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SWOT Analysis of West Anatolia in the Context of History and Culture Tourism Potential

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Abstract: The Anatolian peninsula is a unique geography which harbors almost all development stages of human history. As a piece of land that witnessed almost all the cultural, political, social and economic structures established by humanity including the first settlements built following the hunter-gatherer cultures, the start of agriculture, the foundation of the first central states following the principalities of the Bronze Age, the formation of empires following the Ancient Polis (city) States, Anatolia has a naturally rich archaeological heritage. In order to make use of this rich historical and cultural heritage in an efficient and sustainable way, especially in the tourism sector, one needs to determine the strengths and weaknesses of this potential. This study aims to make better use of the tourism potential of Western Anatolia by examining the strengths and weaknesses of the region with SWOT analysis method on Western Anatolia sample.

Key words: tourism potential, tourism marketing, history and culture tourism, West Anatolia, SWOT analysis

1. INTRODUCTION

Historical and cultural tourism (HCT) can be defined as "a tourism phenomenon that aims to witness, experience and acquire knowledge about the concrete and intangible values belonging to the contemporary and ancient cultures and that consists of direct and/or indirect activities based on the acquisition of products and services related to this" [1]. Tourism attractions which are subject to cultural tourism can be classified as natural and artificial attractions. Natural attractions are not human-made; they are formed spontaneously as a result of climatic or natural phenomena. Travertines, water sources such as sea, lake, waterfall, formations such as mountains, canyons, swallow holes and caves are examples of natural attractions. Artificial attractiveness is created by humans over time. Cities, bridges, tombs, places of worship, towers and parks are examples of artificial attractiveness [2]. Both natural and artificial attractions are the main reasons for tourism activity. The higher the number of tourist attractions in a region, the higher the expected demand for tourism in the region. According to data of the World Tourism Organization (WTO), approximately one third (37%) of the tourism movements take place for artistic, musical, historical and religious reasons [3].

Although Turkey is one of the world's leading HCT destinations, it does not make full use of the tourism potential provided by the geographical and historical richness it possesses. Unveiling Turkey's tourism potential and pursuing suitable policies for this is of importance in order to develop the sector in a more planned way [4]. Therefore, in order for a region to develop any sector and increase the market share it has in the sector at stake, it must first reveal its current situation, it should first assert its current situation, identify its strengths and weaknesses and determine the opportunities and threats related to the sector [5]. For this reason, within the context of laying the ground for tourism, conducting research and studies on certain issues such as creating a cultural inventory in particular, determination of potential, and SWOT analysis is of paramount importance in order to develop HCT in the areas with certain potential regarding cultural heritage in Western Anatolia (WA) which constitutes the backbone of the cultural tourism assets in Turkey [6].

The studies carried out to date have examined the potential of rural tourism [7], congress tourism potential [8], health tourism potential [9], yacht tourism potential [10], thermal tourism potential [11] in

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Anatolia with SWOT analysis. On the other hand, some studies addressed the Black Sea region [12] and Eastern Anatolia region [13] with SWOT analysis again. However, the studies on the historical and cultural potential of the West Anatolia are not sufficient. However, the West Anatolia hosts a great deal of historical and cultural heritage included in UNESCO's World Heritage List. In this regard, unveiling the historical and cultural potential of the region is of great importance in determining the relevant strategies. This study was prepared with the motivation to fill the gap in the literature regarding the historical and cultural tourism potential of West Anatolia.

This study is important because it contributes to filling this gap in literature. The following sections of the study offer detailed information about the history of the region and present the historical and cultural attractions in it. Then, the methodology of the study will be briefly explained and the results of the SWOT analysis will be presented. The study will conclude with discussion and recommendations sections.

2. LITERATURE REVIEW

Anatolia is located at the center of Europe and Asia with its geographical location at the intersection of these two continents. The Anatolian peninsula provides the connection between the West Anatolian world and the Eastern world. However, it would not be correct to think of Anatolia as just a bridge due to this situation. That's because bridges are generally means of transition. However, Anatolia is not only a piece of land that provides access from one place to another, but it is also a valuable living space which is affected by all cultures in the region and inhabited by them [14].

The above-mentioned geostrategic location of the Anatolian peninsula has attracted people starting from the Paleolithic times and led to the creation of a rich archaeological heritage. WA, which is the focal point of our subject, has also been home to the Ancient West Anatolian Civilization which constitutes the most exceptional period of world civilization history as a result of rich prehistoric accumulation. The foundations of the natural sciences and philosophy were laid in the city-states located at the Ionian region (the coastline that stretches from Çandarlı Bay İzmir to Mandalya Bay, Didim); these cities are called Polis.

Being among this group, WA has been a piece of land where human activities have been intense since the earliest periods of the Paleolithic Age. With the large rivers between the high mountains and the vast and fertile plains watered by them, WA provided a suitable living environment for its inhabitants starting from the earliest stages of human history [15]. As a matter of fact, WA exhibits an authenticity, cultural integrity and continuity that has been going on since the Neolithic Ages. This is collectively known as "Western Anatolian Civilization" and it is a mosaic of cultures with common features and similar development [16].

The most important step in the common heritage of humanity is, undoubtedly, the Neolithic Revolution which refers to the transition from the hunter-gatherer lifestyle to the settled life and to harvesting, i.e. the agricultural phase. The Neolithic of the WA hosts the important settlements of this early period. Aphrodisias, Miletus-Kiliktepe, Morali, Nemrut and Ulucak Mounds, which are also associated with Hacilar, Kuruçay, Höyücek, Bademağacı and Hacilar Büyük Höyük settlements in Inner WA, were home to the first inhabitants of WA [17].

Following the aforementioned Stone Ages, WA developed into the Chalcolithic Period with the start of copper mine use in some places. The most important Chalcolithic centers of WA are Hacilar and Beycesultan. Excavations were carried out at Hacilar, Höyük between 1957 and 1960. The chronology of the Neolithic and Early Chalcolithic Period, which was formed by J. Mellaart based on the Hacilar Höyük excavations, was re-discussed in consideration of the new data obtained from the excavations carried out by R. Duru in both Hacilar and Kuruçay, Bademağacı and Höyücek starting from the late 1970's [18]. S. Lloyd and J. Mellaart carried out the first studies in Beycesultan, Höyük, one of the other important settlements in WA, on behalf of the British Institute of British Archeology between 1954 and 1959. As a result of these excavations, 40 continuous cultural layers were identified starting from the Late Chalcolithic Age until the end of the Late Bronze Age [19]. In the coastal part of north WA, Gülpınar, Kumtepe, Beşik Tepe and Yeşilova, Liman Tepe, Çine-Tepecik and Beçin Castle settlements located in the Coastal Mid WA, which have the same ceramic forms as these settlements, play an important role in the cultural development of the region [20].

In the archaeological inventory of the region, Troia, Liman Tepe, Panaztepe, Çeşme Bağlararası, Kumtepe, Bakla Tepe, Küllüoba, Karaoğlan Vicinity, Kusura, Beycesultan, Demircihöyük, Keçiçayırı,

Aizanoi/Çavdarhisar, Bademağacı, Karataş-Semayük Mounds, stand out for Early Bronze and Middle Bronze Age periods in WA [21].

The prehistorical and archaeological riches have undoubtedly served as a fertile land in the emergence of rich civilizations in Anatolia and many important civilizations have arisen in this appropriate cultural climate. The most prominent ones among these civilizations formed in the WA are Phrygian, Lydian and Lycian Civilizations, Ancient West Anatolian Colonies (Aeolia, Ionia and Doria), Persian, Hellenistic, Roman, Byzantine, Seljuk and Ottoman civilizations [21].

WA is also home to many cultural assets such as Ancient City of Troy, Bergama Multi-Layered Cultural Landscape in Ephesus, Pamukkale/Hierapolis National Park, Ancient City of Aphrodisias and Ancient Cities of Xanthos-Letoon, which are included in UNESCO World Heritage List [22]. Some of these ancient cities do not only stand out with their archaeological value, but they have also played a role in the formation of the fundamental values of Western civilization. As a matter of fact, Anatolia has become a pillar to the institutionalization, development and expansion of Christianity which has an important place in Western Civilization. The apostles of Jesus Christ took refuge in Anatolia region. The teachings of Jesus Christ began spreading in Anatolia first and the first churches were built in Anatolia. The most important events in the history of Christianity took place in Anatolia. Besides, the seven churches mentioned in the part of the Gospel of John regarding the revelation are located at WA. In terms of religious tourism, it is seen that WA has a large share [23]. Included in UNESCO World Heritage List, The House of the Virgin Mary in the Ancient City of Ephesus, the Church of Goncalı in the Ancient City of Laodikeia and the Tomb of St. Philippos in the Ancient City of Hierapolis have, without doubt, a very special place in terms of religious tourism.

It is understood that the ancient cities rank first among the places where domestic and foreign tourists, who participate in historical and cultural tours organized in Turkey, want to visit [24]. Thus, WA is a quite prosperous region as it hosts an ancient city. The ancient city of Troy, the site of the famous Trojan War, which is mentioned in the Iliad Epic consisting of 16,000 verses, is located on the shore of the strait connecting the Aegean Sea to the Sea of Marmara [25]. When we go south from the Ancient City of Troy, we encounter the ancient cities of Aeolis and Ionia, famous for their schools of philosophy, medicine and sculpture. We can also mention the following cities: the ancient city of Assos, which was visited by Aristotle, the student of the famous philosopher Plato of Athens; the ancient city of Antandros, famous for its villa-type houses; the ancient city of Pergamon where parchment was invented as a writing tool, and where, the famous physician and pharmacist Galenos was born, Asclepeion, which can be considered the first modern hospital, is located; the ancient city of Smyrna; the ancient city of Klazomenai standing out with its olive oil workshops; the ancient city of Erythrai, the center of the Sibyl prophecies; Teos; the ancient city of Klaros with prophecy cult of Apollo; the ancient city of Ephesus, famous for its terrace houses and the Temple of Artemis, considered one of the seven wonders of the ancient world; the ancient city of Sardis where the famous synagogue of the Jews is located, once the capital of the State of Lydia; the ancient city of Magnesia which has a fertile agricultural land irrigated by Meander River; the ancient city of Priene, known as Pompeii of Asia Minor, overlooking the fertile agricultural lands of Söke plain; the ancient city of Miletus, the city of Thales, Anaximenes and Anaximander who laid the foundations of natural philosophy; Didyma, where one of the largest temples built in Anatolia, the Temple of Apollo, is located; the ancient cities of Tralleis, Nysa, Aphrodisias, Hierapolis, Alinda, Alabanda, Stratonikeia, Lagina, Labraunda, Mylasa, Euromos in Inner Karia region; and the ancient cities of Iasos, Halicarnassus, Knidos and Kaunos in Coastal Karia region [26]. Historical buildings (mosque, church, monastery, synagogue, inn, Turkish bath, tomb, aqueduct, registered structures such as street and monumental trees, fountain, caravanserais, clock tower, castle, city wall, theater, Turkish bath, necropolis, acropolis, temple, cistern, agora, bouleuterion, odeon, propylon, stoa, nymphaion, latrina, etc.) and natural assets in these Ancient cities have an undeniable importance for HCT which is a sub-branch of tourism [27].

Table 1. Museums and archaeological sites in Western Anatolia by provinces

City	Museums	Archaeological Sites
Afyonkarahi	Afyonkarahisar Museum	-
Aydın	Aydın Ethnography Museum	Nysa

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	Aydın Archeological Museum	Alinda
	Yörük Ali Efe Museum	Magnesia
	Aphrodisias Museum	Alabanda
	Karacasu Ethnography Museum	Aphrodisias
	Miletus Museum	Miletus
	-	Didyma
	-	Priene
	-	-
Denizli	Hierapolis Archeological Museum	Hierapolis
	Atatürk House Ethnography Museum	Laodikeia
Çanakkale	Troia Museum	Alexandreia Troas
	-	Troia
İzmir	Archeological Museum	Agora
	Ethnography Museum	Teos
	Atatürk Museum	Metropolis
	History and Art Museum	Klazomenai
	Bergama Museum	Klaros
	Çeşme Museum	Bergama Acropolis
	Ephesus Museum	Asklepion
	Ödemiş Museum	Kızılaylu
	Birgi Çakırağa Mansion	Eritrai
	Tire Museum	Ephesus
	-	Ayasuluk
	-	St. Jean
Kütahya	Kütahya Museum	Aizonai
	Kossuth House Museum	-
	Çini Museum	-
Manisa	Manisa Museum	Sardes
	Akhisar Museum	Alaşehir
	-	Aigai
	-	Akhisar Cairns
Muğla	Muğla Museum	Sedir Island
	Bodrum Underwater Archeological Museum	Lagina
	Mausoleum Monument Museum	Stratonikeia
	Zeki Müren Art Museum	Bodrum Ancient
	Muğla Uzunyuva Monumental Tomb and Museum	Gümüşkesen Monument
	Iassos Fish market Museum	Iassos
	Fethiye Museum	Labranda
	Marmaris Museum	Beçin Castle
	-	Herakleia
	-	Euromos
	-	Damlıboğaz
	-	Gemile Island
	-	Letoon
	-	Pınara
	-	Tlos
	-	Amintas
	-	Kaya Köy
	-	Kaunos

	-	Kadyanda
	-	Knidos
Uşak	Uşak Museum	Blaumodus
	Atatürk and Ethnography Museum	Sebastiye
Totally	35	51

(Source: Adapted from Ministry of Culture and Tourism [28])

The historical and cultural assets, which are briefly discussed above, of Turkey constitute the potential for HCT, too. HCT describes tourism activities based on learning about new cultures and having a curiosity for ancient cultures. These activities are related to people's own history and cultures alongside the history and culture of different civilizations. HCT is a type of tourism related to the trips that people make in order to see the historically and culturally rich regions, to learn about disappearing lifestyles and to collect memories of historical and cultural values [29]. HCT is also a type of tourism in which the concrete and intangible cultural values of a region are the main elements of attraction. These values can be lifestyles of the people living in the area, historical places and objects in the region or museums where the artworks are exhibited. In this context, HCT includes the activities of seeing culturally diverse regions, observing lifestyles that are disappearing by day, and visiting historical monuments belonging to the ancient cultures [30].

