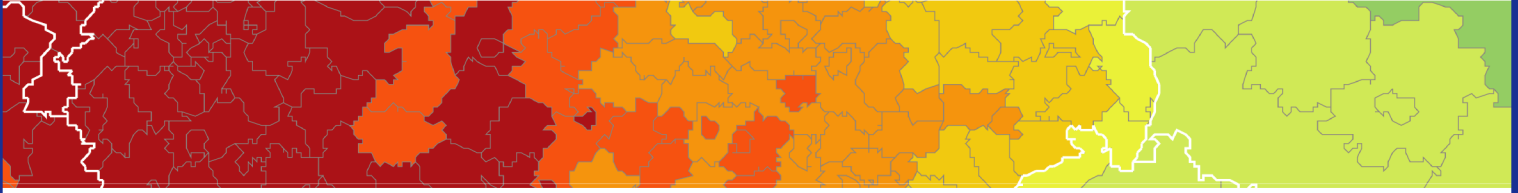


Inspire policy making by territorial evidence



# ESCAPE European **S**hrinking Rural Areas:

Challenges, **A**ctions and **P**erspectives for Territorial Governance

Applied Research

**Final Report – Annex 11  
Case Study Kastoria, Western Macedonia,  
Greece**

## Annex 11

This report is one of the deliverables of the ESCAPE project. This Applied Research Project is conducted within the framework of the ESPON 2020 Cooperation Programme, partly financed by the European Regional Development Fund.

The ESPON EGTC is the Single Beneficiary of the ESPON 2020 Cooperation Programme. The Single Operation within the programme is implemented by the ESPON EGTC and co-financed by the European Regional Development Fund, the EU Member States and the Partner States, Iceland, Liechtenstein, Norway and Switzerland.

This delivery does not necessarily reflect the opinion of the members of the ESPON 2020 Monitoring Committee.

### Authors

**Eleni Papadopoulou**, Prof. Aristotle University of Thessaloniki, Faculty of Engineering, School of Spatial Planning and Development (Greece)

**Christos Papalexiou**, Dr, Agricultural Engineer - Rural Economist

**Elena Kalantzi**, Spatial Planning and Development Engineer

**Afroditi Basiouka**, MSc, Spatial Planning and Development Engineer, Municipality of Tzumerka, Epirus (Greece)

### Advisory Group

Project Support Team: Benoit Esmanne, DG Agriculture and Rural Development (EU),

Izabela Ziadek, Ministry of Economic Development (Poland),

Jana Ilcikova, Ministry of Transport and Construction (Slovakia),

Amalia Virdol, Ministry of Regional Development and Public Administration (Romania)

ESPON EGTC: Gavin Daly, Nicolas Rossignol, Andreea China, Johannes Kiersch

### Acknowledgements

Andronikou A., Agricultural Cooperative of Kastoria, Emmanouilidis I., Medical Doctor, Karatagliadis Ch., President of the Chamber of Commerce of Kastoria, Kembaptoglou P., Mayor of Argos Orestiko, Lioganou O., Head of the Association "The Keleton" for residents of Kastoria that "migrated" to Thessaloniki, Morfidis P., Agricultural Cooperative of Kastoria, Radopoulos D., Agriculturist, Producer and Trader of agricultural supplies, pesticides and fertilizers, Raptopoulos K., Researcher, PhD candidate, Municipality of Nestorio, Savvopoulos D., Deputy Regional Governor of Kastoria, Smaropoulos S., President of the Hoteliers Association of Kastoria, Spyraiki M., Member of the European Parliament, Loudovaris S., Municipality of Nestorio – Kastoria, Teligoriadou O., MP of the Greek Parliament from Kastoria, ex Deputy Minister of Rural Development and Food, Tsikalagias Z., MP representative of Kastoria, Tsoukas A., President of the Fur Producers Association, Vlachvei A., Professor, A., School of Economics, University of West Macedonia

Information on ESPON and its projects can be found on [www.espon.eu](http://www.espon.eu).

The web site provides the possibility to download and examine the most recent documents produced by finalised and ongoing ESPON projects.

This delivery exists only in an electronic version.

© ESPON, 2020

Printing, reproduction or quotation is authorised provided the source is acknowledged and a copy is forwarded to the ESPON EGTC in Luxembourg.

Contact: [info@espon.eu](mailto:info@espon.eu)

ISBN: 978-2-919795-70-3

**Final Report - Annex 11 - Case Study Report**

**Kastoria, Western Macedonia,  
Greece**

**ESCAPE**  
**E**uropean **S**hrinking Rural Areas:  
**C**hallenges, **A**ctions and **P**erspectives for  
Territorial Governance

**Version 21/12/2020**

## Table of contents

Factsheet of Kastoria, Western Macedonia, Greece.....	1
Executive Summary.....	2
1 Diagnosing rural shrinkage and its contexts .....	5
1.1 The CS area: introduction .....	5
1.2 The CS area in the contexts of territorial classifications .....	6
1.3 The case study area against the region, the country and the Macro-Region .....	11
1.4 Characteristics and contexts of the shrinking process in the CS area.....	13
1.4.1 Characteristics of the CS area along demographic criteria (Simple shrinking) .....	13
1.4.2 Characteristics of complex shrinkage of the CS area.....	20
1.4.3 Broader socio-economic contexts of Shrinkage which may drive shrinking .....	28
1.5 Governance framework .....	34
2 Patterns and causalities of rural shrinkage .....	38
2.1 Broad introduction of global and national factors impacting shrinkage in the CS country .....	38
2.2 Evolution of shrinkage in the CS area .....	40
2.3 Local (regional) perceptions and interpretations of shrinkage: discourses, explanations.....	43
3 Responses to the challenge of shrinkage: visions, strategies, policies .....	47
3.1 High level (EU and national) and regional policies addressing demographic decline ....	47
3.1.1 EU and national policies indirectly impacting rural shrinkage:.....	47
3.1.2 Regional and local policies directly impacting rural shrinkage:.....	53
3.2 Discourses and explanations at national/regional levels concerning policy measures and tools addressing rural shrinkage .....	58
3.3 Local responses to shrinkage.....	60
3.3.1 Coping strategies .....	60
3.3.2 Available policy tools: take-up rates, opportunities and hindrances .....	62
3.3.3. Local visions concerning future pathways and available policy support.....	65
4 Matching local visions on future pathways of change with potential policy support .....	68
4.1 Towards future pathways: enhanced intervention logic along innovative experiences ..	68
4.2 Broadened and more suitable policy support.....	69
4.3 Enhanced governance approaches.....	71
5 Policy recommendations .....	73
Conclusions .....	75
List of Appendixes .....	77
References .....	89

## List of Tables

Table 1.1: The CS area in the contexts of territorial classifications .....	9
Table 1.2: Basic demographic and socio-economic trends behind rural shrinkage ... ..	10
Table 1.3: Comparable indicators of shrinkage .....	13
Table 1.4: Estimated entrances and exits in Greece during the period 1991 - 2015 .....	16
Table 1.5: Sex and age in Regional Unit of Kastoria .....	17
Table 1.6: Economic indicators of the CS area and at national level .....	20
Table 1.7: Regional Unit of Kastoria contribution to national and region GDP .....	25
Table 1.8: Household income (million €) .....	26
Table 1.9: Contextual indicators of shrinkage in the CS area and at national level .....	31
Table 3.1: EU financing through ESI funds in Western Macedonia Region, 2014-2020 (planned and spent budget) .....	45
Table 3.2 CLLD in Kastoria: Budget and actions: .....	53
Table 3.3 NSRF absorption rates per Region in Greece:.....	61

## List of Figures

Figure 1.1: Inflows of foreign population .....	17
Figure 1.2: Emigration flows .....	17
Figure 1.3: Population pyramids by sex of Regional Unit of Kastoria 2001 and 2011 .....	19
Figure 1.4: Economic Activity in the Regional Unit of Kastoria in 1991,2001 and 2011 .....	23
Figure 1.5: Groups of economic activity sectors in Kastoria 1991 .....	25
Figure 1.6: Groups of economic activity sectors in Kastoria 2001 .....	25
Figure 1.7: Groups of economic activity sectors in Kastoria 2011 .....	26
Figure 1.8: Domestic flights arrivals and departures in the “Aristotle Airport” of Kastoria from 1994 until 2018 .....	29
Figure 1.9: International flights arrivals and departures in the “Aristotle Airport” of Kastoria from 1994 until 2018 .....	30
Figure 1.10: Governance framework .....	35
Figure 2.1: Army men during the civil war in a steep location on the mountain of Grammos. .	41
Figure 2.2: Fur workers in post-war fur industries .....	42

Figure 2.3: The Evolution of the population in Mountainous Areas of the Regional Unit of Kastoria.....	43
--	----

## List of Maps

Map 0.0: Geographical location of Municipality of Kastoria in Kastoria NUTS 3 unit and in Greece .....	1
Map 1.1: Location of the case study area and its administrative structure .....	6
Map 1.2: Geographical location of the case study area in regional and national territory .....	9
Map 1.3: Location of the case study area within administrative structures (internal administrative divisions). .....	10
Map 1.4: Population Evolution 1991-2001. ....	16
Map 1.5: Population Evolution 2001-2011 .....	16
Map 1.6: Public services in Kastoria.....	31
Map 1.7: Public services in Kastoria.....	32

## Abbreviations

EC	European Commission
ESPON	European Territorial Observatory Network
EU	European Union
NUTS	Nomenclature of Territorial Units for Statistics
CS	Case Study
PDO	Protected Designation of Origin
CAP	Common Agricultural Policy
CLLD	Community-Led Local Development
ICT	Information and Communication Technologies
NGO	Non-governmental organisation
LAU	Local Administrative Unit
LEADER	Liaison Entre Actions de Développement de l'Économie Rurale
GDP	Gross Domestic Product
RDP	Rural Development Programme
GVA	Gross Value Added
AD	Anno Domini
BC	Before Christ
NSRF	National Strategic Reference Framework
ESF	European Social Fund
ERDF	European Regional Development Fund
EFTA	European Free Trade Association
SMEs	Small- and medium-sized enterprises

## Factsheet of Kastoria, Western Macedonia, Greece

Map 0.0: Geographical location of Municipality of Kastoria in Kastoria NUTS 3 unit and in Greece



CS area is shown in red, and the NUTS3 region in grey.

**Name:** Municipality of Kastoria, located in Kastoria (NUTS3 unit)

### Key Indicators:

*Figures refer to 2017 or 2001-2017 unless otherwise specified*

Total Population (persons):	47,723*
Population Density (persons/km <sup>2</sup> ):	28.0*
Population Change (%):	-6.7*
Net Migration (per 1,000):	-24.1*
Natural Change (per 1,000):	-42.6*
% aged >65:	23.4*
% Employed in Agriculture:	
GDP (PPS) per Capita:	13,000* (2016)

\* NUTS 3 data

### Typologies:

- Urban–rural typology: Predominantly rural, remote region<sup>1</sup>
- Mountain region: 69% of population and 50 % of surface<sup>2</sup>
- Border region: Programme area (external)<sup>3</sup>
- Typology of simple shrinkage (ESCAPE project): Population decrease 1993-2033 due to decrease in both periods 1993-2013 and 2013-2033; “average” shrinking rate (-1 to -0,5)

<sup>1</sup> According to the Eurostat’s urban-rural typology including remoteness, a NUTS3 region is predominantly rural if the share of population in rural areas is higher than 50%. It is considered remote if less than half of the residents can reach a city of 50,000 inhab. driving 45 min.

<sup>2</sup> According to Eurostat, NUTS 3 Mountain regions are defined as regions in which more than 50% of the surface is covered by topographic mountain areas or in which more than 50% of the regional population lives in these topographic mountain areas.

<sup>3</sup> According to the Eurostat’s classification of border regions, external borders refers to regions that participate in programmes involving countries outside both the EU and European Free Trade Area (based on the 2007-2013 cross-border cooperation programmes).



## Executive Summary

The increasing urbanization of modern societies has led to the shrinking of many rural areas. In Greece, the area facing the one of the largest shrinkage is the Municipality of Kastoria (LAU 1) located in the Region of Western Macedonia (NUTS 2) and specifically in the Regional Unit of Kastoria (NUTS 3) with 33.684 inhabitants in 2017. It is recognized as a mountainous area, with significant biodiversity, around the Kastoria Lake being a protected area of the NATURA 2000 network. Today, it presents examples of both simple (demographic) and complex (socio-economic) shrinkage.

Regarding the simple shrinkage, it presents population decline by 5.84% over the period 2001-2017 (as opposed to the growing EU population), low fertility rates and low population density due to remote mountain villages and settlements deflated by the movement of people to other Greek parts or abroad. On the complex shrinkage, the Greek economic crisis is a major problem, as the economically active population accounts for 45% of the total population of the region. Of the economically active, 75% are employed and 25% are unemployed. (Hellenic Statistical Authority, Census 2011). A large proportion of the working age population (15-64 years) - and mainly skilled labour - was lost in the period 2001-2017. Moreover, the dominant in terms of income and employment sector of fur production, is experiencing a constant 5 years downward trend due to the EU trade embargo with Russia. Other important sectors are the primary sector (agriculture and livestock), and trade threatened by demographic changes and lack of investment in infrastructure and new technology. Another point to mention is that the area has an important historical background and a wealth of natural and cultural monuments that could be served as tourist attractions. However, all this heritage has been neglected and misused, resulting in no significant tourism development in the area that could function as a way to attract new employees in tourism sector. The shrinkage is also exacerbated by the lack of quality public and private services. In agricultural areas, the difficulty of access due to the mountainous terrain, the adverse weather conditions and the poor quality of the road network, the lack of specialized labour force and the settlement of the incoming migrants (mainly Albanians) to other parts of the country, mainly in large urban centres, contributes also to the shrinkage.

The effects of shrinkage are many and sometimes irreversible. The most important of them are poverty, hunger, misery, unemployment, reduction of income, desolation, decline in productive activity, decline in public services and infrastructure (health, welfare, education, etc.), degradation in the quality of life of the inhabitants mostly in remote villages, the lack of maintenance and protection of cultural and natural relics and the increase of transnational and refugee problems with the countries bordering the CS area (Albania and North Macedonia).

On the governance side, it should be emphasized that Greece has always a highly centralized governance system. So, the decisions are made by the central government and local – regional stakeholders have a little power to influence these decisions. Another problem is the

lack of cooperation between central government, regional and local actors. Moreover, no power is given to civil society. There is also a shortage of any policy mechanism - formal or informal - at any administrative level, which address the simple and/or complex shrinking and this makes it difficult to tackle the problem.

Another serious problem is the lack of local strategies that could tackle/solve directly the shrinkage. Surely, there are proposals for adjusting mitigation or adaptation strategies or a combination of them that will reverse the decline in CS area. However, opinions differ as some believe that only mitigation strategies should be implemented, others prefer only adaptation strategies, while most stakeholders argue that combining them will yield the best results. Another view supported by many experts is that place-based strategies should be applied to tackle shrinkage, as Kastoria has several local features that can be exploited.

The CS area needs successful integrated strategies and policy measures for local and regional development, which should be adopted to its particular or specific characteristics and special needs. To achieve such policy measures, the CS area should try an intervention logic that is based on a bottom up approach, in which organized groups of residents will make serious decisions about the area and the management of funding and cooperate with local and regional authorities in order to implement them. Another suitable intervention logic is based on the overall technological progress of the region, with the integration of ICT where possible and the development of innovations.

According, the policy recommendations for the CS area are multiple and relate to different sectors of activity. Firstly, it is important to identify the policy measures for the agricultural sector, such as completion of agricultural infrastructures and especially those related to irrigation, reduction of the cost of agricultural supplies, machinery and the energy required in agriculture, financial support with agricultural programs that concern all farmers, improvement of branding of local agricultural products and extensive use of marketing tools as the protected geographical indication (PGI), the protected designation of origin (PDO), the guaranteed traditional idiosyncratic products (GTIP). Secondly, fur production that is the main economic sector needs policies related to the release of the EU embargo on Russia, reduction of tariffs on fur production and the establishment of a fur school. Thirdly, the area needs policies related to efficient governance procedures such as improvement of policy-making processes both at EU, national and regional/local level and communication, co-operation and co-ordination between various levels of public administration and governance bodies and development of new local formal and informal structures and networks of residents in order to involve them in decision-making policies. Fourthly, the region needs policy proposals to boost their tourism such as the creation of its own story telling that promotes and combines alternative forms of tourism and the connection of tourism with the marketing of traditional local products. Fifthly, it is important to take measures that will maintain the residents in the area such as the reduction of bureaucracy, the acceleration of all service delivery processes, the integration of ICTs in all aspects of everyday life, the

introduction of free training and learning programs for the residents, the improvement of public utility infrastructure, urban interventions, reduction of taxes in heating, energy and businesses and empowerment of social subsidies. Lastly, the CS area has to invest in other economic activities, to which little emphasis has been given so far. For instance, the development of transit trade, the design and installation of RES facilities, the development of new curriculum or departments in the University of Western Macedonia and the empowerment of scientific research and innovation in the University that will help other economic sectors grow.

To sum up, the population shrinkage of rural areas is a burning issue that is affected by a variety of factors (social, economic, environmental, cultural, governmental, etc.) and causes severe impacts. That's why the shrinkage in Kastoria needs to be addressed immediately by applying both national and EU policy measures and local scale proposals.

# 1 Diagnosing rural shrinkage and its contexts

## 1.1 The CS area: introduction

The Municipality of Kastoria, Western Macedonia-Greece has been selected as the Greek case study area. The Municipality of Kastoria is located at the north-Western border of the country with Albania and it is one of the three municipalities that consist the Regional Unit (Prefecture) of Kastoria. The Regional Unit of Kastoria is one of the four units (Prefectures) that consist the Region of Western Macedonia–Greece (Dytiki Makedonia, EL53), together with the Regional Units of Florina, in the North and Grevena and Kozani in the South. It is also a gateway to Albania and one of the gateways of Greece to the other Balkan countries.

The Regional Unit of Kastoria consists of 3 Municipalities: Kastoria, Nestorio, Orestida. The Case Study Area (Municipality of Kastoria) consists of 9 Municipal Units: Kastorias, Vitsiou, AgiasTriadas, Agion Anargyron, Kastrakiou, Kleisouras, Korestiou, Makednon and Mesopotamias.

It is identified as a mountainous area, with a significant biodiversity of flora and fauna, in the wider region. The lake of Kastoria is located right in the centre of the Municipality and the town of Kastoria expands around it. The lake of Kastoria has been identified as a protected area under the NATURA 2000 network.

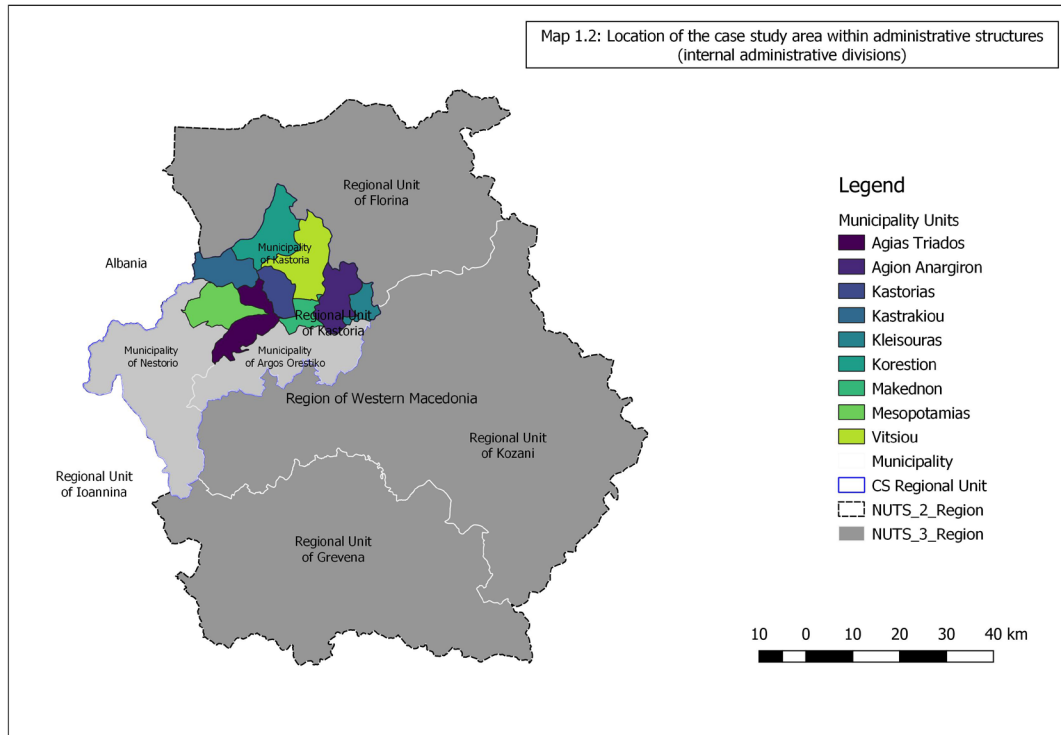
Kastoria has been inhabited from the prehistoric years till today with very important prehistoric remains of lake inhabited and settlements revealed recently by the archaeologists in the area of Kastoria. It has a rich cultural heritage that has been formed through the centuries from the Roman, Byzantine, Ottoman and recent history of the area's integration with the Greek state following the World War I. The population has been changed through the years as a result of the impact of different factors. In the recent history since the decade of 40s, the population has been constantly decreasing. The World War II, followed by the civil war and specific political events that took place in Kastoria (1940-1950), immigration (1960-1970) and urbanization (1980-1990), where the most important factors that led and underlined the population decline recently in the area under study.

