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THE GEOGRAPHICAL FACTORS IN FUNCTION OF VINICULTURE AND WINE TOURISM DEVELOPMENT IN THE TIKVESH BASIN

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Abstract:
In this effort an attempt was made to analyse the geographical factors i.e. their objective impact on viniculture and wine tourism in the renowned Tikvesh Basin, which represents a symbol of this type of activities in the Republic of Macedonia. The need of such analysis resulted from the fact that this region comprises 8 % of the Republic's territory and has established itself as an influential agricultural and economic region in the wider vicinity as well. For this purpose adequate methods were utilised such as: mathematical-statistical, cartographic, climatological, touristic, etc. One of the pillars of these research activities, which support the essential postulates of the effort, was the long-lasting terrain exploration. It all points to the final conclusion that the Tikvesh Basin features quite favourable natural and socio-geographical factors which enhance development of vine-growing, winery and wine tourism, whose outstanding potential has only modestly been utilised so far.

Keywords: Tikvesh Basin, Viniculture, Wine Tourism.

Jel Classification: L83

INTRODUCTION

Vine-growing as a separate agricultural branch means growing, care-taking and utilising of grapevines. As such, these activities in the Tikvesh Basin have been performed since before the new age (BC). The synonym Viniculture-Winery Region, the Tikvesh Basin has acquired long ago, and its culmination was reached in the year of

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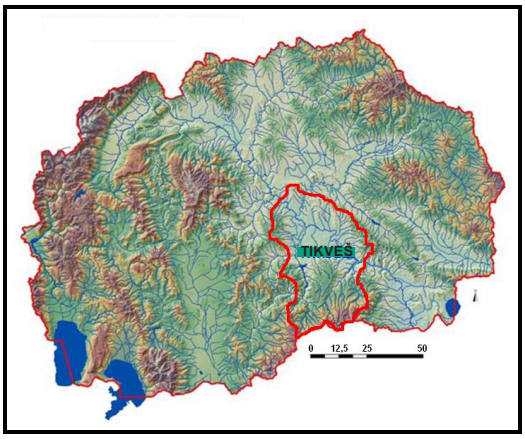
1991 with its record of 10,334 hectares of vine plants (Pavlovski 1993). A phenomenon, different from the distinguished vine-growing and winery, is the wine tourism, which has been introducing visible socio-geographic transformations just lately. Wine tourism as a type appeared only recently and that is the reason why there is no unified definition of it. Generally, this tourism refers to travelling to and visiting viniculture regions and wine facilities as well to degustation of wines and meeting new people and cultures. Wine tourism is world-widely considered a growing concept with two-sided economic impact. The first impact refers to the increase of number of tourist, whereas the second one refers to the increased productivity of the wineries. Wine tourism as a modern type of tourism not only attracts visitors, increases overnight stays and adds to the overall tourist overturn but also is characterised by an educational dimension, because it helps degustation visitors to change their attitude towards wine as a product. The phenomenon-wine tourism can be the basic course of economic and social development of rural environments, which compensate their lack of natural-geographic attractions with the traditions and customs of the local population. Having this in mind, below in the text an endeavor is made to evaluate the impact of the more significant geographical factors, both as a basis and a determinant of viniculture and wine tourism development of the Tikvesh.

TOURIST-GEOGRAPHIC POSITION

The Tikvesh Basin stretches in the central and southern parts of the Republic of Macedonia. The basin was described by J. Cvijic (1906) as a large and low basin in the Middle Vardarian Stream which, with its geo-morphological, climate, bio-geographical and antropo-geographical features, represents a rounded geographic entirety, different from the neighbouring valleys. The northernmost point of the valley with irregular circular shape is Ilangja, 664 metres above the sea level and inclination of $41^0$43'38" N. The southernmost point is at the very Macedonian-Greek border, on Kozjak Mountain, 1814 meters above the sea level and inclination of $41^0$05'30" N. The westernmost point is a no name elevation, at 841 metres above the sea level and inclination of $21^0$47' E. The most protruded point in the east is White Stone, 1182 metres above the sea level and inclination of $22^0$19' E. The wavy region of Tikvesh comprises: the middle confluence of the river Vardar, the lower flows of the rivers Bregalnica and Crna Reka as well as the full flow of the rivers Boshava and Luda Mara. The basin frame extends along tall, middle-height and low-height mountains and hills, which are broken through with river valleys on all sides (map 1).