Although the historical and cultural sites are the main elements of this tourism type, it is extremely important to create an inventory, identify the strengths and weaknesses, and identify opportunities and threats in determining the relevant strategies [31, 5, 6]. In this context, we will discuss SWOT analysis which will be used to unveil the historical and cultural tourism potential of WA region in the next section.

3. METHODOLOGY

SWOT analysis is the analysis of resources and capabilities by identifying strengths and weaknesses in order to develop a strategy for the future. It identifies the opportunities and threats presented by the current situation [32]. While the strengths and weaknesses mentioned in the definition refer to the internal factors, the opportunities and threats refer to the external factors [33]. SWOT analysis determines what can be helpful in achieving the goal and what obstacles must be overcome or minimized to achieve the desired results. In other words, SWOT analysis is one of the first and most important steps in determining the strategy to achieve the goal. Because of these features SWOT analysis is one of the mostly used technique in tourism researches [34-39]. Therefore, SWOT analysis was preferred in this study in order to present the current situation of HCT potential of WA, and to determine opportunities and constraints and to come up with appropriate strategies.

4. RESULTS

The strategic analysis of the WA region is presented in Table 2. In this context, it can be stated that the WA region has very important strengths. The most important of these is the rich historical and cultural destinations. As presented in the previous section, there are nearly 50 ancient cities and more than 30 museums in the region. Moreover, there are at least 1 ancient city and museum in each province. This means that there are enough destinations for tourists to take on interest.

Besides, the region's transportation network is adequate in terms of providing access to the destinations. There is a total of 6 airports in the region: 1 international and 5 national [40]. While there are direct international flights from the international airport in İzmir, domestic flights as well as connecting international flights are provided from the airports in Denizli, Kütahya, Muğla and Uşak. Moreover, the transportation network in the region is not limited to airway. The road network is particularly common for inter-city transfers. Many different companies offer dozens of expeditions throughout the day. Another alternative to inter-city transportation is railway. İzmir, in particular, is connected to almost all the cities in the region by railway. This makes it easier for tourists to reach their destinations in the region.

One of the major advantages of WA region is the appropriate climatic conditions. Although it is observed that there is a temperature decrease towards the Inner West Anatolia, the average temperature in the coastal regions--even in winter is around 10° C. However, the temperature is still lower in the Inner West Anatolia in summer compared to the Coastal Aegean region [41].

Table 2. SWOT Analysis on the History and Culture Tourism Potential of West Anatolia

Strengths	Weaknesses
<ul style="list-style-type: none"> • The number of destination • Rich transportation network • Favorable climate • Economic conditions • Accommodation facility • Alternative tourism options • Sufficient supplementary service • Developed infrastructure and pavement 	<ul style="list-style-type: none"> • Inadequate marketing activities • Entryfees (Especiallyfordomestictourists) • Lack of qualified personnel • Foreign language problem
Opportunities	Threats
<ul style="list-style-type: none"> • Public policies towards tourism • Young population density • Continued archaeological excavations • Efforts visa-free travel toTurkey 	<ul style="list-style-type: none"> • Increasing migration in the recent period • Changing demographics and culture because of the migration • Competititon with other well-organized countries

(Source: Prepared by authors)

Due to the international problems especially in July and August 2018, TRY greatly depreciated against USD (\$) and EUR (€). Although this poses a problem for the country's economy, it can be considered an opportunity in terms of foreign tourists. The appreciation of EUR (€) can turn Turkey into a center of attraction for foreign tourists.

Considering the region's accommodation facilities, there is a rich variety of options. Hotels, hostels, apart hotels and apartments are available to meet the accommodation needs of tourists in the region. At this point, different alternatives are offered according to the preference of the tourist(s) planning to visit the area.

It would not be wrong to say that one of the strongest aspects of the region's tourism potential is the alternative tourism opportunities. The region is also rich in terms of nature tourism. For example, Denizli, one of the important cities in the region, has natural beauties such as Pamukkale travertines, caves, canyons and waterfalls. Afyonkarahisar, Denizli, Kütahya and Manisa also have rich resources in terms of health tourism. In addition, the area has its own cuisine and dishes. Besides, Muğla is an important center for sea-sand-sun tourism. Therefore, a tourist visiting the region for HCT can also perform different touristic activities such as nature tourism, thermal tourism, sea-sand-sun tourism, gastronomic tourism and so on.

One of the strengths of the region is the presence of complementary service facilities that can meet the needs. In each province and district in the region, there are hospitals, police stations, etc. Furthermore, it is possible to find shopping areas, souvenir shops, restaurants, etc. are available to meet the daily needs of tourists in almost every town.

In addition to all this, it can be said that the infrastructure and superstructure services of the region are sufficient. Due to the fact that the region is a tourism region in general, it does not have any problem in getting state investments. This is another issue that strengthens the hand of the region in terms of tourism potential.

On the other hand, there are some issues that weaken the hand of WA in terms of tourism potential. One of the most important one among these is the insufficient marketing activities. Although there are internationally-recognized attractions in the region such as Aphrodisias, Miletus, Dydim, Hierapolis, Ephesus, it would not be wrong to say that there are almost completely unknown attractions like Colossae, Tabae and Tripolis.

The fact that the entrance fees to some archaeological sites, especially for local tourists, are high is another weakness of the region's tourism potential. As of 2019, for instance, the entrance fee to Pamukkale archaeological site in Denizli is TRY 50 and the entrance fee to Ephesus archaeological site is TRY 60 [42]. These fees are preventing especially the local tourists from visiting the historical and cultural destinations.

Another weakness of the region in terms of tourism potential is the lack of sufficient qualified personnel. Although the universities in Turkey have many departments providing tourism education such

as tourism, hotel management, animation, etc, it is not possible to say that there is enough qualified personnel. This weakens the region's popularity.

Another weakness of WA region regarding tourism potential is the problem of foreign language. This is especially true for local people. This is less of a problem for tourists visiting the region with a tour, but it is an important problem for tourists visiting the region individually.

Although the weaknesses, which is briefly described above, of the tourism potential of WA region, may seem pessimistic, there are also significant opportunities for the tourism potential of the region. Perhaps, the most important of these is the action plan regarding tourism in the government's "2023 strategy." The report titled "Tourism Strategy of Turkey 2023" discusses many issues such as planning, investment, organization, transportation, infrastructure, advertising and marketing in detail. It also analyzes problems and solutions in detail in accordance with the vision [43].

One of the opportunities for the region to make use of its tourism potential is the density of the young population. According to data from the Turkish Statistical Institute, the population aged between 15 and 24 years are approximately 13 million, which corresponds to 16% of the total population [44]. This rate is higher than that of 20 of the 28 European Union countries [45]. If the young population is properly guided, the tourism sector, like all the sectors, will also benefit.

Ongoing excavation works are another opportunity for HCT in the region. In this context, for example, unveiling new attractions in addition to the ongoing works in archaeological sites such as Tripolis in Denizli, Tabae, Beçin Castle in Muğla, Stratonikeia, etc. will have a positive impact on HCT in the region.

Turkey has also signed agreements with many countries of the world in order to exempt its citizens from visa requirement [46]. With a successful advertising, this is a good opportunity for making use of the tourism potential of the region as well as the whole country.

In addition to these opportunities, there are also some situations that threaten the tourism potential of the region. During the period starting with the Iraq War, and ongoing with Syrian civil war, the peoples of the Middle East had to leave their country. The first and perhaps the only alternative they have is Turkey. This situation changes the demography and culture of Turkey and it leads to public order problems. This poses a significant threat to the region as it does for the whole country.

The leading HCT countries in Europe is another threat to Turkey in this field by being rivals to it. Greece, which has a coast on WA, Italy with the history of the Roman Empire, and Spain, which hosts Andalusia, an important center of Islamic history, are just some of these competitors.

CONCLUSIONS

WA is one of the most important regions of the world that has hosted many civilizations during its history of thousands of years. The region has an important potential in terms of HCT with dozens of archaeological sites and museums. The strategies to be implemented are of primary importance for the local governments and the government to use this potential in the most effective way. This study implements a SWOT analysis to unveil the historical and cultural potential of the region and to determine the strategies to be carried out.

In this context, it has been revealed that the region has a significant potential in terms of historical and cultural tourism. In all 8 provinces in the region, there are archaeological sites and museums. In addition, 6 of these 51 sites in the region are included in the UNESCO World Heritage List. In addition to the archaeological sites in the region, there is at least one museum in each province, which adds up to 35 in total. Furthermore, the richness of inter-regional and intra-regional transportation networks, favorable climatic conditions, the suitability of economic conditions, particularly, for foreign tourists, rich accommodation facilities, alternative tourism facilities, the availability of adequate complementary services and the developed infrastructure/superstructure are the strengths of the region.

However, the lack of adequate marketing and advertising activities for the attractions of the region, the expensive entrance fees to the archaeological sites, especially, for local tourists, the lack of qualified personnel and the foreign language problem weaken the hand of the region in making use of its historical and cultural tourism potential.

Besides these, the support and policies on tourism provided by the government of the Republic of Turkey, the young population of the country, ongoing excavation works and visa exemptions provided for many countries stand out as important opportunities.

On the other hand, the intensive migration caused by the cyclical situation in the Middle East, the demographic and cultural structure changing as a result of the migration in question, and the competition with the countries that have historical and cultural tourism attractions in different geographies of the world pose a threat to the region.

Based on the SWOT analysis, more powerful and intensive marketing and advertising activities should be carried out by the historical and cultural tourism stakeholders of the region, which will help the

tourism potential of the region become more efficient. The intention here is more than just promoting the attractions. The region's transportation network, climate, accommodation facilities, alternative tourism opportunities, etc. should be included in these activities as a whole. Marketing activities will achieve their goal only then. Another suggestion for the managers is related to the entrance fees. At this point, the Republic of Turkey Ministry of Tourism and Culture should review the entrance fees to archaeological sites for domestic tourists. In addition, although it does not seem possible in the short term, we should focus on the solution to the problems of qualified personnel and foreign language and we should ensure that the necessary education on this subject is given priority in the curriculum.

On the other hand, especially the support provided by the state in accordance with the 2023 strategies should be considered and fully utilized by local investors. If the government of the Republic of Turkey gives due importance to the ongoing excavations and support them, it will also help to increase the region's potential and the number of visits. Similarly, if the government makes new initiatives on visa exemptions and increases the number of its partners that are exempted from visa, it will have a positive impact on the tourism sector in the region.

However, the political status of the region where Turkey is located also constitutes a significant threat to these initiatives. Although many immigrants at this point regard Turkey as a transit route and as a gateway to Europe, the migration in question affects Turkey the most. Migrations from Iraq, Syria, the Turkic Republics and even Pakistan and Afghanistan significantly influence the demography and culture of the country. On top of that, the public security problems arise both due to the immigrants and the local people's view on the immigrants. Therefore, the government should pursue a policy of migration focusing on an optimal solution to this threat, which will help the tourism potential of the region to unveil.

The study is limited because it only addresses WA. That's because every region of Anatolia has been home to different civilizations. It is an extremely rich geography in terms of its history and culture. For instance, the Eastern Anatolia region was home to the Urartians, the Central Anatolia region to the Hittites, and the South East Anatolia region to the Kingdom of Commagene. Therefore, future studies can contribute to the literature by unveiling the HCT potential of other regions of Turkey.

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The Italian outstanding dilemma between fossil stocks and renewable resources: two Apulian case studies

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Abstract: After analysing the trends in the Italian production of photovoltaic energy in the last decade, the study focuses on a contradiction inherent in the strategy papers of the Italian energy framework: in order to achieve the coal phase-out by 2025, such papers provide, on one hand, the consistent implementation of renewable energy generation and, on the other hand, a greater use of natural gas, considered an essential “transition energy” for the national energy security over the medium term. The dilemma between the use of traditional or renewable energy sources is particularly evident in Apulia, “homeland” of the Italian photovoltaics and, at the same time, major producer of coal-based thermoelectric power as well as future EU energy hub for natural gas. Within this region, the research study reviews the cases of two municipalities located in the province of Lecce: Melendugno and Melpignano. Only 17 km away from each other, the two municipalities host diametrically opposed energy projects: in Melendugno a top-down unilateral decision of the national government is allowing the landfall of the TAP (Trans Adriatic Pipeline) on one of the Apulian stretches of coast of greatest environmental value, against the will of the local community. Conversely, in Melendugno a Community Cooperative for the self-generation of photovoltaic energy, aiming at promoting a renewables’ culture, fostering the domestic electricity generation and creating new job opportunities, is making a positive contribution to the improvement of the quality of life of the whole local system.