Kastoria's economy has always been based on agriculture, producing high quality farm products due to the specific local climate conditions. Legume/pulse and fruit (apple) production are among them. On the other hand, fur production was one of the first industries developed in the area marked its economy and character of the region till today. From the '90s the fur making industry started to grow up to become the most important sector that still supports the local employment and economy. During the last decade however, that coincided with the Greek economic crisis and the EU trade embargo with Russia, a sharp decrease in the fur industry performance led to another decrease in income and employment opportunities and decline in population numbers that encouraged outmigration from the region.

## 1.2 The CS area in the contexts of territorial classifications

Municipality of Kastoria is classified at LAU 1 Level. Its Units are classified at LAU2. The Region of Western Macedonia, in which it belongs, is classified at NUTS level 2 and the Regional Unit Kastoria at NUTS3 - level EL532. In this chapter, along with the CS area, the neighboring cities that affect Kastoria will also be presented.

**Map 1.1: Location of the case study area and its administrative structure**



The Municipality of Kastoria consists of 9 Municipal Units (LAU 2 units) being municipalities up to 2001 according to the existing then administrative division of the Country. Since 2001, when the national Law related to the Greek administrative system changed, these units merged to one municipality. This had as result a new, bigger, in terms of population, municipality to be created. The recent existing Greek administrative system is very complicated regarding the responsibilities of each unit.

Important towns and villages are Kastoria, Argos Orestiko, Maniaki and Mesopotamia. They are important because the majority of population and infrastructure is concentrated there. Other major settlements are Mavrochori, Korissos, Nestorio and Dispilio.

According to ESPON Regional typologies overview, NUTS-3 regions are classified on the basis of the population share in rural areas. The Regional Unit of Kastoria is characterized as

a predominantly rural region, since the share of population living in rural areas is higher than 50%.

The Regional Unit of Kastoria is a mountainous region as more than 50% of the surface is covered by topographic mountain areas. In particular, 90% of the area is mountainous (50%) and semi-mountainous (40%) and only 10% is lowland. In addition, 69% of the population lives in mountainous (14%) and semi-mountainous areas (55%). Other important cities surrounding Kastoria in the Region of Western Macedonia are the cities of Kozani, Ptolemaida, Florina and Grevena. The city of Kozani is the main urban centre of the Region of Central Macedonia, and most of its public authorities are located there. The headquarters of the University of Western Macedonia are also located in Kozani. The cities of Kozani and Ptolemaida are known as the main centres for the production of electricity, which is generated with lignite as a raw material. A large part of the population these two cities is employed in the electricity production units. Fruit, wines and other agricultural goods are also produced in the wider area, but the most important product in Kozani is "krokos Kozanis" PDO (saffron), which is known as the Greek saffron (European Commission, 2018). The city of Ptolemaida is characterized as the energy centre of Greece due to the thermal power production units that exploit the lignite of the area for the production of energy.

The last years, there is an attempt to reduce the use of lignite and produce electricity out of more environmentally friendly resources according to the EU strategies and policies for energy transition. This is a threat and, at the same time a challenge for the Region of Western Macedonia, which is expected to keep playing an important role in the production of energy. According to Kolonas (2020), lignite is very important for the economy of the Region Western Macedonia. In fact, one third of the regional GDP (Western Macedonia) comes from the electricity generation with lignite. At the same time, the "significant economic and social challenges" are recorded, with the risk of losing a total of 27,100 jobs: In Western Macedonia, the estimated 5,500 jobs in lignite mines and power plants are in "immediate danger". In addition, 20,000 jobs are "indirectly at risk". At the same time, as long as the production of energy is concentrated in the cities of Ptolemaida and Kozani, the GDP is high, compared to other Regions in Greece. As a result, the percentages of the EU contribution in EU co-financed programs, are low, because they are directly affected by the Regional GDP. On the other hand, this fact is harmful for the areas of the Region of Western Macedonia, which have a very low GDP as the area of Kastoria, because the EU contribution is calculate for the Region as a whole and the fluctuations among the Regional Units in the Region of Western Macedonia are not taken into consideration. The relatively lower EU contribution in the EU co-financed programmes might prevent potential investors to invest in the areas with lower GDP.

The Commission proposes for the "after lignite years" in the Region of Western Macedonia to turn to new sectors of economic activities such as agri-food products, environment and energy, luxury clothing industry (such as fur) and agrotourism (Kolonas, 2020).

The Regional Unit of Grevena is considered one of the poorest areas in Greece. The economy of the Regional Unit is based exclusively on agriculture, animal breeding and forests. The main crops are wheat, corn, barley and alfalfa, while the cultivation of tobacco is constantly declining. As a result, the farmers are looking for new cultivations such as apples. Beekeeping is constantly increasing. Several areas are covered by subsidized tree crops such as acacias, pines, chestnuts and walnuts. In recent years, there has been an increase in viticulture with excellent production of tsipouro (a Greek traditional beverage) and wine.

The natural environment is very interesting with mountains (Mount Pindos), significant water resources, forests (Valia Kalda forest) and other natural beauties. The operation of the ski resort in Vasilitsa combined with the promotion of the natural beauties of the Regional Unit have created in the last decade a stream of visitors, who are interested in ecotourism and winter sports (Western Macedonia, 2019).

In the Regional Unit of Florina there are six lakes (Vegoritida, Lake of Petra, Zazari, Heimaditida, Mikri and Megali Prespa). Agriculture and livestock are the most dynamic sectors. Fishing in the lakes and forestry are also activities of the Regional Unit primary sector. The main agricultural products are wheat, barley, rye, corn, beans, sugar beets, alfalfa, potatoes, strawberries, grapes, high quality wines such as Amyntaio PDO, tomatoes, onions and peppers, apples, pears, chestnuts, walnuts, etc.(Municipality of Florina, 2019).

Regarding the border regions typology, Kastoria is an external borders region. These regions participate in programmes involving countries outside both the EU and EFTA. It is a territory that drops out and interstitial area between areas of strong development as a consequence of the demography shrinkage. The Regional Unit of Kastoria is next to the Greek – Albanian borders, In the 1990s there were continuous migration flows from Albania to Greece, As the City of Kastoria is very close to the borders many migrants passed through the Regional Unit of Kastoria and many of them made their new beginning in the Case Study area. Nowadays, because of the economic crisis in Greece and in the Regional Unit of Kastoria, most of the migrants went back to Albania or other EU countries, Agriculture is one of the main activities of the CS area and many farm workers are residents of Albania who come for seasonal work in the fields in Greece. Until recently when the new road connection with Egnatia motorway was completed, Kastoria was isolated from regional centres and services. It is characterized a depleting region also due to the severe lack of human resources and capacities. The public services are concentrated in the town of Kastoria. Only few basic education and health infrastructure are available on the other units of the Municipality.

Table 1.1: The CS area in the contexts of territorial classifications

Classifications	Positioning of the case study area
<b>Name</b>	Municipality of Kastoria
<b>Scale and role in national administration (Y/N and level)</b>	Lowest administration unit, main local administration unit - LAU 1
<b>NUTS 3 unit covered by the CS area</b>	EL532 – Kastoria
<b>Regional typologies</b>	
<b>Urban–rural typology</b>	Predominantly rural, remote regions
<b>Coastal regions</b>	Other region
<b>Mountain regions</b>	69% of population (14% mountainous & 55%semi-mountainous) and 50 % of surface
<b>Island regions</b>	Other region
<b>Sparsely populated regions</b>	Other region
<b>Border regions</b>	Programme area (external)
<b>Inner peripheries (ESPON PROFECY)</b>	Interstitial, depleting
<b>Shrinkage typology (ESPON ESCAPE)</b>	
<b>Typology of simple shrinkage</b>	Population decrease 1993-2033 due to decrease in both periods 1993-2013 and 2013-2033; “average” shrinking rate (-1 to -0,5)
<b>Typology on structural demographic shrinkage</b>	Urbanization/Legacy

Map 1.2: Geographical location of the case study area in regional and national territory





Map 1.3: Location of the case study area within administrative structures (internal administrative divisions).



Egnatia motorway is one of the most important roads of the Greek motorway network with a very long history. According to Egnatia Road (2019), in Roman Times, one of the two most important roads leading to the capital Rome was the Via Egnatia, an overseas extension of the Via Traiana that, via the port of Gnaphia, crossed present-day Greece to the Evros river. The Via Egnatia run through Dyrrachium, Lychnidos, Heracleia, Edessa, Pella, Thessaloniki, Amfipolis, Filippioi, Topeiro, Maximianoupolis and Traianoupolis. The Via Egnatia was built between 146 and 120 BC, initially following the traces of an older, pre-Roman road running from the Adriatic to the Aegean. Later, it was extended from the Evros to Byzantium, and eventually the name "Egnatia" was given to the entire road, i.e. from Rome to Constantinople, in honour of the Roman proconsul Gaeus Egnatius who built it.

The Via Egnatia was built according to the specifications of other roads; construction methods can be summarized in Strabo's extract, mentioning that Romans "cut hills and regraded slopes in order for carriages to pass smoothly". The minimum width of Via Egnatia was 10 roman feet (approx. 3m) which increased to over 5m when crossing big towns.

Nowadays, the Egnatia is a modern motorway of 670 kilometres length serving all Northern Greece from East to Western. It is linked with the borders of Turkey, Bulgaria, North Macedonia and Albania. It is also a link of all big cities of North Greece, of four ports and six airports.

### 1.3 The case study area against the region, the country and the Macro-Region

The focus of this section is to describe the CS area of Kastoria in the larger geographic context, highlighting the characteristics and specificities of the area in comparison with regional, national and macro-regional data. As a general remark, it has to be taken as drawback, the severe lack of statistical data of specific parameters, as we progress from the national to the local level in particular.

Table 1.2: Basic demographic and socio-economic trends behind rural shrinkage

Indicators	Spatial level	Case study area (if available)	NUTS 3	NUTS 2	NUTS 0, Country	EU28
	Name	Municipality of Kastoria	Kastoria	Dytiki Makedonia	Greece	European Union
	Code		EL532	EL53	EL	EU28
<b>Total population on 1 January – persons</b> ( <i>demo_r_pjanaggr3</i> )	2000	36.566 (2001)	51,144	287,156	10,775,627	487 million
	2017	35.773 (2011)	47,723	271,488	10,768,193	511 million
<b>Population change between 2000 and 2017 ([Population 2017-Population 2000] / Population 2000 * 100) – percentage</b> ( <i>demo_r_pjanaggr3</i> )	2000–2017	-0.1 (2001-2017) -2.1 (2001-2011) -5.84 (2011-2017)	-6.69	-5.46	-0.07	4.95
<b>Population density – persons per km<sup>2</sup></b> ( <i>demo_r_d3dens</i> )	2000	48,55 (2001)	30.00	31.00	82.60	111.90
	2017	46,96 (2011)	28.00	29.20	82.20	117.70
<b>Total fertility rate – number</b> ( <i>demo_r_find3</i> )	2000	1.26	1.35	1.46	1.25	1.46
	2017	1.15	1.25	1.34	1.35	1.59
<b>Net migration rate (Net migration 2000–2017 / Population 2000 * 100) – percentage</b> ( <i>demo_r_gind3</i> )	2000–2017		-3.52	-2.45	0.77	4.54
<b>Population projection (EUROPOP2013) – persons</b> ( <i>proj_13rpms3</i> )	2020	25.055	47,582	269,915	10,703,434	512 million
	2030	24.315	43,212	246,381	10,090,065	518 million
	2040	24.243	39,228	226,744	9,594,050	524 million
	2050	24.236	35,229	206,896	9,133,990	526 million
<b>Working age population (15-64 years old population / Total</b>	2000		66.82	65.53	67.94	67.09 (2001)
	2017		63.73	63.05	64.02	64.98

<b>population *100) - percentage</b> (demo_r_pjanaggr3)						
<b>GDP per capita – purchasing power standard</b> (nama_10r_3gdp)	2000		10,500	14,800	17,100	19,800
	2016		13,000	17,400	19,800	29,300
<b>GDP per capita – PPS in percentage of EU28 average</b> (nama_10r_3gdp)	2000		53	75	86	100
	2016		45	59	68	100
<b>Convergence of GDP per capita to the EU28 average (1 + [GDP per capita 2016 - GDP per capita 2000] / GDP per capita 2000)</b> (nama_10r_3gdp)	2000– 2016		0.85	0.79	0.79	1.00

**Source:** Eurostat - Hellenic Statistical Authority

Table 1.2 depicts that the population of the CS area, decreases. This is the case for Greece as country, on the contrary the EU's population increases. The main factors that affect these trends are the fertility rate decline, the increase of deaths rates and immigration trends.

The Municipality of Kastoria has a low population density as well as the Regional Unit. Remote and mountainous villages and settlements are depopulated with the movements of people either to the town of Kastoria, or other parts of Greece and recently, even abroad.

The data show that the fertility rate in the Municipality of Kastoria is very low, 1.26 birth per woman in 2001 and decreases to 1.15 birth per woman in 2017. The same flow follows the region of Western Macedonia with the fertility rate to decrease from 1.46 to 1.34. although, in Greece the fertility rate increase from 1.25 to 1.35. With the transition of the economic structure from an agrarian to an industrial and post-industrial society, the attitude of having many children has fundamentally changed. In the pre-industrial period children were helping both in the household and the agricultural works. In the industrial and post-industrial societies children are cost factors in a twofold way: there are direct costs for schooling and raising children up to the time when they leave the household and there are indirect costs as well when the mother (in rare cases the father) has to give up their employment to stay at home and to take care of the child (ESPON, 2002). It is possible that religiosity, a characteristic of the immigrants that entering the EU and their ethical have a significant contribution to the fertility rate that seems to be increased. In the case of Greece and the nature of migration, this model does not seem to be the case. Albanians migrated in the country and the Region of Kastoria, rather adopted the model of having less children than the opposite.

Table 1.2 depicts a negative net migration rate in the Regional Unit of Kastoria as well as in the Region of Western Macedonia (Dytiki Makedonia). That is attributed to the fact that the population moves from less favoured areas to more favoured ones, especially from rural and sparsely populated areas to local and regional centres and especially to metropolitan areas (Thessaloniki or Athens in this case). The combination of lower birth rates, skewed age and out-migration result to a process where the CS region is characterised as dying out (ESPON, 2002).

The Region of Kastoria is losing a very important part of working age population (15-64) -and in many times a skilled workforce in particular through the period from 2001 until 2017. The same problem faces the rest of the country as well.

The GDP shows a clear negative trend of the recent (from 2007) and still ongoing Greek financial crisis.

According to the National Statistics, the mountainous areas of the CS region presented the years of the peak population before urbanization and industrial development. The peak year of the area was 1940. On the contrary urban areas and the Municipal unit of Kastoria, presented the years of the peak population after 1990. The movement from the mountainous areas to urban and rural areas up to this decade is clear.

## **1.4 Characteristics and contexts of the shrinking process in the CS area**

This section aims at presenting the geographical patterns of shrinkage and other aspects of heterogeneity within the CS area. CS spatial, demographic (simple shrinkage) and socio-economic (complex shrinkage) data are broken down to the lowest territorial scales (municipalities, LAUs, districts of LAU-2 units) and data are presented in tables with corresponding indicators (where possible for the years 2001, 2011, 2017) The scale will depend on the size and administrative status of the CS area and availability of data.

### **1.4.1 Characteristics of the CS area along demographic criteria (Simple shrinking)**

a) population evolution

According to National Statistics (2011), the population of Municipality of Kastoria, is 35.773 inhabitants. The Municipal Unit of Kastoria attracts the largest part of the Municipality's population (47.3%). Table 1.3. below, depicts shrinkage indicators of the CS area and country's demographic data.

Table 1.3: Comparable indicators of shrinkage

Indicator name	Definition/calculation	Scale	1990	2001	2011	2017
<b>Total population (number)</b>	<b>Total population on 1 January</b>	CS area	35556	36566	35773	33684
		Country	10259900	10964020	10,816,286	10,768,193
<b>Ratio of 0-14 y.o. population (%)</b>	<b>Number of 0-14 years old population / Total</b>	CS area	7.75%	16.01%	13.90%	12.07%
		Country	7.35%	15.81%	14.64%	14.44%
<b>Ratio of female population in productive</b>	<b>Number of 15-45 years old female population / Total</b>	CS area	43.22%	45.08%	69.68%	68.79%
		Country	41.69%	42.91%	64.83%	63.08%
<b>Population density (persons/km2)</b>	<b>Total population / Area</b>	CS area	46.57	47.89	46.85	44.12
		Country	77.71	83.04	81.92	81.56
<b>Gender balance</b>	<b>Total female population / Total male population</b>	CS area	1.00	0.98	0.87	1.05
		Country	1.03	1.02	1.04	1.06
<b>Old age dependency rate (%)</b>	<b>Number of 65+ years old population / Number of 15-</b>	CS area	17.46%	23.49%	29.88%	32.29%
		Country	20.41%	24.52%	29.20%	33.65%
<b>Ageing index (%)</b>	<b>Number of 65+ years old population / Number of 0-</b>	CS area	56.37%	99.76%	142.95%	170.63%
		Country	71.11%	110.10%	131.78%	149.21%
<b>Crude birth rate (births/1000 persons)</b>	<b>Number of live births / Total population * 1000</b>	CS area	15.6	4.2	4.3	9.9
		Country	10.0	9.3	9.8	8.2
<b>Crude death rate (deaths/1000 persons)</b>	<b>Number of deaths / Total population * 1000</b>	CS area	13.3	13.9	15.0	12.1
		Country	9.2	9.4	10.3	11.6
			<b>1990-2011</b>	<b>2001-2011</b>	<b>2011-2017</b>	<b>1990-2017</b>
<b>Population change (%)</b>	<b>(Total populationT2 - Total populationT1) / Total</b>	CS area	2.84%	-2.17%	-5.84%	-5.26%
		Country	6.86%	-1.35%	-0.44%	4.95%
<b>Number of arrivals due to migration</b>	<b>Number of arrivals due to migration within the indicated period</b>	CS area	-	-	-	-
		Country	824299	738721	474809	2037829
<b>Number of departures due to migration</b>	<b>Number of departures due to migration within the indicated period</b>	CS area	-	-	-	-
		Country	1069181	476243	760209	1829390
<b>Net migration rate (%)</b>	<b>(Number of arrivals due to migrationT1-T2 - Number of departures due to migrationT1-T2) / Total populationT1 * 100</b>	CS area	-	-	-	-
		Country	-2.39%	2.39%	-2.64%	2.03%
For cells with the signal - there aren't sufficient and accurate data according to the censuses of the Hellenic Statistical Association.						

Source: Eurostat - Hellenic Statistical Authority

In Table 1.3 we first observe that the population of CS increases from 1990 to 2001, while from 2001 until 2017 shows a gradual decrease and the same trend is followed by the whole country. Regarding the population change, it is worth noting that apart from the period 1991 - 2011 that we have a positive change, the rest of the periods have a negative change. The largest change is observed between 2011 and 2017, which is much higher than the negative change in the whole country. This is justified because the CS not only had to deal with the economic crisis, but also the "local" crisis in fur production. In addition, the change from 1990 to 2017 in the CS is also negative, in contrast to the country that is positive, which reflects that the country on the whole didn't face population shrinkage. As for the density index, it remains relatively stable at around 45 persons/km<sup>2</sup>, while in the whole country this number is

around 80persons/km<sup>2</sup>. This is logical considering that Kastoria is a rural area with many sparsely populated villages, a small urban center and many agricultural and forest areas.

