication infrastructure, a rich cultural calendar.

On the territory of the municipality there are significant deposits of mineral resources, which enable the development of the mining industry.

The necessary structure to prevent the formation and the establishment of unregulated landfills has been organized. No standardized street cleaning system has been formulated. On the territory of the municipality there is no well-functioning system for the separate collection of packaging waste.

Important religious sites and complexes in the municipality are three.

PART 2. MUNICIPALITY OF KRUMOVGRAD

CHAPTER 1: GENERAL CHARACTERISTICS OF THE REGION

1.1. Geographical and geomorphological characteristics

The Municipality of Krumovgrad is an administrative unit in province of Kardzhali, whose territory falls entirely into the Eastern Rhodopes. It occupies 26% of the territory of province of Kardzhali and 0.75% of the territory of the country.

To the east it borders with the municipalities of Ivaylovgrad and Madzharovo, to the west - with Kirkovo and Momchilgrad, to the north with Kardzhali and Stambolovo and to the south with the Hellenic Republic.

The total territory of the municipality is 843,320 m², of which 48,79% are forests, 47,83% - agricultural lands, 2,18% are settlements and other urbanized territories, 1,2% is water area, transport infrastructure etc.

1.2. Administrative structure

The municipality consists of 80 settlements in 403 neighborhoods. The administrative center is the town of Krumovgrad, which 310 km away of the capital and 48 km of the provincial center Kardzhali. The nearest land border checkpoint 130 km away is Kapitan Andreevo. The closest water border checkpoint is Burgas, 310 km away from Krumovgrad.

The closest railway junction is 32 km away in Momchilgrad. The Makaza Border Checkpoint is 40 km away from the town of Krumovgrad and 18 km away from the western border of the municipality.

Large villages in the municipality are Vransko, Golyama Chinka, Gorna Kula, Zvanarka, Polkovnik Zhelyazovo, Potochnica and Rogach (with population over 1000). There are 56 medium-sized villages (with population between 200 and 1000) and 14 small villages (with population under 200). There is no permanent population in the village of Boynik.

1.3. Climate Data

The territory of the municipality of Krumovgrad falls into the northern periphery of the Mediterranean climatic influence and is characterized by a transitional Mediterranean climate. The average annual temperature is 13.20 ° C, with a maximum temperature of 37.00 ° C and a minimum temperature of -16.00 ° C. Winter is relatively mild, with the snow cover lasting for 43 days and summer being long and hot. The average annual precipitation is 52.1 l/m², which is close to the average values measured in meteorological stations in 2001. The low-mountain landscape, the openness to the north through the Krumovitsa River valley, allows the unobstructed invasion of both Mediterranean and cold continental air masses, resulting in a great a variety of the climate.

1.4. Road and transport infrastructure and transport links

Transport network

The constructed road network in the municipality is with a total length of 360.6 km, of which 264.6 km are asphalted. Second-class roads are 27 km, third-class roads - 75 km and municipal roads - 261 km. The density of the road network is 43 km/100 m², which is higher than the average for the country (33 km/100 m²). The major arterial roads are road III-509 Harmanli - Dolno Cherkovishte - Dolna Kula - Krumovgrad - Tokachka - Makaza and road II-59 Momchilgrad - Krumovgrad - Ivaylovgrad, both passing through the municipal center, Krumovgrad and connecting the municipality with neighboring municipalities, the provincial center and the national road network. They are important for the socio-economic development of the municipality as a connection to Transport Corridor 9 Kardzhali - Makaza - Alexandroupolis and create prerequisites for active economic development and increase in the attractiveness of the municipality in the eyes of external investors. The importance of these road links has increased after the launching of BCP Makaza and actual operation of the transport corridor.

Water and sanitation

Water sources in the municipality of Krumovgrad are insufficient in quantitative and qualitative terms. 38 settlements are supplied with water and one is partially supplied. The rest of the settlements are supplied with water from local water sources and during the summer months water needs to be delivered with tank trucks. The water supply network is managed by WSS OOD - Krumovgrad, which has state and municipal participation. The amount of water supplied per inhabitant in the municipality in 2003 is 88 l/h/day, which is significantly less than this value for the province of Kardzhali (101 l/h/day) and the country (137 l/h/day). The main reason is the relatively low degree of industrialization of the municipal economy and the insignificant consumption of water by industrial enterprises. The amount of water supplied to households in the municipality of Krumovgrad (85 l/h/day) is higher than these values for the province and lower than the values for the country - 71 and 90 l/h/day respectively, the main problem being the lack of sufficient water sources with quality drinking water.

A sewerage network is only constructed in the municipal center - the town of Krumovgrad, while in the rest of the settlements septic tanks and absorbing wells are used.

Electricity distribution networks and systems

All settlements on the territory of the municipality of Krumovgrad are electrified, which is implemented by "EVN Electrodistribution" EAD - Plovdiv, Kardzhali branch, Krumovgrad region. On the territory of the municipality operates Hydroelectric Power Station "Studen Kladenets", constructed on a dam of the same name, which is used for energy

production. The plant has an installed capacity of 60 megawatts and annually produces 153.1 million kilowatts of electricity.

The transformation of high voltage (110 kilovolts) to medium voltage (20 kilovolts) is carried out by Substation Krumovgrad, which is connected by 110 kV power lines with Power Station Studen Kladenets and Substation Momchilgrad. The Krumovgrad substation has a total transformer capacity of 40 megawatts.

Irrigation

Irrigation is an important prerequisite for increasing the yields of grown crops. The establishment and improvement of the irrigation zone would lead to an increase in the income of the population from production. Irrigation at this stage is carried out mainly in the lands near the valleys of the rivers Krumovitsa and Arda by method of extending irrigation lines. Dam waters are not sufficiently utilized. At this point there are no irrigation companies whose members would manage and exploit dams at a lower price.

Telecommunications

The Krumovgrad Municipality is served by the regional telephone network with a main Automatic Telephone Exchange in Kardzhali; a transit node operates in the municipal center of Krumovgrad, and the local nodes are 13. Nearly all settlements are included in the automatic telephone dialing system.

Digitization of the transmission network was carried out on the territory of the municipality. Internet access is available through leased lines of the Bulgarian Telecommunications Company AD and the network of the cable operators. The opportunities for development of the communications network are related to the proximity to the optic cable network Haskovo - Komotini.

1.5. Identified Issues

The main problems are related to the maintenance and development of the municipal road network. There is a lack of funds for repair and investments in road infrastructure and a tendency for continuing deterioration in the quality of the infrastructure caused by the intensity of water erosion, especially on roads with crushed stone pavement and unpaved roads. The budget resources of the municipality of Krumovgrad, like those of most other small municipalities in Bulgaria, are highly dependent on subsidies from the republican budget. The potential for realizing own revenues for financing of significant infrastructure projects is limited.

1.6. Synthesis of Chapter 1

This document was created within the framework of project B2.9a.09 "Policies for Ensuring Access to Health Services for Remote Places /HEALTHY MUNICIPALITY/", funded under the Cross-Border Cooperation Programme INTERREG V-A Greece - Bulgaria 2014-2020.

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CHAPTER 2: SOCIO-ECONOMIC CHARACTERISTICS OF THE REGION

2.1. Demographic and social characteristics

Because of the peculiarities of the terrain, the settlements in the municipality are fragmented and remote. The most distant village from the municipal center at 55 km is the

village of Bryagovets. A bus trips to there once daily. The individual neighborhoods are remote from one another and are connected by a road network of poor quality.

The population of the municipality of Krumovgrad in 2011 was 17,662 people. Of these 5,019 live in the town of Krumovgrad and 12 643 in the rural settlements of the municipality.

Population aged 15 and above and economic activity as of 01.02.2011, according to NSI data of 2011:

- Total - 15,085;
- Total economically active population - 7 283;

- Of them employed - 5,921;
- Unemployed - 1,332;
- Economically inactive population - 7,802.

There is a tendency for the increase of the share of persons above working age, especially in the villages. Their population consists mostly of elderly people who live alone and have difficulty in organizing their daily lives.

2.1.1. Population

The population decline in the municipality of Krumovgrad, as well as in the whole province of Kardzhali, began after 1990 and is still continuing. This is primarily due to the negative natural growth and the increased migration to the interior of the country.

Table 1. Population of province of Kardzhali and Municipality of Krumovgrad

years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Province of Kardzhali	163,341	162,332	161,002	159,878	158,541	157,463	156,652	156,008	154,719	153,571	152,009
Municipality of Krumovgrad	19,792	19,549	19,347	19,107	18,836	18,594	18,374	18,198	17,985	17,574	17,662

Source: NSI

2.1.2. Age synthesis of the municipality of Krumovgrad

Table 2.

	population number			population percentage		
	below 19	19-64	above 65	below 19	19- 64	above 65
2009	3 045	11 172	3 768	16,93%	62,12%	20,95%
2010	3 884	10 642	3 048	22,10%	60,56%	17,34%
2011	3 788	9 754	3 141	19,02%	61,65%	19,18 %

Source: NSI

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Table 3. Age synthesis of the province of Kardzhali

years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
0-14 years	28,363	27,255	26,155	25,192	24,445	23,671	23,095	22,861	22,588	22,502	21,170
15-65 years	113,242	112,690	112,032	111,704	110,665	109,934	109,249	108,804	107,850	106,463	104,779
above 65	21,736	22,387	22,815	22,982	23,431	23,858	24,308	24,343	24,281	24,606	26,060

Source: NSI

2.1.3. Aging index, dependency index

Table 4.

Province and Sex	Age dependency index by districts and sex, prospectively by 2080												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
	Kardzhali	55.40	61.86	67.26	71.39	77.08	85.72	92.94	96.81	96.35	90.90	87.44	86.92	86.61
Men	49.98	55.31	60.27	64.50	70.91	80.11	86.96	90.35	89.71	84.13	80.46	80.08	80.51
Women	61.13	68.80	74.65	78.62	83.46	91.45	99.06	103.45	103.16	97.85	94.63	93.98	92.89

The age dependency index

This is the number of people in the "dependent" (population aged less than 15 and over 65) per 100 individuals in the "independent" age group (15 to 64). It is calculated as a percentage.

Source: NSI

Table 5.

Province and Sex	Old age dependency index by region and gender, prospectively by 2080												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
	Kardzhali	33.33	39.85	45.48	50.13	55.04	61.98	67.81	71.14	70.88	66.04	62.57	61.49	60.81
Men	27.73	33.20	38.44	43.15	48.61	55.96	61.40	64.28	63.84	58.89	55.22	54.30	54.33

Women	39.24	46.92	52.92	57.45	61.68	68.13	74.37	78.18	78.09	73.38	70.13	68.91	67.47
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Age dependency index (senior age)

This is the number of people aged 65 and over per 100 population aged 15-64. It is calculated as a percentage.

Source: NSI

2.1.4. Population by sex

Table 6. Population by sex in the municipality of Krumovgrad

year	Population by sex in the municipality of Krumovgrad		
	Total	men	women
2001	19,792	10,018	9,774
2002	19,549	9,864	9,685
2003	19,347	9,764	9,583
2004	19,107	9,609	9,498
2005	18,836	9,477	9,359
2006	18,594	9,335	9,259
2007	18,374	9,238	9,136
2008	18,198	9,158	9,040
2009	17,985	9,025	8,960
2010	17,574	8,797	8,777
2011	17,662	8,903	8,759

Source: NSI

2.1.5. Evolution of births

Table 8. Births for the period 2001-2011 in the province of Kardzhali and Municipality of Krumovgrad

Births	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Province of Kardzhali	1,572	1,527	1,591	1,811	2,100	1,701	1,525	1,643	1,617	1,668	1,700
Municipality of Krumovgrad	244	210	213	241	278	249	189	226	226	202	225

Source: NSI

Table 9. Birth rate for the Republic of Bulgaria and the province of Kardzhali (‰)

Births	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Republic of Bulgaria	8.6	8.5	8.6	9	9.2	9.6	9.8	10.2	10.7	10	9.6
Province of Kardzhali	10.9	9.1	9.6	10.7	10	10.8	10.8	11.3	11.1	10.4	9.5

Source: NSI

The absolute value of births shows a tendency for decrease.

2.1.6. Education level, evolution

The educational level of the population is low and the share of specialists with higher and intermediate education is small - a total of 4.81% of the population of the municipality (due to continuing migration abroad and to the larger cities of the country). The population group with secondary education (19.43%) is sufficient to supply the municipal economy with working staff. The group of residents with primary (33.91%) and elementary education (28.12%) is predominant. The illiterate are 6.03% and children in pre-school age are 7.05%. The educational level of 0.63% of the population is not indicated.

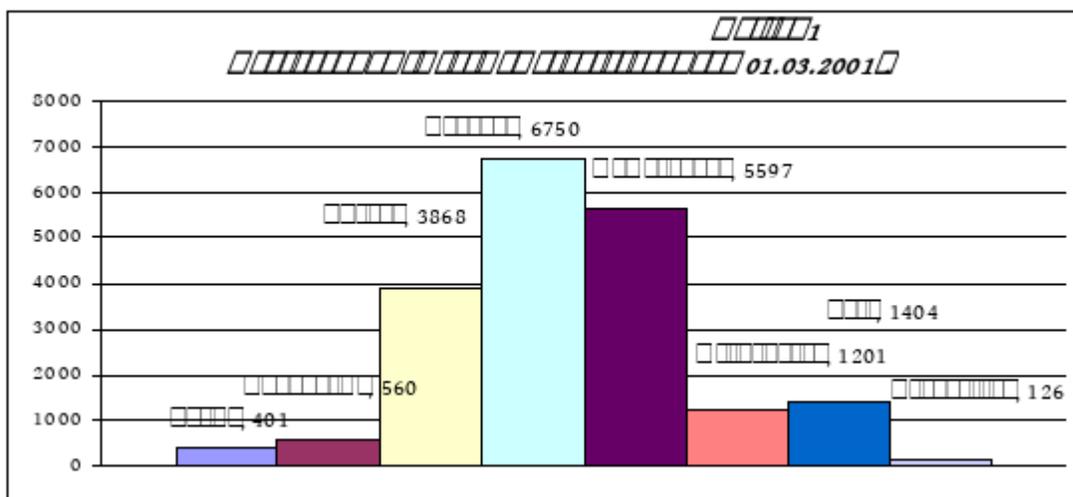


Figure 1. Education level of the population

Specific features

➤ Underdeveloped transport infrastructure, which impedes students in getting to school. In relation to this are created the conditions for the operation of regional gathering schools. The provision of school vehicles for all municipalities is improved;

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- Insufficient knowledge of Bulgarian by a large number of students;
 - Training students in part of schools and mainly in rural and remote areas in subnormal and merging classes, which reduces the quality of education;
 - Difficulties in filling class caps and presence of non-specialist teachers due to the small number of classes. Many teachers in primary schools teach several subjects;
 - Pre-school groups in FDKG fill or exceed caps, while in the small settlements groups are combined;
 - Difficult communication with kindergartens due to insufficient availability of computer equipment and Internet access;
 - Low social status of a part of the population, which has a tangible impact on their motivation for school work;
- Insufficient provision of textbooks for high school students due to material difficulties of their families, which places students in unequal conditions and has a negative impact on their preparation and motivation to learn.

Table 10. *Schools, classes, teachers and students in the municipality of Krumovgrad*

Years	Sch ools	I - IV grade				V - VII grade				
		class es	teach ers	students		classes	teachers	students		primary education graduates
				total	including women			total	including women	
2012-2013	11	28	45	679	334	31	67	716	346	149
2013-2014	11	28	46	681	340	33	70	702	328	149
2014-2015	11	29	46	653	294	34	69	720	343	157
2015-2016	11	30	47	677	319	33	68	673	331	187

Years	IX - XII grade				
	classes	teachers	students		primary education graduates
			total	including women	
2012-2013	13	23	343	190	72
2013-2014	19	41	408	212	139
2014-2015	17	22	321	178	75
2015-2016	13	22	327	174	67

Source: *website of the Municipality of Krumovgrad*

2.1.7. Economic activity of the population

According to data from the census in 2011 the total population of 15 and more years in the municipality of Krumovgrad is 17 662 people, and 48.3% of the population of the municipality.

The economically active population encompasses all persons aged 15 and above who both employed and unemployed. By this indicator Krumovgrad municipality is above the average for province of Kardzhali - 46.5%.

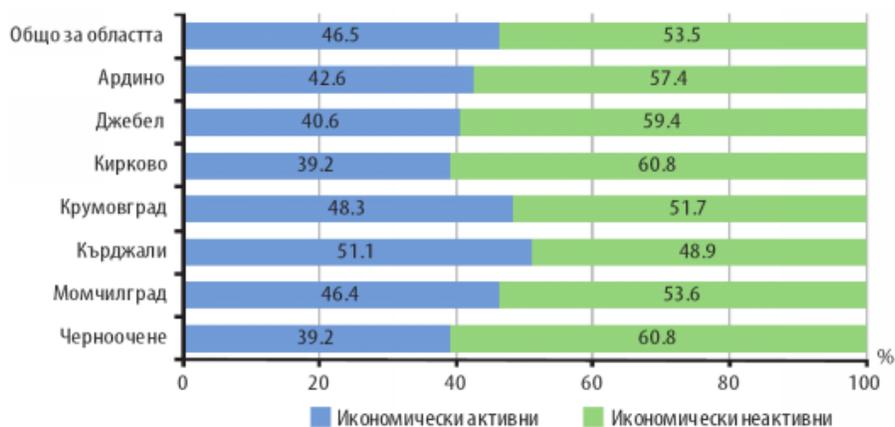


Figure 2. Structure of the population aged 15 and above by economic activity and municipality, 2011 (%), source: NSI

In regard to economically inactive persons, the municipality of Krumovgrad ranks first for retirees (55.3%).

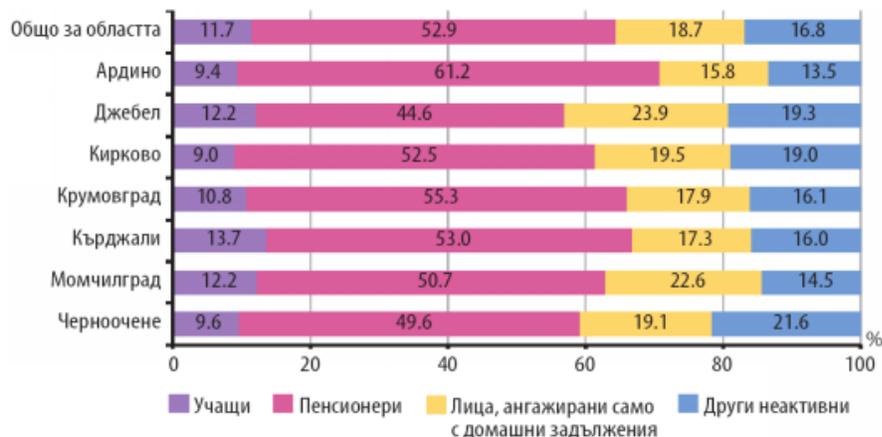


Figure 3. Structure of economically inactive persons aged 15 and above by municipality (%), 2011, source: NSI

Employment rate is the highest in the municipality of Kardzhali - 51.0%, or by 4.6 percentage points higher than that of the province. The municipality of Krumovgrad is ranked second with 49.5 %. Employment rate is the lowest in the municipalities of Chernoochene (37.1%) and Dzhebel (38.9%).

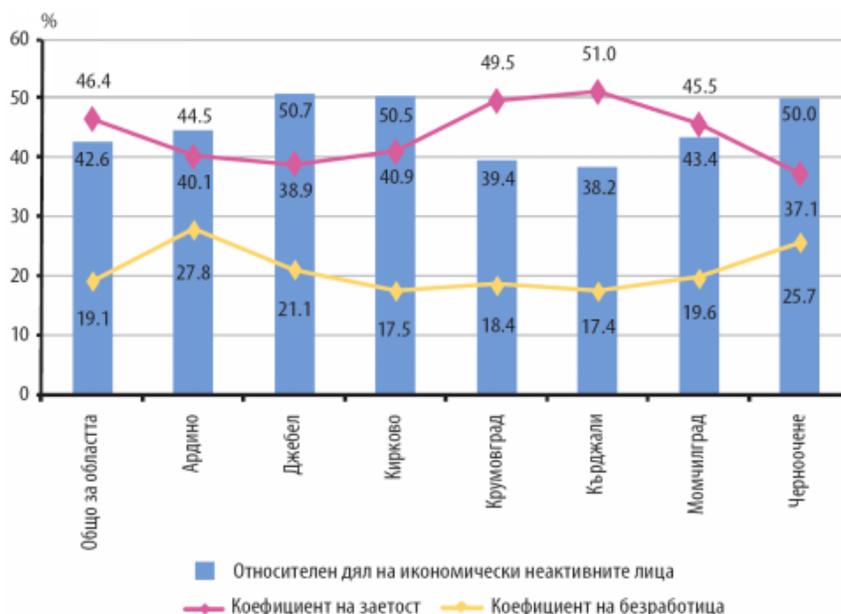


Figure 4. Employment and unemployment rate and relative share of economically inactive persons by municipality (%), 2011, source: NSI

With the largest share of employees is the processing industry, followed by agriculture, fisheries and forest farming, as well as the construction, trade and repair of automobiles and motorcycles. The smallest shares have the sectors: real estate, culture, sports and entertainment.

2.1.8. Unemployment

Unemployment is an important indicator of the economic situation in each administrative-territorial unit. In recent years the number of unemployed persons in the municipality of Krumovgrad has remained relatively high.

The unemployment rate in the municipality in 2012 is 18%. This value is above the national average (11.1%) and higher than the one for province of Kardzhali (15.1 %). The value for the municipality is significantly lower than in other municipalities in the province - Dzhebel (29.9%), Kirkovo (23.8%), Ardino (25.8%). In this respect, only the municipalities

of Kardzhali (9.7%) and Chernoochene (11.0%) and Momchilgrad (14.2%) have better indicators.

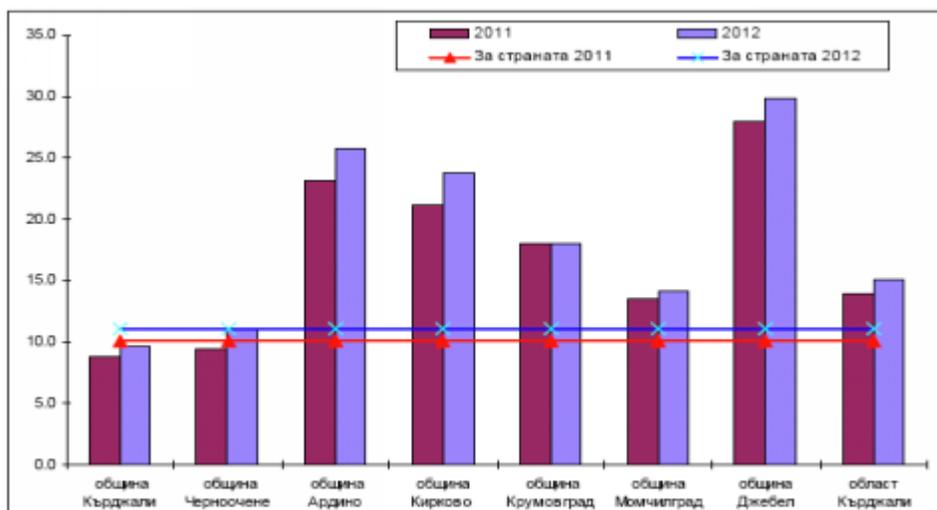


Figure 5. Relative share of unemployed person in the municipalities of the province of Kardzhali
source: DRES - Haskovo

The number of registered unemployed women exceeds that of registered unemployed men, both in the municipality of Krumovgrad and in all municipalities in the province of Kardzhali. This is mainly due to the lower education and qualification level of the female population.

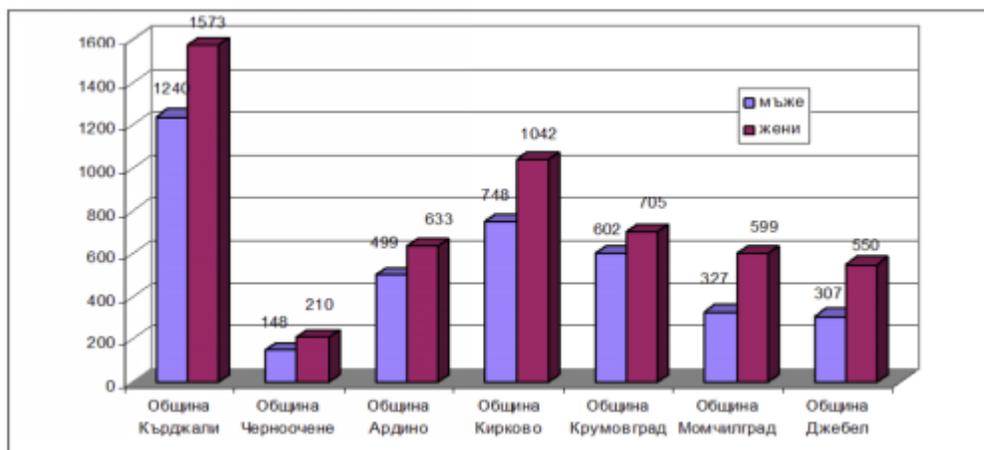


Figure 6. Registered unemployed men and women in the labor offices in province of Kardzhali, source: DRSZ - Haskovo

In terms of age, the relative share of registered unemployed persons in the age groups of 55 years and above and 50-54 years is the largest. As in the rest of the country, it is most difficult for people in pre-retirement age to find a job. In this case municipality of Krumovgrad is not an exception to the general trends in the country and the province. Besides the population in pre-retirement age, a risk group in respect to unemployment are young people up to 29 years of age. An additional disadvantage for the municipality and the province as a whole is the lower education and qualification of young people. The relative share of unemployed youth below 29 in the municipality is 19.21 %. By this indicator the municipality of Krumovgrad ranks first in this province.