Key words: Melendugno, Melpignano, Trans Adriatic Pipeline, community cooperative, photovoltaic energy, Italian energy strategy.

1. INTRODUCTION

In 2018, Italy was the sixth largest producing country of photovoltaic energy worldwide (20.1 GW of installed capacity, 4.2% of the total), following China, Japan, USA, Germany and India [1] (p. 14). In the same year, the above source represented 7.8% of the national power generation (see Table 1), equal to 289,708.4 GWh, covering 86.3% of the Italian requirement [2]. Traditional thermoelectric power plants still provide 66.5% of the total production, even though such rate is lower compared to 2017 (70.2%). 68.1% of the thermoelectric power generation comes from natural gas, that is gradually replacing existing solid fuel power plants [3] (p. 36).

The significant yearly percentage increase seen in the number of photovoltaic power systems and in the installed capacity during the first five years 2009-2013 (see Table 2) is due to a government incentive mechanism (regulated by the Ministerial Decrees called “*Conto Energia*”- Energy Account), introduced in 2005 and in force until July 2013. Such incentive mechanism was the result of a national trend supportive of an increased use of alternative energies, that allowed the country to comply with the internationally recommended environmental sustainability policies and start reducing the significant reliance on imports

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of fossil fuels that has always characterized Italy, due to the lack of mineral resources [4] and as a consequence of the referendum that banned the use of nuclear power in 1987.

Table 1. Italy: gross electricity production in 2018

Sources	Production (in GWh)	On total production (%)
Hydropower	50,502.8	17.5
Wind power	17,716.4	6.1
Photovoltaic power	22,653.8	7.8
Geothermoelectric power	6,105.4	2.1
Traditional thermoelectric power	192,730	66.5
TOTAL	289,708.4	100.0

(Source: our processing on data provided by TERNA S.p.A., TERNA Group [2])

Table 2. Italy: breakdown of photovoltaic power systems by number, power and annual production from 2009 to 2018

Year	Number of systems	System yearly increase (%)	Installed capacity (in GW)	Installed capacity yearly increase (%)	Annual production (in GWh)
2009	76,593		1.264		677
2010	160,963	+110.2	3.592	+184.2	1,906
2011	335,358	+108.3	13.131	+265.6	10,796
2012	485,406	+44.7	16.785	+27.8	18,862
2013	596,355	+22.9	18.185	+8.3	21,589
2014	648,196	+8.7	18.594	+2.2	22,306
2015	687,759	+6.1	18.901	+1.7	22,942
2016	732,053	+6.4	19.283	+2.0	22,014
2017	774,014	+5.7	19.692	+2.1	24,378
2018	822,301	+6.3	20.120	+2.2	22,654

(Source: our processing on data provided by GSE [5] and Legambiente [1])

By analysing the data in Table 2, it is clear that, notwithstanding the increasing number of systems, the annual production trend from 2014 onwards (except for 2017, a year with particularly favourable radiation conditions) remains stable around 22 thousand GWh, indicating that the new installations are only able to compensate an equal loss of efficiency of older systems. Such production joins self-consumption (that is the photovoltaic electricity production not fed into the national grid but used at the production site), that in 2018 was equal to 5,137 GWh [5].

On the whole, the end of the incentive scheme and the lack of a comprehensive legislation on self-consumption in renewables, aiming at setting out the rights of prosumers and energy communities (user groups – families, SMEs, public bodies – that join together to produce their own “clean” energy), cause an essentially static situation in the photovoltaic sector. A definitely positive fact is that 7,839 Italian municipalities out of 7,914 (99.1%) have in their administrative territory at least one photovoltaic system, showing that such form of energy generation has now spread in the whole country [1] (p. 8).

Among the Italian regions, Apulia holds the record for production (3,438 GWh, or the 15.5% of the national total) as well as for installed capacity (2,652 GW, or 13.2%) and its density (137 kW/sq. km, compared to an Italian average of 67 kW/sq. km), being therefore the leading producer of solar energy in Italy. The province of Lecce leads the ranking of Italian provinces providing 3.9% of the yearly national production [5]. In Apulia, particularly in the province of Lecce, such leadership also led several issues, above all connected to ground-mounted systems and their high rate of agricultural land consumption. For this reason, in the new Regional Energy Environmental Plan (*PEAR, Piano Energetico Ambientale Regionale*), now under approval, Apulia is mainly committed to roof-mounted photovoltaic systems or, alternatively, to installations in post-industrial premises or in areas already impaired by previous manufacturing activities.

At the same time, it is a top-ranking region in terms of thermoelectric power generation from fossil fuels: actually, in 2018, Apulia, with 21,852.7 GWh (11.3% of the Italian total) was the second largest producer after Lombardy (34,253.6 GWh; 17.8%) [2]. Such primacy is due to the giant South Brindisi (Cerano) ENEL thermoelectric power plant (installed power 1,280 MW), that was designed in 1980 and became fully operational after 16 years of disputes with the local territorial system. Since 1964, the territory had already been hosting the North Brindisi coal-fired thermoelectric power plant in Costa Morena (640 MW of gross installed power), idle since December 2012 [6].

The main purpose of the National Energy Strategy (*SEN, Strategia Energetica Nazionale*), launched in 2017 in compliance with the Paris Agreement, is the decarbonisation of the traditional thermoelectric sector by 2025, aiming to reach a production of 184 TWh from renewables by 2030, of which 72 TWh from photovoltaics [7, 8]. A forecast roughly in line with the above document (187 TWh from renewables, of which 74.5 TWh from photovoltaics) is also maintained by the Integrated National Plan for Energy and Climate (*PNIEC, Piano Nazionale Integrato per l'Energia e il Clima*) 2021-2030, a document that all EU Member States need to put in place according to the new EU Clean Energy for All Europeans package (the so-called Winter Package) [8, 9]. As Legambiente points out [1] (p. 13), in order to achieve such production levels Italy would need a significant average yearly increase of photovoltaic energy that is not consistent with the standstill seen in the last five years (see Table 2).

Both the SEN and the PNIEC, besides forecasting the increase of renewables, intend to base the Italian path towards decarbonization on a greater use of natural gas, considered an essential “transition energy” for the national energy security over the medium term [7, 9]: indeed, the SEN states that, if on one hand the growing use of renewables allows to reach the internationally set environmental sustainability targets in terms of CO₂ emission reduction, on the other hand it could create imbalances in the electricity system, such as overgeneration as well as cross-zonal and inter-zone congestion, leading to an increase in the cost of services [7] (p. 119). Such “pro-natural gas” position of the Italian government was highly criticized by the environmental organizations Greenpeace and WWF Italia. The latter, through a study commissioned from the research company REF-E in October 2017, showed that it would be possible to quit coal by 2025 without increasing the gas capacity [10].

On closer inspection, the government intent to transform Italy into an EU energy hub for natural gas, primarily to reduce the dependence on Russia (which provides more than 40% of Italian total imports) was already clear in the SEN of 2013 [11], which discontinued the incentives for photovoltaics [12].

In order to increase Italy's receiving capacity - which in 2013 was composed of a grid with more than 31,000 kilometres of gas pipelines connected to four supranational infrastructures, two regasification plants and two regasification terminals [13] -, the Italian government in the following years granted the final authorization for two new projects:

- 1) the IGI Poseidon gas pipeline (*Greece-Italy interconnection*), also known as EastMed (capacity 10-15 billion m³/year), to connect the offshore fields in Cyprus, Egypt, Lebanon and Israel to Greece and Italy;
- 2) the TAP (Trans Adriatic Pipeline), within the so-called Southern Corridor. The Southern Corridor, with a length of about 3,500 kilometres, is composed of the Southern Caucasus Gas Pipeline (starting from the Azerbaijani field Shah Deniz II in the Caspian Sea and crossing Georgia), the TANAP (Trans Anatolian Gas Pipeline) crossing the Turkish territory and, lastly, the TAP (Greece, Albania, Adriatic Sea, Italy). The latter stretch, whose total estimated cost is approximately EUR 45 billion in private investments, for 50 years will bring to Europe 10-20 billion m³/year of natural gas. The gas pipeline can be regarded as the final result of the intense political and trade relationships between the Azerbaijan, a country with great hydrocarbon production and export potential, and the EU, a significant importer of energy sources [14, 15].

The abovementioned projects involve the landfall of both gas pipelines on the Adriatic Southern coast of Apulia, respectively in the Otranto port and in the seaside of San Foca of Melendugno, only 20 kilometres away from each other. While the authorization procedure of the IGI Poseidon pipeline has been completed without any opposition of the resident population, the national interest in the construction of the TAP was opposed from the beginning by the local administration (Apulian regional authorities, municipality of Melendugno), tour operators and environmental organizations. They contest the national decision of making Apulia the future EU energy hub for natural gas. Actually, in the immediate surroundings of the new pipelines' landfalls there are two “high environmental risk” areas pursuant to

Law n. 384/1986: the Brindisi area, hub of the national thermoelectric generation, and Taranto, with its former Ilva integrated steelworks (now Arcelor Mittal). Both the industrial sites are still involved in judicial investigations and acute conflicts with local population due to severe environmental and health damage, now extensively documented [see, *inter alia*, 16-18].

This paper intends to bring to light two topics not widely discussed by the scientific production: 1) the TAP case, resulting from the unilateral top-down decision of the Italian government imposing a traditional energy infrastructure considered by the Melendugno community dangerous, intrusive and, in any case, contrary to the current local sustainable development; 2) the case of the first Italian Community Cooperative for the self-generation of photovoltaic energy, based in the Municipality of Melpignano (see Table 3). The comparative analysis between the two current energy infrastructure projects, located in the province of Lecce only 17 kilometres away from each other, is conducted through a wide collection of information on the field and a review of new media sources, aiming at identifying, in an exemplary manner, weaknesses and strengths of the present Italian energy policy as well as the outstanding dilemma between the use of fossil fuels and renewable energy.

Table 3. Trans Adriatic Pipeline (TAP) and Melpignano Community Cooperative: an overview

	Trans Adriatic Pipeline (TAP)	Melpignano Community Cooperative
Year	2012	2011
Stakeholders	<p>“PRO TAP”</p> <p>TAP Consortium; UE, Italy, Greece, Albania, Azerbaijan</p> <p>“NO TAP”</p> <p>Municipality of Melendugno and at least 40 municipalities from Salento, Province of Lecce, Apulia Region, No TAP Movement</p>	<p>Mayor, promoting committee (71 members), BAI, Legacoop</p>
Strategies/actions	<p>“PRO TAP”</p> <p>Diversification of national and communitarian import sources of methane; international reputation of Italy as “European Energy Hub”</p> <p>“NO TAP”</p> <p>Local project for sustainable local enhancement</p>	<p>Production and management of photovoltaic panels by local community, new employment opportunities within the local system; construction and maintenance of public water dispensing equipment; promotion of awareness on renewable sources</p>
Resources/tools	<p>“PRO TAP”</p> <p>TAP Consortium: € 4.5 billion</p> <p>UE: investments</p> <p>Italy: international agreements, National Energy Strategy orientation, identification of normative tools to be applied to TAP</p> <p>“NO TAP”</p> <p>Communication campaign (information on institutional and non-institutional websites, auditing, demonstrations, mottos, songs...); legal actions</p>	<p>State aid “<i>Conto Energia</i>” (Energy Account) until 2013; regional funds 2018</p>

2. LITERATURE REVIEW

Already in the 1980s, the international literature [see in particular 19, 20, 21] and later the Italian one [see, *inter alia*, 22-26] featured several studies on the conflicts created by the construction of “great disasters” [27], as defined by Hall, also with reference to energy generation and distribution plants [17, 18, 28, 29]. Recently the analysis is focusing on transcalarity of contemporary environmental groups [30]. Such groups, through a proper mix of physical and “virtual” media, tend to evolve from specific episodic protests to stable and lasting opposition able to expand its reach from the local context to a national

and/or global landscape. The structure of the contemporary environmental conflicts can be analysed through the Turco's "staging method" [31] (pp. 177-178), identifying a three-stage dynamic: 1) the *tension stage*, when, during the first random protests, dissonant positions concerning issues at stake and areas of interest more or less clearly defined emerge among actors; 2) the *conflict stage*, during which disputes are specified and defined. After a longer or shorter incubation, the conflict bursts, structuring itself in terms of type and organization; 3) the *reticulation stage*, during which the dispute grows developing new outbreaks, extending to new areas, bringing new stakeholders into play and evolving in a permanent opposition. Of course, within each stage, specific events, actions or behaviours may, from time to time, ease the conflict (bringing it to the previous stage) or contribute to its further implementation (bringing it to the following stage).