Regarding the index of young people aged 0-14 we see that from 1990 to 2001 the index doubles, while in 2011 and 2017 it shows a decrease of 2% - 4%, higher than that of the whole country. Regarding women of working age in the CS area, we see a small increase from 1990 to 2001, a rate that increases significantly by about 25% in 2011 and remains about the same in 2017. The country is following the same trend, but with a little bit lower percentages. This leads us to conclude that a large number of women are employed in the area. The gender balance index shows that while in the whole country there are more women, in the CS area traditionally there were more men, probably due to the increased labour force employed in fur production and agricultural activities. However, in 2017 we see that women are more than men, which shows a migration of men to other areas, probably for job finding.

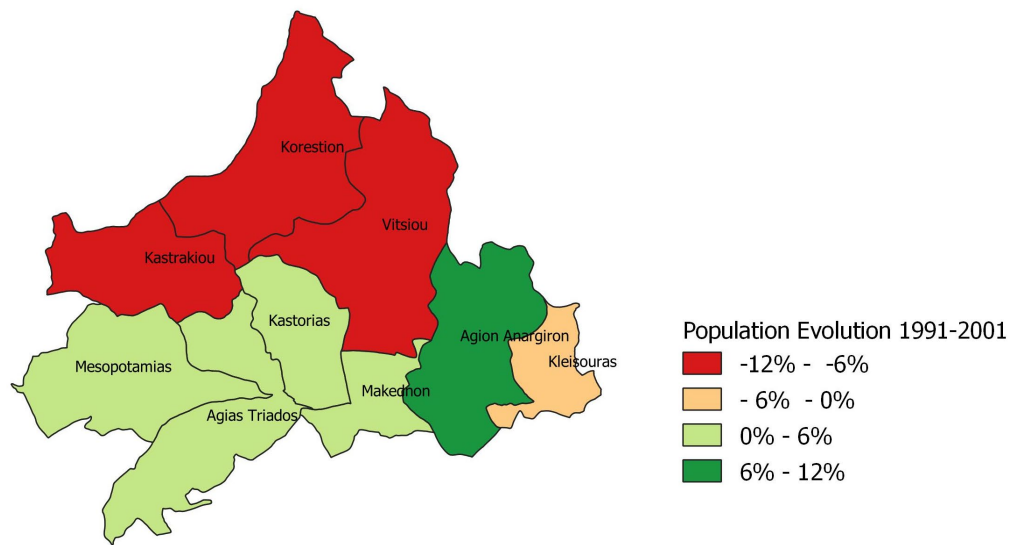
The old age dependency rate is constantly increasing and the whole country is following the same trend. This practically means that the number of inhabitants aged 15-64 is decreasing, while the population aged 65+ remains stable or slightly increases. This is probably due to the country's economic crisis and the migration of Greeks abroad in order to find work. Regarding the ageing index, it is worth noting that while in 1990 the number of children aged 0 -14 is almost double the number of elderly 65+, in 2001 these numbers became almost equal. However, in 2011 this number changes with young people aged 0 - 14 being much less than the elderly 65+. An even bigger decrease is observed in 2017, with young people being almost half of the elderly. The main cause for this decrease is the low fertility rate in combination with out-migration of newly formed families.

In terms of the number of births, in 1991 the number is higher than in the whole country, but it is declining (about 70%) in 2001, a number that remains stable in 2011. These numbers reflect the significant problem of low birth rate in the CS area. Nevertheless, in 2017 this number increases, maybe due to the birth subsidies given to families by the Greek government. In contrast, in the rest of the country this number remains almost constant around 10%, while in 2017 it decreases to 8%. This shows that the overall problem of low birth rate in the country has not been solved by granting birth subsidies.

In terms of deaths, the numbers are slightly higher than in the rest of the country. It is worth mentioning that in 2017 deaths in CS are decreasing while in the country are increasing. Finally, there are no official data on migration in the CS area, so it's impossible to make comparisons and conclusions.

Map 1.4: Population Evolution 1991-2001.

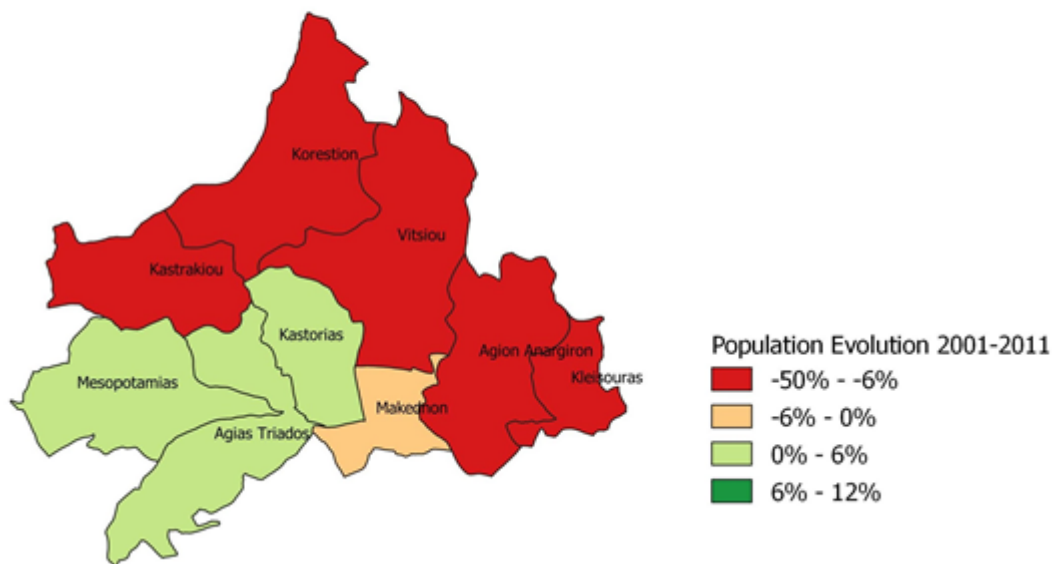
Municipality of Kastoria



**Source:** Hellenic Statistical Authority, Results of the 1991 – 2001 Population and Housing Census for the Resident, De Jure (registered) and De Facto population of Greece

Map 1.5: Population Evolution 2001-2011

Municipality of Kastoria



**Source:** Hellenic Statistical Authority, Results of the 2001-2011, Population and Housing Census for the Resident, De Jure (registered) and De Facto population of Greece

Figure 1.1 and Figure 1.2 show that the population has been decreased in the mountainous areas and has been increased in the rural and urban areas of the Municipality of Kastoria.

The '90s is the era that the production of the agricultural - rural sector increases, and so does the sector of processing and especially the fur making industry. As a result, the data that are collected for the year 2001, show the increase of population between 1991-2001. On the contrary, the Municipal Unit of Kastoria population only, is increasing significantly during the decade 2001-2011.

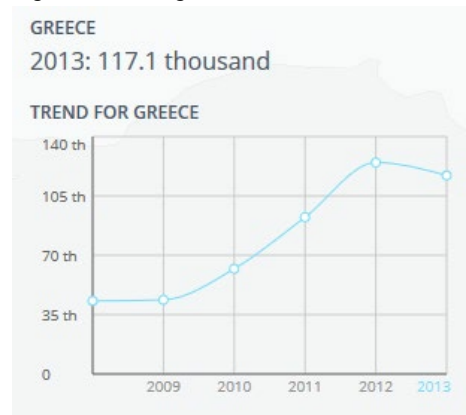
The net immigration rate that refers to country level is negative according to the statistical information for the year 2011. That means that the people that emigrated were more than the people that immigrated in 2011. These fact is presented in the charts below.

Figure 1.1 Inflows of foreign population



Source: Migration data portal

Figure 1.2: Emigration flows



Source: Migration data portal



Table 1.4: Estimated entrances and exits in Greece during the period 1991 – 2015

Year	Incoming	Outgoing	Balance
1991	151978	64628	87350
1992	110334	52389	57945
1993	107462	52929	54533
1994	86959	46813	40146
1995	98989	47967	51022
1996	95585	54628	40957
1997	113477	51794	61683
1998	116411	60119	56292
1999	84695	54175	30520
2000	109251	46993	62258
2001	98471	45909	52562
2002	67220	39378	27842
2003	63141	37433	25708
2004	66871	38041	28830
2005	70933	38583	32350
2006	63094	38368	24726
2007	63298	40400	22898
2008	66529	43044	23485
2009	58613	43686	14927
2010	60462	62041	-1579
2011	60089	92404	-32315
2012	58200	124694	-66494
2013	57946	117094	-59148
2014	59016	106804	-47788
2015	64446	109351	-44905
<i>1991-2010</i>	<i>1753773</i>	<i>959318</i>	<i>794455</i>
<i>2006-2010</i>	<i>311996</i>	<i>227539</i>	<i>84457</i>
<i>2011-2015</i>	<i>299697</i>	<i>550347</i>	<i>-250650</i>

**Source:** Hellenic Statistical Authority

The economic, social and political factors of the neighbour Balkan countries and the Greek financial crisis impact are depicted in the figures 1.3 and 1.4 and in the table 1.4. The economic crisis in the country began in 2009 and for this reason we observe that at the same time the number of incoming migrants began to decrease and the number of outgoing immigrants increased. The paradox is that after 2014 the number of incoming immigrants began to increase rapidly, probably because the economic crisis began to hit the neighboring Balkan countries, forcing people to move to Greece. Although the number of people entering the country increased in 2014, the CS area shrank in population due to the crisis in fur production. This means that many immigrants may have settled in CS initially because it is a remote area, but then moved to other parts of the country for financial reasons.

Immigration to Greece started in 1980s with immigrants coming from Africa and Asia, mainly in the south parts of the country. It was in the 1990s that Greece started receiving large inflows of immigrants from the Central and Eastern Europe following the collapse of the communist regimes. The first immigrants came from Poland, Bulgaria, and Romania, with large numbers of Albanians following soon. During this decade, Greece had the highest proportion of migrants in relation to its labour force in the European Union. The pull factors included Greece's geographical location, weak borders controls, improved economic situation, and seasonal nature of its main industries, such as tourism, construction, and agriculture. Greece has become one of the most important industrialized countries of destination for asylum seekers (International Organization for Migration, 2008).

b) Sex and age

According to Table 1.5., the Dependency Index Report shows the dependent members (children and the elderly) to 100 people of productive age. We note that 80+ seniors are almost equal in 1991 and 2001, but they double in 2014 and continue to increase at a slow pace until 2019. In contrast, children aged 0-14 are declining at a gradual rate, ending in 2019 with almost no half of what it was in 1991. The age groups 15-24 and 25-39 follow a similar process, but at a slower pace. In the age groups 40-54, 55-64 and 65-79 there is a small and gradual increase.

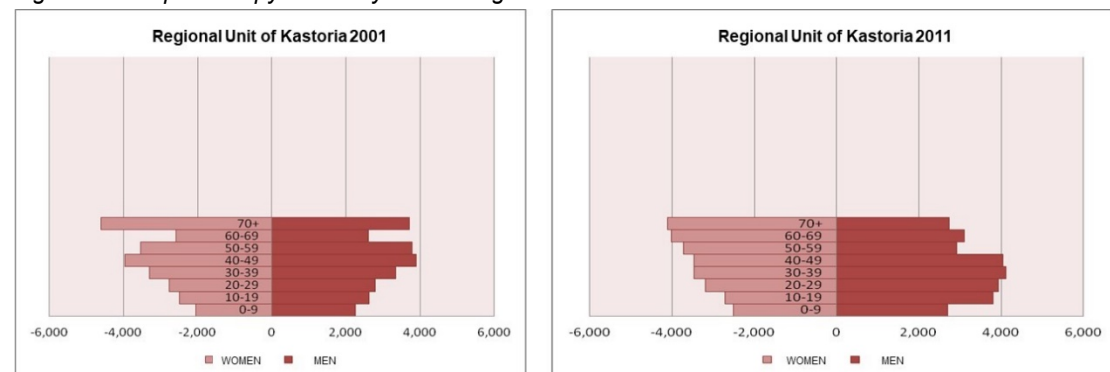
Table 1.5: Sex and age in Regional Unit of Kastoria

Age – Sex/Year	2019	2018	2017	2016	2015	2014	2001	1991
0-14	5901	6042	6155	6305	6434	6595	8265	10620
15-24	4376	4457	4670	4755	4897	5095	7543	7716
25-39	7220	7525	7686	8050	8334	8612	11991	11830
40-54	10461	10687	10939	11118	11336	11483	10829	9009
55-64	7302	7223	7118	6958	6781	6565	5787	6690
65-79	7402	7292	7236	7241	7321	7390	7677	5136
80+	4006	3937	3919	3817	3695	3553	1610	1684
Male	22561	22853	23157	23467	23847	24158	27513	26612
Female	24107	24310	24566	24777	24951	25135	26189	26073

**Source:** Eurostat, Population on 1 January by age group, sex and NUTS 3 region Dataset [Database], Product code: demo\_r\_pjangrp3, updated on 24-Jul-2019

The above data show that fertility rate in the area is gradually decreasing and that in the future the CS area will consist mostly of elderly residents. The dependence on the elderly and the presence of a small percentage of productive residents will lead to growth stagnation, outmigration to other areas and desertification of the CS area. As we can see, the changes from 1991 to 2001 were not great. Significant changes occurred mainly after 2014, when the region faced a crisis in the field of fur production and began to decline financially.

Figure 1.3: Population pyramids by sex of Regional Unit of Kastoria 2001 and 2011



**Source:** Hellenic Statistical Authority, Results of the 2001 and 2011 Population and Housing Census for the Resident, De Jure (registered) and De Facto population of Greece

The population pyramids depict an important fact. The concentration of male population at productive and reproductive ages (20-50 years) is evident. On the contrary, women tend to move to urban regions. Men stay at their birthplace. As in this case, men stay because they are employees or employers mainly in the processing of fur industry and agricultural work.

#### **1.4.2 Characteristics of complex shrinkage of the CS area**

Population decline is not always linked with economic shrinkage, and the complex relationships between economic and demographic processes often show only indirect linkages of these tendencies. In this way, Kastoria is an area of complex shrinkage in Greece in many ways and can be characterised as a disadvantaged region in decline.

Most of the indicators related to economic activity available at the CS level are related to entrepreneurial activity (Table 1.6). The number of enterprises (both absolute and per 1,000 persons) have indicated significant changes in the last 20 years. This can be observed through a drop between 2001 and 2011 (from 5,205 to 4,747), but an increase between 2011 and 2017 (from 4,747 to 5,301). This trend might also be detected at the national level between 2001 and 2011, but with a greater drop and a smaller increase between 2011 and 2017. These tendencies are also mirrored by the relative number of enterprises (per 1000 persons) as well. In this sense the entrepreneurial activity in Kastoria get ahead of the national average regarding the past two decades (e.g. 133 compared to 105 in 2011).

Both in Greece and CS area the number and share of small-sized enterprises ( $1 < \text{staff headcount} < 50$ ) has decreased between 2001 and 2011. However, between 2011 and 2017 this number doubles in the CS area, while at national level it shows a smaller increase. The number of medium-sized enterprises, both nationally and locally, follows a similar course, since between 2001 and 2011 it decreased by almost half, while between 2011 and 2017 it almost tripled. The growth of businesses between 2011 and 2017 is strange as the population decreased in this period, but it may indicate that many people are employed in more than one business as they are forced to do two jobs due to the economic crisis. The ratio of SME in the total number of enterprises is almost 100% in Kastoria, but at the national level it's near 80% in 2001, then it increases near 100% in 2011 to fall at 90% in 2017.

The sectoral division of entrepreneurial activity in the CS area is quite specific. In Kastoria and its surroundings the share of *agricultural enterprises* is higher compared to national level. Industrial activity and constructions are even more important than in other parts of the country due to the fact that the CS area is traditionally engaged in fur processing. During the period 2001-2011 the agricultural activity is reduced by half, both at national level (from 11.54% to 4.41%) and in the CS area (from 16.41% to 7.84%). This is explained by the intense urbanization observed at that time in the country, with most leaving the rural areas and moving to the two major urban centers. However, during the period 2011-2017 there is an unrealistic increase in the number of agricultural enterprises. In the CS area, agricultural enterprises almost increased sevenfold (from 372 to 2142), while at national level they

increased tenfold, reaching the percentage of agricultural enterprises in the CS area (40.41% locally and 37.35% nationally). This development is logical, as before 2014 most of the residents of the CS area had agricultural work as a second and complementary source of income after the income they gained from the production of fur. However, with the decline in the fur sector after 2014, many seem to have turned to agricultural work as their main occupation.

In Kastoria, the percentage of *industrial and construction companies* is more than twice of the national level, as in the CS area there are traditionally several fur processing industries. However, both nationally and locally, there has been a gradual decline in industrial and construction enterprises from 2001 to the present. In the CS area this decrease is more pronounced (from 44.57% in 2001 to 15.02% in 2017), due to the embargo in Russia and the fall in the fur market that forced many fur processing companies to close. Similarly, at national level many industrial and construction companies were forced to close and reopen in neighboring countries due to the economic crisis and heavy taxation (from 19.9% in 2001 to 8.55% in 2017).

Regarding *services*, the share of enterprises from this economic domain has continuously falling at local level in the 2000s and 2010s due mostly to the demographic decline and the non-utilization of tourism. At national level, there was an increase between 2001 and 2011, probably due to the increase in tourism and the important events that took place during this period (Olympic Games, etc.), while between 2011 and 2017 the number of enterprises providing services decreased (from 51.61% to 36.19%) possibly due to population shrinkage.

The ratio of working age population (15–64 years old – an indicator of the extension of potential workforce) and its dynamics in the CS area is similar to national tendencies, which is constantly falling. Additionally, the ratio of unemployed persons within the working age population seems to show an unfavourable trend in the CS area. Unemployment ratio was already higher than the national average in 2001, and it has remained above that level in the past one-two decades. At the local level the increase remain around 2% in the last two decades, while at the national level this increase is much higher, as it doubles during the period 2001 - 2017 (from 6.88% in 2001 to 12.85% in 2017).

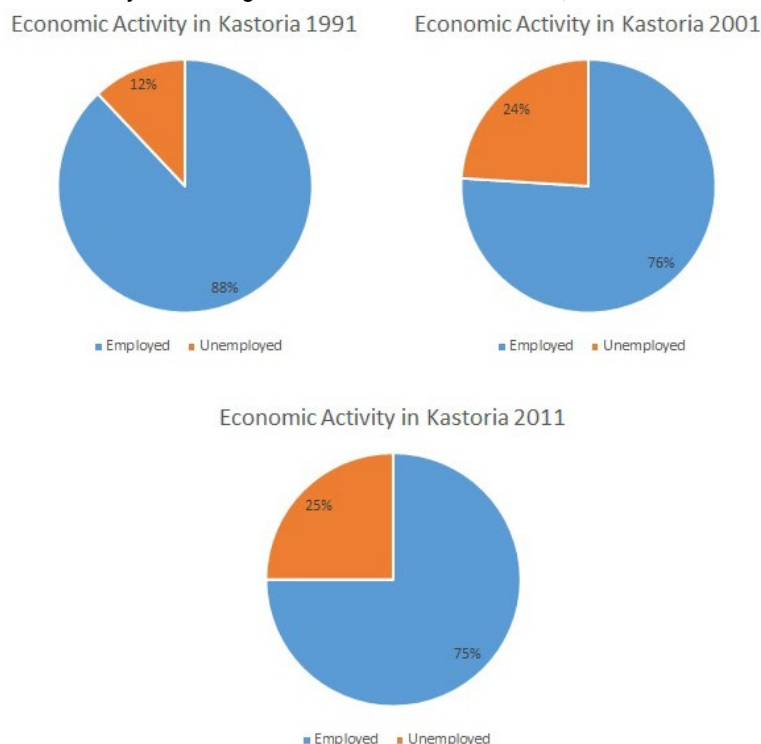
Table 1.6: Economic indicators of the CS area and at national level

<b>Indicator name</b>	<b>Scale</b>	<b>2001</b>	<b>2011</b>	<b>2017</b>
<b>Number of enterprises per 1000 persons</b>	<i>CS area</i>	142	133	157
	<i>Country</i>	136	105	131
<b>Number of small-sized enterprises per 1000 persons</b>	<i>CS area</i>	19.69	16.21	31.47
	<i>Country</i>	110.03	102.18	115.98
<b>Number of medium-sized enterprises per 1000 persons</b>	<i>CS area</i>	0.19	0.11	0.30
	<i>Country</i>	0.64	0.32	0.87

<b>Ratio of SME in the total number of enterprises (%)</b>	<i>CS area</i>	98.62	98.69	97.81
	<i>Country</i>	81.09	97.46	88.90
<b>Ratio of NACE.rev2 A (agriculture) enterprises in the total number of enterprises (%)</b>	<i>CS area</i>	16.41	7.84	40.41
	<i>Country</i>	11.54	4.41	37.35
<b>Ratio of NACE.rev2 B-F (industry, construction) enterprises in the total number of enterprises (%)</b>	<i>CS area</i>	43.57	31.60	15.02
	<i>Country</i>	19.90	16.77	8.55
<b>Ratio of NACE.rev2 G-U (services) enterprises in the total number of enterprises (%)</b>	<i>CS area</i>	37.16	33.90	26.52
	<i>Country</i>	42.62	51.61	36.19
<b>Ratio of working age (15-64 y.o.) population (%)</b>	<i>CS area</i>	69.73	66.80	63.78
	<i>Country</i>	67.91	66.0	64.74
<b>Ratio of jobseekers /unemployed persons in working age population (%)</b>	<i>CS area</i>	14.41	16.06	18.72
	<i>Country</i>	6.88	12.03	12.85

According to Hellenic Statistical Authority, in 1991, the economically active population of the unemployed accounted for 12% of the economically active population, doubling in a decade to 24% in 2001, while in 2011 it remained almost the same (25%) with an increase of only 1%. In 1991 the economically inactive population in the Regional Unit of Kastoria constituted 55% of the total population of the region, a portion that remained steady in years 2001 (54%) and 2011 (55%). At the same time, pensioners occupied a significant proportion of 33% in 1991, 39% in 2001 and 43% in 2011. The employment rate among the age group of 15-34 is was falling from 46% in 1991 to 39% in 2001 and 35% in 2011, while the unemployment rate was increasing from 9% in 1991 to 12% in 2001 and 22% in 2011 in the same age group. On the contrary, the employment rate for adults of 35-54 age group was increasing from 40% in 1991 to 49% in 2001 and 63% in 2011. In 1991, only 2% of this age group was registered as unemployed, a portion that increased to 10% in 2001 and 14% in 2011. Thus, we observe that the unemployment rate is constantly increasing, especially among young people, which pushes many of them to leave the CS area. Respectively, the percentage of retirees is increasing, resulting in a decrease in the available residents of productive age and therefore the area is leading to economic shrinkage.