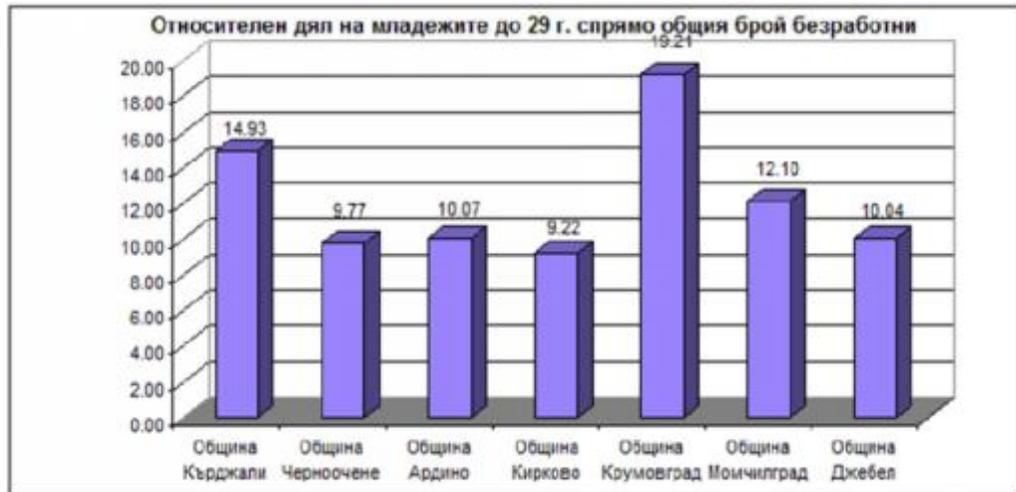


Figure 7. Relative share of young people below 29 of the total number of unemployed, source: DRES - Haskovo

Permanently unemployed persons (unemployed for over 1 year) are also a risk group. They have the largest share in the small municipalities, incl. Krumovgrad. Permanently unemployed persons generally have a lower level of education and training and this is an obstacle to their rapid adaptation to the requirements of employers.

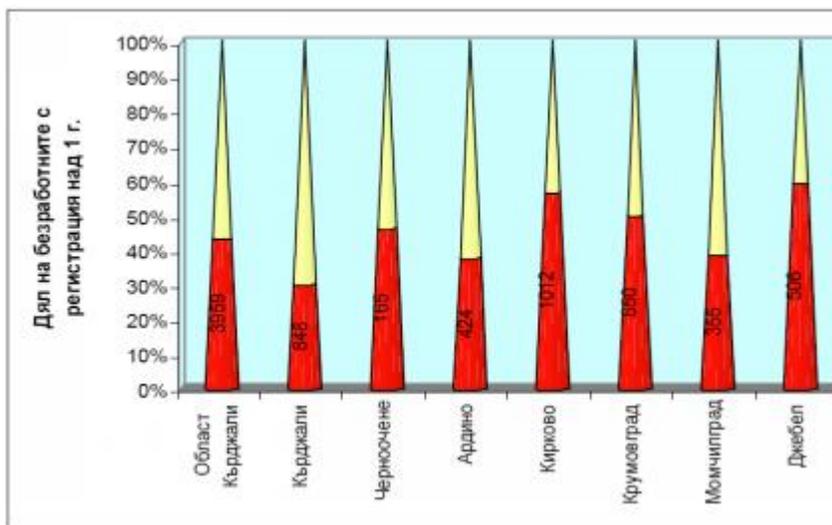


Figure 8. Share of unemployed persons registered for over 1 year, source: DRES - Haskovo

The analysis of the data for the municipality of Krumovgrad shows that problems with unemployment are particularly difficult to solve in small municipalities and settlements. Measures in this respect should combine opportunities for opening work places with implementation of programs for increase of the education and professional training of the population.

2.1.9. Housing characteristics 2011

According to NSI data for 2012 the number of residential buildings is 7,753, with statistics for previous year showing that 53% of the housing stock is inhabited. In 2011 only 805 buildings were counted in the city, with the majority of the housing stock being in the villages. The density of the population is 20.7 people/km²:

- Useful area - 809,064 m².
- Living area - 637,923 m².
- Ancillary area - 137,824 m².
- Kitchen area - 33 017 m².

In 2011 96.1% of buildings have up to two storeys. One-story buildings are 1,525, while two-storey buildings are 5,923. Three-storey ones are only 267. The predominance of low-storey buildings is determined by the availability of large land lots, which provide the opportunity for building in width rather than in height. Housings can be grouped by number of rooms, with the most numerous being four-room and three-room housings. They are respectively 3,155 and 2,162, followed by multi-room and two-room housings -1,791 and 1,691. Housings with five and one rooms are the fewest, with a total of 978, 745 of which have five and 223 - one room.

The main problem in the municipality is the lack of sufficient water sources with quality drinking water. A sewerage network exists in the municipal center, Krumovgrad and in the villages of Vransko, Polkovnik Zhelyazovo, Egrek, Studen Kladenets and partially in Tokachka, Avren, Gulyyka, Slivarka, Potochnica and Strandjevo. In the remaining settlements, septic tanks are used.

In the town of Krumovgrad and the villages with a sewerage network the toilets are indoors. In the remote and smaller settlements the toilets are outdoors.

The population in the municipality of Krumovgrad municipality primarily uses solid fuel - wood and coal, for heating.

The Krumovgrad Municipality is served by the regional telephone network with a main Automatic Telephone Exchange in Kardzhali; a transit node operates in the municipal center of Krumovgrad, and the local nodes are 13. The three mobile network operators provide almost 100% coverage and offer Internet access service. The opportunities for development of the communications network are related to the proximity to the optic cable network Haskovo - Kavala, which is to provide the quality international connections necessary for the business, education and management of the territory. The share of housing in the province with access to the Internet is lower than the average for Bulgaria. As of 01.02.2011, the housings with access to the Internet are 31.7 per cent compared to 43.9 per cent on average for the country. The housings with access to computer are 35.3% compared to 46.6% on average for the country (data: NSI, census 2011).

As an important factor reinforcing the business development by creating conditions for the introduction of modern information services and technologies, the telecommunications network needs further development, innovation and modernization.

2.1.10. Population below the poverty line

In this document the standard of living in the province of Kardzhali is considered in terms of the level of poverty in the province and the share of people living in material deprivation compared to the general This indicates how many households can afford to meet their needs and how many of them live below the average national standard of living (Table 11).

Table 11.

	One person				2 adults with 2 children under 14			
	2007	2008	2009	2010	2007	2008	2009	2010
Total country	2,548	3,318	3,540	3,405	5,351	6,968	7,434	7,150
Province of Kardzhali	2,190	2,388	2,444	2,636	4,600	5,015	5,132	5,536

Source: NSI

It is evident from the presented data on poverty for the country and for the province of Kardzhali, that both single persons and families with two children under the age of 14 in the province live below the poverty line for the country. Lowest is the difference in 2007 - 358 BGN per person and 769 BGN per family with two children under 14. The highest in 2009 - 1096 BGN per person and 2302 BGN per family with two children under the age of 14. There is an improvement in this indicator in the last year with available statistics 2010 - an increase of 327 BGN per person and 688 BGN per family with two children under 14 years.

Table 12.

	2007		2008		2009		2010	
	total	men women	total	men women	total	men women	total	men women
Total for								
the country	41.2	39.6 42.8	41.9	40.1 43.5	45.7	44.2 47.2	43.6	42.5 44.6
area								
Kardzhali	35.6	37.3 33.8	49.0	47.9 50.2	69.2	68.1 70.3	38.6	36.7 40.6

Source: NSI

Regarding the percentage of the population in province of Kardzhali, living with material deprivation, the fluctuations made impression during the years under review. While in 2007 this percentage is below the national average, in the next two years it is significantly than that of the rest of the country.

2.1.11. School drop outs

According to data of the NSI and Regional Department of Education (RDE) - Kardzhali, the total number of dropouts in the municipality of Krumovgrad for the period 2012-2016 is 86.

For the school year 2012/2013 29 students dropped out of school and in 2013/2014 they were 12. There is a decrease in the number of children with educational problems, which is largely due to the practice of not recording the absences of the students.

Table 13. Number of dropouts

years	number of students
2012-2013	29
2013-2014	12
2014-2015	30
2015-2016	15
total	86

Source: RDE - Kardzhali

2. Economic data

2.2.1. GDP per capita in the region

The Gross domestic product per capita in the municipality of Krumovgrad is at relatively low levels compared to the average for the country. However the municipality shows improvement - in recent years there has been an increase in the expenses on fixed tangible assets in all three sectors of the economy, yet the competitiveness of the municipal economy is extremely low. The unemployment rate (11%) is above the national average, but the low value of net sales revenue per employee is an indirect indicator of lower productivity and competitiveness of the local economy and the production of the municipality.

At the height of the financial crisis (2011), the employment rate in the municipality was one of the lowest in the country, but it shows improvement over the last two years and has already reached 45% among the population aged 15 and above. Official unemployment figures show hard-to-explain low levels, but the statistic itself questions the validity of data. The divergence is somewhat explained by the very low level of economic activity, which means that many people who do not work are not accounted for officially as unemployed.

In recent years, there has been a certain increase in the number of enterprises, but the municipality is still characterized by few enterprises relative to the size of the population, which have lower productivity and competitiveness compared to the average for the country. There is a certain link between the economic realities in the municipality and the political processes in the country, for example in public projects in construction and the policy towards the tobacco growers.

2.2.2. GVA by sector, evolution

In terms of sectors the tobacco and processing industry, in particular the food and beverage industry and the textile and clothing industry, are of major importance for the economy of the municipality. Labor market data shows that industry provides relatively more jobs in comparison with the rest of the country, while trade is failing to reach the employment levels observed in other areas of the country. By relative share of net sales revenue, the weights of the most significant sectors in the provincial economy in 2011 were as follows:

- Manufacturing - 39.92% (increase by 4% compared to 2009);
- Trade and repair - 33% (increase by 3% compared to 2009);
- Construction - 9.37% (significant decrease compared to 2009, by about 8.5%)
- Transport and Communications - 3.4% (a sustainable share compared to 2009 when this sector accounted for 3.56% of the regional economy)
- Agriculture, hunting, forestry and fish farming - 3.10% (increase compared to 2009 when it was 2.34%)

Gross Value Added (GVA) is a measure of the contribution of an individual producer, economic activity, and institutional sector in GDP. GVA is the difference between the value of the goods and services produced (output) and the value of the goods and services consumed for their production (intermediate consumption). Gross value added, unlike net value added, includes the consumption of fixed capital during the period. Gross value added indicator is a measure of the vitality of the economy and in this sense its consideration is essential for the economic analysis of province of Kardzhali.

Table 14. *Gross added value (in millions of BGN)*

	2007	2008	2009	2010	2011
Bulgaria	46,401	57,733	58,695	60,716	64,830
South Central Region	7,345.7	8,145.0	8,240.1	8,545.4	.....
Province of Kardzhali	584.7	.....	.....	.....	.....

Source: NSI

GVA is also one way to trace how dominance of certain sectors is related to the degree of poverty or wealth in that region.

Data for 2009 (the last ones we have) show that the undisputed leader in the province of Kardzhali (51%) and in most areas is the services sector. The agricultural sector has a small share of GVA, but it is significantly higher in the province compared to other regions. At the same time, there is a correlation between the size of the agrarian sector on the one hand and the economic development of the province and poverty on the other. The agricultural sector in 2009 represented 19.2% of the total GVA of the province of Kardzhali and has decreased compared to 2007 when it was 25.9%. A great part of the agricultural land is rented or leased (90%). The activity is focused on the cultivation of basic agricultural crops and large-stock breeding. Crop production in the province is dominated by Oriental tobacco and is almost monocultural. Other widespread crops in the province are the cereal food and fodder crops (mainly wheat and rye) as well as vegetables (mostly potatoes and pepper). Perennials such as vines, fruit trees and oil crops have an insignificant share but potential for expansion. Until 2009 there was a steady decline in livestock breeding and in particular pig breeding, but thereafter it has stabilized. Beekeeping developed at a rapid pace until 2009, but ever since, including in 2011, there has been a decline compared to previous years. Industry has about 30.0% share in the GVA of the province, while in 2007 it was 25.1%. Processing plants use agricultural products as raw materials, and light industry - mainly imported or produced outside of the region textile raw materials. Characteristic of the local economy in 2011 is the concentration of industrial production, mainly in the municipal centers and especially in the municipality of Kardzhali.

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2.2.3. Economic activities (description)

The province of Kardzhali is rich in natural resources and has established traditions in the fields of the processing and mining industry. Significant economic growth have construction and the textile, knitwear and food industries. The region has the best traditions in Bulgaria in the cultivation of oriental tobaccos and a raw material base for the development of non-ferrous metallurgy, gold mining, and logging, processing of non-metalliferous minerals, mechanical construction and light industry.

An important place in the economic development of Kardzhali district takes the processing industry. In this sector have been made the majority of expenses on fixed tangible assets. The companies in the industry specialize in the processing of ores and non-metallic minerals and the production of lead, zinc, tin and their alloys, gold, plastics, bentonite products, pearlite and zeolite, as well as the production of goods after metalworking.

The significant for the region sub-sectors of the possessing industry are the textile and clothing industries, in which a significant part of the foreign direct investments - from Greece, Turkey, Germany and the Netherlands, have been made.

The companies in the food, beverage and tobacco sector are mainly oriented to bread production, pastry, dairy processing, meat processing and tobacco processing.

The most dynamic sector in the district of Kardzhali is construction. In this sector the expenses on fixed tangible assets have doubled for the past year.

The largest number of registered business units is in retail trade and repair of personal and household goods. The main activities are retail and wholesale.

The next sector in terms of significance for the province of Kardzhali is Transport and Communications. It is among the most progressive in recent years. The expenses on FTA in the sector for 2005 has risen almost fourfold.

The extraction industry is represented by the extraction of non-metallic minerals and lead-zinc ore.

The logging is very well developed. The timber is exported to the interior of the country and abroad, and is not deeply processed in the region. Wood processing is an activity mainly carried out by the state forestries, which are six in the territory of province of Kardzhali.

Status and Trends of the Economy in the Municipality of Krumovgrad

The Gross domestic product of the municipality of Krumovgrad in 2001 was 40,059,000 BGN. Its gross domestic product per capita for the same year amounted to 2024 BGN, and this by indicator it occupies 127th place out of a total of 262 municipalities in Bulgaria.

In 2003 net income from sales amounted to 17.5 million BGN or 0.9 thousand BGN per inhabitant, which is 12 times less than the average for the country. The dynamics of the

indicator shows a steady trend increase for the period 1999-2003. Compared to the base year it has increased 3.5 times.

The number of businesses registered in the municipality of Krumovgrad is 929, of which 99.4% are private, incl. 10% foreign businesses. There are active 263 companies, of which 95 are micro-companies (employing up to 10 people). 90% of the businesses are registered as a sole trader. The largest share of registered companies has trade (45%), transport (22%), catering and accommodation (15%) and agriculture (5%).

A structurally dominant branch of the local economy is agriculture dominated by tobacco production. The footwear and clothing industry is also represented.

In the last few years, the most powerful business factor in the municipality of Krumovgrad is "Dundee Precious Metals" EAD. The service contracts signed by the company with local businesses are 46. They are related to the following services - construction: general works, food, laundry, hotel services, car maintenance, provision of office supplies and small hardware, construction work, consultancy services. Total cost of the services is 5,780 thousand BGN. The dwellings rented in the municipality of Krumovgrad by Dundee Precious Metals EAD, including apartments and individual floors of houses, amount to 66. Average rental price per month is 520 BGN.

On the basis of a memorandum, Dundee Precious Metals EAD has signed a framework contract with the municipality of Krumovgrad and annually provides 500,000 BGN for municipal projects related to infrastructure, education and healthcare. In addition, the company supports financially the Vocational High School for Transport in the town. 50% of the concession fee is also returned to the municipality.

A key issue of major socio-economic importance is the future of tobacco production as well as the sustainable use of forest resources.

To the achievement of economic growth are expected to contribute Pan European Transport Corridors 9 and 8, which are to influence favorably business development, not only by attracting investments by Greek and Bulgarian entrepreneurs and developing subcontracting chains and suppliers but also by providing access to foreign markets for export of products by local enterprises.

The opportunities for achieving sustainable economic growth are related to the development of agriculture as a sector with potential for expansion in the municipal economy. Prospects for economic development are related to encouraging the emergence and development of related industries in agriculture, forestry and processing.

The main problems facing the local economy are:

- low general economic development of the municipality and lack of a diversified economy;
- remoteness from any major economic and administrative center;
- low competitiveness of local businesses, obsolete building stock and depreciated equipment, as well as low level of technological development;

- low educational level of employees;
- lack of financial resources for technological renewal
- low level of investment activity on the part of external investors

2.2.4. Employment, evolution by branch of economic activity

The Krumovgrad municipality has developed the light industry, which specializes in the production of footwear and sewn products. The enterprises are medium-sized and are concentrated in the town of Krumovgrad. The material and technical base is good and meets the technological requirements. The activity of the companies is mainly focused on export on the basis of toll processing and their output is below their capacity.

Footwear enterprises in the municipality are "Han Krum" AD and "Krumitsa" AD. They do toll processing of shoe uppers for the Italian company "Adelchi". "Krumitsa" AD has a minimum state participation and produces on average 40,000 uppers per month. "Han Krum" AD is a wholly private company and the average monthly production is 50 - 60 thousand uppers. "Sutex" OOD and "Klant" EOOD produce knitwear. They are wholly private enterprises that do toll processing for foreign companies. The employees in the light industry are 908. A major problem for companies is the low value of toll production, which doesn't allow reinvestment. A small number of micro-enterprises are established in the municipality to produce bread, bakery products and soft drinks.

The locals of the municipality of Krumovgrad hired by Dundee Precious Metals EAD are 155, of whom 15 are women. They are all directly engaged. Since the beginning of 2018, 41 more employees have been recruited. The subcontractors indirectly working for Dundee Precious Metals are 232, 48 of whom are women. The open pit mine for extraction of gold-containing ore "Ada Tepe" near Krumovgrad is already in operation, and by the end of 2018 the first concentrate will be produced in the enrichment plant. In 2017, in Dundee Precious Metals Krumovgrad EAD were invested 80 million dollars. Two water treatment plants will be built on Ada Tepe. The first one is for domestic wastewater and the second one will be used in need of discharge of wastewater into the bed of the Krumovitsa River, in which case the water coming from the river will be of drinking quality.

More than 170 people have been assigned to work in the mine. Approximately 210-220 people will be engaged in the Ada Tepe mining area, of which only about a dozen are not from the Krumovgrad region. There are enough qualified candidates from the municipality of Krumovgrad for all types of professions, except for electricians, which is why, as 22-23 specialists are needed for electrical maintenance, personnel is sought for in the town of Kardzhali. In its operation the Ada Tepe mine will use some of the most advanced technologies. Therefore, in parallel with its construction and the construction of the Enrichment plant, preparation of the staff is organized - practical training for the operators and drivers of the modern mining equipment.

Construction

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Part of the construction activities on the territory of the municipality are carried out by the company "BKS" EOOD. The company owns capacities (equipment, transport, warehouses). Over 80 people are employed in it. Other private companies engaged in construction activities are: ET "FiS Engineering", "Vnimanie", ET "Dural" and ET "Sovatastroy". In them work about 40 people.

Plant breeding

Tobacco production shapes the economic image and characteristics of the municipality. Tobacco is the main culture that provides livelihood to a large proportion of the population. Tobacco production has grown in recent years as a result of the guaranteed market for the manufactured produce, the traditions in the branch and the producers' experience. In the municipality of Krumovgrad is produced high quality oriental tobacco of the type "Bashi-Bali", origin Krumovgrad. The production is highly quoted on both the domestic and international markets. Krumovgrad tobacco is a major and indispensable component in the production of the most famous and renowned brands of cigarettes. Long-standing experience and purposeful selection have led to the creation of a number of well-established varieties of oriental tobacco originating in Krumovgrad, which are distinguished by their exceptional biological plasticity and good smoking qualities.

Annually, more than 25,000 decares of agricultural land are recultivated and over 3,000 tonnes of tobacco are produced. Production capacity is far greater, and higher outputs can be generated if the annual shortcomings in selling and grading of the production are avoided. Farmers are increasingly interested in the development of alternative farming as an opportunity to provide higher incomes and employment. In recent years, plantings have been created and white oregano is effectively grown on an area of 500 decares, St. John's wort - on over 30 decares, lemon balm - on over 50 decares, rose hip - on 50 decares. Annually are with pepper are recultivated areas of over 500 decares, with summer savory - of over 500 etc. These crops cannot be an alternative to tobacco, as in their production engages only a small workforce.

Livestock breeding

The semi-mountainous relief of the municipality of Krumovgrad is suitable for the development of livestock breeding. Poor mechanization and automation, high costs of animal husbandry, and a poorly functioning market have a negative impact on the number of raised animals and the produced output. Cattle and sheep breeding are best developed. At the beginning of 2004 the number of cattle was 7,374, including the 4,295 cows, and the number of sheep - 14,480. In spite of the ecologically clean area, there are no livestock breeding farms in the municipality. Animals are scattered on private agricultural properties and are grown mainly for personal needs. The produced milk produced is not marketed, which deprives the producers from the opportunity of capitalizing the production and of receiving subsidies. On the territory of the municipality there are no enterprises for processing the agricultural production.

2.2.5. Main features of rural activity

Krumovgrad Municipality is located in a semi-mountainous area, where the local economy is heavily dependent on agriculture as a source of income and employment. Farming accounts for 54.2% of employment.

The agricultural land in the municipality is 382,228 decares, incl. arable land 147,545 decares (38.6%), meadows and pastures 141,140 decares (36.9%), forests in agricultural properties 93,543 decares (24.5%). The irrigable area is 3,000 decares, but the irrigation system is heavily depreciated. The most utilized irrigation method is the extension of watering lines. 60 micro-dams are built on the territory of the municipality and can be used for irrigation. The rebuilding of the irrigation network is related to attracting investment and should take into account the peculiarities of small farms.

By form of ownership, 19% of the agricultural land is private, 60% is municipal (and almost completely consists of so-called municipal residual land) and 21% is state-owned.

A major part of the arable land is occupied with tobacco (26,583 decares). In addition are cultivated medicinal plants (700 decares of white oregano, 70 decares of rose hips and 25 decares of lemon balm), fruit plantations (562 decares), vineyards (270 decares), other permanent crops (823 decares), pepper (270 decares) and savory (70 decares).

The number of registered tobacco growers is 4,031 and the quota for 2004 is 4,370 tonnes. The municipality is characterized by extremely strong dependence of the farmers on tobacco production. There is a positive experience in the cultivation of medicinal plants, spices and vegetables. These crops are an alternative for the employment of a small part of the farmers.

Land ownership is fragmented and the farms which cultivate less than 10 acres predominate. 2,009 decares are cultivated under lease. Although in recent years the number of small- and medium-sized equipment has increased, there is no modern equipment for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity.

More fertile land is processed and low-productive land is abandoned, with abandoned land at the end of 2001 amounting to over 3,600 decares. The erosion processes induced by the sloping terrain reduce the area of arable land. The absence of large agricultural farms reduces labor productivity and opportunities for realizing lower production costs and market placement of the production.

Livestock has a smaller share of the agricultural output. Almost all kinds of domestic animals are represented, with predominance of cattle and sheep breeding. At the beginning of 2005 the number of domesticated animals was as follows: cattle - 7,204, incl. cows - 4,371, sheep - 16,563.

The decline in the number of animals over the past 15 years is fading as a process, but the difficulties associated with market realization of the production continue to be a major problem for livestock farmers.

Animals are raised on family properties, there are no large farms. In the majority of cases the animals are kept under primitive conditions, there is no quality control of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies.

The main problems facing agriculture are:

Family farms are of confined type, no agro-technical activities are conducted, which leads to low yields.

The market realization of agricultural produce is very difficult, and the offered prices are often below the production costs. An exception is the realization of tobacco, for which purchases are satisfactory.

There is a lack of modern agricultural equipment and modern building stock, as well as financial resources for technological renovation of farms. There is a lack of knowledge on the adequate conduct of agro-technical measures.

Family farms are not market-oriented. No measures are being implemented to improve and maintain livestock breed quality, which prevents an increase in the quantity of production.

These problems provoke a negative tendency for inefficient use of arable land, deterioration of the technical availability of agriculture and reduction of yields. In livestock breeding the tendencies are for the continuing deterioration in the quality of breeds and the amount of production.

The prospects for agricultural development in the municipality of Krumovgrad are related to the preservation of the leading importance of tobacco production, inconsideration of the accumulated experience and popular attitudes, and the introduction of alternative crops such as medicinal plants, spices and vegetables. Improving the competitiveness of the agricultural sector is related to the diversification of crops and the transition to intensive farming, mainly through:

- Production of ecologically clean agricultural production in compliance with the technological requirements;
- Cultivation of medicinal plants as an alternative form of employment and reduction of unemployment, both for the unemployed and for a significant part of the tobacco growers;
- Active investment marketing for the attraction of private investments in agricultural properties and small enterprises for processing of agricultural products;
- The significant amount of agricultural land is a resource for attracting foreign investments for the building of large farms. An important factor in the development of

agriculture is the development of related industries, mainly the food and beverage industry and rural tourism.

2.2.5. Main features of the secondary sector (processing)

Described above.

2.2.7. Main features of the tertiary sector

Described above.