Concerning the spread in Italy of pilot sustainable experiences, since 2007 Legambiente has been proposing "*Comuni rinnovabili*" (Renewable Municipalities), an annual report available on a dedicated website [32], presenting an effective and concise overview of the kaleidoscope of promising, environmentally-friendly development paths undertaken locally.

3. WHEN THE LOCAL COMMUNITY TURNS AGAINST FOSSIL FUELS: THE CASE OF MELENDUGNO

In Italy, starting from the 1960s, the construction of economic infrastructure of national significance (major industrial complexes, motorway networks, etc.) deeply changed the relation among form, function and meaning of many rural spaces: previously "marginal" local systems, characterized by the traditional slow pace of an essentially rural life, suddenly crossed a sort of "stargate" that placed them in a scenario in which they took up the role of "disputed" territories [33] among new types of land use and strong exogenous actors that upset their long-standing environmental, social and economic balance. Even if very belated compared to North America [34] (p. 186), the raising environmental awareness of the public has recently led local actors to react to such top-down decisions, heating up conflicts that delayed/stopped the construction of "great disasters", as Hall define them [27].

National governments, despite the many conflicts on the subject featured by the Italian spatial planning and extensively covered by literature, (see § 2), keep underestimating a very important element: in the new millennium, the activists' "no" is not any longer a simply pointless, uncritical, prejudicial, aspatial opposition to general themes such as gas, nuclear energy, incinerators, etc., grounded on the mere evocative power of an alleged danger. On the contrary, the environmental groups' opposition is increasingly steadfast and systematic (documented and supported by wide and relevant technical, economic and legal expertise), targeting specific top-down actions currently in progress in particular territorial areas. Such actions are opposed as believed inconsistent both with local bottom-up enhancement sustainable projects in progress, supported by environmental groups and resident communities, and with planetary balances, as in the case of the TAP in Melendugno. The municipality, with 10,008 inhabitants, located on the Apulian Adriatic coast, after the intense concreting caused by resorts and "holyday home" tourism (that concerned many other locations of the Lecce province during 1980s) [35], in the last decade has been promoting a more balanced relation between recreational enjoyment and local resources. The evolution from "asset territory" to "project territory" [36] (p. 35) is proven by the 400,000 tourists registered on average every year and by the "blue flag" obtained by Melendugno from 2010 to 2018. The municipality, which was awarded national competitions on best practices, is well-known for its policy on sustainable use of water resources, reflected in the creation of a phytodepuration basin for the recovery of wastewater. It is strongly committed to protect: 1) the coastal landscape, with its seven protected areas among which SCI (Sites of Community Importance) and SPZ (Special Protection Zone), in the 20 kilometres from Vernole to Melendugno and Otranto; 2) the archaeological excavations in the Roca Vecchia area, dating to the Bronze Age; 3) the rural landscape, rich in dry-stone constructions (*masserie*, *pajare*, walls) [37] and dominated by 50,000 monumental olive trees, of which about 1,900 will be uprooted for the construction of the TAP [38].

The above infrastructure will stretch for 860 kilometres across Greece, Albania and the Adriatic Sea to reach San Foca beach in the territory of Melendugno, where it will connect to an 8-kilometre underground section until reaching the decompression station in the municipality inland. It will occupy a 12-hectare plot of land and will be composed of two 3.5 MW gas-fired thermal machines to heat the gas and two 10-metre chimneys for the disposal of combustion smokes. The station will be connected to Snam

national grid through a 55-kilometre link in the countryside of Mesagne (Brindisi). The owner of the gas pipeline, designed by Saipem (Eni's engineering company for the construction of infrastructure) is the TAP Consortium, headquartered in Baar, Switzerland. The shareholding structure is the following: British Petroleum (20%), Socar (Azerbaijani State-owned oil company: 20%), Snam (20%), Fluxys (19%), Enagas (16%), Axpo (5%) [39]. Consortium TAP's private investment amounts to € 4.5 billion.

Since February 2012, the NO TAP Committee (created by the joining of several local environmental groups), the municipality, led by the Mayor Marco Potì, together with a large number of municipalities of the province of Lecce and the Apulian regional authorities, have been constantly opposing the project. For deeper insights please refer to previous studies [40-42], here we wish to highlight the autopoietic capacity of local actors to process the different disruptive inputs "pro TAP" at national level, carrying out a complex set of actions and instruments that, according to Turco's method [31] (pp. 177-178) (see § 2) we can chronologically divide into three stages:

1) *Tension stage*. On February 2012, the announcement of the first public conference organised by the TAP Consortium to communicate the selected landfall led to: a) the birth of the NO TAP Committee; b) the approval of 40 municipal resolutions stating the local communities' opposition to the pipeline; c) the decision to present the rebuttal arguments to the Environmental Impact Assessment (EIA) of the TAP Consortium through a document titled "*Contro-rapporto di VIA*" (EIA Counter-Report) [38]. The Report is the result of the work of an expert team that, for no consideration, prepared an in-depth analysis of all the weaknesses found in the pipeline project. The study, available online and which systemically presents all the environmental pressures associated with the implementation of the works (destruction of the Posidonia meadows, uprooting – with bedding-out and following replanting by the TAP Consortium – of thousands of century-old olive trees, risk of accidents due to the decompression station, etc.), thanks to its expositive clearness, became a milestone of an increasingly wider and informed opposition; d) the organization of several public awareness-raising initiatives, especially in summer, with the participation of many artists from Salento, also writing songs to spread the "resistance" against the gas pipeline.

2) *Conflict stage*. In May 2015, pursuant to the Italian Decree Law no. 133/2014, the so-called "*Sblocca Italia*" (Unlock Italy), the Italian government led by the Prime Minister Renzi approved the single authorisation measure enabling the construction and pursue of the work, replacing any other formal act of consent from the local administrations involved in the procedure; such measure unlocks the project and states the public utility, undeferrability and urgency of the infrastructure. Such decision: a) triggered a complex legal battle through administrative procedure against the Italian State and the TAP Consortium, which ended with unfavourable outcome for the local actors (No TAP Committee, municipality of Melendugno, Apulian regional authorities) and established the lawfulness of the construction site set-up in San Basilio as well as the consequent uprooting of the olive trees, symbol of the Apulian identity; b) gave birth to the *Presidio Permanente di San Basilio* (San Basilio Permanent Stronghold) in March 2017, located near the construction site and aimed at preventing the olive tree uprooting. At the same time, the protesters created the NO TAP Movement (also joined by the Committee), a new insurgent subject which, as most of social movements in their first stages, appeared as a collective, flowing, totally informal initiative. By then, the conflict involved the whole population, was known at national level, mobilised experts, schools and especially a great number of "NO TAP" mothers, that created a Facebook group [43] and led, together with their children, a protest in front of the trucks for the olive tree transport.

3) *Reticulation stage*. From early 2018, the protest movement has reached its full maturity in a legal, informative and transcalar perspective. A number of complaints filed with the judicial authority by the activists and the Mayor of Melendugno led to the initiation of various criminal investigations, still in progress, concerning offences allegedly committed during the gas pipeline construction. The offences of disfigurement of natural beauties, violation of the Italian Cultural Heritage Code and pollution of the aquifer of San Basilio [44] are alleged against several suspects of the TAP Consortium and the companies involved in the construction site set-up.

By now, the NO TAP Movement has reached a wide and complex structure allowing the drawing up of a busy schedule of workshops and conferences, with qualified speakers, information stands (within a more general Infotour, whose stopovers are listed in the portal and in the Facebook page) concurrently with local high-profile events (such as "*La Notte della Taranta*" event in Melpignano – see § 4) and the opening of an Infopoint in Melendugno.

Activists always participate, both physically and virtually, to the demonstrations of other near and far movements (Coordinamento No Hub del gas in Abruzzo, Coordinamento No Triv in Basilicata, NO TAV Movement, Movement against the Tuxpan Tula gas pipeline in Mexico, etc.). The portal www.notap.it offers a systemic view of the Movement commitment, providing its history, goals and actions. The website offers visitors the opportunity of interacting with the Movement on social networks (Facebook, Twitter, Youtube), provides an e-mail address, physical addresses (Infopoint and *Presidio Permanente*) and detailed information on current activities, with constant reminders of the universal identity values of this fight.

4. MELPIGNANO: SOLAR PHOTOVOLTAICS AS DRIVING FORCE OF A SHARED AND SUSTAINABLE LOCAL DEVELOPMENT PATH

An economy depending on an unprofitable agriculture, a poor exploitation of resources and/or potentials, social and economic inactivity, conservative and traditional territorial organization and ways of life: these features are common to a large part of the thick Italian settlement plot, rich in small-sized centres (with less of 5,000 inhabitants). Despite such vulnerability, in recent years many villages have been showing their intention to become sustainable and responsible communities, able to open themselves, include, look with hope beyond the decline and change tack, without shutting off from the rest of the world. To that end, it turned out to be fundamental the action of several local collective subjects that, from below and in aggregated form, were able to launch a kaleidoscope of shared and successful projects of sustainable development. This is the case of the association Borghi Autentici d'Italia (BAI), a network of more than 250 Italian municipalities (mainly small-sized) that, while being aware of their problems, through the collaboration among communities, administrators and economic and cultural actors, aim at enhancing their resources, transforming them into opportunities for the creation of new capitalization paths [45, 46].

Within such network, Melpignano plays a role of unquestionable importance. The municipality, located in the province of Lecce, has 2,211 inhabitants and its Mayor, Ivan Stomeo (in office since 2010 and re-elected in 2015), was the President of the association BAI for two consecutive three-year terms, until April 2019. A real model of “innovating” administrator, with skills similar to those of the entrepreneur described by Schumpeter [47], he was able to bring into Borghi Autentici d'Italia the dynamism of his small community, highly committed for a long time already to a creative and original path of exploitation of local resources. A perfect example is the rediscovery of “*tarantismo*”. This cathartic technique using music and dance for mental breakdowns caused, according to peasants’ beliefs, by the bite of the “*taranta*” - dialect name of the “*tarantola*” a common species of spider - [48], had been deeply analysed during 1950s by Ernesto de Martino [49] and his group of ethnologists as well as by the ethnomusicologists Diego Carpitella and Alan Lomax [50-52]. After falling into disuse, it has been brought again to the attention of the local and global public starting from 1998, thanks to the event “*La Notte della Taranta*” [53]. The event, that combines the Salento tradition with the general Mediterranean and international music and dance landscape and that has arrived at its 23rd edition in 2019, attracts about 200,000 spectators for its final concert that takes place in the second half of August and is broadcast live by the State television. The recovery of such identity intangible allowed the “*taranta*” to become a symbol of regeneration, rescue, beauty, seduction and grace [54] (p. 26) instead of recalling in collective imagination the local spider, a symbol of poverty, illness and pain as it was considered in the rural society, thus significantly increasing the tourism demand for Apulia and contributing to the “imageability” [55] of Italy’s “heel”.

It should also be kept in mind that Melpignano was the first Apulian municipality committed to the separate collection of waste and received the Legambiente award for the results achieved in 2008 [32]. Recently, in the Legambiente report “*Comuni rinnovabili 2019*” (Renewable Municipalities 2019) [1] (p. 68), the 100 Italian best practice for the year in the “clean” energy sector include the Melpignano Community Cooperative (CCM).

The project is the result of the commitment of Legacoop and the association BAI that, in February 2011, signed a memorandum of understanding on the testing of the community cooperative model. The model is based on the principle of social and environmental sustainability and its goal is to benefit a well-defined territorial system, promoting autonomy, organisational skills of citizens and the sense of territorial belonging [56]. The community cooperative represents a particular type of cooperative society

for which a national legislative reference is still missing, despite having been introduced in the regional legislation of Apulia in May 2014 and, almost at the same time, in Basilicata, Liguria, Abruzzo and Sicily as well as in Sardinia in 2018 [57]. In particular, Art. 1 of the Apulian Regional Law n. 23/2014 assigns community cooperatives the task to enhance the expertise of resident population, the cultural traditions and territorial resources to meet the needs of the local community, improving their quality of life through the development of environmentally sustainable economic activities for the production of goods and services, the recovery of environmental and cultural heritage, the creation of jobs and the generation of local social capital [58].

The Melpignano Community Cooperative, founded on 28 July 2011, was established from the desire of Mayor Ivan Stomeo to allow local actors the management of profits from renewable energy generation, a sector mainly dominated by a few large-sized actors [59]. Already in 2008-2009, the municipal administration led by Sergio Blasi, in partnership with the Department of Innovation Engineering of the Salento University and with Cooperativa Sociale Officine Creative di Lecce, had prepared a feasibility study, highlighting that 180 resident families owned a terrace suitable for the installation of photovoltaic systems. A public tender had been launched for the installation and operation of the solar systems, but no bids had been submitted, therefore the project had been set aside.