Map 1. Geographical position of the Tikvesh Basin in the Republic of Macedonia

The size of the Tikvesh Basin in its natural borders is an area of 2,060.54 square kilometers, which represents 8% of the territory of the Republic of Macedonia. Traffic and functional connections of the Tikvesh Basin with the neighbouring regions play a significant role in the economic development and strategic directing of the same region. Spanning in the wide and easily passable Vardar valley, the Tikvesh Region is traditionally considered a focus of the trade and traffic connections. So, in the ancient times, the most exploited Vardarian road led from Solun and Pela in the south towards Skopje in the north. Until the end of the 19th century along stream the river Vardar busy river traffic with ferries loaded with leather, wheat and timber took place (Pavlovski 1993). In 1873 the railroad from Solun to Skopje was launched, which meant a new economic impetus and an important strategic strengthening of the region. For strengthening of road traffic in the postwar period of special regional and international significance became the motorway E-75 that follows the flow of the river Vardar in the northwestern and southeastern directions. It was completely set through Tikvesh in the period from 1960-1964. Today it is broadened into a first class motorway. In parallel direction to this international toll road the following regional roads are attached: Negotino-Lakavica-Shtip and Negotino-Lakavica-Radovish towards eastern parts, as well as Negotino-Kavadarci-Prilep and Gradsko-Prilep towards the western parts of the country. From traffic point of view the Tikvesh Basin has generally favourable geographic position because it is the centre of frequent passage and trade connections with the adjacent regions within the Republic and exterritorialy, all this based on its economic influence in the wider region.

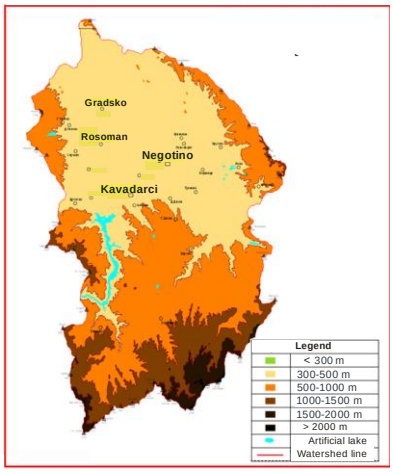
GEOLOGICAL COMPOSITION

The Tikvesh Basin from geological aspect is a complex mosaic of magmatic, metamorphic and sediment rocks of different age: they range from Precambrian to earliest Holocene forms. In general, in the eastern part, on the right side of the river Vardar Neogene sands, clays and Quarter volcanic formations prevail. All these, from

hydrogeological point of view, are dry, waterless terrains or low water discharge intensity and crack porosity. Such litogene substrate is the basis for spacious, bare, erosion-prone terrains with scarce vegetation, only suitable for growing vines.

RELIEF CHARACTERISTICS

In the Tikvesh Basin three relief entireties can be discerned as follows: frame of the Basin made up of mountains, that is mountain sides, hills with ravine breakthroughs, plane-hill entirety and the area of Vitachevo as a separate morphological unity. The tallest mountains in Tikvesh are as follows: Kozuf, Kozjak, Kesendre-Radobil Mountains, Balija, Klepa and Serta. The plane-hilly entirety, which is a tectonic lower part i.e. bottom of the Tikvesh Depression, rises 100–300 metres above the sea level, covering an area of around 600 square kilometres. It is this unity that is considered most significant in regard of vine-growing and wine tourism development in Tikvesh. Down by the course of the river Vardar this unity can be divided into western and eastern part (Pavlovski 1993). The western part of the plane-hilly unity in Tikvesh covers the right-side area of the river Vardar that is differentiated by lowered flat parts, i.e. fields, among which there are hills slightly sloped at $5\text{-}10^{0.}$ The eastern part of the plane-hilly unity in Tikvesh covers the area on the left side of the river Vardar towards Serta, with inclinations of $5–10^{0}$. Through digital calculation of a scanned topographic map, scale 1:200000 and the software package AutoCAD 2008, values of hypsometric stripes in the Tikvesh Basin are set. Surface of up to 500 metres above the sea level covers an area of 1,051.7 square kilometres of the plane-hilly unity, which equals 51.04 % of the entire basin (2,060.54 km^2). This hypsometric stripe is ideal for grapevine planting. Surfaces between 500-1000 metres above the sea level make up hilly spots and low mountains, and surfaces of total 716.9 square kilometres (or 34.8 % of the explored area) that limit the valley bottom. Surfaces between 1000–1500 metres above the sea level make up an area of 227.6 square kilometres or 11.04 %.