2.3. Specific features of the region

2.3.1. Special population groups

The ethnic structure of the population influences the way of life and the behavior of the population in a single administrative-territorial unit. Particularly strong is the relationship between ethnicity and reproductive attitudes and behavior of the population.

The province of Kardzhali and the municipality of Krumovgrad have some specific features in their ethnic structure compared to the rest of Bulgaria. From the table below the higher relative share of the population of Turkish ethnicity in the municipality and the province compared to the average for the country is clearly visible. This peculiarity, characteristic of the municipalities of the Eastern Rhodopes, is important for the reproductive process of the population. Preserved traditions in the reproductive attitude and behavior of the local population are a major factor in maintaining a higher birth rate than the average for the country. Ethnicity also affects the external migration of the population in the municipality and the region, as well as its employment, education, etc.

Table 15. *Number and share of ethnic groups according to the census of the population of 2011*

	Number	Share (in %)
Total	17,823	100.00
Bulgarian	3 968	22.26
Turkish	10 161	57.01
Roma	36	0.20
Others	97	0.54
do not self-identify	223	1.25
did not answer	3 338	18.73

Source: NSI

2.3.2. Cultural and social characteristics

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For the cultural and historical heritage of the municipality of Krumovgrad testify over 2,000 exhibits, arranged in a museum collection with an exhibition area of 250 m² and separated archeology, new history and ethnography sections. The collection was opened in 1971 and is housed in a building built in 1901 and declared a cultural monument in 1982.

There are 31 archaeological sites and 12 architectural monuments in the territory of the municipality of Krumovgrad, which have the status of monuments of culture of local importance. Remains of Thracian sanctuaries, burial mounds, necropolises and medieval fortresses have been revealed, which testify to intensive and continuous habitation during all historical eras. In the central part of the town of Krumovgrad was uncovered a prehistoric settlement with materials from the Neolithic, Paleolithic and Bronze Age. Interesting Thracian cult monuments are the niches, cut in the vertical rocks along the valley of the Arda River.

A cultural monument group of local importance are houses on "Saedinie" Str. in the historical area of Krumovgrad, tobacco warehouses, and the "Seytlyar Dzhamisi" mosque built in 1855, declared as such in 2002

Architectural and artistic monuments are the church "Sv. Ivan Rilski" in Krumovgrad, built in 1934, the church "Sv. Iliya" in Avren Village, built in 1870, and the church "Sv. Atanasiy" in Chernichevo Village built in 1847-1848. In Egrek Village can be found a Roman bridge and mills declared for monuments of culture in 1982.

Every May in the town of Krumovgrad is held a folk art fair in which individual performers, singing and dance groups present local Rhodope, Thracian and Turkish songs and dances. In the fair participate not only representatives from the municipality but also from neighboring municipalities, different regions of the country and guests from abroad.

The most significant cultural event in Krumovgrad, with twenty-five years of history, are the traditional cultural holidays "The lights of Krumovgrad" held annually on the eve of May 24th. The public event attracts cultural figures from different art fields.

Cultural activities on the territory of the municipality are organized in 12 cultural centers, each of which has a library with a collection of between 4 and 10 thousand volumes, with the cultural center of Krumovgrad having nearly 50,000 volumes. The cultural centers in the villages are located in municipal buildings, while the one in the municipal center is located in a separate building. The cultural centers in Krumovgrad and the larger villages have cinemas.

2.3.3. Other details

Tourism

Tourism is not very developed on the territory of the municipality and forms an insignificant part of the revenues. According to data of the National Statistical Institute in the municipality exists an accommodation facility with a capacity of 70 beds, in which in 2003 a total of 1,831 nights were spent, incl. 333 by foreigners. In 2004 there was an increase of overnight stays to 2,514, incl. 495 of foreigners.

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The potential for development of rural and ecological tourism has not been utilized due to the lack of funds for the establishment of accommodation facilities and the lack of investor interest in the tourism field on the territory of the municipality. The presence of anthropogenic and natural resources does not correspond to the available tourist infrastructure and accommodation facilities, there is an acute shortage of qualified personnel.

The potential for development of tourism on the territory of the municipality is mainly related to the creation and promotion of ecotourism products and cultural routes. The prospects for the development of the tourism business are mainly related to the development of the available cultural, historical and androgenic resources and the supply of a regional tourist product in cooperation with the other municipalities of the Eastern Rhodopes region.

2.4. Identified Issues

The main problems facing the local economy are:

- low general economic development of the municipality and lack of a diversified economy;
- remoteness from any major economic and administrative center;
- low competitiveness of local businesses, obsolete building stock and depreciated equipment, as well as low level of technological development;
- low educational level of employees;
- lack of financial resources for technological renewal
- low level of investment activity on the part of external investors

A key issue of major socio-economic importance is the future of tobacco production as well as the sustainable use of forest resources.

To the achievement of economic growth are expected to contribute the opening of BCP Makaza and the operation of International Transport Corridor 8, which is to influence favorably business development, not only by attracting investments by Greek and Bulgarian entrepreneurs and developing subcontracting chains and suppliers but also by providing access to foreign markets for export of products by local enterprises.

The opportunities for achieving sustainable economic growth are related to the development of agriculture as a sector with potential for expansion in the municipal economy. Prospects for economic development are related to encouraging the emergence and development of related industries in agriculture, forestry and processing.

2.5. Synthesis of Chapter 2

Because of the peculiarities of the terrain, the settlements in the municipality are fragmented and remote. The most distant village from the municipal center at 55 km is the village of Bryagovets. The individual neighborhoods are remote from one another and are connected by a road network of poor quality.

The population of the municipality of Krumovgrad in 2011 was 17,662 people. Of these 5,019 live in the town Krumovgrad and 12,643 in the rural settlements of the municipality.

Population aged 15 and above and economic activity as of 01.02.2011, according to NSI data of 2011:

- Total - 15,085;
- Total economically active population - 7,283;
- Of them employed - 5,921;
- Unemployed - 1,332;
- Economically inactive - 7,802.

There is a tendency for the increase of the share of persons above working age, especially in the villages. Their population consists mostly of elderly people who live alone and have difficulty in organizing their daily lives.

The population decline in the municipality of Krumovgrad, as well as in the whole province of Kardzhali, started after 1990 and has continued so far. This is primarily due to the negative natural growth and the increased migration to the interior of the country.

The population by sex is distributed as follows: out of a total of 17,662 inhabitants of the municipality, 8,903 are men and 8,759 are women.

The absolute value of births shows a tendency for decrease.

The educational level of the population is low and the share of specialists with higher and intermediate education is small - a total of 4.81% of the population of the municipality (due to continuing migration abroad and to the larger cities of the country). The population group with secondary education (19.43%) is sufficient to supply the municipal economy with working staff. The group of residents with primary (33.91%) and elementary education (28.12%) is predominant. The illiterate are 6.03% and children in pre-school age are 7.05%. The educational level of 0.63% of the population is not indicated.

Specific features for Krumovgrad municipality are:

- Underdeveloped transport infrastructure, which impedes students in getting to school. In relation to this are created the conditions for the operation of regional gathering schools. The provision of school vehicles for all municipalities is improved;
- Insufficient knowledge of Bulgarian by a large number of students;
- Training students in part of schools and mainly in rural and remote areas in subnormal and merging classes, which reduces the quality of education;
- Difficulties in filling class caps and presence of non-specialist teachers due to the small number of classes. Many teachers in primary schools teach several subjects;
- Pre-school groups in FDKG fill or exceed caps, while in the small settlements groups are combined;

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- Difficult communication with kindergartens due to insufficient availability of computer equipment and Internet access;
- Low social status of a part of the population, which has a tangible impact on their motivation for school work;
- Insufficient provision of textbooks for high school students due to material difficulties of their families, which places students in unequal conditions and has a negative impact on their preparation and motivation to learn.

The economically active population encompasses all persons aged 15 and above who both employed and unemployed. According to this indicator Krumovgrad municipality is above the average for province of Kardzhali - 46.5 %. In regard to economically inactive persons, the municipality of Krumovgrad ranks first for retirees (55.3%). Employment rate is the highest in the municipality of Kardzhali - 51.0%, or by 4.6 percentage points higher than that of the province. The municipality of Krumovgrad is ranked second with 49.5 %.

The unemployment rate in the municipality in 2012 is 18% .This value is above the national average (11.1%) and higher than the one for province of Kardzhali (15.1 %). The value for the municipality is significantly lower than in other municipalities in the province. The number of registered unemployed women exceeds that of registered unemployed men, both in the municipality of Krumovgrad and in all municipalities in the province of Kardzhali. This is mainly due to the lower education and qualification level of the female population.

In terms of age, the relative share of registered unemployed persons in the age groups of 55 years and above and 50-54 years is the largest. In this case municipality of Krumovgrad is not an exception to the general trends in the country and the province. An additional disadvantage for the municipality and the province as a whole is the lower education and qualification of young people. The relative share of unemployed youth below 29 in the municipality is 19.21 %. By this indicator the municipality of Krumovgrad ranks first in this province.

The analysis of the data for the municipality of Krumovgrad shows that problems with unemployment are particularly difficult to solve in small municipalities and settlements.

According to NSI data for 2012 the number of residential buildings is 7,753, with statistics for previous year showing that 53% of the housing stock is inhabited. In 2011 only 805 buildings were counted in the city, with the majority of the housing stock being in the villages. The density of the population is 20.7 people/km²:

- Useful area - 809,064 m².
- Living area - 637,923 m².
- Ancillary area - 137,824 m².
- Kitchen area - 33 017 m².

The main problem in the municipality is the lack of sufficient water sources with quality drinking water. A sewerage network exists in the municipal center and 4 villages, and is partially constructed in 6 villages. In the remaining settlements, septic tanks are used. In the town of Krumovgrad and the villages with a sewerage network the toilets are indoors. In the remote and smaller settlements the toilets are outdoors.

The population primarily uses solid fuel - wood and coal, for heating.

The Krumovgrad Municipality is served by the regional telephone network with a main Automatic Telephone Exchange in Kardzhali, while the local nodes are 13. The three mobile network operators have nearly 100% coverage, they also offer wireless internet.

The opportunities for development of the communications network are related to the proximity to the optic cable network Haskovo - Kavala. As a factor reinforcing the business development by creating conditions for the introduction of modern information services and technologies, the telecommunications network needs further development, innovation and modernization.

From the available data on the poverty line for the country as a whole and in the province of Kardzhali, it is clear that single persons as well as families with 2 children under the age of 14 live below the defined poverty line in the country. Lowest is the difference in 2007 - 358 BGN per person and 769 BGN per family with two children under 14. The highest in 2009 - 1096 BGN per person and 2302 BGN per family with two children under the age of 14. There is an improvement in this indicator in the last year with available statistics 2010 - an increase of 327 BGN per person and 688 BGN per family with two children under 14 years.

According to data of the NSI and RDE - Kardzhali, the total number of dropouts in the municipality of Krumovgrad for the period 2012-2016 is 86.

The Gross domestic product per capita is at relatively low levels compared to the average for the country. However the municipality shows improvement - in recent years there has been an increase in the expenses on fixed tangible assets in all three sectors of the economy, yet the competitiveness of the municipal economy is extremely low. The unemployment rate (11%) is above the national average, but the low value of net sales revenue per employee is an indirect indicator of lower productivity and competitiveness of the local economy and the production of the municipality.

At the height of the financial crisis (2011), the employment rate in the municipality was one of the lowest in the country, but it shows improvement over the last two years and has already reached 45% among the population aged 15 and above.

In recent years, there has been a certain increase in the number of enterprises, but the municipality is still characterized by few enterprises relative to the size of the population, which have lower productivity and competitiveness compared to the average for the country.

In terms of sectors the tobacco and processing industry, in particular the food and beverage industry and the textile and clothing industry, are of major importance for the economy of the municipality. Labor market data shows that industry provides relatively more jobs in comparison with the rest of the country, while trade is failing to reach the employment levels observed in other areas of the country. By relative share of net sales revenue, the weights of the most significant sectors in the provincial economy in 2011 were as follows:

- Manufacturing - 39.92% (increase by 4% compared to 2009);
- Trade and repair - 33% (increase by 3% compared to 2009);
- Construction - 9.37% (significant decrease compared to 2009, by about 8.5%)
- Transport and Communications - 3.4% (a sustainable share compared to 2009 when this sector accounted for 3.56% of the regional economy)
- Agriculture, hunting, forestry and fish farming - 3.10% (increase compared to 2009 when it was 2.34%)

Data for 2009 (the last ones we have) shows that the undisputed leader in the province of Kardzhali (51%) as in most provinces is the service sector. The agricultural sector has a small share of GVA, but it is significantly higher in the province compared to other regions. At the same time, there is a correlation between the size of the agrarian sector on the one hand and the economic development of the province and poverty on the other.

The agricultural sector in 2009 represented 19.2% of the total GVA of the province of Kardzhali and has decreased compared to 2007 when it was 25.9%. A great part of the agricultural land is rented or leased (90% of their UAA). The activity is focused on the cultivation of basic agricultural crops and large-stock breeding. Crop production in the province is dominated by Oriental tobacco and is almost monocultural. Other widespread crops in the province are the cereal food and fodder crops (mainly wheat and rye) as well as vegetables (mostly potatoes and pepper). Perennials such as vines, fruit trees and oil crops have an insignificant share but potential for expansion. Until 2009 there was a steady decline in livestock breeding and in particular pig breeding, but thereafter it has stabilized. Beekeeping developed at a rapid pace until 2009, but ever since, including in 2011, there has been a decline compared to previous years. Industry has about 30.0% share in the GVA of the province, while in 2007 it was 25.1%. Processing plants use agricultural products as raw materials, and light industry - mainly imported or produced outside of the region textile raw materials. Characteristic of the local economy in 2011 is the concentration of industrial production, mainly in the municipal centers and especially in the municipality of Kardzhali.

The province of Kardzhali is rich in natural resources and has established traditions in the fields of the processing and mining industry. Significant economic growth have construction and the textile, knitwear and food industries. The region has the best traditions in Bulgaria in the cultivation of oriental tobaccos and a raw material base for the

development of non-ferrous metallurgy, gold mining, and logging, processing of non-metalliferous minerals, mechanical construction and light industry.

An important place in the economic development of Kardzhali district takes the processing industry. In this sector have been made the majority of expenses on fixed tangible assets. The companies in the industry specialize in the processing of ores and non-metallic minerals and the production of lead, zinc, tin and their alloys, gold, plastics, bentonite products, pearlite and zeolite, as well as the production of goods after metalworking.

The significant for the region sub-sectors of the possessing industry are the textile and clothing industries, in which a significant part of the foreign direct investments - from Greece, Turkey, Germany and the Netherlands, have been made.

The companies in the food, beverage and tobacco sector are mainly oriented to bread production, pastry, dairy processing, meat processing and tobacco processing.

The most dynamic sector in the district of Kardzhali is construction. In this sector, the cost of fixed tangible assets has doubled for the past year.

The largest number of registered business units is in retail trade and repair of personal and household goods. The main activities are retail and wholesale.

The next sector in terms of significance for the province of Kardzhali is Transport and Communications. It is among the most progressive in recent years. The expenses on FTA in the sector for 2005 has risen almost fourfold.

The extraction industry is represented by the extraction of non-metallic minerals and lead-zinc ore.

The logging is very well developed. The timber is exported to the interior of the country and abroad, and is not deeply processed in the region. Wood processing is an activity mainly carried out by the state forestries, which are six in the territory of province of Kardzhali.

The gross domestic product in the municipality of Krumovgrad is 2001 was 40,059,000 BGN, while GDP per capita for the same year amounted to 2024 BGN, and this by indicator it occupies 127th place out of a total of 262 municipalities in Bulgaria.

In 2003 net income from sales amounted to 17.5 million BGN or 0.9 thousand BGN per inhabitant, which is 12 times less than the average for the country. The dynamics of the indicator shows a steady trend increase for the period 1999-2003. Compared to the base year it has increased 3.5 times.

The number of businesses registered in the municipality of Krumovgrad is 929, of which 99.4% are private, incl. 10% foreign businesses. There are active 263 companies, of which 95 are micro-companies (employing up to 10 people). 90% of the businesses are registered as a sole trader. The largest share of registered companies has trade (45%), transport (22%), catering and accommodation (15%) and agriculture (5%).

A structurally dominant branch of the local economy is agriculture dominated by tobacco production. The footwear and clothing industry is also represented.

In the last few years, the most powerful business factor in the municipality of Krumovgrad is "Dundee Precious Metals" EAD. The service contracts signed by the company with local businesses are 46. hotel services, car maintenance, provision of office supplies and small hardware, construction work, consultancy services. Total cost of the services is 5,780 thousand BGN. The dwellings rented in the municipality of Krumovgrad by Dundee Precious Metals EAD, including apartments and individual floors of houses, amount to 66. Average rental price per month is 520 BGN.

On the basis of a memorandum, Dundee Precious Metals EAD has signed a framework contract with the municipality of Krumovgrad and annually provides 500,000 BGN for municipal projects related to infrastructure, education and healthcare. In addition, the company supports financially the Vocational High School for Transport in the town. 50% of the concession fee is also returned to the municipality.

A key issue of major socio-economic importance is the future of tobacco production as well as the sustainable use of forest resources.

To the achievement of economic growth are expected to contribute Pan European Transport Corridors 9 and 8, which are to influence favorably business development, not only by attracting investments by Greek and Bulgarian entrepreneurs and developing subcontracting chains and suppliers but also by providing access to foreign markets for export of products by local enterprises.

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The main problems facing the local economy are:

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The locals of the municipality of Krumovgrad hired by Dundee Precious Metals are 155, of whom 15 are women. Since the beginning of 2018, 41 more employees have been recruited. The subcontractors indirectly working for Dundee Precious Metals are 232, 48 of whom are women. The open pit mine for extraction of gold-containing ore "Ada Tepe" near Krumovgrad is already in operation, and by the end of 2018 the first concentrate will be produced in the enrichment plant. In 2017, in Dundee Precious Metals Krumovgrad EAD were invested 80 million dollars. Two water treatment plants will be built on Ada Tepe. The first one is for domestic wastewater and the second one will be used in need of discharge of wastewater into the bed of the Krumovitsa River, in which case the water coming from the river will be of drinking quality.

More than 170 people have been assigned to work in the mine. Approximately 210-220 people will be engaged in the Ada Tepe mining area, of which only about a dozen are not from the Krumovgrad region. There are enough qualified candidates from the municipality of Krumovgrad for all types of professions, except for electricians, which is why, as 22-23 specialists are needed for electrical maintenance, personnel is sought for in the town of Kardzhali. In its operation the Ada Tepe mine will use some of the most advanced technologies. Therefore, in parallel with its construction and the construction of the Enrichment plant, preparation of the staff is organized - practical training for the operators and drivers of the modern mining equipment.

Part of the construction activities on the territory of the municipality are carried out by the company "BKS" EOOD. The company owns capacities (equipment, transport, warehouses). Over 80 people are employed in it. Other private companies are also engaged in construction activities. In them work about 40 people.

Tobacco production shapes the economic image and characteristics of the municipality. Tobacco is the main culture that provides livelihood to a large proportion of the population. Tobacco production has grown in recent years as a result of the guaranteed market for the manufactured produce, the traditions in the branch and the producers' experience. In the municipality of Krumovgrad is produced high quality oriental tobacco of the type "Bashi-Bali", origin Krumovgrad. The production is highly quoted on both the domestic and international markets. Krumovgrad tobacco is a major and indispensable component in the production of the most famous and renowned brands of cigarettes.

Annually, more than 25,000 decares of agricultural land are recultivated and over 3,000 tonnes of tobacco are produced. Production capacity is far greater, and higher outputs can be generated if the annual shortcomings in selling and grading of the production are avoided. Farmers are increasingly interested in the development of alternative farming as an opportunity to provide higher incomes and employment. In recent years, plantings have been created and white oregano is effectively grown on an area of 500 decares, St. John's wort - on over 30 decares, lemon balm - on over 50 decares, rose hip - on 50 decares. Annually are with pepper are recultivated areas of over 500 decares, with summer savory -

of over 500 etc. These crops cannot be an alternative to tobacco, as in their production engages only a small workforce.

The semi-mountainous relief of the municipality of Krumovgrad is suitable for the development of livestock breeding. Poor mechanization and automation, high costs of animal husbandry, and a poorly functioning market have a negative impact on the number of raised animals and the produced output. Cattle and sheep breeding are best developed. At the beginning of 2004 the number of cattle was 7,374, including the 4,295 cows, and the number of sheep - 14,480. In spite of the ecologically clean area, there are no livestock breeding farms in the municipality. Animals are scattered on private agricultural properties and are grown mainly for personal needs. The produced milk produced is not marketed, which deprives the producers from the opportunity of capitalizing the production and of receiving subsidies. On the territory of the municipality there are no enterprises for processing the agricultural production.

Krumovgrad Municipality is located in a semi-mountainous area, where the local economy is heavily dependent on agriculture as a source of income and employment. Farming accounts for 54.2% of employment.

The agricultural land in the municipality is 382,228 decares, incl. arable land 1475.45 decares (38.6%), meadows and pastures 141,140 decares (36.9%), forests in agricultural properties 93,543 decares (24.5%). The irrigable area is 3000 decares, but the irrigation system is heavily depreciated. The most utilized irrigation method is the extension of watering lines. 60 micro-dams are built on the territory of the municipality and can be used for irrigation. The rebuilding of the irrigation network is related to attracting investment and should take into account the peculiarities of small farms.

By form of ownership, 19% of the agricultural land is private, 60% is municipal (and almost completely consists of so-called municipal residual land) and 21% is state-owned.

A major part of the arable land is occupied with tobacco (26,583 decares). In addition are cultivated medicinal plants (700 decares of white oregano, 70 decares of rose hips and 25 decares of lemon balm), fruit plantations (562 decares), vineyards (270 decares), other permanent crops (823 decares), pepper (270 decares) and savory (70 decares) .

The number of registered tobacco growers is 4,031 and the quota for 2004 is 4,370 tonnes. The municipality is characterized by extremely strong dependence of the farmers on tobacco production. There is a positive experience in the cultivation of medicinal plants, spices and vegetables. These crops are an alternative for the employment of a small part of the farmers.

Land ownership is fragmented and the farms which cultivate less than 10 acres predominate. 2,009 decares are cultivated under lease. Although in recent years the number of small- and medium-sized equipment has increased, there is no modern equipment for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity.

More fertile land is processed and low-productive land is abandoned, with abandoned land at the end of 2001 amounting to over 3,600 decares. The erosion processes induced by the sloping terrain reduce the area of arable land. The absence of large agricultural farms reduces labor productivity and opportunities for realizing lower production costs and market placement of the production.

Livestock has a smaller share of the agricultural output. Almost all kinds of domestic animals are represented, with predominance of cattle and sheep breeding. At the beginning of 2005 the number of domesticated animals was as follows: cattle - 7,204, incl. cows - 4,371, sheep - 16,563. The decline in the number of animals over the past 15 years is fading as a process, but the difficulties associated with market realization of the production continue to be a major problem for livestock farmers. Animals are raised on family properties, there are no large farms. In the majority of cases the animals are kept under primitive conditions, there is no quality control of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies.

The main problems facing agriculture are:

☒ Family farms are of confined type, the land is cultivated almost without the use of machinery, no agro-technical activities are conducted, which leads to low yields.

➤ The market realization of agricultural produce is very difficult, and the offered prices are often below the production costs. An exception is the realization of tobacco, for which purchases are satisfactory.

➤ There is a lack of modern agricultural equipment and modern building stock, as well as financial resources for technological renovation of farms. There is a lack of knowledge on the adequate conduct of agro-technical measures.

➤ Family farms are not market-oriented. No measures are being implemented to improve and maintain livestock breed quality, which prevents an increase in the quantity of production.

These problems provoke a negative tendency for inefficient use of arable land, deterioration of the technical availability of agriculture and reduction of yields. In livestock breeding the tendencies are for the continuing deterioration in the quality of breeds and the amount of production.

The prospects for agricultural development in the municipality of Krumovgrad are related to the preservation of the leading importance of tobacco production, inconsideration of the accumulated experience and popular attitudes, and the introduction of alternative crops such as medicinal plants, spices and vegetables. Improving the competitiveness of the agricultural sector is related to the diversification of crops and the transition to intensive farming, mainly through:

➤ Production of ecologically clean agricultural production in compliance with the technological requirements;

- Cultivation of medicinal plants as an alternative form of employment and reduction of unemployment, both for the unemployed and for a significant part of the tobacco growers;
- Active investment marketing for the attraction of private investments in agricultural properties and small enterprises for processing of agricultural products;
- The significant amount of agricultural land is a resource for attracting foreign investments for the building of large farms. An important factor in the development of agriculture is the development of related industries, mainly the food and beverage industry and rural tourism.

The province of Kardzhali and the municipality of Krumovgrad have some specific features in their ethnic structure compared to the rest of Bulgaria. From the discovered data the higher relative share of the population of Turkish ethnicity in the municipality and the province compared to the average for the country is clearly visible. This peculiarity, characteristic of the municipalities of the Eastern Rhodopes, is important for the reproductive process of the population. Preserved traditions in the reproductive attitude and behavior of the local population are a major factor in maintaining a higher birth rate than the average for the country. Ethnicity also affects the external migration of the population in the municipality and the region, as well as its employment, education, etc.

According to the census of 2011 in the municipality of Krumovgrad as Bulgarians self-identify 22.26% of the population, as Turkish - 57.01%, as Roma - 0.20%, 1.25% do not self-identify, and 18.73% have not provided answer.

For the cultural and historical heritage of the municipality of Krumovgrad testify over 2,000 exhibits, arranged in a museum collection with an exhibition area of 250 m² and separated archeology, new history and ethnography sections. The collection was opened in 1971 and is housed in a building built in 1901 and declared a cultural monument in 1982.