In July 2011 the new Mayor, starting from the results of the above study and in agreement with Legacoop and BAI, founded the Melpignano Cooperative Community through a public subscription held in central square of the town, with 71 out of 880 families joining the cooperative, to test a new form of co-production aimed at promoting also in the neighbouring municipalities the culture of renewables, fostering domestic electricity generation and creating new job opportunities in the local system [60]. Thus, for the first time in Italy, 71 members-citizens-users, with a private investment of EUR 400,000 (thanks to a loan granted by Banca Etica and the support of Legacoop) and some local professionals (5 engineers, 7 electricians, 2 blacksmiths), gave life to a diffused network of small infrastructures for the generation of solar energy on the roofs of houses, companies and public buildings with zero-impact on the soil consumption. The Melpignano Cooperative Community installs the systems, carries out their maintenance and manages energy generation with “net metering” for users’ need, selling the surplus on the market [61].

The local administration, first developer of the project, was financing member in an early start-up stage, closed at the end of 2012. The members-citizens-users installed 34 systems (29 of which owned by the community cooperative) with an installed power of 159.93 kW, managing to almost completely to meet the energy requirements of as many families, with a reduction of CO₂ emissions and nitrogen compounds respectively of 119 kg/year and 336 kg/year [1] (p. 68).

Until 2013, the Melpignano Community Cooperative benefitted of “*Conto Energia*” reliefs, also obtaining at the end of 2018 a regional tranche of financing of EUR 200,000 to strengthen its activity. Over time, members almost doubled, and decided to launch new projects related to socio-environmental sustainability. Among them, the most important concerns the installation and maintenance in 42 municipalities of Lecce province of 54 drinking water supply systems, called “*Case dell’Acqua*” (Water Houses), drawing 0 km water from the public water mains, improving it and making it sustainably good and fresh. The project aims at fostering the consumption of public water and, at the same time, discouraging the use of plastics, the most widely used material for mineral water bottles [61].

According to Legacoop, also in this case it is clear that a community cooperative creates new jobs, strengthens and/or introduces services for collective use, enhances the role of associations in an eco-friendly perspective contributing to the creation of a stable coordination of economic and social activities of citizens [56] (p. 20).

5. DISCUSSION AND CONCLUSIONS

The strategies implemented by endogenous actors operating in the systems considered, spatially near but involved in energy projects diametrically opposed (top-down logic, fossil fuels/bottom-up logic, photovoltaic energy), can be considered two ways of expressing the same will to build an identity path for a new reading and a new writing of the resources, without never forgetting the goals of global sustainability. The decision of “partnering locally” [62] (p. 80) and the desire of «cultivating the *amor loci*» [63] that the municipalities of Melpignano and Melendugno have been showing are prerequisites for

strengthening the qualities of any resilient community: flexibility, inclusiveness, integration and, above all, initiative, that is the ability to achieve objectives of economic, social and environmental viability through new innovating and creative ways [64] (p. 148).

The pending judicial proceedings concerning the TAP construction do not allow predictions on the current energy project development in Melendugno. However, it is clear that the TAP, whose entry into operation was foreseen by May 2020, will certainly need additional extension authorizations from the Italian government since, at present, both offshore and onshore works are still in the construction site set-up stage. Undoubtedly, the national governments from 2012 onwards, all strongly supporting the pipeline, overlooked that such energy infrastructure concerns a region that has already paid a very high price in terms of environmental resources and human health. In particular, a study published by Enea in 2010 on CO₂ emissions at regional level, highlights that in 2006 Apulia ranked second in terms of CO₂ emissions, with 61.017 million tons (13.1% of the Italian total) after Lombardy (78.352 million tons; 16.9%) [65]. The last EU ETS (European Union Emissions Trading Schemes) concerning CO₂ emissions of about 11,000 European companies, showed that the South Brindisi thermoelectric power plant ranks 35th with 5.4 million tons CO₂/year and Taranto Arcelor Mittal ranks 42nd (4.7 million) [66]. The *Atlante Italiano dei Conflitti Ambientali* [16] shows the presence in Apulia of many opposition movements not only against the above two big sites, but also against the reopening of the North Brindisi thermoelectric power plant and the TAP landfill.

The NO TAP activists, the Mayor of Melendugno and the whole local community, like David against the giant Goliath, show no signs of surrender and their point of view is well summarised in an anthology resulting from a collective writing workshop, promoted by the association Re:Common and led by Wu Ming 2 from January to June 2014, that saw the participation of the NO TAP Committee together with several Italian social movements against some of the so-called *GODII*, *Grandi Opere Dannose*, *Inutili e Imposte* (Big, harmful, useless and imposed works) found in Italy [67]. In particular, workshop participants declared: «The quitter, who says “they will do it anyway”, thinks that it is impossible to stand up to such an immense power dropping such a big work on him. The bigger the work, the stronger his fatalism. It's up to us to prove that this is not the case, that the mechanism may jam, that it is really possible to stand up and achieve a result [...] The creation of a stronghold physically resisting [...] helps putting into practice the idea that something can be done and that if we come together we can even win. To overcome resignation we need to show practically that “it can be stopped”, that the big size of the Work is a clear sign of its fragility» [67] (p. 36).

As far as the Melpignano Community Cooperative is concerned, such self-consumption can become an exemplary case to be reproduced as a model of the future Italian energy strategy: actually Art. 21 and Art. 22 of Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources, set out the rights of prosumers and energy communities to support the local generation of energy from renewable sources and its direct distribution. Therefore, in the next years, Italy and in general Member States will have to shift quickly to a renewable energy scenario, increasingly widespread and structured in small systems.

We hope that the transposition of the EU Directive into the national law as well as the entry into force of the Ministerial Decree “*FER (Fonti Energia Rinnovabile) 1*” (Renewable energy sources 1) of 4 July 2019 (reintroducing a national incentive scheme in the renewables sector) could help to solve the outstanding dilemma between fossil fuels and “clean” sources within the Italian energy strategy.

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Sustainability in tourism developing walking and cycling network in South-western region of North Macedonia

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Abstract: Tourism is one of the leading growth industries in the world. Alongside its economic and socio-cultural significance, tourism also has negative environmental impacts, which are particularly highlighted when environmentally sensitive regions are affected. In biodiversity-rich areas, opening of sensitive and fragile areas through expanded and upgraded transport infrastructure may prove detrimental to the environment of the area. The mountainous area of the South-western region in North Macedonia with its nature, cultural and historical heritage has potential for development of tourism. Already the cycling and walking paths are at the place, with an intention for expansion and continuity of their network. The purpose of the paper is to devise recommendations for development of sustainable tourism through the analysis of the current and proposed transport infrastructure for walking and cycling in this region, that has an inoffensive environmental impacts. Hence, this paper constitutes an important contribution to the further debate on the need to make tourism more environmentally friendly and sound, not just in the South-western region in Macedonia as the most touristic region, but also at the nation level for the whole country.

Key words: sustainability, cycling, walking, infrastructure, tourism

1. INTRODUCTION

In the past few decades there has been a substantial growth in tourism in natural regions as tourists have demanded access to wildlife as non-destructive manner as possible [1]. Mounting cycling, paragliding, walking in nature, all are increasingly in common. Policed properly, much of such tourism is either inoffensive or has potentially beneficial effects [2, 3]. The biggest environmental threats posed by this type of tourism lie unequivocally in the nature infrastructure and transport arrangements needed to support it, especially in situations where many tourists are subject to little control [3]. Physical development in nature contributes to substantial, often irreversible environmental degradation and consequences.

The present paper is limited to those areas of environmental concern that are of high priority for protection. The South-western region of North Macedonia which is the subject of this analysis, comprises one national park and other mountainous areas whose ecosystems should not be disturbed by the tourism development in uncontrolled way. In this analyzed region, cycling and walking paths already exists, but the intention of local authorities is to extend their length and promote ecotourism, as well as promotion of the tourism potential of nearby urban centers, rich in cultural and historical heritage. Hence, the paper gives recommendations for handling with potential impacts that tourism has on the environment. In the development process of sustainable tourism the attention should be paid to the vulnerability of natural

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and cultural resources to tourists pressures, i.e. the effect that the tourism will have on the broad environment [4].

This paper suggested that although the future development of sustainability in tourism depends of the sustainable planning and quality in the infrastructure network, the environmental impacts should be considered and properly managed at the same time. Therefore the paper points out the general and specific recommendations that could be implemented for the areas of environmental concern, which would lead to the sustainability in the tourism.

2. LITERATURE REVIEW

First, it must be underlined that this paper is a product of very comprehensive study for walking and cycling infrastructure in South-western region [5], performed by professors of the Faculty of Technical Sciences TFB in Bitola, Republic of North Macedonia.

For the purposes of our research, several studies, reports and other documentation were analyzed presenting a good direction how to start and offer necessary data for our needs.

We started to study the documents [6-8] which we found to be very useful, containing the analysis of the development program and creating a guideline for the South-western region development and for regional development in general. Information and data included in these documents, which are closely connected with the development of the tourism in this region, refer to demographic structure and trends, employment, income, climate, landscape, etc., and serve as a direction for preparing the frame of the questionnaire and defining the questions.

Also, a specific research was performed for the development of the strategy for tourism [9-12], about the potential for its development, as well as the benefits and consequences of tourism for the region's natural area. The importance of these directions (touristic demand and offer, natural and anthropogenic touristic assets in the region, sensitivities of the region) was taken into account in the definition of the final network of walking and cycling infrastructure.

Chronologically, the first report considering only the touristic and recreational paths was published in [13], which contain only a review of their current network, without suggestions for its further expansion, possible obstacles and final benefits. But still, this report served as a basis for upgrading the current network towards higher continuity.

Also, in the analysis we used [14], which contains principles, recommendations and case studies for protected areas in Czech Republic, Hungary and Poland. Hence, we clarified general aspects of trail planning preparatory steps, integration into regional planning and factors influencing the trail design.

In [15] tourism development and sustainable trail development are comprised, in order to underline creation of a sustainable future. This strategy also serves to assess and review progress of the mountain biking and landscape changes. For us, it gave a very good direction for determination of the trail network, in order to be well defined, easy to access and suitable for cyclists and walkers and located in strategic places which have the greatest potential to support tourism.

Additionally, we complemented existing literature review using the research [16], in which a useful platform for the development of cycling tourism nationally and regionally in the UK learning from lessons in Europe (Germany, Netherlands, Sweden, Denmark) was provided. Here, also a challenge was analyzed if cycling tourism can support sustainable rural development in the UK, in order to increase the economic impact through tourism development. This served as a guideline for definition of specific recommendation for tourism and economy in our region.

Finally, the study from TFB [17] as a guidance for marking standards and traffic signing of the walking and cycling paths was used in our study [5]. Considering the concept of this paper, this part was not included here.

3. METHODS AND DATA

The method used for this analysis was the direct questioning of the inhabitants of the region. For that purpose, a questionnaire was created which included 17 questions (16 plus one question with comment), in order to obtain data for the potential of development of such network, the population support and their preferences. The main goal of the questionnaire was to determine the needs for sustainable transport/tourism of the local population and tourists.

A total of 1100 inhabitants were subject of the questionnaires in 9 municipalities in this region. This process in all municipalities was conducted at 30.05.2014, starting at 10 a.m. and lasting until all the questionnaire sheets for that municipality were filled up. The respondents were random by-walkers. For each municipality was assigned a different number of interviewers (who were students at TFB), taking into account the number of inhabitants, due to the equitable percentage representation of respondents.

The questionnaire refers to the common questions such as usage of sustainable ways of transport and the opinion of the respondents for the current and future infrastructure for sustainable transport/tourism (walking and cycling paths). The respondents who were tourists or weren't inhabitants of municipality didn't respond to the questions referring to the motivation of journey or weekly usage of sustainable forms of transport by themselves or by their families' members. All questions provided answers, except the last one where the respondents provided their own opinion as a brief comment on places of interest that should be integrated into walking and cycling routes.

4. DISCUSSION

4.1. Interpretation of the results from the questionnaire

After completing the questionnaire process, it was performed a very comprehensive work for processing the data from all answers. A total of 1100 questionnaire sheets were processed, considering that there wasn't any invalid questionnaire in terms of incompletely answered number of questions. The respondents were dedicated and conscientious answering all 16 (+1) questions, and not just the part of them. If such situation had occurred, students performing the interview had been previously warned to stop the interview with the current and to begin with other respondent.

The structure of the questions intended not to be answered by tourists doesn't have any influence or importance on the purpose of questionnaires and results for that particular question. Hence, during the analysis, the number of questionnaire sheets answered by tourists wasn't separated and specifically studied, meaning that the results are summed for all respondents without categorization (tourist or not).

The results had tabular and graphical representation for every municipality and total for the region. For the research purposes, only the most relevant results are presented. These results refer to the whole region and are presented in percentages.

Question 5: Do you use sustainable ways of travel?

From the total number of respondents in the South-western region, almost half, or 47% chose walking, 38% - bike, 5% rollers and 10% do not use any alternative way of transport. This percentage is significant because 90% from all respondents use a specific sustainable way of transport, which highlights the potential for further development of infrastructure network for sustainable transport.

Question 6: What is the motivation for the journey (by sustainable ways of transport)?

45% of the respondents use the sustainable ways of transport for recreational purposes, 21% for working, 16% for shopping, 12% for visiting, 6% use a bike, rollers or walking for other needs. Thus, according to the data, by category, the largest part from the population (45%) has recreational activities by sustainable transport; the other part (55%) conducts everyday obligations with this transport. This is an important aspect for achieving integration or continuity of infrastructure network for sustainable transport within and outside from the municipalities.