Map 2. Hypsometric stripes in the Tikvesh Basin

They are present mostly in the southern half-frame. Surfaces of 1500–2000 metres above the sea level make up slopes of middle-height mountains, which are situated along the valley frame in the southern and south-western part with total area of 62.7 square kilometres, that is 3.04 %. Surfaces over 2000 metres above the sea level make up the highest parts of Kozuf Mountain, with total value of 1.6% or 0.79 % (map 2). Among the specific relief forms in Tikvesh, the greatest importance for viniculture and wine tourism development have the river terraces, which are a foundation for cultivating grapevines. They are flatted parts, cascade positioned in Paleocene and Neocene sediments, along valley sides of the river Vardar and its tributaries (Pavlovski 1993). Arsovski (1991) in the Vardar Basin recognized a total of 7 terraces. The highest terrace (t7) is preserved under the village of Veshje, at 150 metres height over the today's river bed. The lower terrace (t6) is at 90-100 metres height, and the fifth one is at 55–60 metres height. The fourth terrace (t4) is at 25–40 metres height and lies on Paleogene flysh. It is between 180–230,000 years old. It is best preserved on the left side of the river Vardar. On the stretch Ulanci-Gradsko this terrace is at 150-170 metres absolute height above the see level. From the village Pepelishte to the village Vojshanci it extends over 8 kilometres at absolute height of 140-160 metres, gradually inclined towards the village Bistrenci (Pavlovski 1993). The third terrace (t3), between 120-180,000 years old, is the most recognisable at the archeological locality Stobi, at 145-160 metres absolute height above the see level. The second terrace (t2) is at 8–12 metres height. And the lowest terrace (t1) is at 1–3 metres or at 5–7 metres height of the today's river bed. It actually presents an influx of alluvial sediments. The river Crna Reka in the Tikvesh Basin has made four terraces at 55, 45, 15 and 5 metres above the present-time level of the river flow. The river Vatashka Reka in the vicinity of Kavadarci has made five terraces that look like floors. Apart from the bigger water flows, river terraces can be noticed at some smaller flows with constant or periodical streaming such as: Blashnica, Kamenica, Dunjica, Brusnichka Reka, Dabnishka Reka, Iberliska Reka and others (Pavlov 2011). All quoted relief predispositions go in favour of the goal of viniculture and wine tourism development, especially if it is taken into account that Tikvesh has available land of over 1,000 square kilometres, at up to 500 metres height, with wavy-hilly and hilly slopes of smaller gradient thus suitable for the purpose (Zlatev 2011).

CLIMATE CHARACTERISTICS

Table 1. Monthly average duration of the sunshine in Demir Kapija (in hours)[2]

	MONTH												
insolation	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Annually
hours	88	111	146	177	213	255	322	313	245	181	109	93	2253

The estimation of the climate characteristics of the Tikvesh Basin were considered and analysed based on the elaboration of multi-year regime of relevant climate elements in the period from 1981 through 2000 for the meteorology stations in Demir Kapija, Kavadarci and Gradsko. The annual average duration of the insolation in Tikvesh is

[2] Source: Lazarevski, 1993.

greater than 2,250 hours (table 1). It is the longest in the month of July with 322 hours, and the shortest in the month of January with 90 hours (table 1). In the months of July and August, when the vines intensively ripen, the sum of the sunshine amounts 645 hours (chart 1).