There are 31 archaeological sites and 12 architectural monuments in the territory of the municipality of Krumovgrad, which have the status of monuments of culture of local importance. Remains of Thracian sanctuaries, burial mounds, necropolises and medieval fortresses have been revealed, which testify to intensive and continuous habitation during all historical eras. In the central part of the town of Krumovgrad was uncovered a prehistoric settlement with materials from the Neolithic, Paleolithic and Bronze Age. Interesting Thracian cult monuments are the niches, cut in the vertical rocks along the valley of the Arda River.

A cultural monument group of local importance are several old houses, tobacco warehouses, and a mosque, while architectural and artistic monuments are the churches in the villages of Avren, Chernichevo and Egrek.

Every May in the town of Krumovgrad is held a folk art fair in which local Thracian and Turkish songs and dances are presented with participation not only by performers from the municipality but also from neighboring municipalities, different regions of the country and guests from abroad. The most significant cultural event in Krumovgrad, with twenty-five years of history, are the traditional cultural holidays "The lights of Krumovgrad" held annually on the eve of May 24th. The public event attracts cultural figures from different art fields.

Cultural activities on the territory of the municipality are organized in 12 cultural centers, each of which has a library with a collection of between 4 and 10 thousand volumes, with the cultural center of Krumovgrad having nearly 50,000 volumes. The cultural centers in the villages are located in municipal buildings, while the one in the municipal center is located in a separate building. The cultural centers in Krumovgrad and the larger villages have cinemas.

Tourism is not very developed on the territory of the municipality and forms an insignificant part of the revenues. The potential for development of rural and ecological tourism has not been utilized due to the lack of funds for the establishment of accommodation facilities and the lack of investor interest in the tourism field on the territory of the municipality. The presence of anthropogenic and natural resources does not correspond to the available tourist infrastructure and accommodation facilities, there is an acute shortage of qualified personnel.

The potential for development of tourism on the territory of the municipality is mainly related to the creation and promotion of ecotourism products and cultural routes. The prospects for the development of the tourism business are mainly related to the development of the available cultural, historical and androgenic resources and the supply of a regional tourist product in cooperation with the other municipalities of the Eastern Rhodopes region.

CHAPTER 3: CHARACTERISTICS OF PUBLIC HEALTH

3.1. Mortality, deaths by place of residence, evolution in the region, prefecture, by municipality (if data is available)

Table 16. *Total mortality rate for the province of Kardzhali and the Republic of Bulgaria*

years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Province of Kardzhali	10.8	10.3	10.9	10.8	11.0	11.0	11.4	11.7	11.3	11.1

Republic of Bulgaria	14.2	14.3	14.3	14.2	14.6	14.7	14.8	14.5	14.2	14.6
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Source: NSI

The total mortality rate for the province of Kardzhali in 2011 is 12.7 ‰. It is highest in the municipality of Ardino - 15.6 ‰, followed by the municipalities of: Kirkovo - 14.7 ‰; Krumovgrad - 13.9 ‰, Chernoochene - 13.6 ‰; Dzhebel 12.2 ‰, Momchilgrad - 11.6 ‰ and Kardzhali - 11.4 ‰. The difference between the values of the indicator in towns and villages is significant: Ardino / villages - 17.8 ‰, Krumovgrad / villages - 15.4 ‰, Momchilgrad / villages - 15.2 ‰, Dzhebel / villages - 13.6 ‰, Kardzhali / villages - 13.3 ‰. The notable difference in mortality between urban and rural populations is mainly due to the more intensive aging process in rural areas. The increase in mortality and emigration processes determine the negative natural growth - minus 1.5, with significant differences by municipality: Kirkovo - minus 5.8; Chernoochene - minus 4.2; Ardino - minus 3.9; Krumovgrad - minus 1.2; Dzhebel - minus 0.2; Kardzhali - 0. It is positive - 0.5 in the municipality of Momchilgrad.

The difference in the values of mortality and birth rates (higher in the cities) resulted in a drastic decrease of the natural growth in the villages of province of Kardzhali compared to the ones in the towns: Ardino / village - minus 7.8; Momchilgrad / village - minus 3.7; Kardzhali / village - minus 2.7.

Among the reasons for the increase in mortality in the province are:

- Increasing aging of the population;
- Increase of the mortality in active age from socially significant diseases;
- Risk factors related to the lifestyle of the population: irrational nutrition, smoking, hypodynamia and stress;
- Socio-economic and environmental factors.

Table 17. Deaths for the municipality of Krumovgrad

year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
deaths	252	225	192	205	223	231	249	238	221	242
number/										
mortality	12.7	11,5	9,9	10,7	11,8	12,4	13,6	13,1	12,3	13,8

Source: NSI

3.2. Child mortality, evolution in the region, prefecture, municipality

In recent years, there has been a steady trend for decline in child mortality. In 2011, 5 children under the age of one died in the province - a child mortality rate of 2.9 ‰. In 2011 the highest child mortality rate is in the municipality of Krumovgrad - 8.9 ‰. In the municipality of Kardzhali the child mortality rate is 3.9 ‰. No child mortality was recorded in 2011 for the municipalities of Ardino, Dzhebel, Momchilgrad, Kirkovo and Chernoochene.

The main cause of death of children under 1 year in 2011 are a number of conditions occurring in the perinatal period - 7.6. Relatively lower is the incidence of deaths among neonatal infants - 2.9. In 2011, there were no children who died in the post-neonatal period.

Table 18. *Child mortality rate for the province of Kardzhali and the Republic of Bulgaria*

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Municipality of Kardzhali	14.5	13.5	11.6	8.2	11.9	7.6	11.2	10.8	8.7	8.7
Republic of Bulgaria	14.4	13.3	12.3	11.6	10.4	9.7	9.2	8.6	9.0	9.4

Source: NSI

3.3. Percentage of perinatal mortality, evolution in region, prefecture, by municipality

Table 19. *Perinatal mortality for the last 3 years in the Republic of Bulgaria, Province of Kardzhali and Municipality of Krumovgrad*

Year	Perinatal Child Mortality 2015	Perinatal Child Mortality 2016	Perinatal Child Mortality 2017
Bulgaria	9.1	9.8	8,9
Province of Kardzhali	14.8	6.2	6.7
Municipality of Krumovgrad	0	13.7	0

Source: RHI - Kardzhali

3.4. Percentage of deaths by main cause (number of deaths, evolution, key causes of death)

Table 20. *Mortality by cause for the Republic of Bulgaria*

Bulgaria		2015	2016	2017
class	Mortality by cause per 100,000 of the population	1,534.1	1,509.3	1,551.6
I	Certain infectious and parasitic diseases	8.4	9.3	9.9

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II	Neoplasms	251.0	242.6	246.3
III	Diseases of the blood and blood-forming and specific disorders involving the immune mechanism	2.0	1.8	2.0
IV	Endocrine, nutritional and metabolic diseases.	25.3	22.9	22.4
V	Psychiatric and behavioral disorders	1.3	1.3	1,1
VI	Diseases of the nervous system	15.8	13.9	12.5
VII	Diseases of the eye and its appendages	-	-	-
VIII	Diseases of the ear and mastoid growth	0	-	-
IX	Diseases of the circulatory system	1,003.5	988.5	1017.5
X	Diseases of the respiratory system	56.4	62.1	64.5
XI	Diseases of the digestive system	53.7	55.2	54.8
XII	Diseases of the skin and subcutaneous tissue	0.7	0.8	0.8
XIII	Diseases of the musculoskeletal system and connective tissue	0.6	0.4	0.5
XIV	Diseases of the genitourinary system	19.9	20.7	21.9
XV	Pregnancy, childbirth and postpartum period	0.1	0	0.1
XVI	Certain conditions originating in perinatal period	2.6	2.9	2.9
XVII	Congenital abnormalities [malformations], deformities and chromosome aberrations	2.1	1,7	1.5
XVIII	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	50.8	47.5	54.9
XIX	Injury, poisoning and certain other consequences of external causes.	40.0	37.7	38.1

Source: National Center of Public Health and Analyses

Table 21. Mortality by cause for the province of Kardzhali

Province of Kardzhali		2015	2016	2017
class	Mortality by cause per 100,000 of the population	1,261.57	1,260.96	1,263.95
I	Certain infectious and parasitic diseases	7.27	10.61	9.93
II	Neoplasms	168.52	181.65	192.57
III	Diseases of the blood and blood-forming and specific disorders involving the immune mechanism			
IV	Endocrine, nutritional and metabolic diseases.	3.30	5.97	6.62
V	Psychiatric and behavioral disorders			
VI	Diseases of the nervous system	4.62	2.65	2.65

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VII	Diseases of the eye and its appendages			
VIII	Diseases of the ear and mastoid growth			
IX	Diseases of the circulatory system	776.50	795.56	798.74
X	Diseases of the respiratory system	68.07	40.44	52.28
XI	Diseases of the digestive system	35.02	44.41	39.04
XII	Diseases of the skin and subcutaneous tissue			1.32
XIII	Diseases of the musculoskeletal system and connective tissue	0.66		
XIV	Diseases of the genitourinary system	18.50	17.90	17.87
XV	Pregnancy, childbirth and postpartum period			
XVI	Certain conditions originating in perinatal period	3.96	3.98	3.97
XVII	Congenital abnormalities [malformations], deformities and chromosome aberrations	1.32	1.33	1.32
XVIII	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	139.44	117.34	137.64
XIX	Injury, poisoning and certain other consequences of external causes.	34.36	39.11	32.43

Source: RHI - Kardzhali

Table 22. Mortality by cause for the municipality of Krumovgrad

Municipality of Krumovgrad		2015	2016	2017
class	Mortality by cause per 100,000 of the population	1,557.85	1,369.78	1,512.02
I	Certain infectious and parasitic diseases		5.90	5.91
II	Neoplasms	210.05	177.13	224.44
III	Diseases of the blood and blood-forming and specific disorders involving the immune mechanism			
IV	Endocrine, nutritional and metabolic diseases.			5.91
V	Psychiatric and behavioral disorders			
VI	Diseases of the nervous system	5.83	5.90	
VII	Diseases of the eye and its appendages			
VIII	Diseases of the ear and mastoid growth			
IX	Diseases of the circulatory system	904.37	903.35	897.76
X	Diseases of the respiratory system	99.19	5.90	70.88
XI	Diseases of the digestive system		47.23	59.06
XII	Diseases of the skin and subcutaneous tissue			

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XIII	Diseases of the musculoskeletal system and connective tissue			
XIV	Diseases of the genitourinary system	11.67	17.71	11.81
XV	Pregnancy, childbirth and postpartum period			
XVI	Certain conditions originating in perinatal period		11.81	
XVII	Congenital abnormalities [malformations], deformities and chromosome aberrations			
XVIII	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	262.56	165.32	218.53
XIX	Injury, poisoning and certain other consequences of external causes.	29.17	23.62	17.72

Source: RHI - Kardzhali

3.5. Life expectancy at birth by gender, evolution

The age dependency index is the number of people in the "dependent" (population aged less than 15 and over 65) per 100 individuals in the "independent" age group (15 to 64). It is calculated as a percentage.

The age dependency index for the municipality of Krumovgrad in 2016 is 22.8 for the population under 15 years of age.

The indicator measures how many years on average a newborn is expected to live under current age-specific mortality conditions. Expected lifespan is a key indicator closely related to health conditions which are an indivisible part of development. Mortality, fertility and migration determine the size of the population, its composition (distribution) by gender and age and its potential for future growth. Extending life expectancy is a major objective of public health. The average life expectancy (ex) is the ratio of the remaining years of the projected lifespan of a person of a certain age (x) - Tx (expected lifespan minus x), to the number of people who lived to age x - (lx)

The average life expectancy for the population of the country for the period 2015-2017 is 74.8 years.

The average life expectancy for men is 71.3 years, while for women it is higher by 7.1 years - 78.4 years.

3.6. Life expectancy at age 65 by gender, evolution

The age-dependency index (senior age) is the number of people aged 65 and over per 100 population aged 15-64. It is calculated as a percentage.

The age dependency index for the municipality of Krumovgrad in 2016 is 184.5% for the population aged over 65.

Table 23. Projected population for the municipality of Kardzhali

(Number)

Sex	Option 1 (under the convergence hypothesis) 1												
	Years												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
Kardzhali	146907	141002	134548	128043	121519	114945	108414	102087	96125	90542	85368	80648	76606
Men	72813	69641	66256	62913	59630	56365	53145	50000	47016	44220	41681	39435	37585
Women	74094	71361	68292	65130	61889	58580	55269	52087	49109	46322	43687	41213	39021
Sex	Option II (relative acceleration) 2												
	Years												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
Kardzhali	147106	141822	136231	130760	125350	119865	114293	108807	103585	98655	94022	89644	85897
Men	72926	70073	67158	64370	61671	58990	56291	53617	51029	48542	46218	44099	42415
Women	74180	71749	69073	66390	63679	60875	58002	55190	52556	50113	47804	45545	43482
Sex	Option III (relative delay) 3												
	Years												
	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080
Kardzhali	146815	140625	133748	126745	119677	112577	105566	98816	92469	86565	81130	76239	72059
Men	72769	69432	65823	62210	58636	55095	51615	48238	45053	42109	39463	37143	35218
Women	74046	71193	67925	64535	61041	57482	53951	50578	47416	44456	41667	39096	36841

¹ Option I (under the convergence hypothesis): This option is defined as realistic and complies with the European Union's statutory requirements for the demographic and socio-economic development of the member states

² Option II (relative acceleration): This version suggests that demographic development will take place under favorable socio-economic conditions in the country.

³ Option III (relative delay): In this scenario, the development of the population is predicted under hypotheses about unfavorable socio-economic conditions in the country.

Source: NSI

3.7. Discharged patients by category of disease and province (in the region, prefecture, municipality) over the last three years (data from findings in the respective hospital)

Table 24. Discharged patients by category of disease in the Republic of Bulgaria

DESIGNATION OF THE DISEASES IN ICD-10	Discharged
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	2015	2016	2017
Republic of Bulgaria	1	2	3
TOTAL	2302891	2258579	2331264
I. Certain infectious and parasitic diseases A00-B99	50039	49779	50545
II. Neoplasms C00-D48	156995	165502	167282
III. Diseases of the blood and blood-forming and specific disorders involving the immune mechanism D50-D89	18170	18235	20072
IV. Endocrine, nutritional and metabolic diseases E00-E90	68536	67243	69203
V. Psychiatric and Behavioral Disorders F00-F99	52845	41724	41812
VI. Diseases of the nervous system G00-G99	64466	71511	72376
VII. Diseases of the eye and its appendages H00-H59	69281	69077	68916
VIII. Diseases of the ear and mastoid growth H60-H95	38864	36482	36130
IX. Diseases of the circulatory system I00-I99	317486	324178	328928
X. Diseases of the Respiratory System J00-J99	223661	212770	218498
XI. Diseases of the digestive system K00-K93	202084	202080	207618
XII. Diseases of the skin and subcutaneous tissue L00-L99	48018	49817	42429
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99	114438	122038	125378
XIV. Diseases of the genitourinary system N00-N99	164430	161130	161389
XV. Pregnancy, childbirth and postpartum period O00-O99	135190	135265	131426
XVI. Certain conditions originating in perinatal period P00-P96	22584	22789	22832
XVII. Congenital abnormalities [malformations], deformities and chromosome aberrations Q00-Q99	6537	6668	6779
XVIII. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified R00-R99	23120	26058	27164
XIX. Injury, poisoning and certain other consequences of external causes S00-T98	119409	12601	134969
XXI. Factors influencing public health status and contact with health services Z00-Z99	406738	349832	387518

Source: NSI

Table 25. Patients enrolled by category of disease in the province of Kardzhali

DESIGNATION OF THE DISEASES IN ICD-10	Discharged		
	2015	2016	2017
Province of Kardzhali	1	2	3

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TOTAL	28278	26515	26054
I. Certain infectious and parasitic diseases A00-B99	1208	1479	1210
II. Neoplasms C00-D48	229	191	175
III. Diseases of the blood and blood-forming and specific disorders involving the immune mechanism D50-D89	1	1	1
IV. Endocrine, nutritional and metabolic diseases E00-E90	1183	1253	1357
V. Psychiatric and Behavioral Disorders F00-F99	1715	1622	1591
VI. Diseases of the nervous system G00-G99	190	263	408
VII. Diseases of the eye and its appendages H00-H59	1096	837	602
VIII. Diseases of the ear and mastoid growth H60-H95	545	489	509
IX. Diseases of the circulatory organs I00-I99	4537	4647	4546
X. Diseases of the Respiratory System J00-J99	4010	3629	3842
XI. Diseases of the digestive system K00-K93	2728	2524	2459
XII. Diseases of the skin and subcutaneous tissue L00-L99	1027	982	1099
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99	1588	1558	1701
XIV. Diseases of the genitourinary system N00-N99	1837	1363	1277
XV. Pregnancy, childbirth and postpartum period O00-O99	3217	3090	2816
XVI. Certain conditions originating in perinatal period P00-P96	202	227	203
XVII. Congenital abnormalities [malformations], deformities and chromosome aberrations Q00-Q99	16	13	13
XVIII. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified R00-R99	264	293	197
XIX. Injury, poisoning and certain other consequences of external causes S00-T98	1430	1238	1231
XXI. Factors influencing public health status and contact with health services Z00-Z99	1055	816	817

Source: National Center of Public Health and Analyses

Table 26. *Discharged patients by category of disease in GHAC "Life +" EOOD - Krumovgrad*

DESIGNATION OF THE DISEASES IN ICD-10	Discharged		
	2015	2016	2017
GHAC "Life +" EOOD - Krumovgrad	1	2	3
TOTAL	1586	1617	1463
I. Certain infectious and parasitic diseases A00-B99	1		
II. Neoplasms C00-D48	1	1	5
III. Diseases of the blood and blood-forming and specific disorders involving the immune mechanism D50-D89			
IV. Endocrine, nutritional and metabolic diseases E00-E90			
V. Psychiatric and Behavioral Disorders F00-F99			
VI. Diseases of the nervous system G00-G99			
VII. Diseases of the eye and its appendages H00-H59			
VIII. Diseases of the ear and mastoid growth H60-H95			
IX. Diseases of the circulatory system I00-I99		30	4
X. Diseases of the Respiratory System J00-J99	804	766	713
XI. Diseases of the digestive system K00-K93			
XIII. Diseases of the musculoskeletal system and connective tissue M00-M99			
XIV. Diseases of the genitourinary system N00-N99	50	69	89
XV. Pregnancy, childbirth and postpartum period O00-O99	598	611	554
XVI. Certain conditions originating in perinatal period P00-P96	4	1	
XVII. Congenital abnormalities [malformations], deformities and chromosome aberrations Q00-Q99			
XVIII. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified R00-R99	6	13	1
XIX. Injury, poisoning and certain other consequences of external causes S00-T98			
XX. Heatstroke and sunstroke T67.0			
XXI. Factors influencing public health status and contact with health services Z00-Z99	122	126	97

Source: GHAC "Life +" EOOD - Krumovgrad

3.8. Main diagnosis by province (local community) over the last 3 years (data from findings in health centers and regional or rural offices)

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In the structure of morbidity in the province of Kardzhali during the last three years the leading diseases are: Diseases of the organs of the blood circulation, followed by Diseases of the respiratory system and thirdly - Pregnancy, birth and postpartum period.

3.9. Identified Issues

The state of public health in the municipality is a summation of the health issues of the population as a whole. It is the reflection of:

- Lifestyle;
- Health culture;
- Quality of Healthcare;
- Range of clinical pathways.

Part of the negative healthcare processes in the municipality are linked to some extent to the shortcomings of the health system as a whole.

3.10. Synthesis of Chapter 3

The total mortality rate for province of Kardzhali for the period 2001-2010 is lower than in the country - from 10.8 in the beginning of the period to 11.1 in the end for the district and from 14.2 to 14.6 in the country.

The total mortality rate for the province of Kardzhali in 2011 is 12.7 ‰. It is highest in the municipality of Ardino - 15.6 ‰, followed by the municipalities of: Kirkovo - 14.7 ‰; Krumovgrad - 13.9 ‰, Chernoochene - 13.6 ‰; Dzhebel 12.2 ‰, Momchilgrad - 11.6 ‰ and Kardzhali - 11.4 ‰. The difference between the values of the indicator in towns and villages is significant.

Among the reasons for the increase in mortality in the province are:

- Increasing aging of the population;
- Increase of the mortality in active age from socially significant diseases;
- Risk factors related to the lifestyle of the population: irrational nutrition, smoking, hypodynamia and stress;
- Socio-economic and environmental factors.

In 2011 the highest child mortality rate is in the municipality of Krumovgrad - 8.9 ‰. The main cause of death of children under 1 year in 2011 are a number of conditions occurring in the perinatal period - 7.6. Relatively lower is the incidence of deaths among neonatal infants - 2.9.

In the structure of the hospitalized patients in the province of Kardzhali during the last 3 years the leading diseases are: Diseases of the circulatory system followed by Diseases of the respiratory system and in third place Pregnancy, childbirth and postpartum period. The situation in the municipality Krumovgrad is similar.

The age dependency index for the municipality of Krumovgrad in 2016 is 22.8 for the population under 15 years of age. It is 184.5% for the municipality of Krumovgrad in 2016 for the population aged over 65.

CHAPTER 4: HEALTH AND WELFARE SERVICES IN THE REGION

4.1. Infrastructure and health services (provision of health care)

4.1.1. Structure of the health system

A) In the country

The Bulgarian health system has undergone many changes since 1990. Before then, there was a Semashko-type healthcare system, in which health services were free, and establishments are state-owned and entirely financed from the state budget.

In the mid-1990s began reforms aimed at alleviating government expenditure through decentralization and the introduction of a social security system. Thus in 1999 the National Health Insurance Fund was created, which currently works with 88 private and 312 state and municipal healthcare establishments through 28 regional funds. NHIF income is generated mostly by private sector employees. The fund in its turn concludes contracts with healthcare establishments and thus pays for the services they provide. The NHIF receives additional income from the state and local budgets, and the local administration finances all healthcare establishments in its territory that do not have a contract with the NHIF. Private uncontacted medical establishments can provide healthcare services against payment.

By law, Bulgarian citizens receive health services against payment of social security contributions. In practice, however, nearly 50% of the health services are paid directly by patients. This is due to the chronic shortcomings in the financing of hospitals and services by the National Health Insurance Fund (NHIF), mainly due to inappropriate clinical pathways and abuses in the system. Most state and municipal hospitals operate at a loss. Thus, out of 33 European countries (including the 27 in the EU), Bulgaria ranks last in the quality of health services.

SWOT analysis of the health system in the Republic of Bulgaria

STRENGTHS	WEAKNESSES
<p>Internal factors</p> <ul style="list-style-type: none"> * Availability of administrative, executive and scientific capacity for the functioning of the health system and the implementation of reforms. * A well-developed health network covering the entire country. * Availability of well-qualified senior medical staff is above the average for EU member states. * Well developed system of medical education. 	<p>Internal factors</p> <ul style="list-style-type: none"> * A great number of medical establishments in the absence of categorization and indicative standards. * Insufficient funding of the healthcare system. * Inefficient use of the provided financial resources. * Insufficient awareness of citizens about their rights and obligations.



	<ul style="list-style-type: none"> * Insufficient preventive care. * Difficult access to quality health services. * Poor utilization of natural resources for treatment and rehabilitation purposes. * Unregulated practices. * Unsatisfactory state of the post-graduate and continuing education system for medical staff. * Ineffective coordination between the different structural units in the system and poor management of hospitals. * Weaknesses and inconsistencies in the legislative and regulatory framework. * Insufficient and inefficient cross-sectorial cooperation. * No modern integrated system for effective information exchange in the healthcare system.
<p>OPPORTUNITIES <i>External factors</i></p> <ul style="list-style-type: none"> * Raising the awareness of healthcare users. * Membership in the EU and inclusion in the European health system. * Planning and provision of medical specialists for each type of activity in the long term, in accordance to the demands of the population for particular health services. * Streamlining the opportunities for specialization and continuing education of health care providers. * <i>Utilization of the favorable geographical climatic conditions for the development of balneotherapy and health tourism.</i> * Utilization of EU funds to achieve the objectives of the reform. * Development of services related to convalescence care, rehabilitation and elderly care; * Expanding the Emergency Response Capacity of the healthcare system. 	<p>THREATS <i>External factors</i></p> <ul style="list-style-type: none"> * Aging population. * <i>Decrease in the number of specialists from certain specialties, including anesthesiology and intensive care, pathoanatomy, neonatology, psychiatry and clinical laboratory.</i> * Decrease in the number of nurses - two times lower than the same indicator for EU member states. * Insufficiency of funds for the renovation and maintenance of the material and technical base and the supply of modern medical equipment. * Insufficient funding of the health care system. * Risk of potential occurrence and spread of epidemics and pandemics. * Risk of potential occurrence of environmental crises and disasters in the country and abroad.

* Introduction of on-line health services and establishment of an integrated information system.	
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B) In the region

In 2011 in the province of Kardzhali there are 66 general practitioners registered. There are still unoccupied medical practices in all municipalities. A significant proportion of the physicians, especially those in small settlements, are in retirement or pre-retirement age, and the number of young physicians is extremely low.

The large distances between small settlements and urban centers obstruct the access of inhabitants of remote and hard-to-reach settlements and neighborhoods to medical help. In most villages, people do not have direct access to primary care.

Emergency medical care as a whole is insufficiently effective due to difficult access. Medical staff is more abundant in towns than in the countryside. This is mainly due to the specific infrastructure - fragmentation and remoteness of small settlements. For this reason, emphasis should be placed on preventive medicine.