Question 9: What mean of transport do you use most?

Motor vehicles are the most used transport mean: 36% from the respondents use a car. Sustainable transport is most often used by 43% (23% walking, 20% cycling). The other transport means (scooters, taxi, public transport) are presented with less than 10%.

Question 11: How many bicycles does your family own?

15% from the respondents don't have a bicycle. The percentages of the families with one, two or more bicycles are almost identical (42% and 43%).

Question 13: For which purposes are you going to use that qualitative infrastructure for sustainable transport/tourism?

One fifth from the respondents will use that infrastructure for common mobility; 63% for recreation, and 16% for work travel. This means that higher part of the paths and their routes should be outside from the urban areas, according to the need for recreation of the respondents.

Question 15: Are you going to use the walking and cycling routes for recreation, if they are properly marked in the mountainous areas?

83% of the respondents will use these routes, which is a very high percent and indicator that the population is interested for recreation outside the municipalities, i.e., in the mountains of the South-western region.

Question 16: Do you agree with the idea for creation of cycling route in this region for extreme biking?

Above 80% of the population agree, except in two municipalities, where this percent is smaller (62 and 77% respectively).

To sum up, the population in the South-western region of North Macedonia use sustainable ways of transport (cycling and walking) mainly for recreational activities, and it is interested for creating expanded network of transport infrastructure which will support these sustainable ways of transport. Consequently, there is a potential for tourism development in the mountainous areas of the South-western region. Generally, when talking about tourism infrastructure for visitors in protected areas, particular precaution during the planning is necessary due to the high vulnerability of the natural values [4].

4.2. Planning and management of walking and cycling infrastructure

If tourism is managed well, it can contribute significantly to regional development, if not, it can have devastating effects on nature and society as well [4]. Having negative environmental impacts and contribution for degradation of destination sites, means that there is a need of an effective tourism management. Tourists seek unspoiled nature, landscapes and cities, healthy air and a comfortable climate. Therefore the damage from environmental deterioration may be felt more by tourism industry as by most other economic sectors [18].

The natural and cultural heritage of a region is the main motivation for a tourist's visit. The outstanding natural and cultural features of a region are those which make a place "special" – and worth a visit [4].

During the planning process of the cycling and walking network in the South-western region [5], the attention was put on the most significant natural and cultural heritages near which these paths should be passing by. Therefore, an expanded and continuous infrastructure network of cycling and walking paths was planned and proposed, including the numerous churches, monasteries, caves, landscapes and other attractive locations in every municipality in the most touristic region in North Macedonia. Hence, this analysis has made a big step towards complementing the transport-tourist infrastructure (Figure 1).

Providing trails for cyclists, walkers, hikers, horse-riders, climbers and other types of visitors is a key issue of protected area management. The whole network of paths in a protected area need to be carefully planned and monitored in order to achieve two goals [4]:

1. to keep the negative impacts of the trails and the visitors' activities on and along these trails to a minimum (acceptable) level;
2. to provide the visitors with an adequate infrastructure (the trails and related facilities) that allow for a meaningful nature experience according to the expectations of different visitor groups.

In general, two types of trails should be provided: normal trails that basically enable visitors to get around/to get to places of interest, and interpretative trails. They are an important opportunity to communicate with the visitor and, to certain extend, to influence his experience and behavior. Interpretative trails have many different purposes including information, education, recreation, safety and conservation of natural and cultural resources. The purpose of the modern interpretive trails in protected

areas is to inform the user of the ecosystem(s) for trail's location. They are a means of connecting with natural and cultural values and raising the visitor's awareness of environmental conservation issues [4]. For the South-western region both types of trails were included in the study [5].

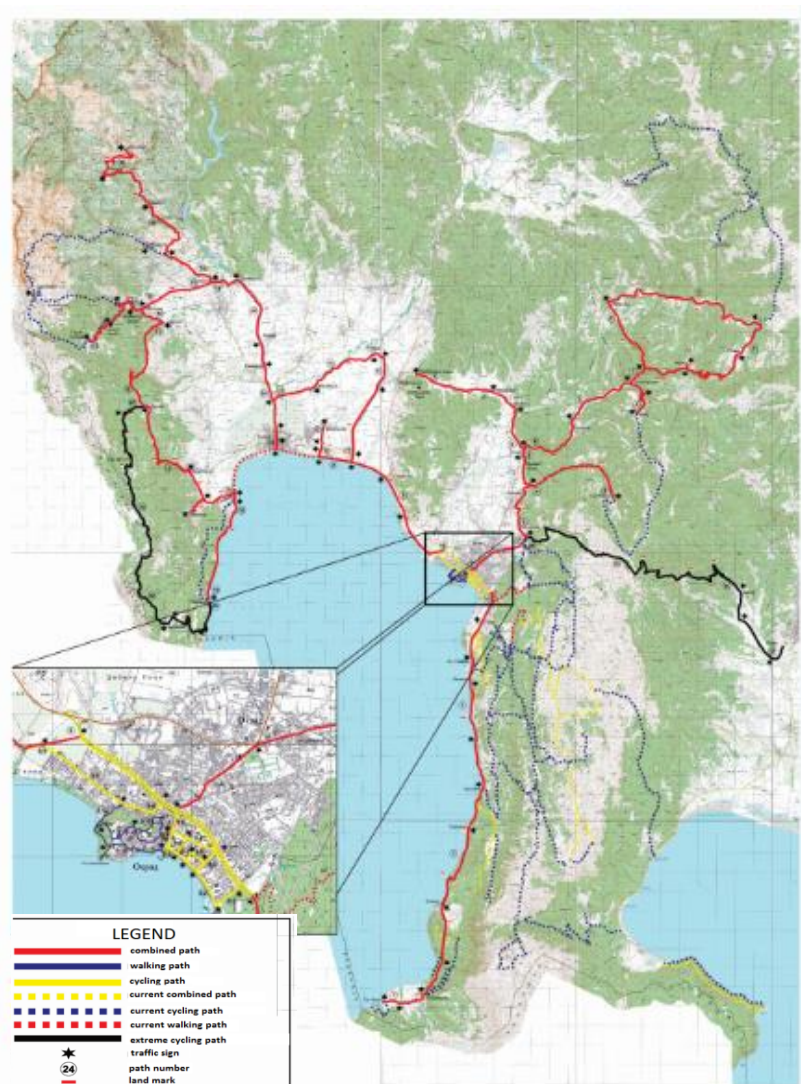


Figure 1. Cycling and walking paths for Ohrid, Struga and Vevcani, municipalities in the South-western region
(Source: *Study for cycling and walking paths in the South-western region in Macedonia*,
Faculty of Technical Sciences, Bitola, Macedonia [5])

Additionally, bike sharing system could be implemented as a mobility management measure in order to increase the visit quality. Research shows that making bicycles available to visitors would encourage cycling [19]. All the system's elements need to be well designed in order to provide a service capable of issuing basic but fundamental principles, such as autonomy, ease of utilization, user safety, and equipment security [20]. Bicycle mobility could be packaged as an additional tourist attraction through bike sharing, and could help to make visits to national parks as a sustainable tourism activity that allows more direct contact with the natural heritage [19].

4.3. Impacts from transport infrastructure

Tourism infrastructure is the basis of tourism development and utilization of existing destination resources [21]. Tourism whose emphasis is on fragile and sensitive areas need to undergo thorough evaluation to allow for appropriate level of development, type of activities, and access [2]. The analyzed

South-western region of the North Macedonia is a region with a protected area of high environmental concern.

The current and proposed infrastructure network for development of tourism in South-western region may have several associated environmental consequences. The most important transport impacts for the environmental issue of sustainability can be grouped into:

- impacts on landscape quality;
- partitioning of habitats and impacts on biodiversity (biodiversity loss);
- impacts on habitat quality due to impacts on water flows;
- direct land-use.

The actual impacts depend very much on the local circumstances and the number and nature of tourists. Whenever the negative impacts on the natural environment are dealt with, it should be considered that these impacts rarely affect only one entity, but usually affect ecosystems as a whole [4].

To provide the basis for tourism development not only in the present, but also for future generations, natural and cultural heritage, which are a habitat of many species, must be protected. Considering protection and making use of tourism development is a basic principle of sustainable tourism development. Hence, the negative impacts can only be managed effectively if they have been identified, measured and evaluated [4].

5. RECOMMENDATIONS FOR ACTIONS TOWARDS SUSTAINABLE TOURISM IN SOUTH-WESTERN REGION

South-western region in North Macedonia is the most touristic region in the country. Generally, there is a need of a debate on national goals for environmental quality and action considering tourism in North Macedonia. National authorities should made or initiate a wide variety of contributions towards making tourism more environmentally friendly and sustainable. In all areas of environmental concern, the measures taken should be sufficient to reduce the environmental impacts. Consequently, the future key goals must be [1]:

- setting of tourism-specific goals for environmental action;
- a more direct addressing of the key areas of environmental concern;
- impact assessments of the planned measures;
- a more environment-friendly product design on the part of providers of tourism services;
- greater support of the players at local level, and
- international commitment to a more environmentally sound tourism.

It is important to note that different stakeholders involved in the tourism business are responsible for implementation of different parts of the principles. Authorities, tourism businesses, local communities, NGOs and the tourists can all contribute to make tourism more sustainable. In order to achieve the goals of sustainable tourism, different actors should cooperate and stimulate each other to put the principles into practice [4].

Using experience from other developed countries [1, 16] the following recommendations have been identified not just for South-western region, but for the whole country, as a direction towards more environmentally sound tourism policy:

I. General recommendation

- defining the feasible national goals for development of sustainable tourism;
- defining the role and responsibilities of the national and local authorities, NGOs and community for appropriate utilization of resources.

II. Specific recommendation

- enhancement of nature-conservation and land management;
- reducing the environmental impacts of transport;
- linking the promotion of tourism to compliance with environmental criteria and conditions;
- promotion of environment- friendly forms of transport;
- highlighting the potential of tourism as an economic development tool;
- linking the generation of tourism income with the economy improvement;

- strengthening of tourism foreign policy;
- monitoring of goals, objectives and the program;
- research and vocational training for more sustainable tourism;
- active involvement of local stakeholders and communities;
- transparent information on social, environmental and economic interaction for improved policy-making and decision-taking.

Individual recommendations may, if taken separately, have negative environmental impacts. Therefore, an integrated approach is required for more sustainable and environment- friendly tourism.

5. CONCLUSIONS

Today, sustainable tourism is becoming increasingly popular worldwide. A proper sustainable transport infrastructure should be planned and built for its development. Undertaking a comprehensive research in the South-western region in North Macedonia, by using questionnaire at 1100 inhabitants, an expanded and continuous transport infrastructure for walking and cycling is planned and proposed. For development of this infrastructure, from one side, there is a good potential among interested population for using bike and walking, and natural and touristic attractions of the mountainous areas of the region from the other.

In parallel with infrastructure development, protection of the natural beauty and cultural heritage of the South-western region in North Macedonia should be conducted. Sustainable tourism is considered as an economic strategy, which is both worthwhile and dangerous in terms of exploitation of the environment.

The paper emphasizes the potential of increasing the competitiveness and popularity of sustainable tourism supported by sustainable transport infrastructure. At the same time it emphasizes the need to prevent environmental degradation in order to work toward an environmentally sound form of tourism. Also, the analysis supports the protection of the natural and cultural environment and ensures that tourism is developed in a way which is environmentally sustainable.

Hence, this paper should be viewed primarily as a proposal for giving structure to the recommendations for action towards sustainable development of tourism, especially in the South-western region in North Macedonia. Such recommendations are necessary and advisable, especially in terms of the future increase about the importance of ecotourism in particular. These recommendations will enhance and channel the benefits into the right directions, and avoid or mitigate the negative impacts as far as possible. The individual recommendations can achieve goals for sustainable tourism only through their interaction and appropriate coordination. However, the realization of proposed recommendations must be seen in a long time perspective.

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International Status of Area Protection in the Function of Sustainable Tourism Development of the Republic of Serbia

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Abstract: Due to increasing problems of deterioration of areas and their resources by the developing tourism activities, during the half of the 19th century, complete world public started to initiate international cooperation in fields of preventing negative impacts on the environment. This is the reason why special institutions and agencies for monitoring of the problem of impacts on the environment were established within the United Nations Organization. Numerous cooperations, for the purpose of taking measures and actions towards the environmental protection and cultural and historical heritage protection, have been initiated. The Republic of Serbia records a significant increase of environmental awareness of tourists, regarding the protection of natural and cultural resources. The reason is simple, natural resources, alongside the social values, should be cherished so that they would be there for future generations. They, together, represent the significant value of Sustainable tourism development.

Key words: Nature Protection, IUCN, UNESCO, Sustainable Tourism Development, Serbia

1. INTRODUCTION

Governments of many countries have great number of possibilities to prevent the negative impacts of tourism to the environment. In the conducted analyses and case studies, it has been concluded that they can implement large set of policies, planned measures and activities for prevention of negative impacts, on the international, national, regional and local level, through the following:

- constitution of protected areas through legislation. For example, through establishing the national park status and applying for international recognition of significant sites, such as World Heritage Site, the status of which is adopted by UNESCO;
- implementation of planning measures as regards the use of areas such as zoning, carrying capacity and limits of acceptable change and control of tourism development;
- mandatory analysis of impact on the environment for numerous projects;
- encouragement of coordination between the government sectors regarding the implementation of environmental protection policy and entering into a dialogue with private sector, in order to encourage the adoption of environmental protection management policies, such as environmental audit and development of the environmental protection management system [1].