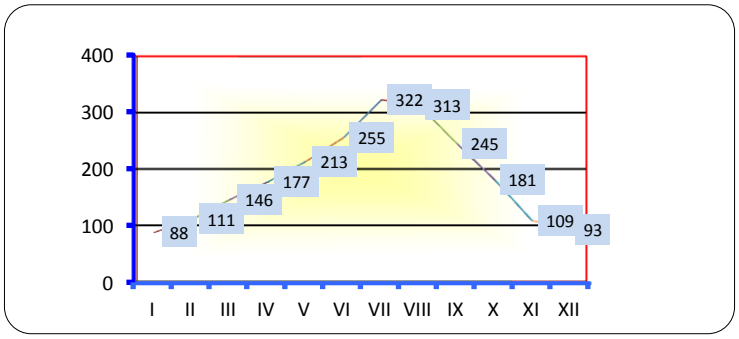


Chart 1. Duration of the sunshine at the measure point Demir Kapija, in hours, annualy

Air temperature at the average annual level is 13.7^{0}C in Demir Kapija and 13.4^0 C in Kavadarci. The region falls into the thermal region of translation (Contact-Mediterranean region) with Mediterranean influence manifested by warm and dry summers (131 summer and 72 tropical days) and continental influence manifested by low temperatures in the winter season due to a breakthrough of cold masses from the north. Continental influence is imposed by the orography, which partially annuls the proximity of the Mediterranean. Feature of the Mediterranean climate is the particularly warmer month of October than the month of April. This is not the case in Demir Kapija and Kavadarci in the examined period of time because of the small temperature difference between these two months (Pavlov et al. 2013). The absolute maximum of 44.8^{0}C is measured in Demir Kapija, and the absolute minimum is – 23.2^0 C.

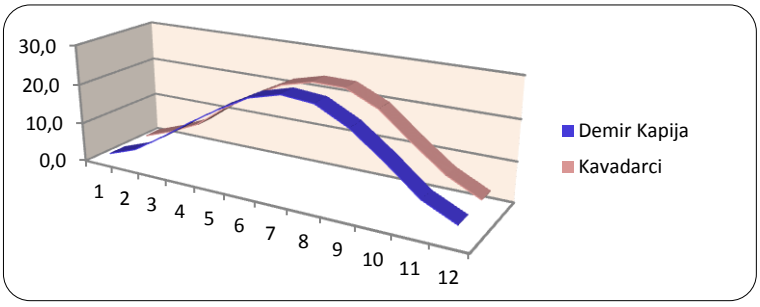


Chart 2. Average monthly temperature variation in Demir Kapija and Kavadarci (1981–2000)

The winds have the biggest frequency from the south-eastern direction. Their value is 136 ‰. The second most frequent is the north-western wind with 121 ‰. The third place belongs to the eastern wind with average yearly frequency of 118 ‰ (chart 3).

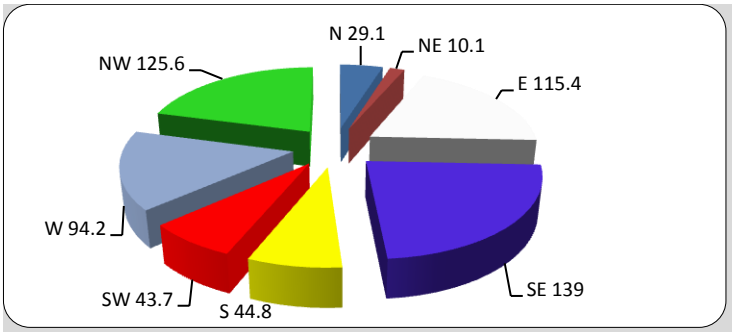


Chart 3. Average annual frequency of winds (‰) in Demir Kapija (1982–2000)

Air wetness at the measure point Demir Kapija has average annual value of 66.5 %. The wetness drops from the month of January through the month of July, when it reaches its minimum, and then it goes up until December. The December value of the relative air wetness in Demir Kapija is maximal - 81%. The July value is minimal with its average of 53.7%, and the same has the lowest Republic's level (chart 4).

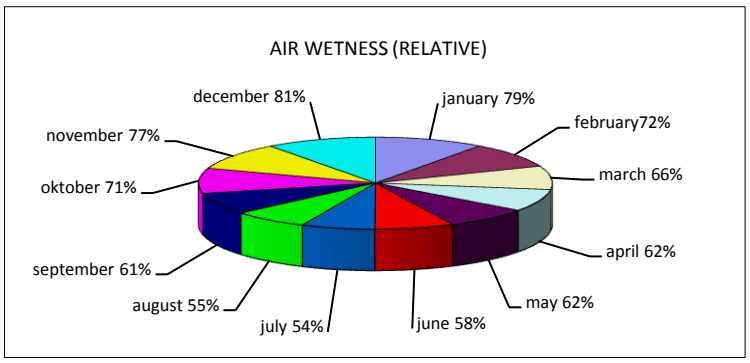


Chart 4. Relative air wetness in percent (%) for Demir Kapija (1981–2000)