Healthcare establishments for primary medical care and dental outpatient care in the municipality of Kardzhali in 2011 amount to 199, of which 63 are Outpatient clinics for individual practice of primary medical care (OCIPPMC) and 136 are Outpatient clinics for individual practice of primary dental care (OCIPPDC). The number of this type of medical establishments is largest in the municipality of Kardzhali - 33 and 76 respectively, and smallest in the municipality of Dzhebel - 2 and 5.

Table 27. *Medical establishments for primary medical and dental outpatient care by municipality in the province of Kardzhali in 2011*

Municipality	OCIPPMC	OCIPPDC
Municipality of Ardino	3	11
Municipality of Krumovgrad	7	10
Municipality of Momchilgrad	5	10
Municipality of Kirkovo	8	14
Municipality of Dzhebel	2	5
Municipality of Chernoochene	5	8
Municipality of Kardzhali	33	76

Source: NSI

Table 28. Establishments for Outpatient Care in the province of Kardzhali in 2011

Outpatient clinics for individual practice of primary medical care (OCIPPMC)	63
Outpatient clinics for individual practice of primary dental care (OCIPDC)	136
Outpatient clinics for individual practice of special medical care (OCIPSMC)	68
Medical Centers	6
Diagnostic Consultation Center (DCC)	1
Medical Technical Laboratory (MTL)	9
Medical Diagnostic Laboratory (MDL)	4
Hospices	2

Source: NSI

In the province of Kardzhali there are 136 OCIPDC, followed by 68 OCIPSMC, and 63 OCIPPMC. Smallest is the number of Diagnostic Consultation Centers (DCC) and hospices. Specialized outpatient care is a major integrative element in the healthcare system that provides the population with affordable, high-quality medical care and reduces the need for more expensive inpatient care through active prevention, early diagnosis and treatment in ambulatory conditions.

Evaluation of the demand for specialized medical staff in outpatient care detected the need to expand the package of services in each specialty and to relocate some diagnostic and treatment services from inpatient to outpatient care. Providers of specialized outpatient medical care are also unevenly distributed, with their concentration being predominantly in the municipal centers. This obstructs the population's access to this type of service, increases the number of late diagnosis cases and complications, and increases the number of hospitalizations.

Table 29. Number of GHAC, SPH, RDPPDIU, number of beds and their utilization in 2011 in province of Kardzhali

Type of medical establishment	Number	Beds	Patients	Utilization in days	Utilization in %	Total bed-days	Clinical Pathways
GHAC	5	598	14,991	189.16	51.82	137,409	282
SPH	1	320	2,178	354.73	97.19	113,514	
CMSCC	1	140	190	273.26	88.15	38,257	-

Source: RHI - Kardzhali

The system of medical establishments in the Municipality of Kardzhali is capable of meeting the public healthcare needs of both the municipality and the province.

In the territory of province of Kardzhali are operating the following MBAT:

- GHAC "Dr. At. Dafovski "AD - Kardzhali;
- GHAC "Kardzhali" OOD;
- GHAC "Ardino" EOOD, town of Ardino;
- GHAC "Dr. S. Rostovski" EOOD, town of Momchilgrad;
- GHAC "Life +", town of Krumovgrad.

Their total number of beds amounts to 598, and in the last year their utilization in days is 189.16, which is 51.82% of the total available bed days.

The total number of patients who underwent hospital treatment in 2011 is 14,991. The available beds in the currently operation State Psychiatric Hospital and the Center for Medical and Social Care for Children are 460, which number is relatively close to the total number of beds available in all GHAC in the province. These two establishments manage to utilize their capacity almost entirely - 97.19% in the SPH and 88.15% in the CMSCC, but the number of patients hospitalized in them is significantly lower than in that in GHAC - only 2 368 people.

The equipment in hospitals is at a good level and physicians have the opportunities to exchange experience with specialists visiting from the entire country. In connection with the healthcare reform, the activity of RDPPIU "Dr. V. Vlasakiev" EOOD has been terminated as of 01.01.201, but a department of Pneumology and Phthysiatry was opened at GHAC "Dr. At. Dafovski "AD.

Because of the uneven distribution of pre-hospital care, the number of hospitalizations in many hospitals in the province has been increasing. Consultations with a specialist are impossible in remote places. Patients have no access to a laboratories, imaging diagnostic units, etc. and prefer to refer to directly a hospital as a single complex in which they can receive any needed medical care. In primary outpatient care there is no established system for 24-hour admission. This increases the flow of patients to specialists and hospitals. This practice increases the number of secondary care visits and hospitalizations.

In the territory of the provincial center Kardzhali there is a Center for Emergency Medical Care (CEMC), which has 8 branches in the rest of the province. The number of emergency outpatient examinations performed in 2011 was 25,962, incl. 13,704 responses to emergency calls. Of all 6,821 are for emergency medical care, 4,963 for failing states and 1,920 for sanitary transport. The permanently employed medical is sufficient, but the qualifications of senior and middle-level medical staff are insufficient. Turnover among physicians is great. The main burden in the branches falls on the middle-level medical staff.

In order to improve the quality of emergency medical care it is necessary to provide resources, improve the qualification of the personnel and the preparedness for rapid response to accidents, disasters and catastrophes in accordance with the European standards. It is also necessary to improve synchronization between existing health establishments and key units in the sector of health care - emergency medical centers, family doctors, specialized offices, health offices in educational establishments etc. in order to organize better prevention and diagnostics.

Since 2001 in the town of Kardzhali operates the first and only Center for Battling Hypertension in the country, which offers free measurement of blood pressure. Thus the inhabitants of the entire province are given the opportunity to constantly monitor their health and receive qualified help.

The experts of the RHI of Kardzhali periodically prepare and disseminate health information materials for this risk factor. The total number of patients who had visited the Center by 2009 was 42,346. In the RHI has been established and operates permanently a Health Center, which has constant exposure and hosts organized clubs. It is visited both by citizens and by students and guests from the province and the entire country.

Some of the main issues in health care that need to be addressed are:

1. Increasing tendency for aging of the qualified medical staff - lack of young physicians in certain specialties.
2. Unoccupied practices in the villages are unattractive. The main reasons are a large number of uninsured people, elderly people with specific health problems, scattered settlements, poor roads and irregular transport.
3. Insufficient number of group medical practices.
4. As a serious problem RHI - Kardzhali indicates the large number of uninsured persons.

Number of doctors (GPs and specialists), dentists, health care specialists in the municipality of Krumovgrad

In 2011 in the municipality were registered: 4 individual practices for primary outpatient medical care; 10 for dentistry; a single group practice for primary medical care and 7 individual practices for specialized outpatient care.

There are unoccupied outpatient clinics in Krumovgrad and the villages: 4 in the town and 10 in the villages of Egrek, Malak Devesil, Buk, Golyama Chinka, Zvanarka, Golyamo Kamenyane, Chernichevo, Gulyka, Polkovnik Zhelyazovo, and Potochnitsa.

On the territory of the municipality 15 specialists provide health services to children in 9 kindergartens and 12 schools.

4.1.2. Hospitals in the region - Covered subjects - Medical Staff - Equipment - Needs etc.

There is a single general hospital - GHAC "Life +" EOOD in the municipality of Krumovgrad. It was established on 04.09.2000 with a capital amounting to 248,595 BGN. The sole owner of the company is the Municipality of Krumovgrad, with the property rights being exercised by the Municipal Council of Krumovgrad. In the medical establishment Medical specialists, together with other staff, treat people with acute illnesses, acute chronic diseases and conditions requiring surgical treatment in hospital conditions in the following main medical specialties:

➤ Diagnosis and treatment of diseases in case successful treatment can't be achieved in outpatient care establishments;

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- Natal care;
- Rehabilitation;
- Diagnosis and consultations requested by a physician or dentist from other medical establishments;
- Follow-up.

Diagnostic Consultation Block - consists of reception rooms, clinical laboratory, diagnostic imaging department, microbiological laboratory, laboratory for general clinical pathology and departments without beds - anesthesiology department and physiotherapy department, which is not functioning at present.

Inpatient block with 54 active beds

- Department of Internal Diseases, in which activities in the medical specialties Pneumology and Cardiology are carried out;
- Department of Pediatrics (Children's Ward);
- Department of Obstetrics and Gynecology;
- Department for Continuous Treatment of Internal Diseases.

Administrative - economic block

- Sterilization room;
- Auto transport;
- Administration.

The Duty Room has been providing medical assistance to health-insured and uninsured persons between 8.00 pm and 8.00 am on working days and 24 hours a day during weekends and holidays.

The hospital structure includes a **hospital pharmacy**.

Table 30. Hospital staff (2011)

Staff	
Physicians	20
Pharmacists	1
Healthcare Specialists	25
including:	
midwives	5
nurses	14
Laboratory technicians (clinical and X-ray)	5
assistant pharmacists	1
Other staff	21

Source: RHI - Kardzhali

The hospital is well equipped with medical equipment, with respect to the diagnostic-consultation care, outpatient treatment and urgent emergency medical care carried out in it.

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Table 31. Equipment (medical devices)

Echograph	3
ECG machine	3
Spirometer	2
Endoscope	1
X-ray apparatus	1
Hematology analyzer	1
Automatic Clinical Chemistry Analyzer	1
Blood Gas Analyzer	1
Narcosis Machine	2
Incubators	2
Defibrillator	2
Ultrasound Therapy Machine	1
Low Frequency Current Machine	5
High Frequency Current Machine	3
Others	2

Source: GHAC "Life+" EOOD, Krumovgrad

4.1.3. Health / Medical Centers in the Region

Medical Center No.1 EOOD is a medical establishment for pre-hospital specialized care that is in the process of construction. The sole owner of the company is the Municipality of Krumovgrad, with the property rights being exercised by the Municipal Council of Krumovgrad. According to the approved Health Map for the province of Kardzhali for providing specialized outpatient care, 6 rooms - Internal medicine room, surgery room, children's room, ENT room, Obstetrics and Gynecology room and Ophthalmology room are envisaged in Medical Center No. 1.

4.1.4. Regional medical centers in the region

- MC "Avicenna", town of Kardzhali;
- MC "Zdrave", town of Kardzhali.
- MC "Dr. Stoyanov - MC", Kardzhali;
- DCC No.1, town of Kardzhali.
- "MC - MI ", town of Momchilgrad;

4.1.5. Private Clinics

None.

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4.1.6. Private Doctors

None.

Table 32. *Doctors registered in RHI Kardzhali for the municipality of Krumovgrad and contracts with RHIF - Kardzhali*

Type of medical establishment	number of registered doctors/dentists	doctors/dentists in contractual relations with RHIF - Kardzhali out of registered doctors/dentists
Primary medical care	5	5
Primary dental care	12	8
Specialized medical care	7	4

Source: RHI – Kardzhali and RHIF - Kardzhali

The doctors specialists, who have signed a contract with RHIF - Kardzhali, have specializations in: obstetrics and gynecology, cardiology, ENT and surgery.

4.1.7. Distance of settlements from health services in the region

The municipality of Krumovgrad lies on an area of 843.3 km² and consists of 80 settlements. The distance from the settlements to the municipal center is as follows:

- Up to 10 km - 21 villages;
- Between 10.1 km and 20 km - 28 villages;
- Between 20.1 km and 30 km - 15 villages;
- Between 30.1 km and 40 km - 8 villages;
- Between 40.1 km and 50 km - 4 villages.

Most distant are 3 settlements, respectively one at 51 km, two at 53 km.

4.2. Provision of health services (indicators)

4.2.1. Physicians per 1000 inhabitants (in the province, municipality) as of 31.12.2017

Table 33.

	number	Per 1000 inhabitants of the population
Province of Kardzhali	539	3.6
Municipality of Krumovgrad	19	0.9

Source: RHI - Kardzhali

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4.2.2. Healthcare specialists per 1,000 inhabitants as of 31.12.2017

Table 34.

	number	Per 1000 inhabitants
Province of Kardzhali	854	5.7
Municipality of Krumovgrad	29	0.6

Source: RHI - Kardzhali

4.2.3. Hospital beds per 1000 inhabitants (in the province, municipality) as of 31.12.2017

Table 35.

	number	Per 1000 inhabitants
Province of Kardzhali	826	5.5
Municipality of Krumovgrad	54	3.2

Source: RHI - Kardzhali

4.2.4. Number of people using health services per 1,000 inhabitants for the province, municipality

Table 36.

Number of people using health services / 1,000 inhabitants	2015	2016	2017
Province of Kardzhali	151 319	150 837	151 113
Municipality of Krumovgrad	17 139	16 937	16 931

Source: RHI - Kardzhali

4.2.5. Number of hospitalized persons per 1000 inhabitants for the municipality, province

Table 37.

Hospitalized persons / 1,000 inhabitants	2015	2016	2017
Province of Kardzhali	189.33	178.34	175.12
Municipality of Krumovgrad	92.71	95.47	86.47

Source: RHI - Kardzhali

4.3. Health programs in the region by other institutions

4.3.1. Health programs of the municipality (vaccinations, information events, programs for the elderly)

Project "Provision of Integrated Services for Early Child Development in Krumovgrad Municipality", Procedure "Early Child Development Services" under the Operational Program "Human Resources Development" 2014-2020, co-financed by the European Social Fund of the European Union. It complements and supports the work of the successfully created Center for Provision of Integrated Social Services in the Community under the Social Inclusion Project, financed by Loan 7612BG from the International Bank for Reconstruction and Development in the period 2012-2015. The project aims to support young children and their families in improving access to healthcare, building parenting skills, improving the family environment, increasing the child's preparedness for entering the education system, and preventing placement of children in specialized institutions. The project covers children aged 0 to 7 years and their parents, as well as future parents of risk groups in the municipality of Krumovgrad. The project activities aimed at disease prevention are:

➤ "Support for the Provision of Children's Healthcare Consultation and Activities for Disease Prevention" - The target group of the service are vulnerable families and their children. The service has a capacity of 250 users and an average of 700 examinations per year. A team of specialists, including a pediatrician, a nurse, a dentist and a mediator, have been appointed to perform the service. Since the start of the project, preventive dental examinations of 892 children from 3 to 7 years of age and diagnostics of the psychomotor development of 1,374 children have been performed. Information materials and plans have been developed related to the prevention and promotion of health and the maintenance of good oral hygiene and health. Outreach work was done.

➤ "Early Disability Intervention" - The service has a capacity of 15 infants and young children with disabilities and 25 parents and is provided at the Center for Provision of Integrated Social Services in the Community - Krumovgrad. In the center there are separate rooms equipped for kinesitherapy, psychomotor activities, logopedic and psychological room, playroom for children from 0 to 7 years of age, and room for work with parents. For the implementation of the service activities are employed: rehabilitator, psychologist, speech therapist, and pediatrician. Since the start of the project 45 children have been included. Individual meetings with parents of disabled children in the maternity ward of the hospital, individual meetings with parents of disabled children and individual work with children were carried out. Group consultations and support for parents of children with disabilities were carried out.

4.3.2. Health programs by other organizations

Foundation "Do Good - Alexandrovska", Sofia, with the assistance of the Municipality of Krumovgrad, organizes free annual preventive examinations for residents of the municipality over 60 years of age.

4.3.3. Prevention policies in the province

In July 2016 the Association of Bulgarian Obstetricians and Gynecologists and the municipality of Krumovgrad have conducted preventive screenings for women and men. For women: bone density, ultrasound of the thyroid gland, mammary glands, joints, abdominal organs. For men: ultrasound of the thyroid gland, abdominal organs and joints.

In October 2016 the "Do Good - Alexandrovska" Foundation and the municipality of Krumovgrad have conducted preventive examinations by specialists: neurologist, cardiologist, ophthalmologist and endocrinologist, for 300 persons over 60 years of age in the town of Krumovgrad and Strandzhevo Village.

In October 2017 the "Do Good - Alexandrovska" Foundation and the municipality of Krumovgrad have conducted preventive examinations for 300 persons over 60 years of age. The examinations were conducted in the town of Krumovgrad and Strandzhevo Village by the following specialists: *orthopedist, cardiologist, ophthalmologist and endocrinologist.*

In November 2017 RHI Kardzhali, the "Women without Osteoporosis" Association and the municipality of Krumovgrad have conducted an information campaign and measurements of bone density and body composition.

4.4. Infrastructure - social services in the region

4.4.1. Kindergartens

Table 38. Kindergartens in the province of Kardzhali (2010-2013)

Indicator - Kindergartens	2010/2011	2011/2012
Kindergartens - total	64	63
Kindergarten teachers	434	434
Children	4 993	5 002
Full-day kindergartens	64	63
Kindergarten teachers	402	405
Children	4 537	4,617

Source: NSI

For the children in the Full-day kindergartens (FDKG), which are a total of 520 in the territory of municipality of Krumovgrad, take care teams of qualified specialists. In the Kindergartens "Mitko Palauzov" and "Yuri Gagarin", Krumovgrad additional activities - in studying English are offered at the request of the children and parents, with the costs being at the expense of the municipality of Krumovgrad. At the kindergartens has been opened and operates year-round canteen with the capacity of 50 children.

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Table 39. *Number of groups and children in Full-day kindergartens on the territory of the Municipality of Krumovgrad*

No	Kindergarten	Place	Number of children	Number of groups
1.	KG "Mitko Palauzov"	town of Krumovgrad	226	8 kindergarten groups + 2 nurseries
2.	KG "Yuri Gagarin"	town of Krumovgrad, G. Rakovski Str. 11 - branch in Podrumche Village, municipality of Krumovgrad - branch in Kozino Village, municipality of Krumovgrad - branch in Oreh Village, municipality of Krumovgrad	153	7
3.	KG "Sun"	Tokachka Village, municipality of Krumovgrad	28	2
4.	KG "Peace"	Pelin Village, municipality of Krumovgrad	34	2
5.	KG "Spark"	Strandzhevo Village, municipality of Krumovgrad	31	2
6.	KG "Detelina Mincheva"	Avren Village, municipality of Krumovgrad	7	1
7.	KG "Lilia Karastoyanova"	Egrek Village, municipality of Krumovgrad	10	1
8.	KG "Joy"	Potochnitsa Village, municipality of Krumovgrad	17	1
9.	KG "Ran Bosilek"	Kamenka Village, municipality of Krumovgrad	14	1

Total:		520	27
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Source: Municipality of Krumovgrad.

4.4.2. Creative centers for children

The following social services are provided on the territory of the municipality of Krumovgrad:

Center for family-type accommodation for Children and Adolescents 1 and 2 (FTACA)

The CFTACA is a residential-type social service for children and adolescents that provides an environment for the full-fledged growth and development of children and adolescents who cannot be reared at the time of their accommodation in their biological family, in the family of relatives, or a foster family.

The capacity of CFTACA 1 is 15 children/adolescents and of CFTACA 2 - 15 children/adolescents

The main objective of the Center is to provide a safe and secure environment for children and adolescents through individual care and support, in conditions close to family environment, providing better quality of life and opportunities for better development and social inclusion.

Accommodation of children and adolescents in the Center is carried out by an order of the Director of the Social Assistance Directorate.

Center for public support (CPS)

Center for public support - Krumovgrad provides a range of social services for children and families aiming to prevent child abandonment and their placement in specialized institutions, to prevent of violence and dropping out of school, to deinstitutionalize and reintegrate of children, to train in independent living skills and socially integrate children from institutions, to counsel and support families at risk, to assess, train and support foster parents and adopters, to counsel and support of children with behavioral problems and transgressions.

In the Center has been created an environment where daily social work can be done with children and families in need. The center employs a social worker, pedagogue, psychologist, and speech therapist who perform individual work with children and families. The main areas of activity are:

- Working with children - includes activities with children in their preparation for school, engaging their free time in interests, social and mentoring work, according to their needs, psychological counseling and support for children with problematic behavior and survivors of violence;

➤ Working with parents - includes family and psychological counseling, assistance in building the parent-child relationship, preparing and encouraging parents to look after their children;

➤ Outreach team - Home visits and meetings and home family counseling. This allows families with financial difficulties to access the service and receive qualified help.

Authorities who refer to this service are the Social Assistance Directorate, Child Protection Department; Local Commission for Combating Juvenile Delinquency; Children's Pedagogic Room; Professionals and institutions who have available information about the provided social service.

4.4.3. *Elderly care facilities*

Home for Elderly People

The Home for Elderly People is a specialized institution providing a set of social services to persons who have reached the age of eligibility for a retirement pension under the Social Insurance Code, including those who have a reduced working capacity established by an expert decision of the Regional/National Expert Medical Commission.

Home for Elderly - Krumovgrad **has** a capacity for 50 person. The home was opened in 2006 and provides very good conditions for care for people in need. The Home for Elderly in the town of Krumovgrad allows 24-hour care of the residents, carried out by specialized medical and non-medical persons. Placement in the Home for Elderly People is done by an order of the Director of the Social Assistance Directorate.

Social patronage at home

Home social patronage is a set of social services provided at home related to food delivery; maintaining personal hygiene and hygiene of the living quarters inhabited by the user; assistance in supply the necessary technical aids to disabled users; household services etc.

The capacity of Social Patronage at home - Krumovgrad is 165 with two branches in the villages of Avren and Potochnitsa. Persons wishing to use the social service "Social Patronage at home" submit a written application by address of residence to the Mayor of Krumovgrad Municipality.

Public dining hall

A public dining hall is a social service aimed at meeting the food needs of people who cannot afford to do it themselves.

In the municipality of Krumovgrad the service was provided to 54 persons per month for the period 01.01.2015 to 30.04.2015. As of 01.10.2015 the service was extended by 70 users until 31.12.2015. The service lasted until 30.04.2016.

The target groups of the service were:

- Persons and families receiving monthly aid under the term and conditions of Art. 9 of the Implementing Regulations of the Social Assistance Act;
- Persons with proven lack of income and family care;
- Persons living alone and families receiving minimum pensions;
- Wandering and homeless people.

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Foster care

From 30.09.2011 to 31.12.2015 the Municipality of Krumovgrad was a partner of the Agency for Social Assistance in the implementation of the project "I Have a Family Too".

For the implementation of the project in the municipality of Krumovgrad a foster care team of two social workers and a project management team of an administrator and an accountant were formed. During this period, the first important steps for foster care were taken. Prior to the start of the project in the municipality of Krumovgrad were no foster families. With the joint efforts of the teams and Directorate "Social Assistance" - Krumovgrad, 4 foster family families were established in the municipality, and in 3 of them were accommodated 4 children.

Starting 01.01.2016, the project "Accept Me 2015" was launched and continues the provision of the "Foster Care" service. The project employs two social workers, an administrator and an accountant with experience from the previous project "I Have a Family Too".

The Club of Pensioners and People with Disabilities

In 2015, by Decision No 713 of Protocol No. 47/22.09.2015 of the Municipal Council of the town of Krumovgrad the Club of Pensioners and People with Disabilities - Krumovgrad was opened.

- In the club are performed the following activities:
- Individual and group reading of books, newspapers, magazines;
- Discussions and lectures;
- Organization of cultural events and amateur art;
- Arranging of excursions;
- Organization of games of chess, backgammon etc.;
- Celebration of holidays - national, religious, birthdays;
- Physical exercise;
- Organization and participation in work activities;
- Organization of health-preventive events;
- Assisting members of the club who are in difficulty;
- Others.

4.4.4. Welfare programs in the municipality

The Municipal Youth Plan is a document for planning and implementing the priorities of the municipal and national policy for young people. The strategic objectives set out in the document are to promote the economic activity and career development of young people, improve access to information and quality services, promote healthy lifestyle, prevent the social exclusion of disadvantaged young people, develop youth volunteering, raise civil activity, develop young people in small settlements and rural areas, develop international and intercultural dialogue and increase the role of young people in the prevention of crime.

4.5. Other infrastructures - services related to health in the region.

4.5.1. Sport facilities

The municipality has a stadium in the municipal center, a covered swimming pool and a gymnasium at High School "Vasil Levski", Krumovgrad. With implementation priority are projects for the construction of a sports playground for basketball, handball, badminton and tennis and an outdoor pool in the town of Krumovgrad

For renewal of the sports infrastructure and construction of additional facilities for sport and recreation invest the municipality and "Dundee Precious Metals" EAD - Krumovgrad.

4.5.2. Cultural sites

At the center of the modern town are the ruins of a **Late Ancient and Medieval fortress wall**, as well as a medieval domed church. Nearby is a **Museum collection located** in a beautiful building from the early twentieth century. **Thracian gold mine - in the immediate vicinity of Krumovgrad, in the Ada Tepe area is the oldest gold mine in Europe dating back to the 15th-16th century BC.** The exploitation also continued through 10th-13th century BC. Medieval fortress in Sarnak Village - a well preserved fortress situated on top of a plateau peak on the banks of the Kesebir River. No archaeological research has been done.

Nature Conservation Center "Studen Kladenets" in Studen Kladenets Village, which has a telescope for observing vultures in their natural habitat. Two accessible eco-paths are available. One path leads to the observation point for the feeding of vultures and the other to the natural landmarks the Abrasive Wells and the Devil's Bridge (Sheytan).

Reserve "Valchi Dol" is the only reserve with a restricted access regime in the province of Kardzhali. Its total area is 774.7 hectares, and is part of the municipalities of Momchilgrad, Krumovgrad and Kardzhali. The terrain is extremely varied - rocks, pastures, forests, shrubs. The forest part consists of winter oak formations, mixed with oriental hornbeam, lime, hophornbeam, sessile oak, Hungarian oak, turkey oak, etc.

4.6. Identified Issues

The sports infrastructure in schools is in poor technical condition. In order to ensure the safety of the students, it is necessary to replace the sports facilities and the pavement on sports grounds in the schools in the villages of Strandzhevo, Potochnica, Gorna Kula, Zvanarka, Golyama Chinka, Tokachka, Guliyka, Podrumche, Avren and Malak Devesil.