Figure 1.4: Economic Activity in the Regional Unit of Kastoria in 1991,2001 and 2011



**Source:** Hellenic Statistical Authority, 1991,2001, 2011

Figure 1.4 clearly show that the main sector of economic activity in the 1990s and 2000s is the manufacturing industry. This is logical since Kastoria traditionally deals with the processing of fur. However, it should be noted that while in 1991 processing was the first economic activity with 41.43% of the population engaged in it, in 2001 it remained the first but decreased by almost half, reaching 24.94%. The decrease is even greater in 2011, reaching 15.46% and is now the third largest in the financial sector.

Regarding the other services, they constitute the second economic activity with 23.3% in 1991 and 21.09% in 2001. However, in 2011 they show a small decrease reaching 13.07% and became the fourth economic activity.

In terms of agriculture, livestock, hunting, fishing and forestry, they accounted for the third economic activity in 1991 and 2001 with 16.37% and 16.27% respectively. In 2011 this percentage increased to 18.91%, while it is now the second economic activity in the CS area.

Trade, repairs, hotels and restaurants accounted for the fourth largest sector of economic activity in 1991 and 2001 with 10.97% and 16.04% respectively. However, it is important to note that in 2011 it increased to 22.24%, being the first sector of economic activity. This is probably due to better tourism and the exploitation of the region's natural and cultural wealth over the last two decades.

Regarding the construction sector, in 1991 it was the fifth sector of economic activity with 3.74%, while in 2001 it increased slightly reaching 5.21%, being the sixth sector. In 2011 it decreased slightly to 4.92%, occupying the seventh place.

In terms of transportation, storage and communications, with the small percentage of 2.63% placed as the sixth sector in 1991 and the eighth sector with 2.66% and 3.4% in 2001 and 2011 respectively.

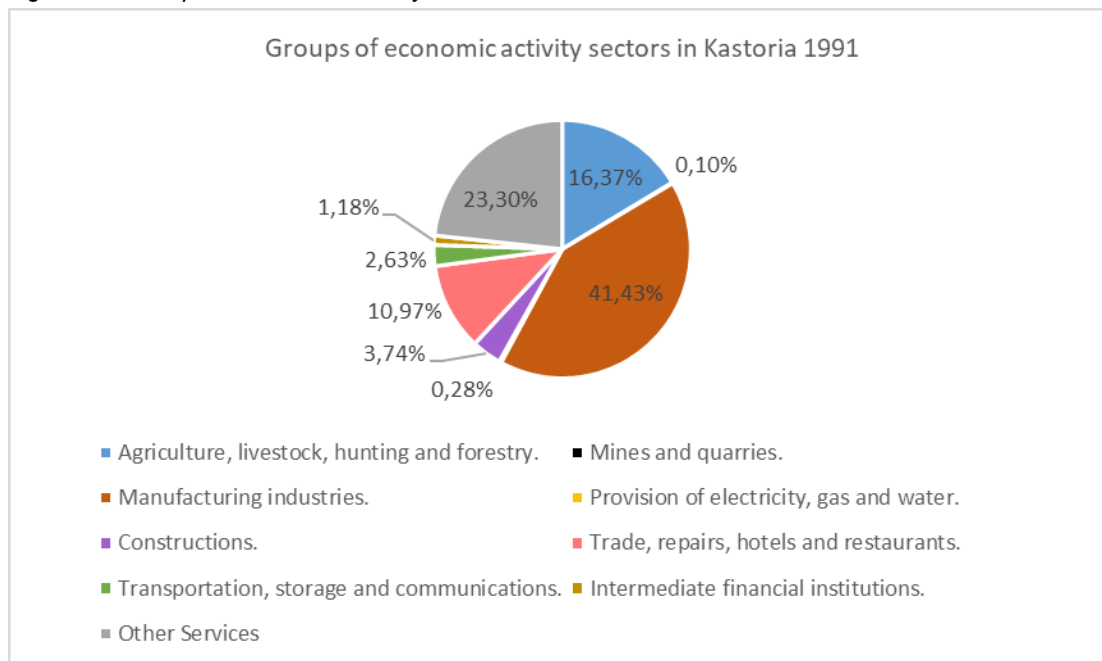
Education did not appear as a separate sector of economic activity in 1991, probably because it was not considered important enough to be recorded separately and so it was included along with other services. However, in the 2001 census we see that it is included as a separate sector, occupying 4.93% and in 2011 it almost doubled, reaching 8.93%. Thus, we understand that education and the new university departments that have opened in the CS area have begun to play an important role for the local economy.

Public administration, defence and compulsory social security also didn't appear as a separate sector of economic activity in 1991 and were included along with other services. However, in 2001 it was the fifth sector with 6.76% and almost doubled in 2011, reaching 11.05%.

Intermediate financial institutions accounted for just 1.18% of economic activity in 1991, 1.35% in 2001 and 1.44% in 2011. Respectively, electricity, gas and water supply had a small percentage in all three decades, with 0.28% in 1991, 0.58% in 2001 and 0.88% in 2011. Other sectors such as mines and quarries appear with a negligible percentage in 1991 and 2001, while in 2011 they no longer existed as a separate sector.

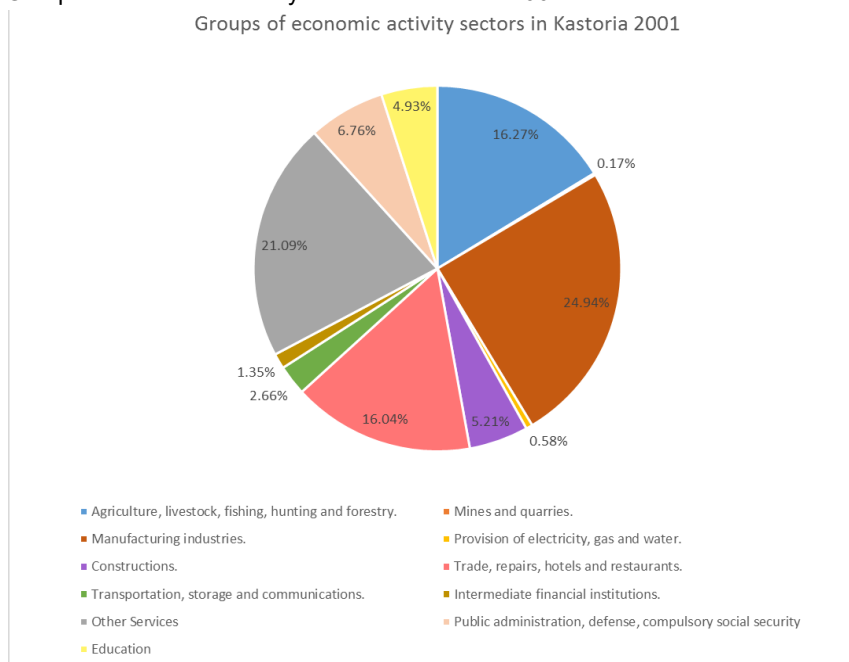
We can observe that the most developed sectors in the Regional Unit of Kastoria, as well as in the Region of Western Macedonia are the primary sector, the manufacturing sector and trade, repairs, restaurants and hotels. These sectors present the highest employment rates and are mostly related with the complex shrinkage. In any case, the decline in the fur sector, the lack of funding for agricultural activities and the non-utilization of the tourism sector justify the fact that the population is shrinking in the CS area, since the local economy is based on these sectors, as we observe in the Figures 1.5, 1.6, 1.7.

Figure 1.5: Groups of economic activity sectors in Kastoria 1991



Source: Hellenic Statistical Authority, 1991

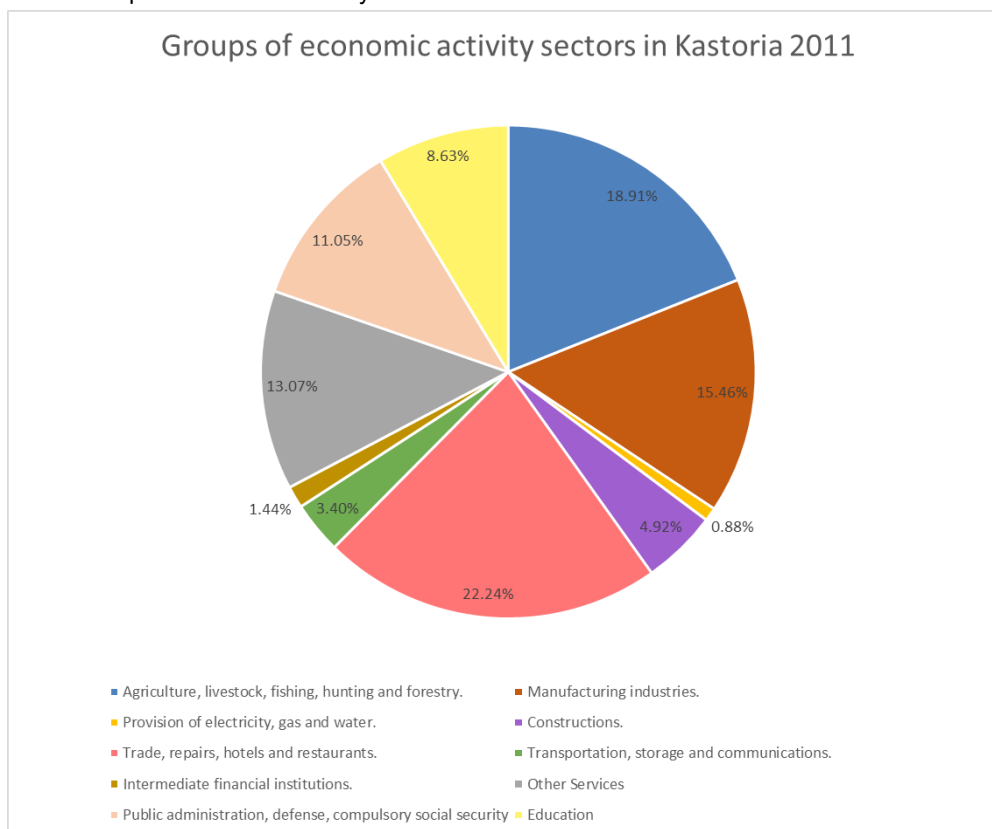
Figure 1.6: Groups of economic activity sectors in Kastoria 2001



Source: Hellenic Statistical Authority, 2001



Figure 1.7: Groups of economic activity sectors in Kastoria 2011



**Source:** Hellenic Statistical Authority, 2011

Specifically, Western Macedonia Region's revenue from tourism in 2018 accounted for only 0.4% (€ 83m) of the Country's total revenue while tourism's direct contribution to the Region's GDP was estimated only to 2%. Also, according to our estimates, the GDP of Western Macedonia Region decreased in 2018 by -12.5% (from € 4.530m in 2014 to € 3.963m in 2018) (Insete, 2018). On the contrary, in the Regional Unit of Kastoria there was a decrease of about -11,5% from € 557m in 2014, when the crisis in the fur production began, to € 500m in 2018. Respectively, in the Regional Unit of Kozani there was a little bit greater decrease than in the Regional Unit of Kastoria, approximately -12, 5% from € 2,944m in 2014 to € 2,575m in 2018 and in the Regional Unit of Florina approximately -1% from € 920m in 2016 to € 890m in 2018. Thus, we observe that the Prefecture of Kastoria had less thousands of euros from other prefectures and presented a significant reduction in 4 years. Furthermore, it should be noted that compared to the other regions of Greece, in the period 2014-2018 only the Region of Western Macedonia and the Region of North Aegean (- 0.2%) showed a decrease in GDP. At the same time, the Regional Unit of Kastoria faces the second largest decrease (11.5%), after the neighboring Regional Unit of Kozani (12.5%), followed by the Regional unit of Xanthi with 9.6%, the Regional Unit of Ikaria - Samos with 7.2%, the Regional Unit of Aetolia-Acarnania with 7%, the Regional Unit of Arta with 6.1% and the Regional Unit of Rhodope with 5.6%. The rest of the regional units show a small decrease of less than 4%. Thus, we observe that the examined regional unit had one of the most significant reductions in the

period 2014-2018, with the main reason being the decline in production - demand of fur and the main impact was its population shrinkage, migration and economic decline.

The contribution of Regional Unit of Kastoria GDP in the national and regional level is depicted in Table 1.7. The percentage contribution of Regional Unit of Kastoria is decreasing since 2011 (period of the national financial crisis), while the corresponding figure for the Region of Western Macedonia-Greece recovers only for year 2016. Of course, the main reason that GDP declined in 2014 is the crisis in fur production that occurred in the CS area, due to the embargo on Russia.

*Table 1.7: Regional Unit of Kastoria contribution to national and region GDP*

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Greece	0,28%	0,28%	0,28%	0,30%	0,28%	0,31%	0,30%	0,29%	0,29%
Region of Western Macedonia	14,14%	13,18%	12,87%	12,99%	11,21%	12,65%	11,70%	11,80%	13,19%

**Source:** Eurostat, Gross domestic product (GDP) at current market prices by NUTS 3 regions, Dataset [Database], Product code: nama\_10r\_3gdp, updated on 06-Sep-2019

According to a study by the Egnatia<sup>4</sup> Motorway Observatory (2013), the road occupancy of passenger cars from 2005 to 2013 is constantly increasing. That's logical if we think that there is a long tradition of the export oriented fur industry based in Kastoria and the nearby region, deeply rooted in the local economy, however strongly depending on the international market conditions. Almost every fur product that is produced locally it is exported. The fur industry is a traditional one, typical of this particular region, with a well-established know-how. Family-run businesses with specific knowledge and capacity are also run in a traditional way. Inadequate management and marketing knowledge and capacities could be a factor that have driven the industry into market competition crisis as the industry appears unable to remain in the region and to adapt to new market conditions. However, the economy is spatially specified and has been developed as a very strong one-man activity. On the other hand, the family-run nature of the business makes them more flexible and more easily adapted to challenges, without migration being one option.

From an economic point of view someone could claim that the fur industry is not directly affected by what is happening in the national economy, such as the Greek financial crisis for example. However, the fur sector is very strongly affected, by the trade embargo of the EU against Russia during the last 7 years (a 40% reduction in export value of 2013 in relation to the corresponding figure of 2012). In 2000, there were about 25,000 fur workers in the CS area, but in 2019 remained less than 5,000. Fur production was the 2nd most exported industry in the country, and now has become the 4th. Because of the EU's foreign policy

---

<sup>4</sup>Egnatia motorway the large infrastructure project completed recently that connects Asia Minor (Istanbul) to the EU, passing through Northern Greece and the Westernern Region under study. New connection road connects the CS area with Egnatia motorway

Against Russia, fur duties have increased so that the fur exported mainly to the Russian market is much more expensive. Thus, fur exports declined significantly ( $\approx 500$  million exports in 2013, but  $\approx 150$  million exports in 2019) and more than 500 fur workers left with their families in Russia to work in related fur companies. The economic downturn of fur has affected other sectors of economic activity, causing the closure of about 1000 businesses in the last 5 years.

Another significant economic sector in the municipality of Kastoria is the agriculture, due to the plain, fertile land and the irrigation facility. However, the productivity decline of the agricultural sector is influenced by demographic changes, lack of investment in new technology, non-completion of irrigation projects, high cost of agricultural supplies, consumables and fuel, the constant decline of the population and its non-renewal resulting to the aging of the residents, that don't have the ability to work in the fields anymore.

Regarding to the household income, regional level data show that during the economic crisis period from 2008-2016 the household income decreases. The impact of the economic crisis is reflected in Region's household income, on the contrast of productive activity, which seems to remain constant. In addition, figures show that household income is declining also. The family structure of the farming industry may delay its structural adjustment, however its survival ability is clearly threatened.

Table 1.8: Household income (million €)

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Greece	159,299.1	158,959.82	147,254.26	132,236.03	121,339.59	111,496.4	110,057.97	106,828.52	105,781.41
Region of Western Macedonia	3,600.58	3,648.09	3,402.95	3,130.9	3,015.96	2,790.77	2,725.33	2,639.05	2,510.48

Source: Eurostat

After taking into account the data and the analysis presented above, it can be concluded that a definitely visible trend is simple shrinking of the studied area, accompanied by economic shrinkage and stagnation in a complex sense (complex shrinking).

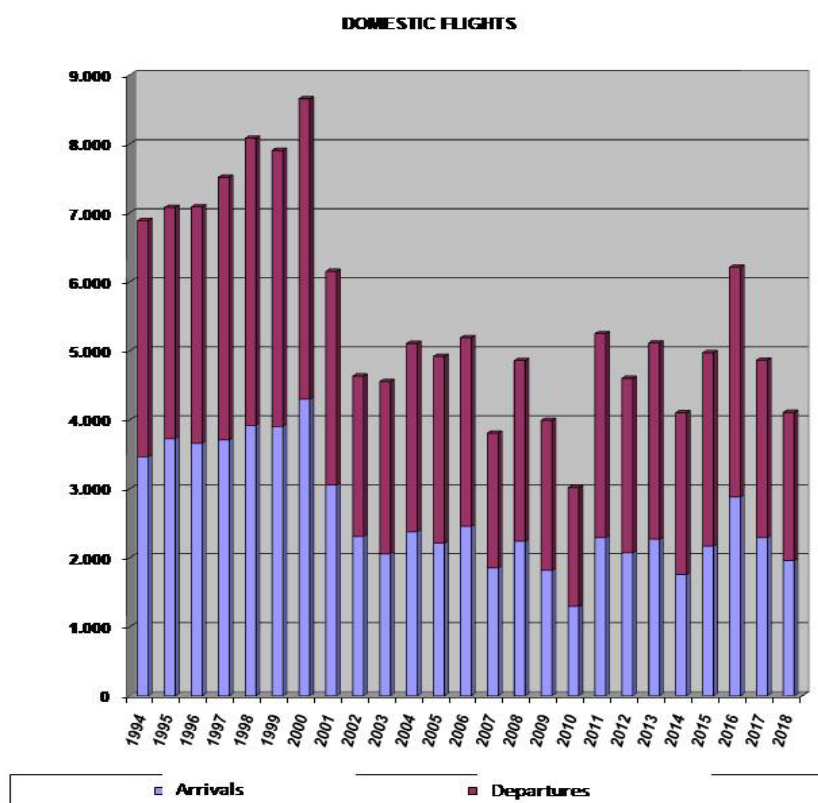
### 1.4.3 Broader socio-economic contexts of Shrinkage which may drive shrinking

Beyond direct economic influences, demographic tendencies of the CS area might also be affected by various socio-economic factors. One of them is the geographical position near the border of Greece and Albania. The Region of Western Macedonia, where the CS belongs is served by one local airport, the "Aristotle" Kastoria State Airport and the Egnatia road.