Cloudiness in Demir Kapija has an average annual value of 4.7 tenths. Cloudiness is the lightest in the months of August (2.6 tenths) and July (also 2.6 tenths) when the precipitation is at its lowest, which is of special benefit for grape ripening and sugar units increase in grapes. The cloudiness is the heaviest in the months of December (6.8 tenths) and January (6.5 tenths). The average annual sum of precipitations shows modest values of 542 mm (D.Kapija), 436 mm (Kavadarci) and only 365 mm in Gradsko (chart 5).

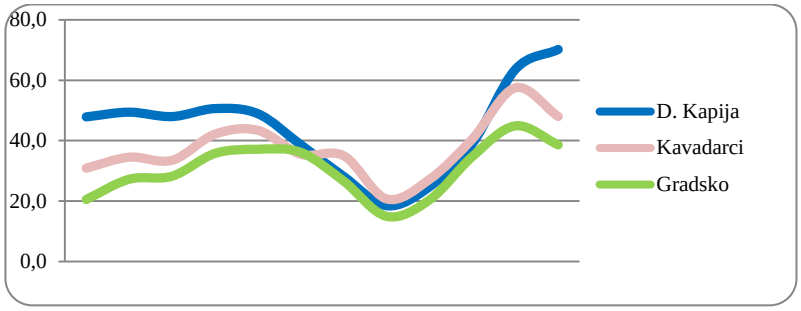


Chart 5. Comparative curve of average precipitations (mm) per month for D.Kapija, Kavadarci and Gradsko (1981–2000)

The pluviometrical regime for the measuring points Kavadarci, Demir Kapija and Gradsko is Mediterranean. This is shown by the low quantities of precipitations and small number of rainy days in the months of July, August and September, at the time of grape ripening (chart 6).

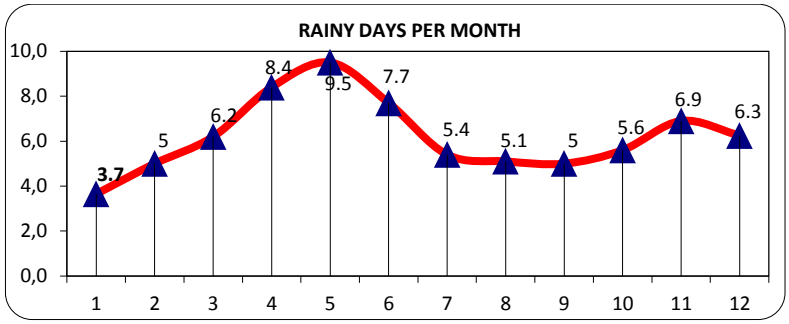


Chart 6. Curve of the average number of rainy days per month for Demir Kapija (1981–2000)

The precipitation factor for Kavadarci and Gradsko shows aridisation of half-desert climates, and the drought index corresponds to ranges with very-weak-to-moderate outflow of the confluence (Pavlov, 2011). The drought is characteristic of the region and lasts an unbroken period of over 200 days. Moreover, the entire Tikvesh territory features lowest precipitation in the vegetation period, in contrast to the remaining areas of the Republic. Generally speaking, according to climate types, in the Tikvesh Basin there is a contact-Mediterranean climate, which is a kind of a compromise and transition between the Mediterranean influences from the south and continental influences coming from the north. This climate features warm and dry (changed Mediterranean) summers and moderately cold winters which are harsher than the Mediterranean ones, and milder than purely continental winters. The autumn is insignificantly warmer than the spring, and the modest precipitations are seen in the colder part of the year. This climate type is fairly favourable for grapevine cultivation.