On the territory of the Republic of Serbia, certain activities of significant international institution can be identified by the implementation of certain global acts, emphasizing the priorities and necessary regimes and levels of area protection, which can take part in Sustainable Tourism Development. The most significant type of tourism in the protected areas is nature-based tourism, whose basic function is the improvement of natural values and preservation of endangered species. Since such areas are becoming more and more attractive, it is necessary to implement numerous measures and activities. These activities are implemented by national and local entities in the protection systems, including tourism entities. International protection systems represent such special measures and regimes of area protection. The

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most significant international networks of area protection in the Republic of Serbia are: UNESCO, UNEP and IUCN.

2. LITERATURE REVIEW

Protected natural areas are of great importance as regards the tourism planning [2]. Therefore, they participate in the Sustainable Tourism Development, through the significant influences, such as socio-cultural, economic and environmental influences [3]. The most significant international networks of area protection in the Republic of Serbia are: UNESCO, UNEP and IUCN [4].

- ✓ UNESCO is United Nations Educational, Scientific and Cultural Organization, established on 16 November 1945, based in Paris. It promotes the international cooperation in the education, science, culture and communication fields, between 193 member countries and 6 associated countries [5].
- ✓ UNEP (*United Nations Environment Programme*), is an institution whose programme is the environmental protection, established in 1972, based in Kenya [6].
- ✓ IUCN - is the abbreviation that is still in use although it has been derived from the old name - *International Union for the Conservation of Nature*. New name of this organization is World Conservation Union. This organization was formed in 1948, based in Switzerland [7]. IUCN in the partnership with UNEP World Conservation Monitoring Centre, intensively monitors the progress of the global conservation, with the objective to conserve at least 17% of Earth's land surfaces and 10% of marine area [8]. At the end of 2017, protected land coverage was 15% of the total land surface, and total coverage of ocean area under the protection was almost 7% [9].

In 1978 UNESCO and IUCN carried out extensive analyses and identified the need to form two categories, i.e. two types of international status of all protected world cultural and natural sites [10]. These two categories are Biosphere Reserve (MaB – Man and Biosphere) and World Heritage Sites [11].

Protected sites all around the world represent significant tourism potential [12]. Through nature-based tourism, the protection is not only promoted, but economic benefits from this form of tourism can be brought back to the protection systems [13]. Representatives of all species and genera of flora and fauna, leaders, local community, tourists and country itself gain from these benefits, which is the basic postulate of sustainable development [14].

The same source indicates that, by 2018, the list consisted of the following: Biosphere Mura-Drava-Danube Reserve, Danube Delta in Romania, Doñana National Park in Spain, Kiskunság National Park in Hungary, Ichkeul in Tunisia, Amboseli in Kenya, Ohrid Prespa, Central Amazon in Brazil, Golija-Studenica, Bačko Podunavlje since 2017, Mount Olympus, the Hawaiian Islands, Julian Alps, Tara River Canyon, The Black Forest (Schwarzwald) since 2017, and many more [4,15].

By 2016, after establishing the protection regime, Serbia had about 463 protected natural resources on the area covering more than 6.54% (578,705 ha) of its territory. By 2016, 5 national parks, 71 nature reserves (strict and specialised), 16 nature parks, 42 natural areas around immovable cultural heritage sites, 16 landscapes of outstanding features and 313 natural monuments (botanical and dendrological, geomorphological, geological and hydrological zones) were put under protection [4,16].

Nine sites registered on the list of wetlands of international significance – Ramsar Sites, of 55.6 km² total area gained the international protection status. There are not any goods registered on the list of World Natural Heritage. By the decision of International Coordination Committee of UNESCO “Man and the Biosphere” Programme, at the meeting held on 14 June 2017 in Paris, “Bačko Podunavlje” was registered on the list of biosphere reserves [17]. In 1993, Institute for Nature Conservation of Serbia, nominated 5 sites for obtaining the status of World Natural Heritage: National Parks “Đerdap”, “Tara” and “Šar-Planina”, Special Nature Reserve “Deliblatska Peščara” and Natural Monument “Devil’s Town” [18].

The Republic of Serbia is a signatory of The Rio Declaration on Environment and Development of 1992, while the Law on the Ratification of Direction The Convention on Biological Diversity – CBD was adopted in 2001. Biodiversity research activities in the previous period referred to the collection of qualitative and quantitative data on the state in which the species, habitats and ecosystems were. However, besides these activities, state of biodiversity in the Republic of Serbia is still not on the sufficiently high level as regards the conservation. On the territory of the Republic of Serbia, there are:

- 39% of vascular flora of Europe;
- 51% fish fauna of Europe;
- 49% reptile and amphibian fauna of Europe;
- 74% bird fauna of Europe;
- 67% mammal fauna of Europe [19].

3. METHODS AND DATA

The paper analyzed the dataset related to the protected natural areas in the world and Serbia. In this article listed are numerous protected areas under international protected status. Natural and cultural values on the lists of Man and the Biosphere Programme and World Cultural and Natural Heritage Site are significant resource of tourism offer of numerous countries. Because of it, this paper analyzed and presented selected world natural heritages and possible tourism influences of sustainable tourism development. Also, this paper analyzed importance of international status of area protection in the function of the sustainable tourism development in Serbia. Selected international protection statuses for analysis in the Republic of Serbia are: Natura 2000, The Ramsar Convention on Wetlands, Bern Convention, Important Bird Areas – IBA, Convention on Biological Diversity (CBD), Important Plant Areas – IPA, Prime Butterfly Areas – PBA, and Emerald Network of Areas of Special Conservation Interest. A numerous protected natural areas in Serbia under the international protection status areas, can have important effects of tourism development. There are threatened species in this sites, which are attractives for nature-based and eco tourists. Such a model of international protection status is IUCN Red List of threatened species, that is investigated in this paper. Analysis of all selected international statuses, can propose the development of specific forms of tourism possible. It is nature-based tourism, ecotourism, trips, birds and animal watching and other forms.

4. RESULTS AND DISCUSSION

Natura 2000

With over 26,000 declared sites, up to now, Natura 2000 represents the largest network of protected areas in the world. As the programme which makes the nature conservation basis in European Union, Natura 2000 results from Council Directive 79/409/EEC on the conservation of wild birds and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora [20,21]. It is necessary to emphasize that Natura 2000 is not a system of strict nature reserves where all human activities are disabled. Actually, it supports the sustainable development and integrated management, in a way that conserves and supports the present species and habitats, but maintains the ecosystem stability as a whole, too. Within Natura 2000 Networks, member countries have to ensure the following:

- to avoid the activities that can significantly disturb species or habitats, which are the reason for including the site in Natura 2000 Network;
- to take adequate measures for conservation or returning of “favourable conservation status” of species and habitats, where is necessary [22].

Besides the above stated, Natura 2000 sites should be protected from new projects or changes in the use of land, which could severely threaten the natural values. The way of fulfilling the stated obligations is up to the member countries, whereby the economic, social, cultural, regional and local characteristics of the site should be taken into account. These sites of importance for nature protection are singled out on the basis of EU Directives and unique criteria, based on the principles of sustainable development and application of other conventions in connection to the conservation of biological diversity, first of all Convention on Biological Diversity. Natura 2000 sites cover 18.36% of European Union territory, on average, and network consists of over 27,000 sites with total area of over 1 million km², in 28 member countries [23].

The Ramsar Convention on Wetlands

The Convention on Wetlands, called the Ramsar Convention, is about the protection of wetland bird habitats, and it is one of the oldest international agreements regarding the nature protection. It was adopted on 2 February 1971 in the Iranian city of Ramsar, and the convention adoption day became the World Wetlands Day. This Convention protects the habitats where the water is the primary factor within the environment, and as such it is associated with wildlife. These are, usually, the habitats with rich biodiversity of flora and fauna. Also, parts of oceans or seas, mangrove islands, fish ponds, rice fields, irrigation channels and other forms of water surface attractive to tourists, belong to this group. At the beginning of 2018 there are over 2,200 Ramsar sites covering over 2.1 million square kilometres, which is the area larger than Mexico [24]. Wetlands are one of the most productive ecosystems in the world. These are the important centres of biological diversity because they provide the conditions for the survival of great number of birds, mammals, reptiles, amphibians, fish and invertebrates. Through the fishery, agriculture and tourism, wetlands provide economic benefits to the local community, and as the source of

drinking water and the other services of ecosystems in the significant part of the world, they are the only condition for the survival of human population. However, because of the extensive regulations of waterflows, pollution, over-exploitation, influence of invasive species, tourism and other factors, wetlands are the most endangered ecosystems in the world [22].

Intentions of expanding the protection are intensively increasing, as proven by the data that, in 2000, 1,023 wetlands were registered on this list, with the area coverage of 749,000 km² [11]. These wet habitats represent the significant potential for tourism. Global offer and demand, in the tourism market, includes the wet habitat resources, to a large extent. Because of the great impacts of the site users on these habitats, tourism is considered as the significant promoter of protection. Nature-based tourism and ecotourism are significant models, which can greatly improve the protection of these sites, because modern tourist, more and more turns to the sustainable tourism and the use of renewable resources for touristic purposes.

Ramsar list, in the Republic of Serbia, includes the following: Special Nature Reserve (SNR) "Stari Begej-Carska Bara", SNR "Obedska Bara", SNR "Zasavica" (Figure 1), SNR "Ludaško Jezero", SNR "Slano Kopovo", SNR "Gornje Podunavlje", Landscape of Outstanding Features "Vlasina", SNR "Peštersko Polje", SNR "Koviljsko-Petrovaradinski Rit" and SNR "Labudovo Okno" [25,26].



Figure 1. Landscape of Special Nature Reserve "Zasavica"
(Source: Igor Trišić, 2019)

Bern Convention

The Council of Europe's Convention on the Conservation of European Wildlife and Natural Habitats, adopted in September 1979 in Bern (Switzerland) and entered into force in 1982. Serbia signed and ratified this Convention in 2007 [25]. The objective of this Convention is the conservation of flora and fauna and their natural habitats, especially those whose conservation demands the cooperation of several countries, including the promotion of such form of cooperation, too. Endangered, vulnerable, including migratory species have the special place in this Convention. Bern Convention classifies species within four annexes, whereby Annex I refers to strictly protected flora, Annex II to strictly protected fauna, Annex III to protected fauna, and Annex IV lists prohibited means of killing, capture and other forms of use of wild flora and fauna [27].

Important Bird Areas - IBA

Holder of the IBA programme of conservation is the largest international organization for bird conservation - BirdLife International. Conservation refers to wild birds, first of all the rare ones that are in danger of extinction, and migratory birds that are also exposed to threat while flying over the territories of certain countries on their stopover habitats towards the places for nesting. IBA Convention signatory states undertake to protect, under established conditions, nesting places, limit or prevent hunt, and in connection to that regulate the conditions of capturing and export of birds, too. Prescribed conditions of conservation and circulation are defined by national regulations [26]. IBA programme, in its broader sense, treats the man as the integral part of the ecosystem. Significant bird sites make one unique network, which is equally important for migration of bird species and their permanent settlement, and for

planning and development of nature-based tourism and scientific research activities. Assets acquired from tourist spending can be invested in the protection and improvement of protection levels of IBA areas.

Today, IBA programme is the part of global programme and network "BirdLife International", as Important Bird and Biodiversity Areas – IBAs, and it covers the area of over 15,000 spatial units in more than 200 countries around the world. It has the total area of 10 million km², i.e. 7% of total land surface in the world. Besides, BirdLife International consists of: over 10 million members and supporters, i.e. 2.72 million members and 7.2 million supporters, who are the advocates of this programme, 4,000 local groups and movements, over 1,000 actions within Important Bird and Biodiversity Areas and over 1.9 million young people, aged over 18. BirdLife International partnership employs nearly 8,000 workers, who are followed by over 5,000 volunteers. It is significant to emphasize that this programme, according to data of 2014, disposes of the budget of USD 636 million [28].

Total of 42 areas of international significance for the conservation of bird diversity has been singled out in the Republic of Serbia by the use of standardized IBA criteria. Total area is 1,259,624 ha or 14.25% of the territory of Serbia [29].

Convention on Biological Diversity (CBD)

This Convention refers to the measures and incentives for the conservation and sustainable use of biodiversity and regulation of the approach to genetic resources. In addition to that, it concerns the approach and exchange of technologies, including biotechnologies, technical and scientific cooperation, assessment of the impact on the environment, education and raising of public awareness, provision of financial means and reporting on the progress in implementation of Convention on different levels. Convention signatory states are expected to prepare and implement national strategies and action plans for conservation, protection and improvement of biological diversity. They, also, have to carry out thematic programmes aimed to conservation of ecosystems and solution of problems recognized in the provisions of the Convention [22]. It was adopted in 1992 on the Conference on Environment and Development held at Rio de Janeiro, known as "Earth Summit". Convention on Biological Diversity, entered into force on 29 December 1993, while Serbia ratified it in 2001. Convention emphasize three basic objectives:

- conservation of biological diversity;
- sustainable use of the elements of biological diversity;
- fair and uniform division of benefits arisen from the use of sustainable resources [27].