Kastoria State Airport is 500 meters away from the town of Argos Orestiko and 12 km from the city of Kastoria, the capital of the Municipal Unity. From time to time, the "Aristotle Airport" plays an important role for local economy, mainly for the fur industry. The number of departures and arrivals from 1994 until 2018 is depicted in the Figures 1.8 and 1.9

Concerning the domestic flights, from 1994 until 2000 there was a continuous increase of passengers that used the airport. After 2000, the number of passengers decreased and the lowest number was in 2010.

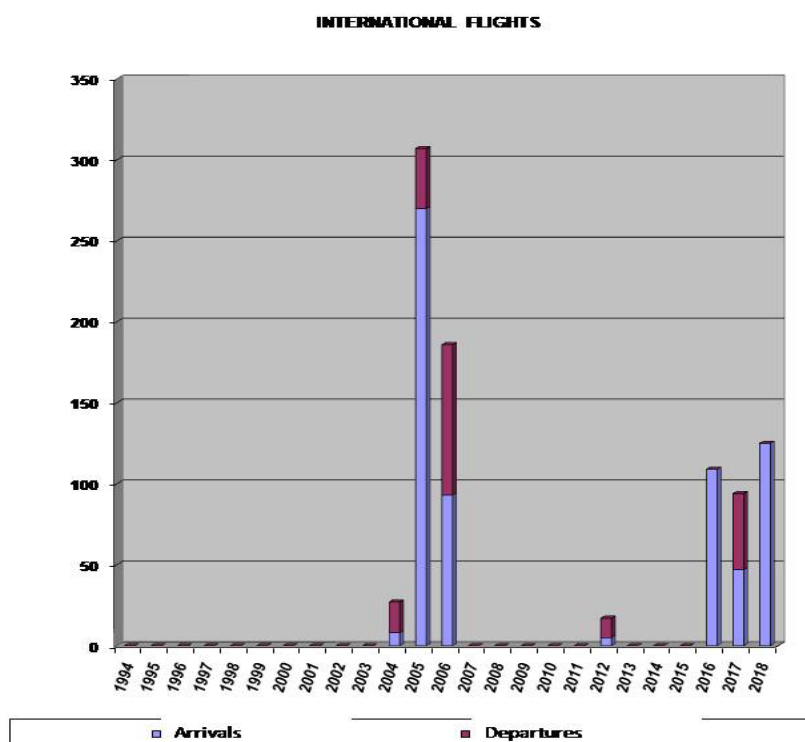
Figure 1.8: Domestic flights arrivals and departures in the “Aristotle Airport” of Kastoria from 1994 until 2018



Source: <http://www.ypa.gr/our-airports/kratikos-aerolimenas-kastorias-aristotelhs-kakta>

Fur industry attracts tourists in Kastoria. People from Russia, Georgia, Moldova, Estonia, Latvia, Lithuania, Ukraine and Belarus visit Kastoria in order to buy furs. The temperatures are very low in these countries and people consume furs. They usually purchase furs during their summer holidays in Greece. Thus, they combine their visit to Greek islands or coastal regions with a visit in the city of Kastoria, where they are sure that they will find the high quality handmade furs of Kastoria in a lower price than they would find them in their countries. In 2005 there was a steep increase of international arrivals in the “Aristotle Airport” of Kastoria (Figure 1.9). The departures did not increase proportionally, but in 2006 the departures increase and the arrivals decrease again. In years 2016-2018 we see an unexpected increase of international arrivals. Due to embargo in Russia in 2014 we expected a decrease rather than an increase. This increase maybe means the growth of tourism in the area.

Figure 1.9: International flights arrivals and departures in the “Aristotle Airport” of Kastoria from 1994 until 2018



Source: <http://www.ypa.gr/our-airports/kratikos-aerolimenas-kastorias-aristotelhs-kakta>

Moreover, due to the mountainous terrain of the area and the bad weather conditions, transportation and road connection, especially, the winter months is difficult. The situation has dramatically changed after the development of the New Egnatia Motorway, however it is still an issue for the connection within the Municipal Unity and its remote and mountainous villages and remaining settlements. That's maybe the reason why some remoted villages couldn't grow economically (e.g. difficulty and high cost in transporting agricultural products) and remained abandoned.

The road network is greatly improved by facilitating communications in the inland of the Region, gaining access to Egnatia and the vertical axes, as well as ensuring road safety and exploiting the growth prospects generated by the access infrastructure and services. However, there is still a need to build new roads to improve accessibility mainly to areas of particular economic interest (tourist areas, areas of great natural beauty, etc.) and quality upgrades to the inter-regional road network. Finally, there is not rail network inside the Municipality of Kastoria. The Region's rail network is inadequate and is covered by a 170km basic network.

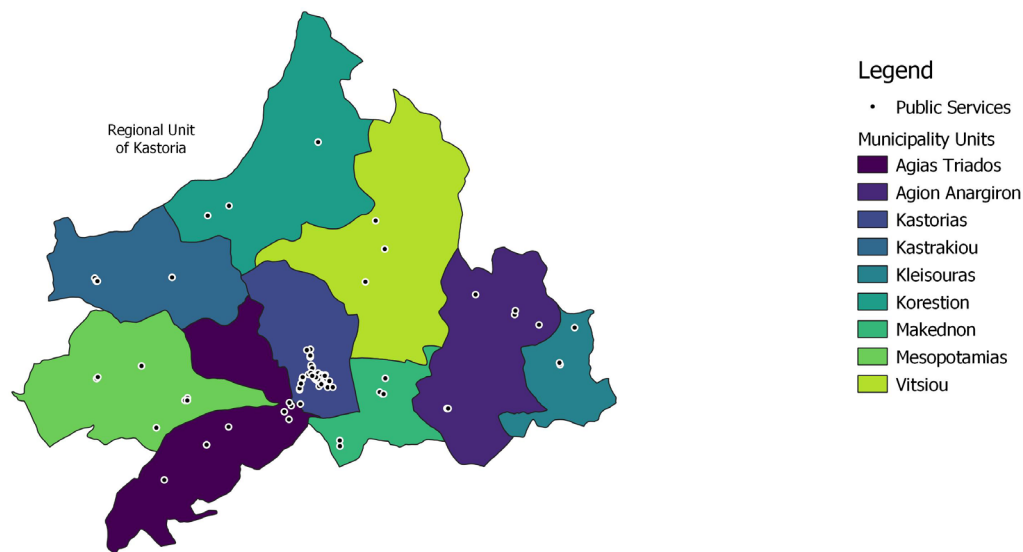
Beyond these drawbacks related to physical, geographical facilities of connections, the virtual connectivity of the CS area can also characterized as poor, average within Greece and Europe generally. The number of broadband Internet subscriptions in the CS area has doubled in 4 years (from 14% in 2013 to 28.04% in 2017), however it remains much lower than the national average (76% in 2018).

The number of newly-built dwellings is very low (2 times lower than for the national level) and is becoming even lower and there is no sign for adjustment in recent years.

Regarding service provision, the level of supply of CS area with services of general interest (SGI) seem to be average compared to the national level, but considering depopulation tendencies affecting the region, this image is not so clear-cut. Regarding health care provision, the number of general practitioners (GPs) per 1,000 person is increasing and is a little bit higher than the national level in years 2001 and 2011, but in 2017 the number of GPs in Greece became the same as in CS area reaching 3.6 in 1,000 persons. Correspondingly, the number of hospital beds follows an increasing trend both locally and nationally, with the CS area having fewer beds than the national average.

Map 1.6 shows the geography /availability of key public and private services (education, healthcare, community/cultural-services). Most of them are concentrated in the urban area of Kastoria.

Map 1.6: Public services in Kastoria

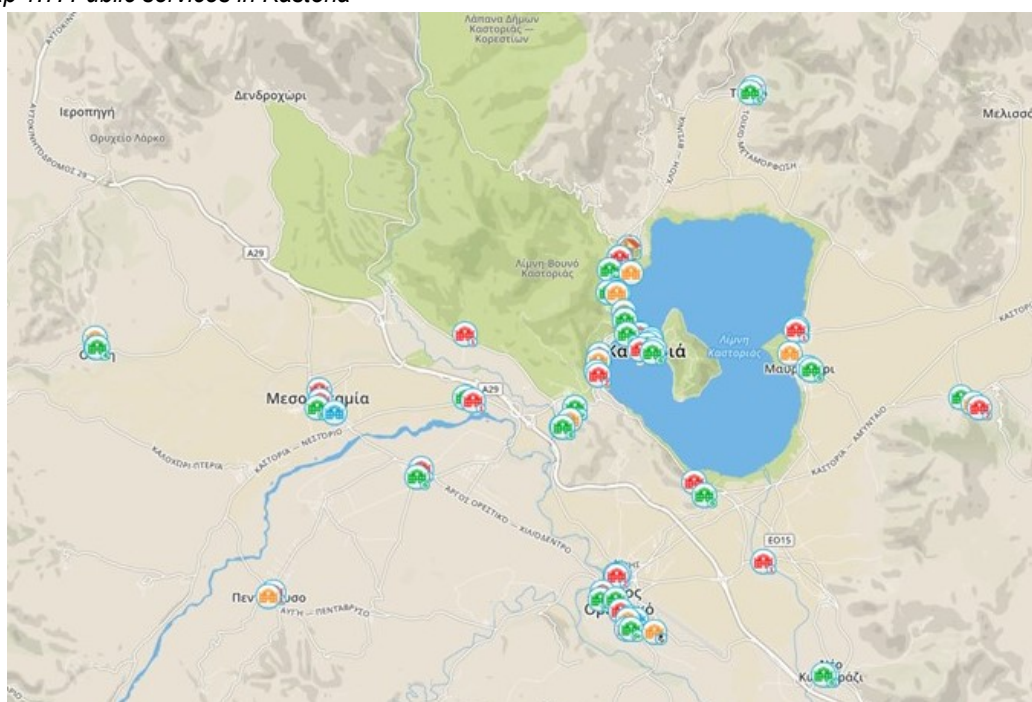


The educational system in Greece consists of one or two years kindergarten, six years of primary school, three years of secondary school (gymnasium) and three years of high school (lyceum). Then, there are many options for higher education and training.

In the Case study area, there are 27 public kindergartens and 1 private. The number of primary schools is 30 and one of them is primary school for people with disabilities. 10 out of the 30 primary schools of the Case Study area are located in the city of Kastoria, 4 in the city of Argos Orestiko and the rest 16 in other cities or villages (Dide.kas, 2020). Concerning the secondary education, there are 17 secondary schools (gymnasium) and 7 high schools (lyceum). 7 out of the 17 gymnasiums of the Case Study area are located in the city of

Kastoria (Dide.kas, 2020). One out of seven gymnasiums of the city of Kastoria is evening high school and 1 is Special Professional High School. The general high schools (lyceum) in the Case Study area are 7 and 4 of them are in the city of Kastoria (Dide.kas, 2020). Apart from the general lyceums, there are 5 professional lyceums, 1 Environmental Education Centre for students and 1 “second chance” school and 1 vocational training institute (Dide.kas, 2020). According to what the local and regional stakeholders stated, many students need to travel to go to school and year after year the number of schools decreases. The villages located in the northeast of the CS area(e.g. Melissotopos, Kleisoura, Verga, Vasileiada, Polikeraso, e.tc.) face the greatest shortage of educational units and it takes about 25-30 minutes (by car) to move to the nearest educational unit. The following figure depicts the distribution of schools in the case study area that are located in the big cities of the Case Study area.

Map 1.7: Public services in Kastoria



**Source:** <https://dmaked.pde.sch.gr/media/maps/index.html>

The number of educational institutions (from early childhood to secondary) in CS area also show a certain decline. The number of kindergartens has dropped from 40 to 27, and the number of schools (primary and secondary) has decreased from 62 to 47 between 2001 and 2017 (following the decline of the population share of the child age group). During this period, the overall number of these educational institutions has also decreased in Greece, with only a small rise in kindergartens in 2011.

Finally, some of the Schools and Departments of the University of Western Macedonia (University of Western Macedonia, 2020) are located in the city of Kastoria. More specifically, the following School and Departments are located in Kastoria:

- School of Science: Department of Mathematics and Department of informatics
- Department of Economic Sciences
- Department of Communication and Digital Media

These Departments have new buildings, sufficient educational staff and are well – equipped. For these reasons, they attract significant numbers of students and augment the proportion of young people living in the CS area. What’s more, these people boost the economy of dining and nightlife enterprises and can be probably the future workforce.

Characteristics of human and social capital in the area are results of complex influences and are not exempt from the impact of demographic tendencies. The ratio of population with low qualification in Kastoria was/is tendentiously much higher (almost double) than the national average. From 2001 to 2017 these ratios have decreased all over Greece, and Kastoria and its wider surroundings has also followed this trend. This happened because when the agricultural productivity was at its peak the family labour supply was necessary for running the farm while children education was not a priority. Also, only those who could economically afford it could continue studying.

Contrary to that, the ratio of population with high qualification was always lower in the CS area compared to the national average, and while this rate also increased during the past 15–20 years, the gap between the value of the case study area and the Greek average has become wider. Groups under the age of 40 have a high percentage of middle, and higher education graduates. This is due to changing standards of living related to the fur economy increase in the Region. Education is a priority and a goal for many young people as it seen as a mean of social change. At the same time, the improvement of road connectivity with urban centers has positively contributed to young people attending schools and education. It is interesting to note that during the stage of fur industry thrive, young people prefer to get a job which was well paid in the fur industry, rather to leave the place and study in colleges or universities outside the CS area.

An important point of the relationship between human capital and demographic problems affecting Kastoria is that the area faces challenges in keeping its younger population with high qualification, as most of them prefer to migrate abroad.

*Table 1.9: Contextual indicators of shrinkage in the CS area and at national level*

<b>Indicator name</b>	<b>Scale</b>	<b>2001</b>	<b>2011</b>	<b>2017</b>
<b>Ratio of households with broadband access in the total number of households (%)</b>	<i>CS area</i>	N/A	14.0 (2013)	28.4
	<i>Country</i>	31.0 (2008)	56.0 (2013)	76.0 (2018)
<b>Number of newly built dwellings</b>	<i>CS area</i>	1.37	0.70	0.53



<b>per 1000 persons</b>	<i>Country</i>	2.0	1.75	1.62
<b>Ratio of newly built dwellings in the housing stock (%)</b>	<i>CS area</i>	0.31	0.13	0.09
	<i>Country</i>	0.40	0.30	0.25
<b>Number of general practitioners per 1000 persons</b>	<i>CS area</i>	2.05	2.94	3.56
	<i>Country</i>	1.66	1.93	3.60
<b>Number of hospital beds per 1000 persons</b>	<i>CS area</i>	2.73	3.02	3.56
	<i>Country</i>	4.01	4.65	4.96
<b>Number of kindergartens per 1000 persons</b>	<i>CS area</i>	1.09	0.84	0.80
	<i>Country</i>	0.51	0.54	0.52
<b>Number of schools (primary+secondary) per 1000 persons</b>	<i>CS area</i>	1.70	1.43	1.40
	<i>Country</i>	0.83	0.79	0.74
<b>Ratio of population with low qualification (%)</b>	<i>CS area</i>	88.69	82.79	80.07
	<i>Country</i>	49.33	42.46	39.77
<b>Ratio of population with high qualification (%)</b>	<i>CS area</i>	13.78	24.24	27.93
	<i>Country</i>	17.70	24.30	29.36
<b>Number of NGOs per 1000 persons</b>	<i>CS area</i>	N/A	0.08	0.21
	<i>Country</i>	N/A	0.07	0.28

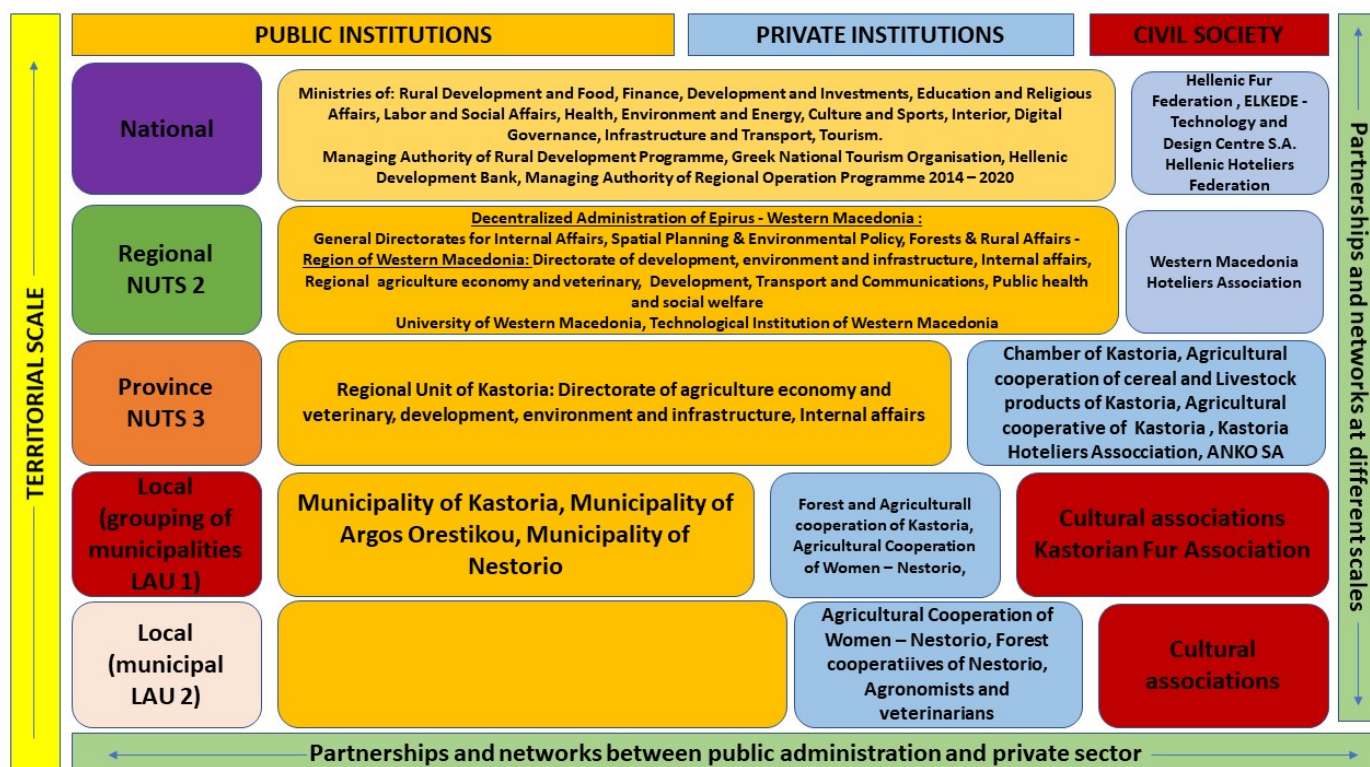
The ratio of civic engagement is difficult to illustrate by statistical data, as there are many organizations that are not registered as official NGOs. No data are available for 2001, but in 2011 and 2017 the number of registered NGOs is quite low (3 and 7 NGOs respectively). Similar numbers apply to the whole country and follow the same upward trend as the region. Thus, we observe that both in the CS area and in the country there is little involvement of civil society in governance.

The public transportation services could be considered as satisfactory in the Case Study area.

## 1.5 Governance framework

The Greek Administrative System is very complicated and consists of many administrative levels. An overview of the organizations/institutions involved in rural/regional development and contributing to mitigation of /adaptation to population shrinkage) is depicted below.

Figure 1.10: Governance framework



Source: Own elaboration

The decisions that are taken from the local level authorities / bodies are transmitted through the NUTS 3 levels bodies to the national level ones. There is also an interaction among the local and national level institutions and the community associations. The complex and bureaucratic Greek governance system, coupled with the economic crisis severely discouraged investment both in the country and the CS area level too, positively contributing to economic and population shrinkage.

The Case Study area is a rural region. As we are talking about rural development, the main authority, which is responsible for the design and implementation of the Rural Development Policy is the Ministry of Rural Development and Food. It participates in the negotiation with the European Union and it produces all the institutional framework such as the National Strategic Plan for Rural Development, the Rural Development Programme and all the official texts related to the design and implementation of CAP Pillar I and Pillar II policies in Greece. The administrative system could be considered as centralised and the Managing Authority of the Rural Development Programme of the Ministry is responsible for the implementation of many measures of the Rural Development Programme.