WATER BALANCE AND AVAILABLE WATER RESOURCES

If the annual amount of precipitation and the quantity of water out flown from the confluence are known, the water balance of the Tikvesh Basin can be calculated with the simplest formula:

H = Y + Z (Labus 1983) where:

H is the amount of precipitation,
Y is the amount of outflow, and
Z is the amount of vaporization

To this end, the average annual precipitation amounts are used, taken at the available precipitation-measuring station at the confluence in: Demir Kapija, Kavadarci and Gradsko in the period of 1981–2000. According to these data, the mean annual sum of precipitation in the confluence of the river Vardar in Tikvesh is 448 mm, that is 923,104,000 m^3 of water pour per year (H) in the entire confluence (F=2,060.5 km^2). Consequent to this, if the outflow (Y) at the measuring spot Demir Kapija is equal to 189,216,000 m^3/per year, then solely 20% of the rainfall in the Vardar confluence in the Tikvesh Basin outflows on the surface through the Demir Kapija's gorge, whereas the remainder of 80% goes to evaporation (Pavlov 2011). The registered sources of the Tikvesh Basin have total water discharge of 661 litres/sec. This condition corresponds to yearly produced water of 20,845,296 m^3. The greater part of the obtainable surface flowing waters in Tikvesh have a transient character. For instance, from the annual drained water from the territory of Tikvesh (3,216,672,000 m^3), as input waters from the adjacent regions, have shown as much as 3,033,763,200 m^3 or 94.3%. The accumulated waters, disposable for agricultural, energetic and fishing needs in the existing 14 accumulations in Tikvesh, do not exceed 400,000000 m^3. For agricultural needs, especially for the viniculture ones, irrigation systems that cover the gross area of 26,000 hectres (ha) are built in Tikvesh.

SOILS AND LAND STOCK

The soil cover of the Tikvesh Basin has significant effect on the economic activation of the present population. As a substrate for forming soil types in the Tikvesh Basin generally helped Neogene sands and clays, tuffs and crashes andesite, as well as carbonate rocks in the western morphological entirety, whereas in the eastern one this role played Paleogene sediments (Pavlovski 1993).

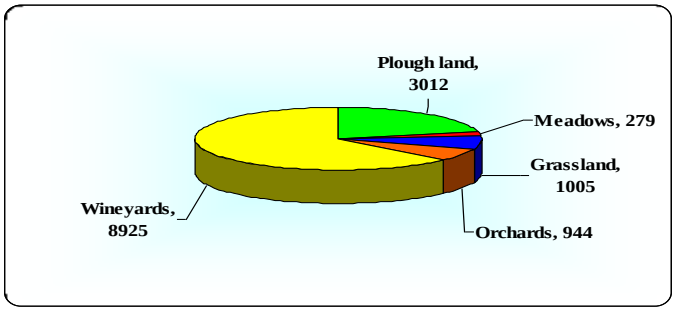


Chart 7. Layout of the soil used for agricultural purposes in Tikvesh in the year of 2007

Today there are 13 differentiated soil types in the Basin, of which 10 are more represented. Out of the total 14,170.85 ha arable soil in the Tikvesh region in 2007 the biggest part of 8,925.46 ha or 63 % were areas used for vine-growing. In the second place was the category of plough lands, green market gardens and kitchen gardens with 3,012.24 ha or 21.25 %, and in the third place, according to representation, fall the following: pastures, orchards and meadows (chart 7).

Table 2. Soil types in the Tikvesh Basin[3]

SOILS Number	Type	Area (ha)	(%)
1	Eroded alluvium (syrozem)	12,755	44.4
2	Flooded alluvium	4,557	14.8
3	Forest soil (rendzine)	2,211	7.7
4	Chernozem	1,869	6.5
5	Carbonate-diluvial	1,700	5.9
6	Eroded forest soil	1,502	5.2
7	Alluvial - carbonate	1,401	4.8
8	Cinnamic soil	1,335	4.6
9	Degraded forest soil	1,142	3.9
10	Uncarbonated-deluvium	51	0.9
11	Mineral-carbonated	215	0.7
12	Ruddle	92	0.3
13	Uncarbonated red soil	14	0.1
SUM		28,894	100

POPULATION AND TRADITION

In the five Tikvesh municipalities today live 70,339 inhabitants in 84 populated places, of which 3 are towns, as follows: Kavadarci, Negotino and Demir Kapija. The density of population is 32.8 inhabitants per square kilometer (table 3). The Tikvesh Basin is

[3] Source: Milanov 1980.

the symbol of viniculture and wine industry, so when we speak about these branches we think of Tikvesh. The region was cradle of vine-growing and winery since ancient times. Grapevines dominated, which was painted in numerous findings of coins, stone tubs for vine squeezing, marble sculptures and other artefacts from the archeological localities: Stobi, Antigona, The City, Belgrade, Tikvesh, Hoovo, Umata and other.