Biodiversity is defined, in the Convention on Biological Diversity, as: the diversity (variability) among the living organisms, which come from all natural resources, including, among others, terrestrial, coastal and marine wetlands or some other aquatic ecosystems or ecological complexes they are part of, including diversity within the species and ecosystems. The obligations referring to the following, are also defined:

- identification and monitoring of biodiversity condition and processes and activities with the significant negative impact;
- "In Situ" conservation, by the establishment of the protected areas and biological resources management systems, of the introduction of species control, revitalisation of ecosystems and endangered plant and animal species, etc.;
- "Ex Situ" conservation, by the establishment and maintenance of capacities for "Ex Situ" protection, etc.;
- sustainable use of biodiversity components, by the integration of the review of conservation and sustainable use of biological resources, and making of national decisions, by the adoption of economical incentive measures and similar;
- research, training and improvement of public education and awareness;
- assessment of the impacts and minimizing of negative impacts on biodiversity and environment;
- access to genetic resources;
- access to biotechnologies and their transfer;
- exchange of information, especially taking into account the needs of developing countries;
- technical and scientific cooperation in the field of resources conservation and their sustainable use;
- use of biotechnology and distribution of benefit arising from it [30].

Important Plant Areas - IPA

These areas represent internationally significant habitats of wild plants and fungi. They are not officially protected areas, but they are significant in terms of their importance for the development and implementation of activities of the protection model in nature. Many references state, as the main objective of IPA programme, the protection of at least 50% of these plant areas and surfaces. IPA area definition is also important for the fulfilment of the objectives of Convention on Biological Diversity. According to the available data, 1,771 IPA has been identified in Europe up to now, in 16 countries (including Serbia).

Prime Butterfly Areas - PBA

These are the significant areas for conservation of butterflies. Besides, the objective of their definition is the support to the development of Natura 2000 and Pan-European ecological network. 431 PBA areas in 37 countries and 3 archipelagos, covering the territory of 21 million hectares or 1.8% of total European territory are defined in Europe. Considering the fact that on 62% PBA in Europe, agriculture represents the dominant activity, it is also the most endangering factor on these areas. In Serbia, PBA areas include the separate sites and larger areas where target species of butterflies live. These areas are defined under the same principles as PBA in Europe. Selected areas for butterflies represent natural or semi-natural habitats with the exquisite richness of fauna, especially butterfly fauna or habitats containing exquisite communities of rare, endemic and endangered species, as well as species of European importance, or of importance for Serbia [27].

IUCN Red List of Threatened Species

IUCN Red List represents the set of information on the status of conservation of plants, animals and fungi all around the world. It includes the assessment of risk from the extinction of species in case of lack of protection measures. Species are classified in one of eight categories of threat, on the basis of application of criteria in connection to the size, structure and distribution of population. Species designated as Critically endangered (CR), Endangered (EN) or Vulnerable (VU) are considered threatened. IUCN Red List gives necessary information on ecological needs of species, habitats, threatening factors the species face with, and protection measures which are to be taken for the purpose of decreasing or preventing the risk of extinction. Until the end of 2017, IUCN Red List included total of 85,604 assessed threatened species [9,31] and the objective is that until 2020, at least 160,000 species is assessed. IUCN Red List of Threatened Species is the result of cooperation between IUCN and numerous partner organisations. IUCN Programme Office for Southeast Europe promotes good management and sustainable use of natural resources and biodiversity [32], and supports the initiative for conserving the biological diversity and manage the ecological systems for the benefits of people and nature [22]. These are the grounds of Sustainable Tourism Development.

Emerald Network of Areas of Special Conservation Interest

Emerald is the European ecological network for conservation of wild flora and fauna and their natural habitats in those countries which are not members of EU. This network of areas extends all over Europe, from the Canary Islands to Caucasus, and from Turkey to Lapland. This network consists of the areas of special importance for nature protection, and it has been established under the auspices of Council of Europe, as the part of activities arising from the application of Convention on Conservation of European Wildlife and Natural Habitats - Bern Convention [27]. In European Union, Emerald network operates alongside with Natura 2000 programme. Identification of species and habitats was carried out and list of species from Bern Convention Lists, being significant to Serbia, as well as the description of potential areas which should be integrated in Emerald network have been proposed, in the pilot project titled "Establishment of Emerald Network in the countries of Southeast Europe", which was executed in 2005 and 2006 by the Institute for Nature Conservation of Serbia, under the coordination of Faculty of Biology. From the total of 61 proposed potential "Emerald" areas (1,014,286.87 ha, which is 11.48% of total area of the territory of Serbia), six areas (9.83%) were covered in detail [22].

6. CONCLUSIONS

Only certain number of natural reserves has the international status or is a candidate for obtaining such status in the Republic of Serbia. On the other hand, stated protected areas suffer various pressures from the users and other natural phenomena. That is why their protection represents the constant priority.

Main threats to endangered natural areas are: wild and unplanned construction, water and land pollution, terrain devastation, agricultural land treated with chemicals, which via air, land and water reach the protected areas, poaching, presence of domestic animals, overgrowing of fields because of the lack of pasture, introduction of non-native species, decrease of non-native species, frequent and high threat to flora and fauna, draining of wetlands, soil erosion, tourism activities with consequences to the environment and a lot of other pressures. Each of stated threats leave its mark in ecosystems. By the proper and quick action these impacts can be minimized or completely eliminated.

One of the main instruments of protection is the legal framework. On the protected areas in the Republic of Serbia, besides international status of area protection, the following protection regimes are established too: Of the I, II or III degree. Depending on the zoning, different activities are limited and allowed. Tourism activities, not influencing the environment, are allowed in the III degree of protection. In the research and analysis of presented data, start point was the hypothesis that the establishment of international levels of protection of certain areas is completely conditioned by the vulnerability of flora and fauna and pressures on the concerned area, and that its purpose is to contribute to the conservation of threatened species. That means that for the purpose of protection, diversity and vulnerability of species, specific protection levels and sufficient number of protected areas and surfaces are established. On the other hand, protected areas contribute to Sustainable Tourism Development, by achieving the positive economic, socio-cultural and environmental impacts.

Areas, protected by international laws, represent the sphere of interest of numerous international tourists. Forms of tourism, which are manifested as sustainable ones at these destinations are: ecotourism, nature-based tourism, trips, bird-watching, photography, stargazing, camping, hiking, hunting, fishing, and visiting parks.

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BOOK REVIEWS

REGIONAL DEVELOPMENT. THEORY AND PRACTICE

DANIELA ANTONESCU

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Viewed as a continuous and sustainable process, the regional development concerns a number of interdependent, legislative and institutional elements, establishing new types of relations between different sectors and areas of activity, between central and local institutions and collectivities, in order to increase living standards and to ensure the welfare of the inhabitants. This process is also related to mentality, traditions and behaviour, to vocational training and adaptation to the new changes occurring at local, regional, national and international level.

The European Union is today on the verge of a new transformation process: The UK's exit from the Community, the economic recession, the creation of a "banking union", the extreme and sudden climate changes, increasing pollutant emissions, a new security policy, managing the flow of migrants, terrorist attacks, etc., that leaves a mark on the regional development as well. On the background of these phenomena, the economic and social disparities between different states and regions continue to persist and amplify. For this reason, the cohesion and regional development policy is one of the most important instruments of the European Union, which has the strategic objective to reduce economic and social disparities and to promote balanced development within its states and regions.

In Romania, the regional development has emerged as a necessity, on the one hand, to correct the existing regional disparities and, on the other hand, to take up and enforce European Union legislation in this area, after its accession to the community structures. Regional development aims to stimulate and diversify economic activities and the investment processes, helping to reduce unemployment and increase quality of life.

From this perspective, the book entitled **Regional Development. Theory and Practice** aims to provide a global overview of the process of regional development in general, on how territorial inequalities and the economic convergence process have evolved, under the impact of the current cohesion policy and the *Europe 2020 Strategy* and in the context of profound changes at community and global level.

To support this scientific approach, two types of approaches are proposed. A first approach is *theoretical-methodological*, which seeks to analyse the entire palette of more or less recent theories of regional science, analysis techniques and patterns of the territorial policies impact, conceptual approaches and critical analyses, opinions and contributions of specialists who have influenced the evolution of the field.

The second approach seeks to *analyse territorial cohesion and economic and social inequalities at regional level*, in the European Union and in Romania.

The scientific value of the book **Regional Development. Theory and Practice** is given by the experience gained by its author, Daniela Antonescu, in the research of various aspects of regional development. We mostly appreciate the overview of the main theories of regional economy in their evolution and of the most important influence factors: the analysis of regional inequalities in Romania and in the European Union, the overview of the cohesion and regional development policy in Romania and in the EU, the identification of the main administrative-territorial reforms from the year 1918 until present, the presentation of some specific elements of sustainable development at regional level (protected areas, mountainous areas), the identification of the main directions and developments of regional policy after the year 2020, taking into account the actions and measures proposed for the upcoming programming period and also in the context of *2030 Agenda for Sustainable Development*.

The interest in the issue of the transitional and post-integration period of Romania in the European Union, but also for attracting the community funds, is a relatively large one, which confers on this subject a theoretical and practical importance. The book attempts to provide documented and scientifically supported answers to the following questions:

- What are the recent trends in the evolution of regional theories?
- What are the most suitable spatial analysis models and techniques that can be applied in the field of regional science?

- How has the theory of regional science influenced the practice and application of territorial policies?
- What are the main coordinates of regional policy in the European Union?
- How large are regional inequalities in the European Union (EU-28) and in Romania in the period 2007-2017?
- How important is territorial cohesion at Member State level and what are the main tools to support it?
- What are the prospects for territorial cohesion policy after year 2020 and the horizon of 2030?
- What are the prospects for regional development in Romania after the year 2020?

In order to achieve this, the book proposes to the reader, based on an appropriate conceptual-methodological framework, a balanced analysis of the regional convergence process in the European Union and the territorial development policy in Romania. Thus, the book is structured on three main sections, 11 chapters, plus a chapter of conclusions.

In a first section – Theoretical and methodological approach – the literature on integration, cohesion, convergence, the main theories that have tried to provide answers to a general and persistent question: *why are some regions growing faster than the others?* are reviewed. To these questions, the answers came mainly from regional economic science, which was sustained throughout its evolution by other sciences, such as mathematics, statistics, geography, sociology, etc. The analyses carried out revealed that regional theories and policies had experienced important transformations recently in their attempt to respond to new challenges caused by globalization, the financial crisis, resilience, structural changes, etc. Recently, new concepts and approaches have emerged and have “deposed” the old regional theories. These are much more complex and sophisticated and appeal to innovative elements, complex techniques and methods of econometric analysis, etc. From this perspective, trends in regional policy after the year 1990 focused on the regions of knowledge, regional networks (clusters), research and innovation, without losing sight of the specificity and the differences in development and potential of each region.

In the second section of the book, the practical aspects of regional policy are discussed, and territorial inequalities are analysed using specific indicators, statistical and econometric evaluation techniques and methods. The methodology used in the book is mainly supported by econometric/statistical assessments (concentration/diversification indicators, variation indicators, central trend indicators, structure analysis,

etc.), applied to NUTS-2 regions in the EU-28 and in Romania. These methods of scientific research and analysis are frequently used nationally and internationally and consider the fact that the identification of the evolution of regional inequalities can be achieved mainly by means of convergence indicators (total GDP and per capita). The data and information presented in the book are reported at the average, maximum and minimum levels of the analysed indicators. Using existing information in the Eurostat database, but also in national statistics, the analyses present trends and developments that have taken place at regional level in certain areas of activity and in different periods of time.

The historical context in which the administrative-territorial reforms were conducted in Romania, in the 100 years of the Great Union, is also presented. During this period, 38 governments succeeded in the leadership of Romania, which attempted to provide institutional structures and mechanisms corresponding to the requirements of modernity, unity and stability of the Romanian unitary national state. Related and integrated with economic and social changes, the administrative reforms have sought to create territorial structures that contribute to streamlining the implementation of measures and actions aimed at reducing certain imbalances between different regions and also to ensure a better control over them.

In the third section of the book, the aspects and characteristics of sustainable development at regional level are presented, targeting certain areas with important natural specificities, which play a strategic role in the smooth maintenance of a clean and sustainable natural environment.

At the end of the book, a possible regional development strategy for the 2021-2027 programming period is proposed, taking into account the current conditions and developments, as well as the challenges given by globalization, sustainable development and extreme climate changes, social inclusion, migration, etc.

Combining recent theoretical elements and spatial analysis patterns/techniques with statistical, legislative and institutional data and information, the book ***Regional Development. Theory and Practice*** can contribute to a better understanding of the positive and negative aspects that have influenced the evolution of regional development in Romania, as well as to formulate directions and actions for the next programming period in order to reduce the regional disparities both in Romania and in the EU.