4.7. Synthesis of Chapter 4

In 2011 in the province of Kardzhali there are 66 general practitioners registered. There are still unoccupied medical practices in all municipalities. A significant proportion of the physicians, especially those in small settlements, are in retirement or pre-retirement age, and the number of young physicians is extremely low.

The large distances between small settlements and urban centers obstruct the access of inhabitants of remote and hard-to-reach settlements and neighborhoods to medical help. In most villages, people do not have direct access to primary care.

Emergency medical care as a whole is insufficiently effective due to difficult access. Medical staff is more abundant in towns than in the countryside. This is mainly due to the specific infrastructure - fragmentation and remoteness of small settlements. For this reason, emphasis should be placed on preventive medicine.

Healthcare establishments for primary medical care and dental outpatient care in the municipality of Kardzhali in 2011 amount to 199, of which 63 are Outpatient clinics for individual practice of primary medical care (OCIPPMC) and 136 are Outpatient clinics for individual practice of primary dental care (OCIPDPC). The number of this type of medical establishments is largest in the municipality of Kardzhali.

In the province of Kardzhali there are 136 OCIPPD, followed by 68 OCIPSMC, and 63 OCIPPMC. Smallest is the number of Diagnostic Consultation Centers (DCC) and hospices.

Evaluation of the demand for specialized medical staff in outpatient care detected the need to expand the package of services in each specialty and to relocate some diagnostic and treatment services from inpatient to outpatient care.

Providers of specialized outpatient medical care are also unevenly distributed, with their concentration being predominantly in the municipal centers. This obstructs the population's access to this type of service, increases the number of late diagnosis cases and complications, and increases the number of hospitalizations.

The system of medical establishments (5) in the Municipality of Kardzhali is capable of meeting the public healthcare needs of both the municipality and the province. Their total number of beds amounts to 598, and in the last year their utilization in days is 189.16, which is 51.82% of the total available bed days.

The total number of patients who underwent hospital treatment in 2011 is 14,991. The equipment in hospitals is at a good level.

Because of the uneven distribution of pre-hospital care, the number of hospitalizations in many hospitals in the province has been increasing. Consultations with a specialist are impossible in remote places. Patients have no access to a laboratories, imaging diagnostic units, etc. and prefer to refer to directly a hospital as a single complex in which they can receive any needed medical care. In primary outpatient care there is no established system for 24-hour admission. This increases the flow of patients to specialists and hospitals. This practice increases the number of secondary care visits and hospitalizations.

In the territory of the provincial center Kardzhali there is a Center for Emergency Medical Care (CEMC), which has 8 branches in the rest of the province. The number of emergency outpatient examinations performed in 2011 was 25,962, incl. 13,704 responses to emergency calls. Of all 6,821 are for emergency medical care, 4,963 for failing states and 1,920 for sanitary transport. The permanently employed medical is sufficient, but the

qualifications of senior and middle-level medical staff are insufficient. Turnover among physicians is great. The main burden in the branches falls on the middle-level medical staff.

In order to improve the quality of emergency medical care it is necessary to provide resources, improve the qualification of the personnel and the preparedness for rapid response to accidents, disasters and catastrophes in accordance with the European standards.

Since 2001 in the town of Kardzhali operates the first and only Center for Battling Hypertension in the country, which offers free measurement of blood pressure. The experts of the RHI of Kardzhali periodically prepare and disseminate health information materials for this risk factor.

Some of the main issues in health care that need to be addressed are:

1. Increasing tendency for aging of the qualified medical staff - lack of young physicians in certain specialties.

2. Unoccupied practices in the villages are unattractive. The main reasons are a large number of uninsured people, elderly people with specific health problems, scattered settlements, poor roads and irregular transport.

3. Insufficient number of group medical practices.

4. As a serious problem RHI - Kardzhali indicates the large number of uninsured persons.

In 2011 in the municipality were registered: 4 individual practices for primary outpatient medical care; 10 for dentistry 10; a single group practice for primary medical care and individual practices for specialized outpatient care.

There are unoccupied outpatient clinics in Krumovgrad and the villages: 4 in the town and 10 in the villages of Egrek, Malak Devesil, Buk, Golyama Chinka, Zvanarka, Golyamo Kamenyane, Chernichevo, Gulyka, Polkovnik Zhelyazovo, Potochnitsa.

On the territory of the municipality 15 specialists provide health services to children in 9 kindergartens and 12 schools.

There is a single general hospital - GHAC "Life +" EOOD in the municipality of Krumovgrad. It was established on 04.09.2000 with a capital amounting to 248,595 BGN. The sole owner of the company is the Municipality of Krumovgrad, with the property rights being exercised by the Municipal Council of Krumovgrad. In the medical establishment medical specialists, together with other staff, treat people with acute illnesses, acute chronic diseases and conditions requiring surgical treatment in hospital conditions in the following main medical specialties:

- Diagnosis and treatment of diseases in case successful treatment can't be achieved in outpatient care establishments;
- Natal care;
- Rehabilitation;

➤ Diagnosis and consultations requested by a physician or dentist from other medical establishments;

➤ Follow-up

Diagnostic Consultation Block - consists of reception rooms, clinical laboratory, diagnostic imaging department, microbiological laboratory, laboratory for general clinical pathology and departments without beds - anesthesiology department and physiotherapy department, which is not functioning at present.

Inpatient block with 54 active beds with Department of Internal Diseases, in which activities in the medical specialties Pneumology and cardiology are carried out; Department of Pediatrics (Children's ward); Department of Obstetrics and Gynecology; Department for Continuous Treatment of Internal Diseases.

Administrative - business block with Sterilization Room; Automobile transport; Administration. The Duty Room has been providing medical assistance to health-insured and uninsured persons between 8.00 pm and 8.00 am on working days and 24 hours a day during weekends and holidays. The hospital structure includes a hospital pharmacy.

The hospital is well equipped with medical equipment, with respect to the diagnostic-consultation care, outpatient treatment and urgent emergency medical care carried out in it.

Medical Center No.1 EOOD is a medical establishment for pre-hospital specialized care with Internal medicine room, surgery room, children's room, ENT room, Obstetrics and Gynecology room and Ophthalmology room.

The Regional Medical Centers in the province of Kardzhali are 5. There are no private clinics. There are also no private doctors.

Settlements in the region are characterized by a great distance from health services - up to 10 km - 21 villages; between 10.1 km and 20 km - 28 villages; between 20.1 km and 30 km - 15 villages; between 30.1 km and 40 km - 8 villages; between 40.1 km and 50 km - 4 villages. Most distant are 3 settlements, respectively one at 51 km, two at 53 km.

Doctors (539) per 1000 inhabitants in the province as of 31.12.2017 are 3.6 and in the municipality of Krumovgrad (19) - 0.9.

Healthcare specialists per 1000 inhabitants (in the province - 854, in the municipality - 29) as of 31.12.2017, respectively 5.7 and 0.6.

Hospital beds per 1000 inhabitants (in the province - 826, the municipality - 54) as of 31.12.2017 are respectively 5.5 and 3.2.

The number of people using health services per 1,000 inhabitants for the municipality in 2017 is 16,931, for the province 151,133.

The number of hospitalized persons per 1000 inhabitants for the municipality in 2017 is 86.47% and for the province 175.12%.

The following health programs are provided in the municipality (vaccinations, information events, programs for the elderly):

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Project "Provision of Integrated Services for Early Child Development in Krumovgrad Municipality", Procedure "Early Child Development Services" under the Operational Program "Human Resources Development" 2014-2020, co-financed by the European Social Fund of the European Union. It complements and supports the work of the successfully created Center for Provision of Integrated Social Services in the Community under the Social Inclusion Project, financed by Loan 7612BG from the International Bank for Reconstruction and Development in the period 2012-2015. The project aims to support young children and their families in improving access to healthcare, building parenting skills, improving the family environment, increasing the child's preparedness for entering the education system, and preventing placement of children in specialized institutions. The project covers children aged 0 to 7 years and their parents, as well as future parents of risk groups in the municipality of Krumovgrad. The project's activities are aimed at disease prevention.

Foundation "Do Good - Alexandrovska", Sofia, with the assistance of the Municipality of Krumovgrad, organizes free annual preventive examinations for residents of the municipality over 60 years of age.

As of 2001, the kindergartens in the municipality of Krumovgrad were 63 with 4,617 children in 27 groups and 405 teachers.

The following social services are provided on the territory of the municipality of Krumovgrad:

The CFTACA is a residential-type social service for children and adolescents that provides an environment for the full-fledged growth and development of children and adolescents who cannot be reared at the time of their accommodation in their biological family, in the family of relatives, or a foster family. The capacity of CFTACA 1 is 15 children/adolescents and of CFTACA 2 - 15 children/adolescents Accommodation of children and adolescents in the Center is carried out by an order of the Director of the Social Assistance Directorate.

Center for public support - Krumovgrad provides a range of social services for children and families aiming to prevent child abandonment and their placement in specialized institutions, to prevent of violence and dropping out of school, to deinstitutionalize and reintegrate of children, to train in independent living skills and socially integrate children from institutions, to counsel and support families at risk, to assess, train and support foster parents and adopters, to counsel and support of children with behavioral problems and transgressions.

The center employs a social worker, pedagogue, psychologist, and speech therapist who perform individual work with children and families. The main areas of work are: Working with children (helping children in their preparation for school, engaging their free time according to their interests, social and mentoring work, according to their needs, psychological counseling and support for children with problematic behavior and

survivors of violence); Work with parents (family and psychological counseling, assistance in building a parent-child relationship, preparing and encouraging parents to look after their children); Outreach team for home visits and meetings and home family counseling.

Elderly care facilities are:

The Home for Elderly People is a specialized institution providing a set of social services to persons who have reached the age of eligibility for a retirement pension under the Social Insurance Code, including those who have a reduced working capacity established by an expert decision of the Regional/National Expert Medical Commission.

Home social patronage is a set of social services provided at home related to food delivery; maintaining personal hygiene and hygiene of the living quarters inhabited by the user; assistance in supply the necessary technical aids to disabled users; household services etc.

The capacity is 165 with two branches in the villages of Avren and Potochnitsa.

Public Dining Hall - a social service aimed at meeting the food needs of people who cannot afford to do it themselves until 30.04.2016

Foster care. From 30.09.2011 to 31.12.2015 the Municipality of Krumovgrad was a partner of the Agency for Social Assistance in the implementation of the project "I Have a Family Too". For the implementation of the project in the municipality of Krumovgrad a foster care team of two social workers and a project management team of an administrator and an accountant were formed. 4 foster family families were established in the municipality, and in 3 of them were accommodated 4 children. Starting 01.01.2016, the project "Accept Me 2015" was launched and continues the provision of the "Foster Care" service. The project employs two social workers, an administrator and an accountant with experience from the previous project "I Have a Family Too".

The Club of Pensioners and People with Disabilities

Among the welfare programs of the municipality (economic, educational, health) is also the Municipal Youth Plan for planning and implementing the priorities of the municipal and national policy for young people.

The municipality has a stadium in the municipal center, a covered swimming pool and a gymnasium at High School "Vasil Levski", Krumovgrad. With implementation priority are projects for the construction of a sports playground for basketball, handball, badminton and tennis and an outdoor pool in the town of Krumovgrad. The sports infrastructure in schools is in poor technical condition. In order to ensure the safety of the students, it is necessary to replace the sports facilities and the pavement on sports grounds. For renewal of the sports infrastructure and construction of additional facilities for sport and recreation invest the municipality and "Dundee Precious Metals" EAD - Krumovgrad.

The cultural sites of national and local importance are several: A late antiquity and medieval fortress wall, a Museum Collection, a Thracian Gold Mine, a Medieval fortress in the village Sarnak, Nature Reserve Center "Studen Kladenets", the Abrasive Wells and the Devil's Bridge (Sheytan), Reserve "Valchi Dol".

CHAPTER 5: PUBLIC HEALTH IN THE REGION

5.1. Status of the water supply infrastructure (safe drinking water), sewage system

The water supply and sewerage services on the territory of the province of Kardzhali are provided by "Water Supply and Sewerage" - Kardzhali.

Table 39.

Municipality	Total number of settlements, using the services of WSS	Total population, using the services of WSS
Ardino	12	8,830
Dzhebel	23	6,850
Kirkovo	44	18,559
Krumovgrad	41	15,203
Kardzhali	67	63,621
Momchilgrad	28	14,797
Chernoochene	23	7,273

Total	238	135,133
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Source: NSI

The population benefiting from water services in the province of Kardzhali is 135 133 of the total number of inhabitants. This means that 89% of the settlements are supplied with water. For comparison in the country the percentage of the population using water supply services is 98.6 per cent. 238 settlements are supplied with water. Average consumption per day per capita in 2007 reached 90.08 liters, in 2008 it was 90.72 liters, in 2009 - 86.07 liters per day per capita, in 2010 - 83.17 liters and in 2011 - 85.69 liters.

Quantity and quality of water

WSS OOD - Kardzhali uses raw water from two water sources - the Borovitsa dam and a mountain intake for the village of Raven, municipality of Momchilgrad. The raw water from those does not only fit the criteria in terms of turbidity, owing to which purification stations (DWTP) and a purification facility - a self-cleaning filter, were constructed.

All other quantities of raw water are from underground water sources - drainages, shaft wells and drilled wells. There are no particular problems with the quality of the raw water.

It is safe and clean and there are no indicators which warrant purification except for microbiological indicators, which is why disinfection is carried out.

The quality of raw water is monitored in accordance with the regulatory legislation. It is performed by the Basin Directorate for Water Management in Plovdiv and by the Ministry of Health.

The quantity of raw water from the Borovitsa Dam is sufficient for the planned water supply of the towns of Kardzhali and Momchilgrad and 36 other villages. The other surface water source dries in summer. The quantity of groundwater in water sources constructed on the terraces of the Varbitsa, Nanovishka and Perpereshka rivers is affected by the level of water in the river beds, especially during the summer season.

Quality of drinking and domestic water

The quality of the drinking water is monitored in compliance with Ordinance No. 9/2001, but not in sufficient quantity in terms of number of samples and number of indicators according to the mandatory minimum of constant and periodic monitoring and not in a sufficient range of water sources per year.

The amount of drinking water in the province of Kardzhali is sufficient. Over the past seven years, the percentage of total compliance (in terms of microbiology and physicochemical indicators) has not fallen below 98%. A very good chlorination facility has been constructed. In the large water supply sections gas chlorination systems are used, while in the rest of the pumping stations sodium hypochlorite and flashchlor dosing pumps are installed.

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Table 42. *Quality of drinking water over the years*

Years	2006	2007	2008	2009	2010	2011
Compliance with Standard %	98,26	98,77	99,06	99,56	99,32	99,74

Source: NSI

Currently, there are several major issues related to the protection zones: maintenance of the zones and timely restoration of fences; bringing the zones established under Ordinance No. 2/1989 on sanitary protection zones (SPZ) around water sources and facilities for drinking and domestic water supply (State Gazette No.68/1989) into compliance with the requirements of Ordinance No. 32000 on the conditions and procedure for research, design, validation and exploitation of SPZ around water sources and facilities for drinking and domestic water supply and mineral water sources (State Gazette No. 88/2000) with regard to the boundaries and the security regimes in belt II and III within 10 years of its promulgation in the State Gazette. The boundaries of the innermost belt of the SPZ do not change. This deadline expires at the end of 2010. As of 2012 the company has no implementation under this provision. The necessary funds for designing and implementing the measures and activities prescribed in the project are estimated partially to be in the amount of 2,160 BGN.

5.2. Status of environmental infrastructure - environmental risks

Atmospheric air quality

There are several large production capacities in the province of Kardzhali that pollute the ambient air and are included in the monitoring and control monitoring system. In case of detection of abnormally high emissions, economic sanctions are imposed.

The main polluter in the municipality of Krumovgrad are automobile transport and domestic heating installations during the winter season. This pollution is episodic and can lead to abnormally high indication in specific weather conditions.

Irregular cleaning of the streets also affects the registered amount of dust. Over the period 2009-2012 there is a tendency for abnormally high levels of fine particulate matter, especially in winter, which is the result of the increased consumption of solid fuels in the domestic sector and the season-specific windlessness, mist and temperature inversions which create conditions for the retention and accumulation of atmospheric pollutants in the ground-level atmospheric layer.

Water resources

To determine the ecological and chemical composition of surface water, hydrobiological monitoring is carried out at 54, and physicochemical at 12 points by the National Environmental Monitoring System.

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Physicochemical monitoring is performed on 29 ecological status indicators (basic and specific) related to organic surface water pollution and 3 chemical status indicators (priority substances). The analysis of the planned samples is carried out by the Regional Laboratory of RIEW - Haskovo at the EEA. For every individual monitoring point is a specific scheme for sampling and analysis by groups of indicators.

There are 21 water bodies in the territory of province of Kardzhali whose ecological status is very good and in accordance with the classification system developed in 2010, including biological and physico-chemical elements for quality.

In 2001 in certain water bodies in province of Kardzhali, analysis was carried out for the presence of priority substances (lead, cadmium and nickel). In three water bodies in the basin of the Arda river results show that the quality standards have been exceeded by cadmium indicators (Directive 2008/105 / EC). On the Arda River, from the mouth of Cherna River to the Kardzhali Dam and the Ardino River and on the Arda River from the mouth the Krumovitsa River to the Ivaylovgrad dam. The Studen Kladenets dam has been found to be in a generally bad state due to an excess of physicochemical and chemical elements. The section of the Arda River between the Studen Kladenets Dam and the Krumovitsa River has been found to be in a bad ecological condition due to the presence of biological elements.

Land and soils

For the entire territory of province of Kardzhali, worst is the state of the soils around the former Lead-Zinc Extraction Combine and S&B Industrial Minerals AD, town of Kardzhali. It has been found that the land is damaged to varying degrees. The affected land is about 6,000 acres, including the land around an old and currently operating tailings pond. Pollution of these areas is predominantly with heavy metals.

In regards to the protection of earth's bowels and the use of underground resources, there is a tendency for increase in the number of given permits for prospecting and exploration of minerals - especially for stone-facing materials. In most cases, this concerns small areas in which case the impact on the environment is limited.

At the sites of prospecting and exploration of metallic minerals, which are usually of considerable size, until now geological exploration works have been concentrated on small areas except for the Ada tepe gold deposit near the municipality of Krumovgrad. All sites with mining and geological activities are controlled by the RIEW - Haskovo, in accordance with the regulations of the country. To this moment here were no serious violations in this province, with the exception of bentonite extraction in the Propast-North quarry, where landslides are periodically activated.

The annual monitoring of the soils according to the monitoring network "Land and Soils" is carried out on the territory of province of Kardzhali. There are 14 points for soil sampling and analysis for heavy-metal and metalloid contamination. Analysis and control is performed by indicators lead, copper, zinc, cadmium, arsenic, iron, nitrogen, phosphorus, mercury, chlororganic pesticides and acidification.

5.3. Insecticide

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The Krumovgrad Municipality organizes every year several sprayings of lands and areas in the town of Krumovgrad against mosquitoes and ticks. Disinsection (spraying against mosquitos) is carried out throughout the city. Spraying against tocks is carried out on lawns in the town park, the central part of the town, in the neighborhoods "Druzhiba" and "West" and the town stadium.

5.4. Agricultural practices, irrigation methods

The agricultural land in the municipality is 382,228 decares, incl. arable land 147,545 decares (38.6%), meadows and pastures 141,140 decares (36.9%), forests in agricultural properties 93,543 decares (24.5%).The irrigable area is 3000 decares, but the irrigation system is heavily depreciated. The most utilized irrigation method is the extension of watering lines. 60 micro-dams are built on the territory of the municipality and can be used for irrigation. The rebuilding of the irrigation network is related to attracting investment and should take into account the peculiarities of small farms.

By form of ownership, 19% of the agricultural land is private, 60% is municipal (and almost completely consists of so-called municipal residual land) and 21% is state-owned.

A major part of the arable land is occupied with tobacco (26,583 decares). In addition are cultivated medicinal plants (700 decares of white oregano, 70 decares of rose hips and 25 decares of lemon balm), fruit plantations (562 decares), vineyards (270 decares), other permanent crops (823 decares), pepper (270 decares) and savory (70 decares).

The number of registered tobacco growers is 4,031 and the quota for 2004 is 4,370 tonnes. The municipality is characterized by extremely strong dependence of the farmers on tobacco production. There is a positive experience in the cultivation of medicinal plants, spices and vegetables. These crops are an alternative for the employment of a small part of the farmers.

Land ownership is fragmented and the farms which cultivate less than 10 acres predominate. 2,009 decares are cultivated under lease. Although in recent years the number of small- and medium-sized equipment has increased, there is no modern equipment for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity.

More fertile land is processed and low-productive land is abandoned, with abandoned land at the end of 2001 amounting to over 3,600 decares. The erosion processes induced by the sloping terrain reduce the area of arable land. The absence of large agricultural farms reduces labor productivity and opportunities for realizing lower production costs and market placement of the production.

5.5. Livestock farming, carcasses, causes of waste pollution

Livestock has a smaller share of the agricultural output. Almost all kinds of domestic animals are represented, with predominance of cattle and sheep breeding. At the beginning

of 2005 the number of domesticated animals was as follows: cattle - 7,204, incl. cows - 4,371, sheep -16,563.

The decline in the number of animals over the past 15 years is fading as a process, but the difficulties associated with market realization of the production continue to be a major problem for livestock farmers.

Animals are raised on family properties, there are no large farms. In the majority of cases the animals are kept under primitive conditions, there is no quality control of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies.

5.6. Living conditions

They can be summarized in the following way:

- Favorable geographical location (the total length of the border with the Republic of Greece is about 90 km);
 - Favorable climatic and soil conditions for the development of technical, essential oil and southern cultures;
 - Available large dams in the area that determine the functioning of hydroelectric power plants;
 - Wealth of mineral resources;
 - Existing material and technical base for light and heavy industry;
 - Traditions and a predominant share of the processing industry in the province;
 - Moderate four-seasonal climate with positive temperatures and sunny days;
-
- Presence of a sufficient network of educational establishments with an optimal structure for general education, vocational training and higher education;
 - Presence of a hospital system with relatively good facilities;
 - Established rich cultural traditions;
 - Preserved cultural monuments;
 - Unique historical heritage.

5.7. Industries causing problems

For decades in the municipality of Krumovgrad there were concerns that the extraction activities of Dundee Precious Metals EAD will cause serious environmental problems. This has not been confirmed at this stage. At present all activities are environmentally sound and do not create environmental problems.

Dundee Precious Metals EAD has invested 80 million dollars in the municipality of Krumovgrad. At the Ade Tepe mine, 2 wastewater treatment plants are being built. The first one is for domestic wastewater and the second one will be used in need of discharge of wastewater into the bed of the Krumovitsa river, in which case the water coming from the river will be of drinking quality.

In its operation the Ada Tepe mine will use some of the most advanced technologies. On the basis of a memorandum, Dundee Precious Metals EAD has signed a framework contract with the municipality of Krumovgrad and annually provides 500,000 BGN for municipal projects related to infrastructure, education and healthcare. In addition, the company supports financially the Vocational High School for Transport in the town. 50% of the concession fee is also returned to the municipality.

5.8. Solid and liquid waste management

All municipalities in the territory of the province of Kardzhali dispose of the solid waste on their territory on a temporary dump site on the land of Vishegrad Village, municipality of Kardzhali. Annually on the territory of the province about 44,000 tons of municipal solid waste are disposed.

The municipal center - Krumovgrad, is covered by the system of organized waste collection and disposal. In the remaining settlements, municipal solid waste is disposed of in unregulated landfills, the removal of which is an important task for the municipal administration. According to the National Strategy for Waste Management and the National Action Plan, a regional solid waste landfill is planned for construction on the territory of the municipality of Kardzhali. The obligation of the Municipality of Krumovgrad is to construct of a reloading station which is to serve the population of the municipality.

There are no significant pollutants on the territory of the municipality of Krumovgrad. In 2003 there were limited emissions of harmful substances - non-methane volatile organic compounds 14.64 tonnes (12.57% of the emissions within the region) and methane 33.56 tonnes (6.01%).

The main pollutants of water are wastewater and sewerage water from the population and businesses, with no significant industrial pollution having been identified.

In regards to hospital waste, a specialized repository for the temporary storage of human medical waste has been established at GHAC "Life +" EOOD and a system for separate collection has been introduced.

The streets are cleaned, but not by a standardized service delivery system. Its provision is unorganized in nature which is directly related to ineffective spending of the already limited resources of the municipality.

Another major problem is that on the territory of the municipality there is no well-functioning system for the separate collection of packaging waste.

5.9. Other details

For the conservation of biodiversity the "Valchi Dol" reserve and seven protected areas have been declared.

The Valchi Dol Reserve, with an area of 775 hectares, is situated in the land of the village of Studen Kladenets and has been declared as the only Bulgarian colony of Griffon

Vultures. 23 species of birds of prey have been identified on the territory of the Reserve, 21 of which are listed in the Red Data Book of the Republic of Bulgaria.

Protected areas on the territory of the municipality of Krumovgrad are:

1. "Zheleva" with an area of 4.9 hectares, located on the territory of Perunika Village. The only population of Turkish hazel for the Eastern Rhodopes.

2. "Mandra" with an area of 0.3 hectares; location - waterfall on Tashbunar dere, on the land of Chal Village.

3. "Bureshei" with an area of 0.3 hectares; location - waterfall on the river Duran dere, on the land of Padalo Village.

4. "Dushan" with an area of 0.1 hectares; location - waterfall on the river Dushan dere, on the land of Krasino Village.