Table 3. Population statistics in the Tikvesh municipalities (census of 2002)[4]

POPULATION Municipality	Population	Households	Apartments
Gradsko	3,760	1,137	1,436
Demir Kapija	4,545	1,387	1,789
Kavadarci	3,8741	12,026	16,324
Negotino	19,212	5,898	7,369
Rosoman	4,141	1,284	1,663
Σ(sum)	70,399	21,732	28,581

From older records we find out about different customs, carnivals and festivities which were held in honour of God Bahus during the grape harvest – a tradition preserved till present day. In the Middle Age, with the settlement of the Slavic tribes Berziti, started an intensive growing of vines in Tikvesh, so that their traditional drink-medovina was soon replaced with wine and whisky. It is also known that the Middle Age lords of the town Prosek, Lord Dobromir Hrs and Dobromir Stres in the 12th and 13th centuries owned a wine cellar with abundance of wine. The Serbian Saint Sava on his way to Sveta Gora, passing through Tikvesh, noted that the region is quite rich in grapevines. In the year of 1378 famous viniculture micro-regions are already mentioned such as the towns: Tikvesh, Vatasha, Raec and Kesendre (Radovanovich, 1924). At the time of the Ottoman Empire a stagnation of viniculture and winery in Tikvesh is observed, but with the operation of the railroad Skopje-Solun viniculture works revived, apparent from the fact that from the town of Gradsko departed up to 400 wagons with cargo of grapes. The biggest rise in vine growing and wine production is seen in the 20th century, between the years 1971 and 1980, again as accomplishment of the wine cellars: "Tikvesh, "Povardarie" and "Venec".

MATERIAL BASIS FOR WINE PRODUCTION AND WINE TOURISM

In the 21st century a new page is opened in the history of viniculture and wine production in Tikvesh, when wine tourism starts developing intensively through small vineyards and their authentic atmosphere, that evoke the past and tradition in their own wine stories. In Tikvesh today there are celebrated wine houses and wineries which offer tourists wine degustation and traditional Macedonian food. Wine tourism in Tikvesh was stirred in 2005 when the Tikvesh wine road was made, with the first traffic signs, the first wine museum and the first information center. In consort with

[4] Source: State Statistics Agency of the Republic of Macedonia.

this, new manifestations are planned besides the established ones, such as: vintage festival and Saint Trifun Week of Tradition. Tikvesh is a rare region in Macedonia, a region where wine tourism is in its later phase, which means that professional, educated and licenced wine tourist guides are already available to foreign visitors. Competent staff is also employed in wineries and catering industry, promotional brochures and recognisable manifestations. Guest books show that several thousand foreign tourists went down the Tikvesh wine road in the course of the recent past years.

Among the first promoters of the Tikvesh wine road was the *Bovin Winery* from Negotino. The first guests were foreign diplomats, which later on were followed by domestic tourists who stay overnight. For the purpose of wine-tasting the winery is equipped with a special degustation hall. The *Popova Kula Winery* in Demir Kapija has its own hotel with four unique apartments and seven double-bedrooms, each one titled according to wine assortments produced and decorated in accordance with the wine colours and shades. All these facilities are luxuriously dressed. Within the winery there is a shop for wine and souvenirs.

The *Stobi Winery* is located in the vicinity of Gradsko. The winery capacity is 4,500,000 litres. This winery also has a lavish restaurant. Similar to other wineries, this one also offers wine tours which include: winery sight-seeing with specialised tour operators, tasting of best wines and a cold snack of dairy products (cheese) and cold cuts specialties. The winery tours may also include visiting the locality archeological Stoby, Wine Museum and a stroll through the grapevines.

The *Elenov Winery* is located at the very entrance to Demir Kapija. It dates far back in 1928. The winery capacity is 6,000,000 litres of wine. Within the wine cellar boundary there is a wonderful villa, which during the Second World War belonged to the Serbian king Karagjorgevic, and which he used to visit with his family during his rule. Now the villa is a monument in custody of the Ministry of Culture of RM and is daily visited by plenty of transcontinental guests, diplomats and curious passers-by.