At national there are also other Ministries that play an important role in the development of rural areas. Public and private investments are the main “ingredient” for development. Thus, the Ministry of Finance, the Ministry of Development and Investments and the Ministry of Environment and Energy set the priorities for investments all over Greece and monitor all the

financing “tools” for public works and potential private investments. Accessibility and transportations of goods and people is also very important for the economic development of a Region and this is the reason why the Ministry of Infrastructure and Transport influences the growth of the Case Study area with the implementation of its policy. Tourism is one of the main economic activities in Greece and local and regional stakeholders believe that there are many potentials for more intense tourism industry in the Case Study area of Kastoria. Natural beauties, archeological monuments, fur industry and agriculture are the main “pillars” of the regional tourism development of the Case Study area. The local “tourism product” should be developed in collaboration with the Ministry of Tourism.

The most important authority for the implementation of the policy measures of the Rural Development Programme at regional level is the Directorate of Rural Economy and Veterinary of the Regional Unit of Kastoria, which is responsible for the implementation of many measures of the Rural Development Programme. The files of the potential investors are submitted in the Regional Directorate of Rural Economy and Veterinary. For the measures that are under the responsibility of the Regional Directorate of Rural Economy and Veterinary it evaluates the files and it implements the funded projects. For the ones that are under the responsibility of the Ministry of Rural Development and Food it just checks if the eligibility criteria are met and it forwards the files to the Ministry. Other Directorates of the Regional Unit are responsible for the implementation of other programmes such as the Regional Operation Programme.

Another crucial actor at regional level is the Local Action Group, which is the Development Company of Kastoria (Αναπτυξιακή Καστοριάς ΑΕ – Anaptixiaki Kastorias SA)(ANKAS, 2020). It is responsible for the implementation of the CLLD - Measure 19 "Local Development with Local Initiative Communities" of the Rural Development Program 2014 - 2020 for the Regional Unit of Kastoria. Apart from the support services for the CLLD it also offers advisory services to potential investors or people who implement co-financed projects. The main activities of the ANKAS SA are the following:

- Management and utilization of European and national programs,
- Informing individuals about national and European development programs,
- Preparation of studies - submission of proposals,
- Staff - technical support for the development planning of the area,
- Provision of consulting services to Local Government and to individuals,
- Data research and documentation,
- Training.

The total share capital of ANKAS S.A. is 113.496,45 € and consists of 6.852 shares with a nominal share value of 29,35 €. Legal Entities under Public Law (Municipality of Kastoria, Region of Western Macedonia, Municipality of Orestidos, Municipality of Nestorio) hold 71.36% of the share capital. Private Law Entities (Union of Agricultural Cooperatives of Kastoria, Regional Fund of Western Macedonia, Chamber of Kastoria, Development

Company of Western Macedonia, Hellenic Fur Center) hold 28.65% of the share capital (ANKAS, 2020). The Local Action Group operates under the responsibility of the ANKAS S.A. At local level, the Kastorian Fur Association promotes the interests of the people who are involved in the fur industry, it organises events, it develops marketing strategies, it participates in exhibitions all over the world and contributes to networking. The local and regional stakeholders believe that the agricultural cooperatives did not succeed to contribute in the development of the primary sector. The Cooperative of Kastoria, which is located in the city of Argos Orestiko mainly offers advisory services to farmers and it helps them to administrative issues.

The results of the primary research confirm that practically there is lack of any kind of policy mechanism – formal or informal – at any administrative level, which addressed the simple and/or complex shrinking. Administration services at national, regional and local level are appointed to implement particular policy measures, but in many cases the communication among the different administrative level is far from effective. Rural shrinkage as a “policy issue” seems to be of a minor concern for policy makers at all policy levels. Regional and local authorities could have a more active role, as they are closer to the problems and the challenges faced by local communities. They are able to identify the shortcomings and the barriers to the effective implementation of policy and make suggestions to the upper administrative levels. The input of regional and local authorities could be the ideal feedback for policy decision makers, who design policies at EU and national level. The main problem is identified to the lack or extremely low decision/implementing power of the local both public and private actors.

At the same time, other stakeholders at local level, who are involved in the rural development processes, such as farmers or people that live in rural areas in general are not active in the sense of involvement in decision making process. They only form professional or economics agencies, such as cooperatives that are strictly dedicated to issues related to their particular job related issues system but not for the local community as a whole. Thus, one of the most remarkable outcomes is the absence of structures, initiatives or networks – formal or informal – that facilitate or prevent the shrinkage process in the Greek countryside in general and especially in the case study area of Kastoria.

## **2 Patterns and causalities of rural shrinkage**

### **2.1 Broad introduction of global and national factors impacting shrinkage in the CS country**

According to S.Polyzos, general statement, after 1950, the post-war economic challenges in Greece, that have been characterized by shrinkage of the primary sector and an increase in the secondary and the tertiary sector, have been accompanied by the movement of population from rural to urban areas, increased urbanization and the strengthening of urban centers in Greece (Polyzos, 2016).

This development mainly favored the two major urban centers, Athens and Thessaloniki, which increased their population. Specifically, during the period 1961-2001, their population increased by 82% and 93% respectively. Athens accounted for 35% of the country's total population -according to the 2001 census- and it is estimated that the actual number may exceed 40% of the total population and 42% of the urban population. This is a phenomenon not observed in any other country in Europe.

As a result, all economic activities, services, administration and important national and international infrastructures are concentrated in the capital. Most of the decisions concerning the countryside are taken in Athens and some activities are concentrated or are executed only in Athens.

Urbanization, according to Polyzos, results in the malfunction not only of the capital but also of the development process of other areas. Owing to the fact that larger urban centers with similar economic activities are concentrated on the main axis Athens, Patras, Thessaloniki, Kavala, which are the largest urban centers in Greece there is a spatial S-shaped form of development. The rest of the country is left in financial deprivation. The less developed regions have lost their productive capacity, their natural resources have been depleted, and many of them have led to economic and social disruption.

Another cause of urbanization is immigration to the industrialized countries of Western Europe, which deprived the country of the citizens of those ages that could contribute to economic growth. It is estimated that during the period 1967-1971 approximately 800,000 people immigrated mainly to Germany, while during the period 1971-1977 1,050,000 people emigrated, representing 12% of the country's population. With migration there was a foreign exchange inflow resulting in increased resources. From 1920 to 2000 the proportion of the urban population increased from 23% to 73% while the share of the rural population decreased from 62% to 27%. In 1990s immigrants initially from African and then the Balkan countries started to move to Greece. Most of them came from Albania and they settled in the countryside working as seasonal farm and construction workers. These immigrants participate in the revitalization of the countryside, as well as in the strengthening of its business activities (Labrianidis, 2005). Immigrants covered local labour deficits, boosted agricultural productivity and reduced wage increases in agriculture and other sectors. Their work did not replace the

work of the locals, but was mainly carried out in sectors where no work would be done without foreign workers (Vaiou and Chatzimichalis, 1998).

In 2010, the Greek financial crisis was a factor that had a very important impact in rural shrinkage. Investments had been drastically declined or even lost and the income decreased, also for that situation responsible was and the decline of the European funds. Many Greek citizens at the age between 19 – 35 left the countryside and moved to bigger cities in the country or to other countries. In the case study area, which is very close to the Greek – Albanian borders, the immigrants that had settled there in 1990s started moved back to Albania or other countries all over the World.

The Greek countryside occupies about 80-90% of the country and today only 25% of the total population lives in it. Peripheral, rural and industrial areas in decline tend to be more at risk of depopulation. The transformation of the sectors leads people for searching other ways of living. It is a general phenomenon in Greece, in searching for a better living, people abandon something that in other situation would give them better income opportunities. Urban migration within the country and abroad is leaving rural areas abandoned.

At the same time, in the last years with the evolution of technology there is a general negatively charged perception of life in the countryside. This perception is largely due to the fact that rural areas have limited infrastructure (roads, networks), but also social infrastructure (health services, education, welfare), which contributes to a mood of escape and abandonment of the countryside, mainly from the younger ones.

Immigration is a clear phenomenon both in Greece and the CS area, while severe lack of data hinders the ability to draw safe conclusions of its impact. The new challenge might be the arrival of newcomers' refugees and immigrants from Middle East or other countries. For the time being, there are not many refugees moved in the area of Kastoria, however safe projections for the future are not available.

To summarize, M. Angelidis (2000) argues that the Greek rural area in the post-war period is undergoing constant transformations and can be distinguished in three sub-stages:

**First stage:** It lasts until the mid-50s where the rural areas have a classic form and the primary sector dominates economically and socially.

**Second stage:** In the following decades, until the 90's, capital and production began to be concentrated in the agricultural sector, agricultural production was mechanized and the first industrial and craft units were created, mainly for the processing of agricultural products. At the same time, the purely rural population continues to decline, as does the rural outflow of the population to the cities.

**Third stage:** This stage, which begins in the 90's, is characterized by the restructuring of the economy and space. The rural area is changing: a) the participation of the agricultural sector in GDP and the participation of those employed in the agricultural sector is limited, b) industry

in rural areas remains stagnant and / or limited, while services such as tourism are strengthened.

## **2.2 Evolution of shrinkage in the CS area**

Kastoria's strategic position played a decisive role in its cultural and economic development and was one of the most important economic and cultural centers of Macedonia in different periods of time. Evidence for habitation in the area can be traced back to the Neolithic era. The city has been an important hub in Western Macedonia over the centuries.

During the 15th century the city of Kastoria was the third largest city of the whole Balkan Peninsula concerning the population. Its population consisted of Greek orthodox people, Muslims from Albania and Turkey and Jewish. The beginning of the 18th century was a very wealthy period for the City of Kastoria. Many people from the area, who moved to Central or Eastern European cities invested the money they earned back to the city of their origin. This was the period of the development of fur industry, which still play a crucial role in local economy. From 1920 until 1940 many Greek refugees from Asia Minor moved to the area of Kastoria and the population increased rapidly.

Kastoria was liberated during the First Balkan War on November 11, 1912. After the Asia Minor Catastrophe and the subsequent obligatory exchange of populations between Greece and Turkey, under the Treaty of Lausanne, 388 Greek refugees from Asia Minor first settled in the prefecture of Kastoria. After the departure of the Turks, 43 families of fishermen arrived in the city of Kastoria from Apolloniada in Bithynia, following the actions of the local Settlement Office, to engage in fishing on the lake. In 1939 the city of Kastoria was bombed by Italian bombers and civilians were reported dead and several wounded. During World War II, the contribution of the locals to the struggle against the Italian, Bulgarian and German conquerors was significant.

During the Civil War (1946-1949), the region of Kastoria was the center of the development of armed bloodshed and of the sad social consequences that followed. The fierce fighting in its mountainous areas of Grammos and Vitsi caused indescribable suffering in the city. "In the suffocatingly inhabited and closely besieged Kastoria, there were often serious shortages of basic necessities, such as firewood, oil lamps and foodstuffs. Those who dared to go to the neighboring villages for logging were treated as agents." Groups of malnourished children were wandering the streets in search of food, and the few beds in state hospitals were not enough for those injured in the fighting and mines. "In June 1949, 77,822 refugees from partially or completely abandoned villages in the area were counted to reach a total of 684,507 in various cities across the affected geographical area at the same time". Under these conditions, several children, mainly those affected by the war who had lost one or both parents, and those who did not receive basic family care, were transferred to specific areas made for children.

Figure 2.1: Army men during the civil war in a steep location on the mountain of Grammos



**Source:**[http://istorikakastorias.blogspot.com/2017/04/blog-post\\_25.html](http://istorikakastorias.blogspot.com/2017/04/blog-post_25.html), 2017

During the 1960s, a new wave of immigration moved to Western Europe, mainly Germany, as well as the USA, Canada and to Australia, due to the low standards of living, especially in small rural settlements. In the 1971 census, the total population of the Prefecture of Kastoria was 45,711 inhabitants. Apart from the people, who moved to other countries, internal migration to urban centres was particularly intense.

In the late 1980s, the first serious crisis in the fur industry appeared, which lasted for about five years but the situation improved in the mid-1990s. A demographic stagnation appeared in 1991 and in 2001 and the main reason was the fact that many inhabitants of the area choose to study in higher education institutions in other Greek cities or abroad instead of developing economic activities in Kastoria. Many of them did not return to their hometowns, but went on to large urban centres. In the census of 2001 the number of inhabitants of different nationalities increased, most probably due to the arrival of economic migrants from Albania after the opening of the borders in the early 1990s.



Figure 2.2: Fur workers in post-war fur industries



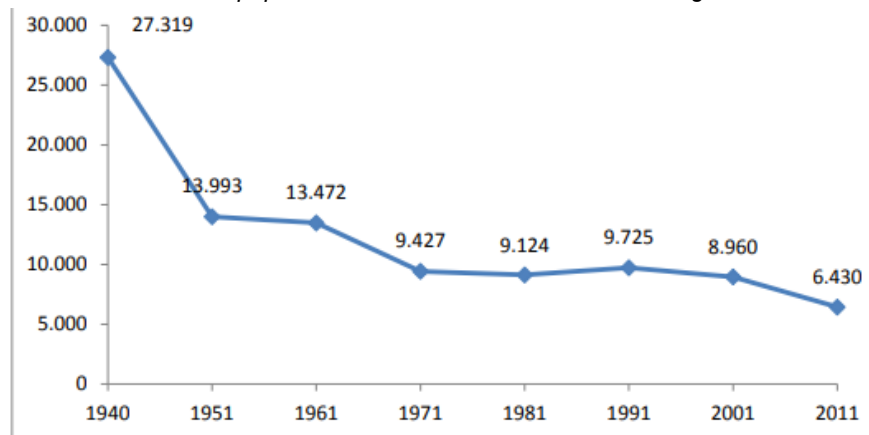
Source: [http://istorikakastorias.blogspot.com/2017/04/blog-post\\_25.html](http://istorikakastorias.blogspot.com/2017/04/blog-post_25.html), 2017

Figure 2.3 shows the evolution of the mountainous population of the Regional Unit of Kastoria. We observe that the mountainous areas suffered a brave population decline from 1940 to 2011 of the order of 76%, namely by 20,889 inhabitants. There is a decrease of 1.0% from the semi-mountainous areas, as there is also a decrease of 2.0% in the lowland areas, from 2001 to 2011. A significant decrease of 28.0% is observed in the mountainous areas from 2001 to 2011. In general, the Regional Unit of Kastoria shows a decrease in population from 2001 to 2011 by 6%. The semi-mountainous area of the Municipal Department of Lefki of the Municipality of Agia Triada records the largest increase in population by 21%, while the largest decrease by 83% is recorded in the mountainous area of the Municipal Department of Polyanemos of the Municipality of Akrita from 2001 to 2011.

On the threshold of the 20th to the 21st century the region of Kastoria was in the midst of another downturn in the fur industry, and before that the global and Greek economic crisis that affected the whole Greek population. In recent years, a large proportion of the region's labour force, focusing exclusively on fur production, has been out of work and hundreds of small manufacturing enterprises have been closed. Based on data from the Economic Chamber of Kastoria, in 2009 there were 5,500 active companies, which within a decade decreased by 31%, reaching in 2019 about 3,800 companies. Thus, in 10 years, about 1,700 companies closed, 1,000 of which closed from 2014 onwards, affected by the decline in fur production. Also, from 2014 onwards, more than 500 fur workers have migrated to work in Russia. In 2013, fur exports amounted to about 500 million, while in 2019 it was only 150 million. These data show the great decline in fur production and the loss of significant labour, leading to population shrinkage. Nevertheless, the declaration of hundreds of houses as protected monuments in combination with the consolidation of the lake and the utilization of

the settlements of the mountainous landscape has in recent years attracted the interest of residents in the sectors of culture and tourism.

Figure 2.3: The Evolution of the population in Mountainous Areas of the Regional Unit of Kastoria



Source: Hellenic Statistic Authority

Nowadays, the Kastoria Regional Unit has one of the highest unemployment rates in Greece. Migration waves mainly to foreign countries are intensifying, with the population shrinking by about 5% in the first decade of the 21st century and with an increasing trend.

### 2.3 Local (regional) perceptions and interpretations of shrinkage: discourses, explanations

According to the results of the primary research, the areas that are mostly affected by the shrinkage in Greece are mountainous marginal areas. The main reason is the lack of infrastructures for agricultural activities. In many cases there is no electricity or easy access to water in farms or it is too expensive. Most of agricultural supplies and oil are very expensive compared to other EU countries. The prices of agricultural products are continuously decreasing while the prices of the agricultural supplies are increasing. The delays in the procedures of reforestation and the lack of policy willingness for investing in agricultural infrastructure and public constructions in the countryside are also very important reasons for the decline. Young and single citizens (mainly educated) are usually leaving the area and they are going to other countries, in order to find better living and working conditions. The recent economic crisis, after 2009, was the main reason why many citizens from the countryside moved to urban centers and foreign countries as well.

The main interpretation of what caused the shrinkage was the economic decline. Specifically, the municipality of Kastoria was not significantly affected by the overall economic crisis in the country, but by the decline in fur production. According to all the interviewees, the area had a "monoculture" in fur production, employing about 25,000 workers. It was and still is the main

economic activity on which the development of the municipality is based. Those who worked in the processing, production and export of fur were paid much higher than the average Greek. That is why the region has not experienced the impacts of the economic crisis that plagued the country. Other sectors such as agricultural production, tourism, trade, innovation and research contribute to a very small extent to the economic development of the region and are mainly complementary.

However, from 2014 onwards, the European Union's foreign policy imposed the embargo on Russia. It is worth mentioning that the fur sector was the second most exported sector in Greece after shipping, while now it is the fourth. In Macedonia it is still the first export sector and the second productive sector after lignite production. The tariffs on fur exported to Russia have increased considerably and that resulted in an unbearable increase of the final price of Greek fur, which is no longer preferred by the Russians. Specifically, in 2013 fur exports were about 500 million, while in 2019 they decreased to 150 million. Thus, the region began to show a significant economic decline and population shrinkage. Many fur workers (more than 500) have left and settled in areas of Russia where new fur factories have opened. Fur workers in Kastoria fell by 80% in the last 20 years, reaching 5,000 today. Of course, the economic downturn caused by the fur sector in the region has affected other activities, causing the closure of 1,000 businesses in the last five years. As a result, residents of all activities were forced to emigrate to the country's major urban centers or abroad.

The economic dependence of the region on fur production and the marginalization of other sectors was the main cause of the local economic decline, which is the main factor that led to the shrinkage. That is why many argue that more attention should be paid to the development and promotion of other productive sectors such as agriculture, tourism, research and innovation. Others believe that fur production should continue to dominate and efforts should be made to regenerate and regain its old momentum. Nevertheless, most local and regional agencies believe that all these areas need to be developed and promoted combinatorial.

Kastoria is a mountainous area so agricultural crops are not extensive and do not cover many acres of single agricultural land. The structure of agricultural holdings is also another issue. The majority of them are small-scale holdings which are usually of low profitability. At the same time, due to the reforestation of the land, single plots of agricultural land belong to many different owners and its most efficient exploitation cannot be achieved. Moreover, the lack of adequate irrigation projects and the poor access to power makes it difficult to properly exploit crops and is often a deterrent factor to occupy with agriculture. Of course, although the production is small in quantity, it is high in quality. However, marketing tools and the establishment of a unique brand name for agricultural products such as beans, apples and herbs have not been used, resulting in them being sold either as Greek at low prices or mixed with imported products. This pushes away many young people to work as farmers, as the cost of agricultural supplies, consumables and fuel is high, long and tedious work is required and they are considered not to be paid fairly for the products they produce. Thus, many young

people, although there are benefits available to young farmers, choose to work in easier and better paid positions in urban centers. Most of the workers in the fields are mainly seasonal migrants from Albania who live in the area only during the agricultural season.

In terms of tourism, the area has a plethora of natural, historical and cultural resources as well as adequate accommodation, which could create many jobs that would keep residents in the area. However, Greece has invested mainly in the diptych sun - sea and attracts tourists mainly for this purpose and not for alternative forms of tourism that can be developed in Kastoria. For this reason, tourism has not developed properly in the area and many tourist facilities have been closed, while they could offer jobs related to tourism.

The interviewees provided an important explanation for the shrinking phenomenon in the region. Many residents were forced to leave the area because the public services provided in everyday life were inadequate. Public health, welfare, labour, education, social welfare services, etc. are understaffed, not enough in number, not sufficiently equipped and obsolete. For example, everyone said that there is a remarkable decrease of school establishments and the number of students is continuously decreasing in the case study area. Thus, the daily life of the inhabitants is becoming more and more difficult and many believe that the area cannot be a place of high standard of living that provides comfort and security to its inhabitants.