5. "The Waterfall" with an area of 0.2 hectares; location - waterfall on the river Dushan dere, on the land of Dzhanka Village.

6. "Oreshari" with an area of 55 hectares; situated on the land of Oreshari Village, a protected area for the conservation of populations of protected and endangered species of animals and plants and the preservation of a remarkable landscape including rock wreaths, arches, caves and Thracian rock niches.

7. "Ribino" with an area of 66.3 hectares; situated on the land of Ribino Village and Samovila Village; a protected area for the conservation of populations of protected and endangered species of animals and plants and the protection of a Karst landscape, including rock massifs, springs and caves.

Several caves are located on the territory of the municipality, three of which are included in the list of the 250 most famous caves in Bulgaria, namely the "Mirror Cave" (157 m in length, located on the land of Ribino Village); "The Caves" (six caves, located on the land of Oreshari Village, Most neighborhood) and "Samara" (327 m long, situated on the land of Ribino Village).

5.10. Identified Issues

Continuity of water supply, availability of regular water supply on the part of WSS OOD - Kardzhali.

In the summer, some of the water supply sections cannot cover the increased water needs (mainly for commercial purposes) and water regime is required. The main problem is that demands for water during the summer season exceed the capacity of a given water source and hence of the whole system to provide the necessary quantity. There is no adequately functioning infrastructure to provide water for irrigation purposes. During the three summer months, the Varbitsa, Nanovishka and Perpereshka Rivers dry up almost

completely. However, most water sources exploited by WSS OOD are constructed along their valley. One of the reasons the rivers dry up is that dams are built on their tributaries. Under the Water Act, dam owners must release minimum water quantities to maintain the ecosystem in the river valleys, but this is not implemented in practice. The release of water from dams to the terraces has not yet been resolved and many settlements remain without water. A periodic release of water volumes on the part of dam owners has to be ensured through the cooperation of municipal mayors.

Another problem disturbing of regularity of water supply are the high waves and the reduced protection of sewage facilities from damages and floods.

Most of the significant water sources are constructed on river terraces and are heavily dependent on the condition of river beds, their banks and water level. There is a real danger of destruction of sewage facilities of the "Fotinovo" and "Ostrovitsa" water supply network due disruption of the river bank of the Varbitza River. A major threat to all sewage equipment, land, roads and other engineering facilities are the demolished levees of upgraded rivers, which are not maintained, and the supplier company cannot afford the maintenance and repair of facilities that are a part of its assets.

At the moment, there are still problems along the route of the main water line, which runs alongside the municipal road that serves the villages of Panchevo, Blanka, Dazhdovnitsa, Nenkovo, Borovitsa and Bezvodno. Drains on small rivers and gullies crossing the road often clog and are not timely cleaned. Roadside ditches are also not cleaned in a timely manner. In the event of flood due to rains and snow melting, water drainage is obstructed and this damages the integrity of the road, which is a prerequisite for failures of the main water line and disturbance of the water supply.

Main problems facing agriculture

➤ Family farms are of confined type, the land is cultivated almost without the use of machinery, no agro-technical activities are conducted, which leads to low yields.

➤ The market realization of agricultural produce is very difficult, and the offered prices are often below the production costs. An exception is the realization of tobacco, for which purchases are satisfactory.

➤ There is a lack of modern agricultural equipment and modern building stock, as well as financial resources for technological renovation of farms. There is a lack of knowledge on the adequate conduct of agro-technical measures.

➤ Family farms are not market-oriented. No measures are being implemented to improve and maintain livestock breed quality, which prevents an increase in the quantity of production.

These problems provoke a negative tendency for inefficient use of arable land, deterioration of the technical availability of agriculture and reduction of yields. In livestock

breeding the tendencies are for the continuing deterioration in the quality of breeds and the amount of production.

5. Synthesis of Chapter 5

The population benefiting from water services in the province of Kardzhali is 135 133 of the total number of inhabitants. This means that 89% of the settlements are supplied with water. For comparison in the country the percentage of the population using water supply services is 98.6 per cent. 238 settlements are supplied with water. Average consumption per day per capita in 2007 reached 90.08 liters, in 2008 it was 90.72 liters, in 2009 - 86.07 liters per day per capita, in 2010 - 83.17 liters and in 2011 - 85.69 liters.

The water supply and sewerage services on the territory of the province of Kardzhali are provided by "Water Supply and Sewerage" - Kardzhali and cover 41 settlements in the municipality of Krumovgrad with a total population of 15 203 people.

Quantity and quality of water

WSS OOD - Kardzhali uses raw water from two water sources - the Borovitsa dam and a mountain intake for the village of Raven, municipality of Momchilgrad. The raw water from those does not only fit the criteria in terms of turbidity, owing to which purification stations (DWTP) and a purification facility - a self-cleaning filter, were constructed.

All other quantities of raw water are from underground water sources - drainages, shaft wells and drilled wells. There are no particular problems with the quality of the raw water.

It is safe and clean and there are no indicators which warrant purification except for microbiological indicators, which is why disinfection is carried out.

The quality of raw water is monitored in accordance with the regulatory legislation. It is performed by the Basin Directorate for Water Management in Plovdiv and by the Ministry of Health.

The quantity of raw water from the Borovitsa Dam is sufficient for the planned water supply of the towns of Kardzhali and Momchilgrad and 36 other villages. The other surface water source dries in summer. The quantity of groundwater in water sources constructed on the terraces of the Varbitsa, Nanovishka and Perpereshka rivers is affected by the level of water in the river beds, especially during the summer season.

The quality of the drinking water is monitored in compliance with Ordinance No. 9/2001, but not in sufficient quantity in terms of number of samples and number of indicators according to the mandatory minimum of constant and periodic monitoring and not in a sufficient range of water sources per year.

Currently, there are several major issues related to the protection zones: maintenance of the zones and timely restoration of fences; bringing the zones established under Ordinance No. 2/1989 on sanitary protection zones (SPZ) around water sources and facilities for drinking and domestic water supply (State Gazette No.68/1989) into

compliance with the requirements of Ordinance No. 3 / 2000 on the conditions and procedure for research, design, validation and exploitation of SPZ around water sources and facilities for drinking and domestic water supply and mineral water sources (State Gazette No. 88/2000) with regard to the boundaries and the security regimes in belt II and III within 10 years of its promulgation in the State Gazette. The boundaries of the innermost belt of the SPZ do not change. This deadline expires at the end of 2010. As of 2012 the company has no implementation under this provision. The necessary funds for designing and implementing the measures and activities prescribed in the project are estimated partially to be in the amount of 2,160 BGN.

There are several large production capacities in the province of Kardzhali that pollute the ambient air and are included in the monitoring and control monitoring system. In case of detection of abnormally high emissions, economic sanctions are imposed.

The main polluter in the municipality of Krumovgrad are automobile transport and domestic heating installations during the winter season. This pollution is episodic and can lead to abnormally high indication in specific weather conditions.

Irregular cleaning of the streets also affects the registered amount of dust. In the winter months there is a tendency for abnormally high levels of fine particulate matter up to 10 microns ($\mu\text{g} - \text{FPM } 10$), which is the result of the increased consumption of solid fuels in the domestic sector and the season-specific windlessness, mist and temperature inversions which create conditions for the retention and accumulation of atmospheric pollutants in the ground-level atmospheric layer.

To determine the ecological and chemical composition of surface water, hydrobiological monitoring is carried out at 54, and physicochemical at 12 points by the National Environmental Monitoring System.

Physicochemical monitoring is performed on 29 ecological status indicators (basic and specific) related to organic surface water pollution and 3 chemical status indicators (priority substances). The analysis of the planned samples is carried out by the Regional Laboratory of RIEW - Haskovo at the EEA. For every individual monitoring point is a specific scheme for sampling and analysis by groups of indicators.

There are 21 water bodies in the territory of province of Kardzhali whose ecological status is very good and in accordance with the classification system developed in 2010, including biological and physico-chemical elements for quality.

In 2001 in certain water bodies in province of Kardzhali, analysis was carried out for the presence of priority substances (lead, cadmium and nickel). The Studen Kladenets dam has been found to be in a generally bad state due to an excess of physicochemical and chemical elements. The section of the Arda River between the Studen Kladenets Dam and the

Krumovitsa River has been found to be in a bad ecological condition due to the presence of biological elements.

For the entire territory of province of Kardzhali, worst is the state of the soils around the former Lead-Zinc Extraction Combine and S&B Industrial Minerals AD, town of Kardzhali. It has been found that the land is damaged to varying degrees. The affected land is about 6,000 acres, including the land around an old and currently operating tailings pond. Pollution of these areas is predominantly with heavy metals.

In regards to the protection of earth's bowels and the use of underground resources, there is a tendency for increase in the number of given permits for prospecting and exploration of minerals - especially for stone-facing materials. In most cases, this concerns small areas in which case the impact on the environment is limited.

At the sites of prospecting and exploration of metallic minerals, which are usually of considerable size, until now geological exploration works have been concentrated on small areas except for the Ada tepe gold deposit near the municipality of Krumovgrad. All sites with mining and geological activities are controlled by the RIEW - Haskovo, in accordance with the regulations of the country. To this moment here were no serious violations in this province, with the exception of bentonite extraction in the Propast-North quarry, where landslides are periodically activated.

The annual monitoring of the soils according to the monitoring network "Land and Soils" is carried out on the territory of province of Kardzhali. There are 14 points for soil sampling and analysis for heavy-metal and metalloid contamination. Analysis and control is performed by indicators lead, copper, zinc, cadmium, arsenic, iron, nitrogen, phosphorus, mercury, chlororganic pesticides and acidification.

The Krumovgrad Municipality organizes every year several sprayings of lands and areas in the town of Krumovgrad against mosquitoes and ticks. Disinsection (spraying against mosquitos) is carried out throughout the city. Spraying against tocks is carried out on lawns in the town park, the central part of the town, in the neighborhoods and the town stadium.

The agricultural land in the municipality is 382,228 decares, incl. arable land 147,545 decares (38.6%), meadows and pastures 141,140 decares (36.9%), forests in agricultural properties 93,543 decares (24.5%). The irrigable area is 3,000 decares, but the irrigation system is heavily depreciated. The most utilized irrigation method is the extension of watering lines. 60 micro-dams are built on the territory of the municipality and can be used for irrigation. The rebuilding of the irrigation network is related to attracting investment and should take into account the peculiarities of small farms.

By form of ownership, 19% of the agricultural land is private, 60% is municipal (and almost completely consists of so-called municipal residual land) and 21% is state-owned.

A major part of the arable land is occupied with tobacco (26,583 decares). In addition are cultivated medicinal plants (700 decares of white oregano, 70 decares of rose hips and

25 decares of lemon balm), fruit plantations (562 decares), vineyards (270 decares), other permanent crops (823 decares), pepper (270 decares) and savory (70 decares).

Land ownership is fragmented and the farms which cultivate less than 10 acres predominate. 2,009 decares are cultivated under lease. Although in recent years the number of small- and medium-sized equipment has increased, there is no modern equipment for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity.

More fertile land is processed and low-productive land is abandoned, with abandoned land at the end of 2001 amounting to over 3,600 decares. The erosion processes induced by the sloping terrain reduce the area of arable land. The absence of large agricultural farms reduces labor productivity and opportunities for realizing lower production costs and market placement of the production.

Livestock has a smaller share of the agricultural output. Nearly all types of domestic animals are represented, with predominance of cattle and sheep breeding. The decline in the number of animals over the past 15 years is fading as a process, but the difficulties associated with market realization of the production continue to be a major problem for livestock farmers.

Animals are raised on family properties, there are no large farms. In the majority of cases the animals are kept under primitive conditions, there is no quality control of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies.

The living conditions can be summarized in the following manner: The living conditions on the territory of the municipality of Krumovgrad, are good - the favorable geographical position (the total border with Greece is 90 km); climatic and soil conditions are prerequisites for growing essential oil and southern cultures; water-power plants have been built on the dams; there is a wealth of mineral resources and equipment for the development of light and heavy industry, trade and services; there is a sufficient learning network, a system of traits, cultural traditions and a cultural and historical heritage.

For decades in the municipality of Krumovgrad there were concerns that the extraction activities of Dundee Precious Metals EAD will cause serious environmental problems. This has not been confirmed at this stage. At present all activities are environmentally sound and do not create environmental problems.

Dundee Precious Metals EAD has invested 80 million dollars in the municipality of Krumovgrad. At the Ade Tepe mine, 2 wastewater treatment plants are being built. The first one is for domestic wastewater and the second one will be used in need of discharge of wastewater into the bed of the Krumovitsa river, in which case the water coming from the river will be of drinking quality.

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The municipal center - Krumovgrad, is covered by the system of organized waste collection and disposal. In the remaining settlements, municipal solid waste is disposed of in unregulated landfills, the removal of which is an important task for the municipal administration.

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A specialized repository for the temporary storage of human medical waste has been established and a system for separate collection has been introduced.

Cleaning of the streets is unorganized in nature which is directly related to ineffective spending of the already limited resources of the municipality.

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The Valchi Dol Reserve, with an area of 775 hectares, is situated in the land of the village of Studen Kladenets and has been declared as the only Bulgarian colony of Griffon Vultures. 23 species of birds of prey have been identified on the territory of the Reserve, 21 of which are listed in the Red Data Book of the Republic of Bulgaria.

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At the moment, there are still problems along the route of the main water line. In the event of flood due to rains and snow melting, water drainage is obstructed and this is a prerequisite for failures and disturbance of the water supply.

The main problems facing agriculture are:

- Family farms are of confined type, the land is cultivated almost without the use of machinery, no agro-technical activities are conducted, which leads to low yields.
- The market realization of agricultural produce is very difficult, and the offered prices are often below the production costs. An exception is the realization of tobacco, for which purchases are satisfactory.
- There is a lack of modern agricultural equipment and modern building stock, as well as financial resources for technological renovation of farms. There is a lack of knowledge on the adequate conduct of agro-technical measures.
- Family farms are not market-oriented. No measures are being implemented to improve and maintain livestock breed quality, which prevents an increase in the quantity of production.

These problems provoke a negative tendency for inefficient use of arable land, deterioration of the technical availability of agriculture and reduction of yields. In livestock breeding the tendencies are for the continuing deterioration in the quality of breeds and the amount of production.

CHAPTER 6. CONCLUSIONS ON THE REGION

General features

The Municipality of Krumovgrad is an administrative unit of province of Kardzhali, its territory falls entirely in the Eastern Rhodopes. It occupies 26% of the territory of province and 0.75% of the territory of the country.

To the east it borders with the municipalities of Ivaylovgrad and Madzharovo, to the west - with Kirkovo and Momchilgrad, to the north with Kardzhali and Stambolovo and to the south with the Hellenic Republic.

Its total territory is 843,320 m², of which 48,79% are forests, 47,83% - agricultural lands, 2,18% are settlements and other urbanized territories, 1,2% is water area, transport infrastructure etc.

The municipality consists of 80 settlements in 403 neighborhoods. The administrative center is the town of Krumovgrad, which 310 km away of the capital and 48 km of the provincial center Kardzhali. The nearest land border checkpoint 130 km away is Kapitan Andreevo. The closest water border checkpoint is Burgas, 310 km away from Krumovgrad. The closest railway junction is 32 km away in Momchilgrad. The Makaza Border Checkpoint is 40 km away from the town of Krumovgrad and 18 km away from the western border of the municipality.

This document was created within the framework of project B2.9a.09 "Policies for Ensuring Access to Health Services for Remote Places /HEALTHY MUNICIPALITY/", funded under the Cross-Border Cooperation Programme INTERREG V-A Greece - Bulgaria 2014-2020.

The territory of the municipality of Krumovgrad falls into the northern periphery of the Mediterranean climatic influence and is characterized by a transitional Mediterranean climate. The winters are relatively mild.

The constructed road network in the municipality is with a total length of 360.6 km, of which 264.6 km are asphalted. Second-class roads are 27 km, third-class roads - 75 km and municipal roads - 261 km. The density of the road network is 43 km/100 m², which is higher than the average for the country (33 km/100 m²). The major arterial roads are road III-509 Harmanli - Dolno Cherkovishte - Dolna Kula - Krumovgrad - Tokachka - Makaza and road II-59 Momchilgrad - Krumovgrad - Ivaylovgrad, both passing through the municipal center, Krumovgrad and connecting the municipality with neighboring municipalities, the provincial center and the national road network. They are important for the socio-economic development of the municipality as a connection to Transport Corridor 9 Kardzhali - Makaza - Alexandroupolis and create prerequisites for active economic development and increase in the attractiveness of the municipality in the eyes of external investors.

The main problems for the maintenance and development of the road network of the municipality of Krumovgrad are related to the lack of funds for repair and investments in the road infrastructure and a tendency for continuing deterioration in the quality of the infrastructure. The budget resources of the municipality, like those of most other small municipalities in Bulgaria, are highly dependent on subsidies from the republican budget. The potential for realizing own revenues for financing of significant infrastructure projects is limited.

Water sources in the municipality of Krumovgrad are insufficient in quantitative and qualitative terms. 38 settlements are supplied with water and one is partially supplied. The rest are supplied with water from local water sources and during the summer months water needs to be delivered with tank trucks. The main problem is the lack of sufficient water sources with quality drinking water. A sewerage network is only constructed in the municipal center - the town of Krumovgrad, while in the rest of the settlements septic tanks and absorbing wells are used.

All settlements in the municipality of Krumovgrad are electrified, which is implemented by "EVN Electrodistribution" EAD - Plovdiv, Kardzhali branch, Krumovgrad region. The plant has an installed capacity of 60 megawatts and annually produces 153.1 million kilowatts of electricity. The transformation of high voltage to medium voltage is carried out by Substation Krumovgrad, which is connected with Power Station Studen Kladenets and Substation Momchilgrad. The Krumovgrad substation has a total transformer capacity of 40 megawatts.

The establishment and improvement of the irrigation zone would lead to an increase in the income of the population from production. Irrigation at this stage is carried out mainly in the lands near the valleys of the rivers Krumovitsa and Arda by method of extending irrigation lines. Dam waters are not sufficiently utilized. At this point there are no irrigation companies whose members would manage and exploit dams at a lower price.

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The Krumovgrad Municipality is served by the regional telephone network with a main Automatic Telephone Exchange in Kardzhali, while the local nodes are 13. Nearly all settlements are included in the automatic telephone dialing system. Internet access is provided through leased lines of BTC AD and a network of cable operators. The opportunities for development of the communications network are related to the proximity to the optic cable network Haskovo - Komotini.

Socio-economic characteristics of the area

Because of the peculiarities of the terrain, the settlements in the municipality are fragmented and remote. The most distant village from the municipal center at 55 km is the village of Bryagovets. The individual neighborhoods are remote from one another and are connected by a road network of poor quality.

The population of the municipality of Krumovgrad in 2011 was 17,662 people. Of these 5,019 live in the town Krumovgrad and 12,643 in the rural settlements of the municipality.

Population aged 15 and above and economic activity as of 01.02.2011, according to NSI data of 2011 totals 15,085; economically active total - 7,283; of them employed - 5,921; Unemployed - 1,332; economically inactive - 7,802.

There is a tendency for the increase of the share of persons above working age, especially in the villages. The size of the population is declining, the natural growth is negative, migration to the interior and abroad is great.

The population by sex is distributed as follows: out of a total of 17,662 inhabitants of the municipality, 8,903 are men and 8,759 are women.

The absolute value of births shows a tendency for decrease.

The educational level of the population is low and the share of specialists with higher and intermediate education is small - a total of 4.81% of the population of the municipality (due to continuing migration abroad and to the larger cities of the country). The population group with secondary education (19.43%) is sufficient to supply the municipal economy with working staff. The group of residents with primary (33.91%) and elementary education (28.12%) is predominant. The illiterate are 6.03% and children in pre-school age are 7.05%. The educational level of 0.63% of the population is not indicated.

Specific features of the municipality of Krumovgrad municipality are:

- Underdeveloped transport infrastructure, which impedes students in getting to school. In relation to this are created the conditions for the operation of regional gathering schools. The provision of school vehicles for all municipalities is improved;
- Insufficient knowledge of Bulgarian by a large number of students;

- Training students in part of schools and mainly in rural and remote areas in subnormal and merging classes, which reduces the quality of education;
- Difficulties in filling class caps and presence of non-specialist teachers due to the small number of classes. Many teachers in primary schools teach several subjects;

- Pre-school groups in FDKG fill or exceed caps, while in the small settlements groups are combined;
- Difficult communication with kindergartens due to insufficient availability of computer equipment and Internet access;
- Low social status of a part of the population, which has a tangible impact on their motivation for school work;
- Insufficient provision of textbooks for high school students due to material difficulties for families, placing students in unequal conditions, has a negative impact on their training and motivation to learn.

The economically active population encompasses all persons aged 15 and above who both employed and unemployed. According to this indicator Krumovgrad municipality is above the average for province of Kardzhali - 46.5 %. In regard to economically inactive persons, the municipality of Krumovgrad ranks first for retirees (55.3%). Employment rate is the highest in the municipality of Kardzhali - 51.0%, or by 4.6 percentage points higher than that of the province. The municipality of Krumovgrad is ranked second with 49.5 %.

The unemployment rate in the municipality in 2012 is 18%. This value is above the national average (11.1%) and higher than the one for province of Kardzhali (15.1 %). The number of registered unemployed women exceeds that of registered unemployed men. The relative share of registered unemployed persons in the age groups of 55 years and above and 50-54 years is the largest. In this case municipality of Krumovgrad is not an exception to the general trends in the country and the province. An additional disadvantage for the municipality and the province as a whole is the lower education and qualification of young people. The relative share of unemployed youth below 29 in the municipality is 19.21 %. By this indicator the municipality of Krumovgrad ranks first in this province.

According to NSI data for 2012 the number of residential buildings is 7,753, with statistics for previous year showing that 53% of the housing stock is inhabited. In 2011 only 805 buildings were counted in the city, with the majority of the housing stock being in the villages. The density of the population is 20.7 people/km². Useful area - 809,064; Living area - 637,923 m²; Ancillary area - 137,824 m²; Kitchen area - 33 017 m²;

The main problem in the municipality is the lack of sufficient water sources with quality drinking water. A sewerage network exists in the municipal center and 4 villages, and is partially constructed in 6 villages. In the remaining settlements, septic tanks are used. In the town of Krumovgrad and the villages with a sewerage network the toilets are indoors. In the remote and smaller settlements the toilets are outdoors.

The population primarily uses solid fuel - wood and coal, for heating.

The Krumovgrad Municipality is served by the regional telephone network with a main Automatic Telephone Exchange in Kardzhali, while the local nodes are 13. The three mobile network operators have nearly 100% coverage, they also offer wireless internet.

The opportunities for development of the communications network are related to the proximity to the optic cable network Haskovo - Kavala.

From the available data on the poverty line for the country as a whole and in the province of Kardzhali, it is clear that single persons as well as families with 2 children under the age of 14 live below the defined poverty line in the country. Lowest is the difference in 2007 - 358 BGN per person and 769 BGN per family with two children under 14. The highest in 2009 - 1096 BGN per person and 2302 BGN per family with two children under the age of 14. There is an improvement in this indicator in the last year with available statistics 2010 - an increase of 327 BGN per person and 688 BGN per family with two children under 14 years.

According to data of the NSI and RDE - Kardzhali, the total number of dropouts in the municipality of Krumovgrad for the period 2012-2016 is 86.

The Gross domestic product per capita is at relatively low levels compared to the average for the country.

The municipality is still characterized by few enterprises relative to the size of the population, which have lower productivity and competitiveness compared to the average for the country. In terms of sectors the tobacco and processing industry, in particular the food and beverage industry and the textile and clothing industry, are of major importance for the economy of the municipality. Labor market data shows that industry provides relatively more jobs in comparison with the rest of the country, while trade is failing to reach the employment levels observed in other areas of the country. By relative share of net sales revenue, the weights of the most significant sectors in the provincial economy in 2011 were as follows: Manufacturing - 39.92% (increase by 4% compared to 2009); Trade and repair - 33% (increase by 3% compared to 2009); Construction - 9.37% (significant decrease compared to 2009, by about 8.5%); Transport and Communications - 3.4% (a sustainable share compared to 2009 when this sector accounted for 3.56% of the regional economy); Agriculture, hunting, forestry and fish farming - 3.10% (an increase compared to 2009 when it was 2.34%).

The gross domestic product in the municipality of Krumovgrad in 2001 was 40,059,000 BGN, while GDP per capita for the same year amounted to 2024 BGN, and this by indicator it occupies 127th place out of a total of 262 municipalities in Bulgaria.

In 2003 net income from sales amounted to 17.5 million BGN or 0.9 thousand BGN per inhabitant, which is 12 times less than the average for the country. The dynamics of the indicator shows a steady trend increase for the period 1999-2003. Compared to the base year it has increased 3.5 times.

The number of businesses registered in the municipality of Krumovgrad is 929, of which 99.4% are private, incl. 10% foreign businesses. There are active 263 companies, of which 95 are micro-companies (employing up to 10 people). 90% of the businesses are registered as a sole trader. The largest share of registered companies has trade (45%), transport (22%), catering and accommodation (15%) and agriculture (5%).

A structurally dominant branch of the local economy is agriculture dominated by tobacco production. The footwear and clothing industry is also represented.

In the last few years, the most powerful business factor in the municipality of Krumovgrad is "Dundee Precious Metals" EAD. The service contracts signed by the company with local businesses are 46. They are related to the following services - construction: general works, food, laundry, hotel services, car maintenance, provision of office supplies and small hardware, construction work, consultancy services. Total cost of the services is 5,780 thousand BGN. The dwellings rented in the municipality of Krumovgrad by Dundee Precious Metals EAD, including apartments and individual floors of houses, amount to 66. Average rental price per month is 520 BGN.