In the valley of the river Boshava, in ecological and unpolluted surroundings, there is another viniculturist called *Grkov Winery*. In 2009 it became the first Macedonian winery to produce wine from organic grapes, certified for equality with the regulation (EC) 834/2007 and the Law on Organic Agricultural Production in the R. Macedonia. In its tourist offer the winery foresees: wine-tasting, home-made food, strolls, etc.

The *Dudin Winery* in the Negotino area is also well-trimmed for wine tourism. In its scope there is a degustation hall and a restaurant with 70 guest-seats.

Finally, the *TikveshWinery*, named after the famous region itself, is the oldest wine-producer in the R. Macedonia, founded back in 1885. In the aftermath of the Second World War it was nationalised and equiped for production of 200,000 litres of wine. Today the winery has the biggest capacity in the R. Macedonia of fantastic 45,000,000 litres of wine. It exports wine in over 25 countries worldwide. The winery's restaurant is open for visitors from 10:00 to 18:00.

Table 4. Wineries which bare potential for wine tourism in Tikvesh

	NAME	SETTLEMENT	CAPACITY (liter)
1.	Bujuk	Dabniste	120,000
2.	Naumcevi	Kavadarci	20,000
3.	Popov	Sopot	350,000
4.	Pivka	Negotino	300,000
5.	Peca	Kavadarci	150,000
6.	Kapia	Demir Kapija	80,000
7.	Radevski	Demir Kapija	5,000
8.	Kucievi-Sveta Elena	Negotino	200,000
9.	Fonko	Negotino	300,000
10.	Sato Rojal	Negotino	20,000
11.	Ta-Di-Ba	Kavadarci	30,000
12.	Ristov	Kavadarci	20,000
13.	Maleric	Marena	30,000
14.	Mojsoff	Kavadarci	10,000
15.	Iliev	Kavadarci	70,000
16.	Filovski	Pržđevo	100,000
17.	Angelovi	Kavadarci	12,000
18.	Venec	Dolni Disan	135,000
19.	Povardarie	Negotino	30,000,000
20.	Disan Hills	Dolni Disan	/
	Sum		32,122,000

Apart from these wineries, in the Tikvesh Basin there exist 20 more wineries with total wine production capacity of 32,122,000 litres. They are all potential promoters of wine tourism although their material basis for attracting tourists has not been provided yet.

CONCLUSION

The Tikvesh Basin consists of an area of 2,060.54 square kilometers, which spans in the central and southern parts of the R. Macedonia. The geographical factors which were subject of analysis from the aspect of viniculture, winery and wine tourism development point to the conclusion that the Tikvesh Basin is characterised by entirely favourable, that is geographically communicational position in the R. Macedonia, which is an crossroad of international road paths. The geological substrate of Paleogene and Neogene sands and clays, over which 13 soiled types have formed, are a solid basis for grapevines-cultivation. Tikvesh has disposable over 1,000km^2 of hilly and wavy-hilly soil, at up to 500 metres above the sea level, abundant in river terraces which are ideal relief preconditions for grapevine growing. The favourable grounding is amplified by the favourable climate characteristics as well. The pleasant climate, in between the Mediterranean and Continental, featuring high annual insolation (sunshine of 2,250 hours), high average temperatures (13.7^{0}C), the great number of summerdays (131), the light cloudiness and air wetness, and the low precipitations at the time of grape ripening, are of special importance for the quality of Tikvesh grapes and wines.

Viniculture and wine-production are among the oldest traditional activities in Tikvesh, cherished from the ancient times. At present, 9,000 ha of grapevines are cultivated for the purpose of production of world-known brands of wine in which the sun has poured out many sugar units. In Tikvesh are functioning around thirty wineries with total capacity of around 80,000,000 litres. In the last decade wine tourism developed steadily, and presently is promoted by seven companies only.

General impression is that, in the future, wine tourism development should be forced since many requirements are readily met: the advantageous position of the viniculture region, quality grapes and wine, tradition, hospitability of the residents, and of course, the existent 20 wine houses with capacity of 32,122,000 litres - potential promoters of wine tourism. It will be of great significance for small wineries solvency, which encounter problems with placement of their products in the world markets (Dodd et al. 1997). Moreover, wine tourism is a known profitable branch also because these tourists are well-educated and have better payment potential compared to other ones (Alebaki et al., 2011). Development of this tourism would also attract European visitors, which only transit the Tikvesh region for the time being.

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