Certainly, the lack of technological progress and innovation in the region has contributed to all this. Services could be provided electronically to serve even the most remote villages, but this is not the case. In addition, local farmers do not use intelligent farming systems to facilitate processes and attract new farmers. Also, for issues related to waste, energy production, mobility, etc. no innovations and smart solutions have been implemented that could save money, help the environment and achieve better problem management. That's why many residents prefer more technologically advanced areas.

Apart from the institutional stakeholders, like the public services from all administrative levels, there are no other structures, initiatives or networks – formal or informal – that could facilitate or prevent the shrinkage process. But even the public services are struggling under a complex administrative system. The politicians could motivate people to stay in the countryside or attract new ones with policy measures, such as social benefits or allowances for newborn children or tax benefits for residence, who develop an economic activity in the remote areas.

Some of our interviewees identified also cultural and social factors triggering population decline. Kastoria is a closed society that is not quite receptive to change and the settlement of residents from other countries. This stems from the fact that it is located on the country's borders and is trying to secure its territorial integrity as a remote area. Also, because fur production is considered a well-paid profession with high prestige, many find it derogatory to engage themselves or their children in agriculture or tourism. In addition, the low fertility rates and/or delayed fertility observed throughout the country was also reported as a social factor that leads to shrinkage.

Concerning the effectiveness of the existing funding tools, one of the interviewees did the following statement: “There are funding opportunities but the policies are not well designed at both EU and national level. For instance, the co-financing rate for the investment programmes funded by the EU is fluctuating according to the Regional economic and financial indicators. The Region of Western Macedonia, where the case study area is located, appears to be wealthy according to the financial indicators, owing to the fact that there is a big factory that produces electrical power and belongs to the Public Power Corporation S.A. As a result the, co-financing rate in the EU funding investment programmes is low, although the area of Kastoria is remote, marginal and mountainous area”.

Our informants’ perception and interpretation of rural shrinkage parallels their views on adequate and/or desirable policies to address population decline. Since local stakeholders consider shrinkage in rural remote areas to be a nationwide problem, they think it must effectively be addressed at the national level. The central government should take adequate measures depending on the local characteristics of each region, which would encourage population growth in rural areas.

Some of the local stakeholders pointed out that local governments haven’t got enough power to change the situation. They have neither financial means nor sufficient autonomy to effectively address rural shrinkage. The reasons identified by our responders behind the very limited opportunities of local governments were, on the one hand, the fact that serious decisions are made only by the central government, and, on the other, also a lack of vision, innovation, ability and courage on the part of politicians of all administrative levels.

Respondents do not understand and interpret local shrinkage as a process that has led to irreversible demographic, social, cultural and economic change in Kastoria. Most believe or at least hope that they can slow down population decline and youth migration outside the municipality if they create an attractive and safe living environment that provides high quality services and jobs. Thus, they argue that the appropriate way to handle the issue of rural shrinkage is a combination of adaptation and mitigation policies, rather than either adaptation or mitigation.

### 3 Responses to the challenge of shrinkage: visions, strategies, policies

#### 3.1 High level (EU and national) and regional policies addressing demographic decline

This chapter provides an overview and initial assessment of policy measures and tools available for local actors to address rural shrinkage. Interdependence / overlap of EU, national and regional policies concerning indirectly impacting policies is to be addressed by CS teams. (National level priorities have to comply with EU level priorities downstream and regional level ones upstream.)

##### 3.1.1 EU and national policies indirectly impacting rural shrinkage:

Regarding EU policies, both Cohesion and Rural Development Policies include measures which are contributing to mitigating the existing inequalities between rural areas and the more urbanized areas. The most important ones are social inclusion, educational and vocational training, network infrastructures in transport and energy and climate change adaptation and risk prevention (Table 3.1).

*Table 3.1: EU financing through ESI funds in Western Macedonia Region, 2014-2020 (planned and spent budget)*

ESI Fund	Thematic Objective	EU financing (budget planned), in €	National funds (co-financing), in €	Implemented (31/12/2019)
TOTAL ERDF		575,036,819	184,473,688	146,353,366.89 (19%)
	Information & Communication Technologies	8,288,249	2,072,063	0 (0%)
	Social Inclusion	18,592,092	4,648,023	9,545,981.14 (41%)
	Competitiveness of SMEs	24,864,749	6,216,188	1,250,000 (4%)
	Environment Protection & Resource Efficiency	59,339,305	14,834,827	13,615,869.37 (18%)
	Climate Change Adaptation & Risk Prevention	17,883,689	4,470,923	7,863,416.14 (35%)
	Network Infrastructures in Transport & Energy	140,395,031	35,098,759	15,451,037.49 (9%)
	Research & Information	8,288,249	2,072,063	250,424.96(2%)
	Technical Assistance	10,528,781	2,632,197	2,431,076.47 (18%)
	Low-Carbon Economy	23,446,326	5,861,582	0 (0%)
	Educational & Vocational Training	38,192,092	9,548,023	14,244,655.93 (30%)
	Multiple Thematic Objectives	225,218,256	97,019,040	81,700,905.39 (25%)
TOTAL ESF		103,135,961	25,783,993	50,170,936.7 (39%)
	Multiple Thematic Objectives	76,568,503	19,142,126	34,582,424.74 (36%)
	Sustainable & Quality Employment	1,927,493	481,874	0 (0%)
	Social Inclusion	23,069,753	5,767,439	15,405,301.45(53%)
	Technical Assistance	1,570,212	392,554	183,210.51 (9%)

**Source:** <https://cohesiondata.ec.europa.eu/2014-2020/ESIF-2014-2020-Finance-Implementation-Details/99js-gm52>

1. The Common Agricultural Policy, which aims to support farmers' income, improve agricultural productivity, ensuring a stable food supply at affordable prices, guarantee a reasonable level of living in the agricultural sector, help tackle climate change as well as fostering the sustainability of natural resources management which positively contributes in rural areas and landscapes conservation across the EU, as well as keeping the rural economy alive by promoting job creation in farming, agri-food industries and associated sectors.

2. European structural funds are the main source of infrastructure finance especially during the Greek economic crisis period when national investment funds are close to zero. The construction of the Egnatia Motorway connection Asia Minor with the EU countries, financed by the EU structural Funds is crossing the northern part of Greece with an easy connection and access with the case study area, playing an important role in reducing isolation and improving connectivity in the nearby areas potentially having an impact in rural shrinkage trends.

3. European Cohesion Policy funds strengthen economic, social and territorial cohesion of lagging behind EU regions. Concerning the European Regional Development Fund - Cohesion Fund (ERDF), the planning is at regional level. **The NSRF** of the Region of Western Macedonia (Western Macedonia Operational Programme) aims to boost economic development and create job opportunities in West Macedonia. It contributes in achieving Europe 2020 targets for smart, sustainable and inclusive growth, also in line with the smart specialization strategy. It should create jobs and help SMEs to become more competitive and innovation-driven. EU funding will also contribute to meeting the requirements of the Union's acquisition, in particular as regards greenhouse gas reduction in CO<sub>2</sub> and increase energy efficiency. The total Budget is 330,737,741 € and the total EU contribution is 264,590,187 €. The 245,794,494 € of the EU contribution is from the ERDF and the rest 18,795,693 € from the ESF.

The funding priorities are the following:

The Operational Programme support will substantially contribute to promoting the following key EU and national development priorities:

- "Strengthening research, technological development and innovation" (ERDF 3.13% of EU allocation).
- "Enhancing access to, and use and quality of, ICT" (ERDF 3.13% of EU allocation).
- "Enhancing competitiveness of SMEs" (ERDF 9.40% of EU allocation).
- "Supporting the shift towards a low-carbon economy in all sectors" (ERDF 8.26% of EU allocation).
- "Promoting climate change adaptation, risk prevention and management" (ERDF 7.36% of EU allocation).
- "Preserving and protecting the environment and promoting resource efficiency" (ERDF 18.48% of EU allocation).

- "Promoting sustainable transport and removing bottlenecks in key network infrastructures" (ERDF 16.34% of EU allocation).
- "Promoting sustainable and quality employment and supporting labor mobility" (ESF 0.53% of EU allocation).
- "Promoting social inclusion, combating poverty and any discrimination - ERDF" (ERDF 7.03% of EU allocation).
- "Promoting social inclusion, combating poverty and any discrimination - ESF" (ESF 6.44% of EU allocation).
- "Investing in education, training and vocational training for skills and lifelong learning" (ERDF 18.06% of EU allocation).
- "Technical Assistance" (ERDF 1.71% and ESF 0.13% of EU allocation respectively): provision of technical assistance.

The impacts that are expected as a result of the implementation of the West Macedonia Operational Programme are the following:

- Support of more than 240 SMEs and promotion of cooperation with research institutions
- 50% additional population should benefit from e-government services
- Creation of 200 new full time equivalent employment positions
- 60 public buildings should receive support for energy efficiency and annual greenhouse gas emissions reduction of 5,550 CO<sup>2</sup> tons is expected
- Improved anti-flood measures and waste treatment infrastructure for additional 2,000 inhabitants and additional 95,000 from forest fire prevention measures
- Protect additional 60,000ha Natura sites and cover 24,000 additional inhabitants by waste treatment infrastructure
- Cover more than 70,000 additional people by improved healthcare services and some 12,800 disadvantaged citizens by "Health Safety Net" actions
- The construction of 6.7km of new road and 40km of road upgrade should be supported
- 4,500 more people should benefit from measures improving education infrastructure.

(<https://www.espa.gr/en/Pages/staticOPWesternMacedonia.aspx>)

One of the actions financed by the NSRF is the promotion of employment in Municipalities with high unemployment rates through community service employment, which last eight months. The Ministry of Labor, Social Security and Social Solidarity, through the General Secretariat for the Management of Community and Other Resources, implements this Action in 17 Municipalities which are "centers" of high and long-term unemployment, and extends to 34 other Municipalities in the country. The aim is to extend this Action to all 274 Municipalities of the Country. This Programs last eight months aim mainly at the long-term unemployed. In addition, to tackling unemployment and reconnecting the long-term unemployed in the labor



market, they also aim to promote community service locally by bridging the productive capacity of the unemployed by meeting social needs (<http://www.oaed.gr/documents/10195/1214512/ΚΟΙΝΩΦΕΛΗ+ΣΕ+ΟΛΟΥΣ+ΤΟΥΣ+ΔΗΜΟΥΣ+ΟΔΗΓΟΣ+ΥΛΟΠΟΙΗΣΗΣ+ΠΡΟΓΡΑΜΜΑΤΟΣ.pdf/c1d4aef4-10f4-47a0-8781-1b58150af5be>). This measure improves the public services for people who live in less favorable areas and promotes short term employment opportunities. At this place, there is a debate among local stakeholders if this kind of measures are effective enough to combat population shrinkage in the Case Study area.

#### 4. Rural Development Programme (RDP)2014-2020 of Greek Ministry of Rural Development and Food

Both EU and national policies aim to encourage investments and innovation opportunities, promote small and medium sized enterprises, highlight the importance and subsidize the access to high quality and affordable public services, foster rural restructuring and diversification of agricultural sector, encourage tourism activities, which is expected to have a positive impact on rural shrinkage, though infrastructure and quality of life improvement, or income and employment generating activities.

The measures of the Greek Rural Development Programme 2014 – 2020 for Greece are the following:

**Measure 1** - Knowledge transfer-Update

Sub-measure 1.1 - Training-acquisition of skills

**Measure 2** - Consulting services

Sub-measure 2.1 - Use of consulting services

Sub-measure 2.3 - Training of consultants

**Measure 3** - Quality systems

Sub-measure 3.1 - New participation in quality systems

Sub-measure 3.2 - Information and promotion by producer groups

**Measure 4** - Investments in agricultural holdings

Sub-measure 4.1 - Improvement Plans

Sub-measure 4.2 - Transfer / marketing of agricultural products

Sub-measure 4.3 - Support in infrastructure

Sub-measure 4.3 - Investment in infrastructure (private investment)

Sub-measure 4.4 - Agricultural and environmental non-productive investments

**Measure 5** - Prevention and recovery from natural disasters

Sub-measure 5.1 - Preventive actions to reduce the effects of natural disasters

**Measure 6** - Start a business

Sub-measure 6.1 - Young farmers

Sub-measure 6.3 - Starting a business for the development of small farms

**Measure 7** - Basic Services and village renovation

Sub-measure 7.1 - Preparation of thematic management plans for the agricultural sector in protected areas

Sub-measure 7.3 - Broadband infrastructure

**Measure 8** - Development of forest areas

Sub-measure 8.1 - Rescue and creation of forest areas

Sub-measure 8.2 - Installation-Maintenance of agricultural-forestry systems

Measure 8.3 - Forest damage prevention from forest fires and natural disasters

Sub-measure 8.3 - Forest damage prevention from forest fires, natural disasters (private investment)

Sub-measure 8.4 - Rehabilitation of forest damage from forest fires and natural disasters

Sub-measure 8.4 - Restoration of forest damage from forest fires, natural disasters (private investment)

Sub-measure 8.6 - Processing - trade of forest products

**Measure 9** - Establishment of Groups and Producers' Organizations

**Measure 10** - Agricultural-environmental actions

Sub-measure 10.1 - Agricultural-environmental and climate commitments

Sub-measure 10.2 - Preservation, sustainable use and development of genetic resources

**Measure 11** - Organic farming

Sub-measure 11.1 - Conversion to biological practices

Sub-measure 11.2 - Preservation of biological practices

**Measure 12** - Natura 2000 and Water Guide

Sub-measure 12.2 - Forest areas of Natura 2000

**Measure 13** - Areas with natural or other special disadvantages

Sub-measure 13.1 - Mountainous areas-Equal compensation

Sub-measure 13.2 - Areas with physical disadvantages

Sub-measure 13.3 - Areas with special disadvantages

**Measure 16 – Cooperation**

Sub-measure 16.1 - 16.2 - Establishment and operation of ES of ESC agriculture

Sub-measure 16.1-16.5 - Cooperation for environmental practices - climate change

In the LEADER / CLLD category (Measure 19), information is included on the Invitation for the selection of Local Action Groups (LAGs), as well as on the Sub-Measures implemented in the framework of the local development strategies:

Sub-measure 19.2 (Supporting the implementation of actions of the Local Development strategies on the initiative of Local Communities (CLLD / LEADER) that are addressed through the invitations of the (LAGs) to bodies of either private initiative or to public bodies,

Sub-measure 19.3 (Support for the preparation and implementation of cooperation, transnational and interdisciplinary and,

Sub-measure 19.4 concerning support for operating expenses and actions for animation, of the LAGs (General Secretariat for Agricultural Policy and Community Resource Management, 2019).

According to PASEGES data (2013), there is a clear trend of decreasing employment in Greek agricultural sector as a whole. There is a constant decline in the number of primary sector employees, both in absolute terms and in percentages throughout the 2000s. The decline in overall employment in the primary sector in Greece is mainly due to the reduction of full time farmers. Also, the parallel increase in labour wage and numbers of self-employed in the industry indicates a tendency in land concentration on larger holdings, as evidenced by the size and numbers trends of agricultural holdings in Greece (Rousianou, A., 2015). This implies that European funds don't seem to have a positive effect to the rate of unemployment or in the development of agricultural enterprises. This is consistent with the CAP target to increase farm productivity which is actually supporting such a trend.

On the other hand, the EU as the national policies had a significant contribution to the infrastructure investments positively influencing rural development. The existing extended road network in agricultural areas has improved accessibility and positively contributed to the value added of agricultural products. Irrigations systems and infrastructure development also had a positive effect in the agricultural production.

Environmental protection and the improvement of the quality of life in rural areas, such as action related to land reclamation and the development of public spaces, have also significantly benefited from funds coming from the EU policies and the national policies.

The Ministry of Labour, Social Security and Social Solidarity founded the Organization of Social Welfare Allowances and Social Solidarity (OPEKA). The purpose of the new Organization is to provide state-funded welfare benefits, allowances, financial aid, social services, financial support and social inclusion for families and vulnerable groups, as well as the implementation and management of programs, concerning welfare policies of the Ministry of Labor, Social Security and Social Solidarity. In particular, OPEKA grants and manages the following:

1. Child allowance of article 214 of law 4512/2018.
2. Social Solidarity Allowance for Uninsured Elderly of Article 93 of Law 4387/201.
3. Welfare benefits for people with disabilities
4. Provision of pension, insurance and funeral expenses granted to the uninsured elderly
5. Benefits and services of the Rural Home Account.
6. Welfare benefits, income support and social services to support special and vulnerable groups (OPEKA, 2019).

The child allowance could be considered as a policy measure to combat population shrinkage and it includes two types of subsidy: Birth allowance and Child allowance.

The birth allowance was established by Law 4659/2010 and is granted by OPEKA. The allowance, amounting to two thousand (2,000) euros, is granted to each child born in Greece from 1.1.2020. This allowance is an initiative of the State for the formulation and implementation of demographic policy measures. The introduction of the birth allowance strengthens family and social cohesion, which has been hit hard during the years of economic crisis. The birth allowance is paid in two equal installments of 1,000 euros.

The Child Allowance is granted to all beneficiaries depending on the number of dependent children and family income. The Child Allowance is paid in 6 bi-monthly installments.

In conclusion, these policies had a positive impact in the infrastructure development and in the environment and the quality of life improvement. However, that was not enough to maintain the population in rural areas.

### **3.1.2 Regional and local policies directly impacting rural shrinkage:**

#### **1. CLLD/LEADER**

The regional and local policies applied in the country as well as in the case study area related to rural development are implemented mainly through the CLLD/LEADER program/initiative, a very popular local development and bottom-up governance framework aiming to diversify local economy by encouraging local capacity building and networking activities to generate income and create new employment opportunities. The aim is to improve and organize the local production system, to generate employment, to increase the attractiveness of

intervention areas, to contribute to the prolonging of the tourist season, as well as to promote the comparative advantages of the areas. Special emphasis is placed on promoting equal opportunities for young people, women and groups of the population with special needs. Local authorities have also benefited from the policy since they got access in funding for local public investment to improve quality of life in the regions where implemented. Investment in multifunctional agricultural activities improve the level of farmers' income, create and preserve jobs outside agriculture that may positively contribute to reducing the out migration from rural areas and to improve the rural life conditions.

The Local Action Groups in Greece, responsible for the implementation of the CLLLD Initiative, are 51. The list of all the Greek LAGs is published on the following link: [https://ead.gr/wp-content/uploads/2019/09/ΟΜΑΔΕΣ-ΤΟΠΙΚΗΣΔΡΑΣΗΣ\\_6\\_2019.pdf](https://ead.gr/wp-content/uploads/2019/09/ΟΜΑΔΕΣ-ΤΟΠΙΚΗΣΔΡΑΣΗΣ_6_2019.pdf).

In the Region of Western Macedonia there are three Local Action Groups (LAGs) in three different cities:

- AnaptixiakiFlorinas SA
- AnaptixiakiKastorias SA
- AnaptixiakiDitikisMakedonias SA

AnaptixiakiKastorias SA is the Local Action Group of the Case Study area, which was established in 1995 (<http://www.ankas.gr/>). It is the implementing body of the CLLD - Measure 19 "Local Development with Local Initiative Communities" of the Rural Development Program 2014 - 2020 for areas within the Regional Unit of Kastoria and especially the Municipalities of Kastoria, Nestorio and Argos Orestiko. The budget of the public contribution of the Local Program LEADER / CLLD co-financed by the European Agricultural Fund for Rural Development (EGTAA) is 4,500,000.00€.

The vision of the local development strategy in the Case Study area of the Regional Unit of Kastoria includes the following three aims:

1. Sustainable development and diversification of the economic base that increases the added value of the Region and is based on extroversion, activation of development potential, knowledge, innovation and effective utilization of local resources and advantages.
2. Improvement of the quality of life of the residents of the intervention area with multidimensional terms that refer to the environment, to tangible and intangible factors, to the vitality and to the multi-functionality of the area.
3. Development of collaborations and networks for the introduction of new practices, the exchange of know-how, the interconnection of sectors, the promotion of participation and the integration of innovative interventions.

The Main Thematic Direction of the LEADER / CLLD Local Program is "Improving the competitiveness of the agri-food chain".

The following Table includes all the private and public actions, which are provided for the implementation of the Local CLLD Programme, in order to serve the objectives of the local strategy.