On the basis of a memorandum, Dundee Precious Metals EAD has signed a framework contract with the municipality of Krumovgrad and annually provides 500,000 BGN for municipal projects related to infrastructure, education and healthcare. In addition, the company supports financially the Vocational High School for Transport in the town. 50% of the concession fee is also returned to the municipality.

A key issue of major socio-economic importance is the future of tobacco production as well as the sustainable use of forest resources.

The opportunities for achieving sustainable economic growth are related to the development of agriculture as a sector with potential for expansion in the municipal economy. Prospects for economic development are related to encouraging the emergence and development of related industries in agriculture, forestry and processing.

The Krumovgrad municipality has developed the light industry, which specializes in the production of footwear and sewn products. The enterprises are medium-sized and are concentrated in Krumovgrad. The material and technical base is good and meets the technological requirements.

A small number of micro-enterprises are established in the municipality to produce bread, bakery products and soft drinks.

The locals of the municipality of Krumovgrad hired by Dundee Precious Metals are 155, of whom 15 are women. In 2017, in Dundee Precious Metals Krumovgrad EAD were invested 80 million dollars. Two water treatment plants will be built on Ada Tepe. The first one is for domestic wastewater and the second one will be used in need of discharge of wastewater into the bed of the Krumovitsa River, in which case the water coming from the river will be of drinking quality.

More than 170 people have been assigned to work in the mine. Approximately 210-220 people will be engaged in the Ada Tepe mining area, of which only about a dozen are not from the Krumovgrad region. There are enough qualified candidates from the municipality of Krumovgrad for all types of professions, except for electricians, which is why, Kardzhali.

Part of the construction activities on the territory of the municipality are carried out by the company "BKS" EOOD. The company owns capacities (equipment, transport, warehouses). Over 80 people are employed in it. Other private companies are also engaged in construction activities. In them work about 40 people.

Tobacco is the main culture that provides livelihood to a large proportion of the population. In the municipality of Krumovgrad is produced high quality oriental tobacco of the type "Bashi-Bali", origin Krumovgrad. The production is highly quoted on both the domestic and international markets.

Annually, more than 25,000 decares of agricultural land are recultivated and over 3,000 tonnes of tobacco are produced. Production capacity is far greater, and higher outputs can be generated if the annual shortcomings in selling and grading of the production are avoided. Farmers are increasingly interested in the development of alternative farming as an opportunity to provide higher incomes and employment. In recent years, plantings have been created and white oregano is effectively grown on an area of 500 decares, St. John's wort - on over 30 decares, lemon balm - on over 50 decares, rose hip - on 50 decares. Annually are with pepper are recultivated areas of over 500 decares, with summer savory - of over 500 etc. These crops cannot be an alternative to tobacco, as in their production engages only a small workforce.

The semi-mountainous relief of the municipality of Krumovgrad is suitable for the development of livestock breeding. Poor mechanization and automation, high costs of animal husbandry, and a poorly functioning market have a negative impact on the number of raised animals and the produced output. Cattle and sheep breeding are best developed. Animals are scattered on private agricultural properties and are grown mainly for personal needs. The produced milk produced is not marketed, which deprives the producers from the opportunity of capitalizing the production and of receiving subsidies. On the territory of the municipality there are no enterprises for processing the agricultural production.

Krumovgrad Municipality is located in a semi-mountainous area, where the local economy is heavily dependent on agriculture as a source of income and employment. Farming accounts for 54.2% of employment. The agricultural land in the municipality is 382,228 decares, incl. arable land 147,545 decares (38.6%), meadows and pastures 141,140 decares (36.9%), forests in agricultural properties 93,543 decares (24.5%).The irrigable area is 3000 decares, but the irrigation system is heavily depreciated. The most utilized irrigation method is the extension of watering lines. 60 micro-dams are built on the territory of the municipality and can be used for irrigation. The rebuilding of the irrigation network is related to attracting investment and should take into account the peculiarities of small farms. By form of ownership, 19% of the agricultural land is private, 60% is municipal (and almost completely consists of so-called municipal residual land) and 21% is state-owned.

A major part of the arable land is occupied with tobacco (26,583 decares). In addition are cultivated medicinal plants (700 decares of white oregano, 70 decares of rose hips and 25 decares of lemon balm), fruit plantations (562 decares), vineyards (270 decares), other permanent crops (823 decares), pepper (270 decares) and savory (70 decares).

Land ownership is fragmented and the farms which cultivate less than 10 acres predominate. 2,009 decares are cultivated under lease. There is a lack of funds for the purchase of modern equipment and for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity.

More fertile land is processed and low-productive land is abandoned, with abandoned land at the end of 2001 amounting to over 3,600 decares. The erosion processes induced by the sloping terrain reduce the area of arable land. The absence of large agricultural farms reduces labor productivity and opportunities for realizing lower production costs and market placement of the production.

Livestock has a smaller share of the agricultural output. Almost all kinds of domestic animals are represented, with predominance of cattle and sheep breeding. In the majority of cases the animals are kept under primitive conditions, there is no quality control of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies.

The main problems facing agriculture are:

- Family farms are of confined type, the land is cultivated almost without the use of machinery, no agro-technical activities are conducted, which leads to low yields.
- The market realization of agricultural produce is very difficult, and the offered prices are often below the production costs. An exception is the realization of tobacco, for which purchases are satisfactory.
- There is a lack of modern agricultural equipment and modern building stock, as well as financial resources for technological renovation of farms. There is a lack of knowledge on the adequate conduct of agro-technical measures.
- Family farms are not market-oriented. No measures are being implemented to improve and maintain livestock breed quality, which prevents an increase in the quantity of production.

These problems provoke a negative tendency for inefficient use of arable land, deterioration of the technical availability of agriculture and reduction of yields. In livestock breeding the tendencies are for the continuing deterioration in the quality of breeds and the amount of production.

The province of Kardzhali and the municipality of Krumovgrad have some specific features in their ethnic structure compared to the rest of Bulgaria. According to the census of 2011 in the municipality of Krumovgrad as Bulgarians self-identify 22.26% of the population, as Turkish - 57.01%, as Roma - 0.20%, 1.25% do not self-identify, and 18.73% have not provided answer.

For the cultural and historical heritage of the municipality of Krumovgrad testify over 2,000 exhibits, arranged in a museum collection with an exhibition area of 250 m² and separated archeology, new history and ethnography sections. The collection was opened in 1971 and is housed in a building built in 1901 and declared a cultural monument in 1982.

There are 31 archaeological sites and 12 architectural monuments in the territory of the municipality of Krumovgrad, which have the status of monuments of culture of local importance. Remains of Thracian sanctuaries, burial mounds, necropolises and medieval fortresses have been revealed, which testify to intensive and continuous habitation during all historical eras. In the central part of the town of Krumovgrad was uncovered a prehistoric settlement with materials from the Neolithic, Paleolithic and Bronze Age. Interesting Thracian cult monuments are the niches, cut in the vertical rocks along the valley of the Arda River.

Annually are held a folk art festival and the traditional cultural holidays "The Lights of Krumovgrad". Cultural activities on the territory of the municipality are organized in 12 cultural centers, each of which has a library with a collection of volumes,

Tourism forms an insignificant part of municipal revenues. The potential for development of rural and ecological tourism has not been utilized due to the lack of funds for the establishment of accommodation facilities and the lack of investor interest in the tourism field on the territory of the municipality. The presence of anthropogenic and natural resources does not correspond to the available tourist infrastructure and accommodation facilities, there is an acute shortage of qualified personnel.

The potential for development of tourism on the territory of the municipality is mainly related to the creation and promotion of ecotourism products and cultural routes. The prospects for the development of the tourism business are mainly related to the development of the available cultural, historical and androgenic resources and the supply of a regional tourist product in cooperation with the other municipalities of the Eastern Rhodopes region.

Characteristics of public health

The total mortality rate for province of Kardzhali for the period 2001-2010 is lower than in the country - from 10.8 in the beginning of the period to 11.1 in the end for the district and from 14.2 to 14.6 in the country.

The total mortality rate for the province of Kardzhali in 2011 is 12.7 ‰. It is highest in the municipality of Ardino - 15.6 ‰, followed by the municipalities of: Kirkovo - 14.7 ‰; Krumovgrad - 13.9 ‰, Chernoochene - 13.6 ‰; Dzhebel 12.2 ‰, Momchilgrad - 11.6 ‰ and Kardzhali - 11.4 ‰. The difference between the values of the indicator in towns and villages is significant.

Among the reasons for the increase in mortality in the province are:

- Increasing aging of the population;
- Increase of the mortality in active age from socially significant diseases;
- Risk factors related to the lifestyle of the population: irrational nutrition, smoking, hypodynamia and stress;
- Socio-economic and environmental factors.

In 2011 the highest child mortality rate is in the municipality of Krumovgrad - 8.9 ‰. The main cause of death of children under 1 year in 2011 are a number of conditions occurring in the perinatal period - 7.6. Relatively lower is the incidence of deaths among neonatal infants - 2.9.

In the structure of the hospitalized patients in the province of Kardzhali during the last 3 years the leading diseases are: Diseases of the circulatory system followed by Diseases of the respiratory system and in third place Pregnancy, childbirth and postpartum period. The situation in the municipality Krumovgrad is similar.

The age dependency index for the municipality of Krumovgrad in 2016 is 22.8 for the population under 15 years of age. It is 184.5% for the municipality of Krumovgrad in 2016 for the population aged over 65.

Health and welfare Services in the Region.

There is a lack of medical staff in the municipality of Krumovgrad. A significant proportion of the physicians, especially those in small settlements, are in retirement or pre-retirement age, and the number of young physicians is extremely low.

The large distances between small settlements and urban centers obstruct the access of inhabitants of remote and hard-to-reach settlements and neighborhoods to medical help. In most villages, people do not have direct access to primary care.

Emergency medical care as a whole is insufficiently effective due to difficult access. Medical staff is more abundant in towns than in the countryside. This is mainly due to the specific infrastructure - fragmentation and remoteness of small settlements. For this reason, emphasis should be placed on preventive medicine.

Healthcare establishments for primary medical care and dental outpatient care in the municipality of Kardzhali in 2011 amount to 199, of which 63 are Outpatient clinics for individual practice of primary medical care (OCIPPMC) and 136 are Outpatient clinics for individual practice of primary dental care (OCIPDC). The number of this type of medical establishments is largest in the municipality of Kardzhali.

In the province of Kardzhali there are 136 OCIPDC, followed by 68 OCIPSMC, and 63 OCIPPMC. Smallest is the number of Diagnostic Consultation Centers (DCC) and hospices.

Evaluation of the demand for specialized medical staff in outpatient care detected the need to expand the package of services in each specialty and to relocate some diagnostic and treatment services from inpatient to outpatient care. Providers of specialized outpatient medical care are also unevenly distributed, with their concentration being predominantly in the municipal centers. This obstructs public access to this type of service, increases the number of cases with late diagnosis and complications, and increases the number of hospitalizations.

The system of medical establishments (5) in the Municipality of Kardzhali is capable of meeting the public healthcare needs of both the municipality and the province. Their total number of beds amounts to 598, and in the last year their utilization in days is 189.16, which is 51.82% of the total available bed days.

The total number of patients who underwent hospital treatment in 2011 is 14 991. The equipment in hospitals is at a good level.

Because of the uneven distribution of pre-hospital care, the number of hospitalizations in many hospitals in the province has been increasing. Consultations with a specialist are impossible in remote places. In primary outpatient care there is no established system for 24-hour admission.

In the territory of the provincial center Kardzhali there is a Center for Emergency Medical Care (CEMC), which has 8 branches in the rest of the province. The main burden in the branches falls on the middle-level medical staff.

Some of the main issues in health care that need to be addressed are:

1. Aging of qualified medical staff.
2. Unoccupied practices in the villages are unattractive.
3. Insufficient number of group medical practices.
4. A serious problem is the large number of uninsured people.

In 2011 in the municipality were registered: 4 individual practices for primary outpatient medical care; 10 for dentistry 10; a single group practice for primary medical care and individual practices for specialized outpatient care.

There is a single general hospital - GHAC "Life +" EOOD in the municipality of Krumovgrad. In the medical establishment is performed Diagnosis and treatment of diseases in case successful treatment can't be achieved in outpatient care establishments; Natal care; Rehabilitation; Diagnosis and consultations requested by a physician or dentist from other medical establishments; Follow-up.

Diagnostic Consultation Block - consists of reception rooms, clinical laboratory, diagnostic imaging department, microbiological laboratory, laboratory for general clinical pathology and departments without beds - anesthesiology department and physiotherapy department, which is not functioning at present.

Inpatient block with 54 active beds with Department of Internal Diseases, in which activities in the medical specialties Pneumology and cardiology are carried out; Department of Pediatrics (Children's ward); Department of Obstetrics and Gynecology; Department for Continuous Treatment of Internal Diseases.

Administrative - business block with Sterilization Room; Automobile transport; Administration. The Duty Room has been providing medical assistance to health-insured and uninsured persons between 8.00 pm and 8.00 am on working days and 24 hours a day during weekends and holidays. The hospital structure includes a hospital pharmacy.

The hospital is well equipped with medical equipment, with respect to the diagnostic-consultation care, outpatient treatment and urgent emergency medical care carried out in it.

In the municipality is under construction the Medical Center No.1 EOOD for outpatient specialized care with internal medicine room, surgery room, children's room, ENT room, Obstetrics and Gynecology room and Ophthalmology room.. The Regional Medical Centers in the province of Kardzhali are 5. There are no private clinics. There are also no private doctors.

Settlements are characterized by great remoteness from the health services in the region. Most distant are 3 settlements, respectively one at 51 km, two at 53 km, and the closest are at 10 km (21 villages).

Doctors (539) per 1000 inhabitants in the province as of 31.12.2017 are 3.6 and in the municipality of Krumovgrad (19) - 0.9. Healthcare specialists per 1000 inhabitants (in the province - 854, in the municipality - 29) as of 31.12.2017, respectively 5.7 and 0.6. Hospital beds per 1000 inhabitants (in the province - 826, the municipality - 54) as of 31.12.2017 are respectively 5.5 and 3.2. The number of people using health services per 1,000 inhabitants for the municipality in 2017 is 16,931, for the province 151,133. The number of hospitalized persons per 1000 inhabitants for the municipality in 2017 is 86.47% and for the province 175.12%.

The municipality provides health programs (vaccinations, information events, programs for the elderly) through the implementation of the Project "Provision of Integrated Services for Early Child Development in Krumovgrad Municipality", Procedure "Early Child Development Services" under the Operational Program "Human Resources Development" 2014-2020, co-financed by the European Social Fund of the European Union and joint activity with "Do Good - Alexandrovska" - Sofia.

As of 2001, the kindergartens in the municipality of Krumovgrad were 63 with 4,617 children in 27 groups and 405 teachers.

Community social services are provided on the territory of the municipality of Krumovgrad in: Center for family type accommodation for children and adolescents 1 and 2 (FTACA) with a capacity of 30 children / adolescents; Center for Public Support (CPS) - Krumovgrad with a social worker, pedagogue, psychologist and speech therapist who perform individual work with children and families.

Elderly care facilities are: Home for Elderly people with 50 spots; Social Patronage at home with capacity of 165 with two branches in the villages of Avren and Potochnitsa. The service lasted until 30.04.2016.; Foster Care in Implementation of the Project "I Have a Family Too". 4 foster family families were established in the municipality, and in 3 of them were accommodated 4 children.

Among the welfare programs of the municipality (economic, educational, health) is also the Municipal Youth Plan for planning and implementing the priorities of the municipal and national policy for young people.

The municipality has a stadium in the municipal center, a covered swimming pool and a gymnasium at High School "Vasil Levski", Krumovgrad. With implementation priority are projects for the construction of a sports playground for basketball, handball, badminton and

tennis and an outdoor pool in the town of Krumovgrad. The sports infrastructure in schools is in poor technical condition. For renewal of the sports infrastructure and construction of additional facilities for sport and recreation invest the municipality and "Dundee Precious Metals" EAD - Krumovgrad.

The cultural sites of national and local importance are several: A late antiquity and medieval fortress wall, a Museum Collection, a Thracian Gold Mine, a Medieval fortress in the village Sarnak, Nature Reserve Center "Studen Kladenets", the Abrasive Wells and the Devil's Bridge (Sheytan), Reserve "Valchi Dol".

Public health care in the region

The population benefiting from water supply services in the province of Kardzhali is 135,133 of the total number of inhabitants. This means that 89% of the settlements are supplied with water. For comparison in the country the percentage of the population using water supply services is 98.6 per cent. 238 settlements are supplied with water. Average consumption per day per capita in 2007 reached 90.08 liters, in 2008 it was 90.72 liters, in 2009 - 86.07 liters per day per capita, in 2010 - 83.17 liters and in 2011 - 85.69 liters.

The water supply and sewerage services on the territory of the province of Kardzhali are provided by "Water Supply and Sewerage" - Kardzhali and cover 41 settlements in the municipality of Krumovgrad with a total population of 15 203 people.

WSS OOD - Kardzhali uses raw water from two water sources - the Borovitsa dam and a mountain intake for the village of Raven, municipality of Momchilgrad. The raw water from those does not only fit the criteria in terms of turbidity, owing to which purification stations (DWTP) and a purification facility - a self-cleaning filter, were constructed.

All other quantities of raw water are from underground water sources - drainages, shaft wells and drilled wells. There are no particular problems with the quality of the raw water.

It is safe and clean and there are no indicators which warrant purification except for microbiological indicators, which is why disinfection is carried out.

The quality of raw water is monitored in accordance with the regulatory legislation. It is performed by the Basin Directorate for Water Management in Plovdiv and by the Ministry of Health.

The quality of the drinking water is monitored in compliance with Ordinance No. 9/2001, but not in sufficient quantity in terms of number of samples and number of indicators according to the mandatory minimum of constant and periodic monitoring and not in a sufficient range of water sources per year.

Currently, there are several major issues related to the protection zones related to their maintenance, the conditions and procedure for their research, design, validation and exploitation

There are several large production facilities in the province of Kardzhali that pollute the atmosphere and are included in the monitoring and control system. In case of detection of abnormally high emissions, economic sanctions are imposed. The main polluter in the municipality of Krumovgrad are automobile transport and domestic heating installations during the winter season. This pollution is episodic and can lead to abnormally high indications in specific weather conditions.

Irregular cleaning of the streets also affects the registered amount of dust. In the winter months there is a tendency for abnormally high levels of fine particulate matter up to 10 microns (μg - FPM 10), which is the result of the increased consumption of solid fuels in the domestic sector and the season-specific windlessness, mist and temperature inversions which create conditions for the retention and accumulation of atmospheric pollutants in the ground-level atmospheric layer.

To determine the ecological and chemical composition of surface water, hydrobiological monitoring is carried out at 54, and physicochemical at 12 points by the National Environmental Monitoring System. Physicochemical monitoring is performed on 29 ecological status indicators (basic and specific) related to organic surface water pollution and 3 chemical status indicators (priority substances). The analysis of the planned samples is carried out by the Regional Laboratory of RIEW - Haskovo at the EEA. For every individual monitoring point is a specific scheme for sampling and analysis by groups of indicators.

There are 21 water bodies in the territory of province of Kardzhali whose ecological status is very good and in accordance with the classification system developed in 2010, including biological and physico-chemical elements for quality. In 2001 in certain water bodies in province of Kardzhali, analysis was carried out for the presence of priority substances (lead, cadmium and nickel). The Studen Kladenets dam has been found to be in a generally bad state due to an excess of physicochemical and chemical elements. The section of the Arda River between the Studen Kladenets Dam and the Krumovitsa River has been found to be in a bad ecological condition due to the presence of biological elements.

For the entire territory of province of Kardzhali, worst is the state of the soils around the former Lead-Zinc Extraction Combine and S&B Industrial Minerals AD, town of Kardzhali. It has been found that the land is damaged to varying degrees. The affected land is about 6,000 acres, including the land around an old and currently operating tailings pond. These areas are mainly polluted with heavy metals.

In regards to the protection of earth's bowels and the use of underground resources, there is a tendency for increase in the number of given permits for prospecting and exploration of minerals - especially for stone-facing materials. In most cases, this concerns small areas in which case the impact on the environment is limited.

At the sites of prospecting and exploration of metallic minerals, which are usually of considerable size, until now geological exploration works have been concentrated on small areas except for the Ada tepe gold deposit near the municipality of Krumovgrad. All sites

with mining and geological activities are controlled by the RIEW - Haskovo, in accordance with the regulations of the country. To this moment here were no serious violations in this province, with the exception of bentonite extraction in the Propast-North quarry, where landslides are periodically activated.

An annual monitoring of the soils according to the monitoring network "Land and Soils" is carried out on the territory of province of Kardzhali. There are 14 points for soil sampling and analysis for heavy-metal and metalloid contamination. Analysis and control is performed by indicators lead, copper, zinc, cadmium, arsenic, iron, nitrogen, phosphorus, mercury, chlororganic pesticides and acidification.

The Krumovgrad Municipality organizes every year several sprayings of lands and areas in the town of Krumovgrad against mosquitoes and ticks. Disinsection (spraying against mosquitos) is carried out throughout the city. Spraying against tocks is carried out on lawns in the town park, the central part of the town, in the neighborhoods and the town stadium.

The agricultural land in the municipality is 382,228 decares, incl. arable land 147,545 decares (38.6%), meadows and pastures 141,140 decares (36.9%), forests in agricultural properties 93,543 decares (24.5%).The irrigable area is 3,000 decares, but the irrigation system is heavily depreciated. The most utilized irrigation method is the extension of watering lines. 60 micro-dams are built on the territory of the municipality and can be used for irrigation. The rebuilding of the irrigation network is related to attracting investment and should take into account the peculiarities of small farms.

By form of ownership, 19% of the agricultural land is private, 60% is municipal (and almost completely consists of so-called municipal residual land) and 21% is state-owned.

A major part of the arable land is occupied with tobacco (26,583 decares). In addition are cultivated medicinal plants (700 decares of white oregano, 70 decares of rose hips and 25 decares of lemon balm), fruit plantations (562 decares), vineyards (270 decares), other permanent crops (823 decares), pepper (270 decares) and savory (70 decares).

Land ownership is fragmented and the farms which cultivate less than 10 acres predominate. 2,009 decares are cultivated under lease. Although in recent years the number of small- and medium-sized equipment has increased, there is no modern equipment for carrying out agro-technical measures with a longer duration, which seriously reduces the efficiency of the economic activity.

More fertile land is processed and low-productive land is abandoned, with abandoned land at the end of 2001 amounting to over 3,600 decares. The erosion processes induced by the sloping terrain reduce the area of arable land. The absence of large agricultural farms

reduces labor productivity and opportunities for realizing lower production costs and market placement of the production.

Livestock has a smaller share of the agricultural output. Almost all kinds of domestic animals are represented, with predominance of cattle and sheep breeding. Animals are raised on family properties, there are no large farms. In the majority of cases the animals are kept under primitive conditions, there is no quality control of the production. The knowledge of the farmers is insufficient, there is a lack of adequate information about the possibilities of applying new technologies.

The living conditions on the territory of province of Kardzhali, respectively Krumovgrad, are good - the favorable geographical position (the total border with Greece is 90 km); climatic and soil conditions are prerequisites for growing essential oil and southern cultures; water-power plants have been built on the dams; there is a wealth of mineral resources and equipment for the development of light and heavy industry, trade and services; there is a sufficient learning network, a system of traits, cultural traditions and a cultural and historical heritage.

For decades in the municipality of Krumovgrad there were concerns that the extraction activities of Dundee Precious Metals EAD will cause serious environmental problems. This has not been confirmed at this stage. At present all activities are environmentally sound and do not create environmental problems.

Dundee Precious Metals EAD has invested 80 million dollars in the municipality of Krumovgrad. At the Ada Tepe mine, 2 wastewater treatment plants are being built. The first one is for domestic wastewater and the second one will be used in need of discharge of wastewater into the bed of the Krumovitsa river, in which case the water coming from the river will be of drinking quality.

In its operation the Ada Tepe mine will use some of the most advanced technologies. On the basis of a memorandum, Dundee Precious Metals EAD has signed a framework contract with the municipality of Krumovgrad and annually provides 500,000 BGN for municipal projects related to infrastructure, education and healthcare. In addition, the company supports financially the Vocational High School for Transport in the town. 50% of the concession fee is also returned to the municipality.

All municipalities in the territory of the province of Kardzhali dispose of the solid waste on their territory on a temporary dump site on the land of Vishegrad Village, municipality of Kardzhali. Annually on the territory of the province about 44,000 tons of municipal solid waste are disposed.

The municipal center - Krumovgrad, is covered by the system of organized waste collection and disposal. In the remaining settlements, municipal solid waste is disposed of in unregulated landfills, the removal of which is an important task for the municipal administration.

There are no significant pollutants on the territory of the municipality of Krumovgrad. The main pollutants of water are wastewater and sewerage water from the population and businesses, with no significant industrial pollution having been identified.

A specialized repository for the temporary storage of human medical waste has been established and a system for separate collection has been introduced.

Cleaning of the streets in unorganized in nature, on the territory of the municipality there is no organized system for the separate collection of packaging waste.

For the conservation of biodiversity the "Valchi Dol" reserve and seven protected areas have been declared. The Valchi Dol Reserve, with an area of 775 hectares, is situated in the land of the village of Studen Kladenets and has been declared as the only Bulgarian colony of Griffon Vultures. 23 species of birds of prey have been identified on the territory of the Reserve, 21 of which are listed in the Red Data Book of the Republic of Bulgaria.

On the territory of the municipality there are many caves, three of which are included in the list of the 250 most famous caves in Bulgaria.