*Table 3.2: CLLD in Kastoria: Budget and actions*

<b>Action</b>	<b>Sub-Action Code</b>	<b>Sub-Action</b>	<b>Public contribution</b>	<b>Aid rate</b>
19.2.1 Transfer of knowledge & information	19.2.1.2	Transfer of knowledge & information to small and medium enterprises in rural areas	20,000.00 €	100%
19.2.2 Development / improvement of entrepreneurship and competitiveness of the implementation area in specialized sectors, areas or beneficiaries	19.2.2.2	Strengthening investments in the processing, marketing and / or development of agricultural products resulting in a non-agricultural product to serve the specific objectives of the local strategy	500,000.00 €	40%
	19.2.2.6	Strengthening investments in handicrafts and multifunctional farms in order to serve the specific objectives of the local strategy	145,000.00 €	40% or 65%
19.2.3 Horizontal support of the development / improvement of entrepreneurship and competitiveness of the implementation area	19.2.3.1	Horizontal application of processing, marketing and / or development of agricultural products resulting in an agricultural product in order to serve the objectives of the local strategy	800,000.00€	40%
	19.2.3.3	Horizontal implementation of investment enhancement in the field of tourism in order to serve the objectives of the local strategy.	300,000.00 €	45% or 65%
	19.2.3.4	Horizontal implementation of investment enhancement in the fields of small industries, handicrafts, food production	300,000.00€	45% or 65%

		items after the 1 <sup>st</sup> processing and trade in order to serve the objectives of the local strategy.		
	19.2.3.5	Horizontal implementation of service investment enhancement to serve the rural population (kindergartens, sports facilities, cultural centers, etc.) in order to serve the objectives of the local strategy	150,000.00 €	45% or 65%
19.2.4 Basic services and renovation of villages in rural areas	19.2.4.1	Support for small-scale infrastructure (e.g.: water supply, sanitation, road construction), including energy savings in public buildings in use	300,000.00 €	100%
	19.2.4.2	Support for the creation, improvement or extension of local basic services for the rural population and related infrastructure (e.g. kindergartens, rural clinics, etc.)	200,000.00 €	100%
	19.2.4.3	Support for public investment in leisure, recreation, tourism information and small-scale tourism infrastructure (e.g. signs, public areas, promotional areas, cycling routes, etc.)	300,000.00 €	100%
	19.2.4.4	Support of cultural events	100,000.00 €	100%
	19.2.4.5	Support for cultural-related studies, services and investments, with the preservation, restoration and upgrading of the cultural and natural heritage of villages, rural landscapes and sites of high natural value, including relevant social and cultural heritage; economic aspects as well as environmental	200,000.00 €	100%

		awareness actions (including cultural / conference centres, museums, rural cultural features - mills, bridges)		
19.2.6 Development and improvement of forest sustainability	19.2.6.1	Prevention and restoration of forests and forest areas from fires and other natural disasters and catastrophic events	30,000.00 €	100%
	19.2.6.2	Investments in forestry technologies and in the processing, mobilization and marketing of forest products	60,000.00 €	40%
19.2.7 Collaboration among different Factors	19.2.7.1	Pilot projects (outside the agricultural sector)	30,000.00 €	65%
	19.2.7.2	Development of new products, practices, processes and technologies in the field of food and forestry	30,000.00 €	65%
	19.2.7.3	Cooperation among small businesses for the organization of common working methods and the sharing of facilities and resources as well as for the development and / or marketing of tourism services, related to agritourism	30,000.00 €	65%
	19.2.7.7	Horizontal and vertical cooperation among suppliers of the supply chain for the creation, development and promotion of short chains and local markets	30,000.00€	65%
19.3 Support for the preparation and implementation of cooperation (transnational and interdisciplinary)	19.3.1	Intermittent cooperation plan "TastesGreek Selected "	25,000.00€	100%
	19.3.2	Intermittent cooperation plan "Integrated Policy Specialization and Evaluation System (IDPSS) for CLLD / LEADER areas"	20,000.00 €	100%
	19.3.3	Transnational cooperation plan	30,000.00 €	100%



		"ENERDECA"		
Support for operating costs and animation	19.4.1	Support for operating costs and animation	900,000.00€	100%

**Source:** LAG Anaptixiaki Kastorias SA  
(<http://clld.agrotikianaptixi.gr/index.php/lags/budget/EL%20-%20015>)

According to the budget allocation, indeed particular emphasis was placed on the sub-action 19.2.3.1 “Horizontal application of processing, marketing and / or development of agricultural products resulting in an agricultural product in order to serve the objectives of the local strategy”. This sub-action is the one with the highest budget (800,000.00€). The interviewees claim that there is a lack of marketing in the local agricultural products, even in the case of the Beans of Kastoria, which are certified as “Product Geographical Indication (PGI)”. All the initiatives for the development of formal or informal collaboration networks were not successful. Even the most “traditional” forms of collaboration in the agricultural sector, which are cooperatives, did not manage to defend the interests of the primary sector effectively. Local and Regional stakeholders, believe that there is no policy willingness to promote and protect small agricultural holdings and local agricultural products at EU or national level.

The CLLD/LEADER is an innovative programme with positive and long lasting effects for the local economic development. That’s because it invests directly to the rural transformation which was the main need of the population. This programme combined the tradition with the agricultural production and tourism resulting in new income generation.

Agricultural cooperatives have also benefited from the program with the support of a large number of small producers organized in farmers’ associations/cooperatives.

CLLD popularity, its democratic nature in decision making and the positive contribution in the regeneration of rural areas, it is always the matter of limited available resources.

### **3.2 Discourses and explanations at national/regional levels concerning policy measures and tools addressing rural shrinkage**

All local, regional and national stakeholders stress that there are not sufficient policy measures and that the existing tools have not yielded obvious results. That is why there should be more and better targeted policies for rural development. In fact, in interview no.4 it is stated that: “Countries with high GDP aren’t overcrowded in urban centres, but instead they have developed their countryside. If Greece wants to get richer, its policies must be designed in order to achieve rural and regional development. ”

However, it is not only the lack of funding and appropriate policy measures, but also the way they are exploited. In the interview no.13 it is clearly mentioned that: “In the past, unnecessary projects were carried out, in order to fulfil voting purposes. There was no

meritocracy and funding was not being used properly. This is clear if one notices how neighbouring municipalities that receive less funding from the municipality of Kastoria have developed ".

Active policy measures related to the population shrinkage of rural areas are the Funding for Young Farmers that is funded by Rural Development Program and the Funding Program for the birth of children funded by the Ministry of Labour and Social Affairs.

The first one concerns young people up to 40 years old who are creating agricultural holdings for the first time. The amount of the aid is calculated each year, with the multiplication of the rights by the new farmer, with a numerical value corresponding to 25% of the Average Value of the Auxiliary Rights held by the farmer for a maximum period of five years from the beginning of the farmer's agricultural activity. This aid is given to rural areas in order to attract young people to live and work in them. However, some argue that it didn't help enough (interviews no 4, 9, 10). In the interview no.9 it is stated that: "The reinforcement of the young farmers was ineffective as most of them first had to allocate their capital to cultivate the land and then they received the money with up to 5 years delay. The majority of them could not cope and invest in their fields without funding on time, so they gave up. Therefore, if the aid is not given on time, it has no effect ".

The second concerns the granting of 2,000 euros for each child born in Greece from 1.1.2020 in order to help with the problem of low fertility rate. However, many (interviews no 2, 3, 4, 6, 12, 13) state that this subsidy will not actually help because giving money once and not every month is not a significant help. Also, for rural and disadvantaged areas, the amount of money should be higher, in order to attract people to raise their children there.

Regarding the general context of regional and rural development policies, the proposals and wishes of the respondents can be summarized as follows:

- The LEADER and INTERREG programs implemented in the area are insufficiently funded, with limited or no visible results.
- Policy measures should be designed taking into account the specific characteristics and needs of each region and not be the same for all rural areas.
- Rural planning and development is done by the central government, while local and regional stakeholders should be more active, as they are better aware of the problems. A small power must also be given to civil society.
- There is lack of coordination and organization for the proper implementation of policy measures.

The lack of adequate policy measures prompted the interviewed experts to propose measures that can be divided into the following categories:

- Measures related to the reduction / regulation of taxation in rural remote areas such as Kastoria (interviews no. 5, 6, 7, 10, 11)

- Measures to improve the quality of life of residents (interviews no. 4, 11, 13)
- Empowerment and funding for fur production (interviews no. 8, 11)
- Measures for the completion of important agricultural infrastructure (interviews no. 2, 5, 6, 7, 11)
- Measures to upgrade existing utility infrastructure and build new ones (interviews no. 1, 3, 4, 7, 9, 10, 12)
- Measures for innovation and technological modernization of the area, such as digitalization, intelligent farming tools, e – services, etc. (interviews no. 4, 8, 9, 11, 12, 13)
- Measures to ensure the quality of agricultural products and use of marketing tools for them (interviews no. 2, 5, 7, 9)
- Measures that decrease the prices of agricultural supplies and fuel (interviews no. 5, 6)
- Policy measures for immigrants and refugees (interviews no. 5, 6, 7)
- Measures to protect the environment and natural resources (interviews no. 4, 13)
- Measures that empower and promote alternative tourism destinations such as the CS (interviews no. 1, 4, 7, 9, 10, 11, 12)
- Measures to strengthen research and universities in areas of the region (interview no. 9)
- Measures for the development of fishing in lakes (interview no. 12)

### 3.3 Local responses to shrinkage

#### 3.3.1 Coping strategies

Generally speaking, there are **no strategies specially designed to mitigate shrinkage or adaptation** provisions in rural areas in Greece. The strategic plan for Rural Development Programme is submitted at national level. It is also the Region's duty to submit strategic plan. All the participants of the study agreed that **the EU policy does not take under consideration the needs and specific characteristics of each particular Region or Municipality**. As a result, there are many failures at the policy implementation level. The most typical example is that the co-financing rates in all the EU funding programs, and especially the ones that promote entrepreneurship and investments, are formed according to each Region's GDP average.

Although there are some public investments aiming at the improvement of the living conditions in the area and maybe mitigate the population shrinkage there are always barriers.

**Bureaucracy** is a major problem at all levels of administration – national, regional and local. The local stakeholders mentioned the following four cases as characteristic examples of non-successful investments prevented by bureaucracy:

1. The Measure of **reforestation**: There are many years that the measure of reforestation is considered that it will change the structure of the small agricultural holdings and it will improve the local economies in the countryside. In the case study area, the measure was implemented in some Municipalities which provided plots of state land to the farmers in order to implement the measure. Soil fertility issues and other technical reasons actually delayed the Measure implementation.
2. The **dam construction in Nestorio** village: A very important water irrigation plan which transforms the fertile farm land by the river, started in 2011. Bureaucracy-related reasons delayed the actual project implementation. There are also abandoned infrastructures in many villages.
3. **Museum of Fossil Forest in Nostimo** village: It is a very popular museum and supports the local economy. The Municipality responsible to hire a new employee could not do that therefore the museum is closed and the small village almost abandoned.
4. **Reforestation and new rural roads infrastructure development in Vogatsiko** village: The construction of new rural roads that were designed in the agricultural area in order to facilitate the connection of the farms with the market. The wrong construction design actually destroyed the existing irrigation network, without replacing it.

The local stakeholders believe that their **participation** in the policy decision making processes is very limited. As a result, the policy design does not consider the particular local characteristics and needs and the implementation is not always effective. Collaboration among stakeholders and development of local and regional networks could provide the chance to local communities for a more active participation and involvement in the policy decision making processes.

Most of the stakeholders prefer mitigation rather than adaptation to the population shrinkage, which is considered by them as a major problem and not as a challenge. They claim that is very crucial for the local economy and society to keep the population in the area and stop the shrinkage. Economic crisis and limited job opportunities and alternatives for economic activities are the main reasons for the continuous decrease of the local population and as soon as there is no policy plan to stop it, the area will be soon in danger. Many villages will be abandoned. Only one of the participants in the CS interviews claims that there is no way to mitigate population shrinkage and the only realistic option is to accept the situation and the fact that the reduction of the population will not stop. If the policy decision makers and the

local and regional stakeholders accept this fact, they will start design policy measures for the adaptation to the current situation and the reality.

All stakeholders agreed that if the current situation will not change, the local population will move to other cities or countries. It is generally accepted that there is a need for economic, taxation and other motivations in order to keep the local population in the CS area or attract new residents. **Investment opportunities, tax benefits** or other measures should be provided in the areas, where the population shrinkage is very intense.

### **3.3.2 Available policy tools: take-up rates, opportunities and hindrances**

The regional and local authorities are trying to improve the living conditions in the case study area. New infrastructures are built and old ones are repaired in order to make the farmers' job easier. In Greece there are no other policies at national level apart from the EU funded initiatives. Almost all public or private investments are co-funded by the ESF, EARDF and ERDF. Some of the participants in the current research claimed that in the private investment programmes the difficult part for the investors is that there are remarkable delays in the funding and payments. In some cases, the beneficiaries get the subsidy from one to five years after the beginning of their new investment activity. Thus, **delays and bureaucracy** are the main barriers in the implementation of the investments in Greece. According to the European Investment Bank (2019), "**Business regulations** and **future uncertainty** remain the most commonly cited barriers to investment (by 95% and 94% of firms respectively). The next most frequently mentioned barriers are **energy costs** (79%) and **labour market regulations** (78%). Energy costs are a barrier for the majority of large firms".

On March 13, 2019, the Deputy Regional Governor for Rural Development and European Programmes of the Region of Western Macedonia Mr Giannakidis published an article entitled "What really applies with the 'absorption' of the NSRF in Western Macedonia". According to this article the most important problems that arose during the implementation of the NSRF are not related to Regions and are the following:

- Delays in fulfilling the responsibilities and commitments under the responsibility of the competent Ministries,
- Delay in appointing the Intermediate Management Authority for State Aid,
- The adaptation and operation of the Information System of State Aid (PSKE),
- The amendment of Law 4412/2016 for Public Procurement Contracts, which delayed the tender procedures of the projects for a significant period of time,
- The delay in the specialization of the policies and the issuance of an institutional framework of details for the implementation of actions under the responsibility of the competent Ministries.

The following table (Table 3.3) shows the NSRF absorption rates of the 13 Greek Regions from the beginning of the programming period 2014 – 2020 until 31/12/2017 and until 31/12/2018.

Table 3.3: NSRF absorption rates per Region in Greece

Region	Absorption rate 01.01.2014 -31.12.2017	Absorption rate01.01.2014 - 31.12.2018
Kentriki Macedonia	18,70%	31,61%
Stereia Ellada	18,47%	36,53%
Ionia Nisia	15,92%	26,88%
Dytiki Ellada	14,74%	23,09%
Notio Aigaio	14,68%	29,85%
Attiki	14,65%	25,23%
Peloponnisos	13,54%	23,87%
Ipeiros	12,51%	23,87%
Kriti	12,07%	21,32%
Voreio Aigaio	11,66%	19,89%
Thessalia	11,06%	18,40%
Anatoliki Macedonia, Thraki	10,88%	22,50%
<b>Dytiki Macedonia</b>	<b>10,13%.</b>	<b>16,87%</b>

Source: NSRF

The average NSRF absorption rate for all the 13 Regions in Greece for the period from the beginning of the programming period on 01.01.2014 until 31.12.2017 was 14,07%, which is very low. One year later, the average absorption from the beginning of the programming period on 01.01.2014 until 31.12.2018, which continues to be low was 24,61%, considering the fact that this absorption rate refers to the five first years of the programming period, almost 70% of its total seven years duration. The Region of Western Macedonia is in both cases the last one. The NSRF absorption rate for the Region of Western Macedonia was 10,13% for the period 01.01.2014 - 31.12.2017 and 16,87% for the period 01.01.2014 - 31.12.2018 of the total amount of 255.000.000€ that were allocated to it.

Primary sector, tourism and fur industry are the main activities of the local and regional economy. The development of these three sectors is very crucial in order to keep the local population or to attract new citizens in the area. All the interviewees agreed that a **strategic plan** must be developed for the improvement of the local economy. Local and regional stakeholders should collaborate in **formal or informal structures and networks** in order to achieve improve their role and increase their participation in policy decision making processes.

In the energy sector, Greece remains the exception to the rest of the EU23 Member States not only due to the high participation of oil and mineral pollutants in its energy profile but also due to the centralized structure of the energy market. The country needs, as part of its energy security and development needs, to improve its energy mix, enabling it to become an energy hub for SE Europe (natural gas and electricity) by boosting competition and developing emblematic infrastructure projects and energy networks. In this context, the needs of

productive transition born at the regional level (eg Western Macedonia) should not be overlooked (NSRF 2014 - 2020 2<sup>nd</sup> Progress Report, 2019).

**Energy** is a very challenging sector for the Region of Western Macedonia and it is very important to mention it at this stage. In the 1950s, huge amounts of lignite were discovered in the city of Ptolemaida, which also belongs to the Region of Western Macedonia. Thus, the wider area became the largest lignite mining center in Greece and the first power production unit was established there, which boosted the economic development of the Region. Nowadays, 5 power production units are operating in the Region, which at 2006 produced about 70% of the Country's electricity. Manufacturing companies, technical companies, labor, technical and scientific staff from all over Greece have settled in Ptolemaida, due to the factory. The lignite mines in the city of Ptolemaida are considered to be the largest in the Balkans. The production of energy from lignite is considered as environmentally friendly method and very harmful for the natural resources according to the relevant EU framework. The existing power producing units must stop operating and the national government and the stakeholders at all administrative levels must find an alternative way for the production of energy from renewable energy sources. Most of the interviewees believe that, for the time being, there is no integrate plan for the transition to the production of energy from environmentally friendly resources. There is a need to develop an integrated plan taking into consideration all the environmental, economic and social factors for a smooth transition in the near future. Nevertheless, the local and the economic structure of the area was based on the operation of the power production units since 1950s. The Region of Western Macedonia should keep playing an important role in the production of energy and **invest on renewable energy sources**. There is no other option.

The average GDP of the Region of Western Macedonia-Greece of which the CS area is a part of, appeared to be high enough because of the energy production units operating in one of its Municipalities in the city of Ptolemaida, which in 2006 used to produce almost 70% of the total energy produce in the whole Country. The **high regional GDP** means that the whole Region of Western Macedonia is considered as “wealthy” and as a result **the co-funding rates are lower** for all investments funded by the EU programmes compared to other regions. The high GDP of the whole Region is not representative, because the average is getting higher only for the energy production units, which are located in a particular area. In the rest of the Region, there are many rural and mountainous areas, which are facing economic problems and continuous population shrinkage.

At the same time, the Municipality of Kastoria suffers from **high unemployment** rates and the decline of its main economic activity, which was the fur industry. This means that even in the same Region, there are totally different circumstances and conditions that are not taken under consideration during policy design processes at EU and national level. At the same time the economic environment is constantly changing. Policy measures are designed in a particular period but takes years for the plans to be implemented when many factors have changed. Back to the example of the energy producing factories, these units are producing electric

power using local lignite, which nowadays is considered as a non-environmentally friendly source of energy. It is recently announced that the lignite electricity producing units will shut down and many social and economic changes are expected to take place in the wider Region.

### **3.3.3. Local visions concerning future pathways and available policy support**

**Fur** was the main pillar of the local economy and every change in this sector has a direct impact in the economy and society. Under particular circumstances the sector could recover again as it did in the past. Most residents of the case study area focused on fur production as the main activity while practising agriculture as a part time farming activity. The decline in fur industry is a dominant trend in the sector during the recent years. From 25.000 employees in the fur sector in 1980, there are only 3.000 workers left now in 2020. Although it is a difficult job that requires special skills, the wages in the fur sector are constantly decreasing to become actually at the level of unskilled labour cost". Russia was one of the well developed markets for the export oriented fur of Kastoria, until the EU embargo started. The increase of ecological concerns is another factor that influences the decline of fur industry in the area of Kastoria. It is very important to develop again the fur industry according to the needs of the modern international market place. Natural fur is a luxury product, which is demanded by a nice market. The local fur producers must be better organized and look for international marketing networks. At the same time, local people believe that there is no protection policy at both EU and national level about fur production. Environmental and ethical constrains are the main reason. The challenge is to promote the fact that the production of fur in the area of Kastoria is a **traditional craft** with a long lasting history that contributes to the preservation of traditional techniques applied in combination with modern production methods. It is a traditional profession, which should be protected by relevant policy measures.

The development of alternative activities such as **tourism**, logging, and exploitation of fur by-products would be a challenge for the development of local economy that could motivate people to stay in the case study area. The area of Kastoria has many potentials for tourism development. The city of Kastoria could be very attractive for tourists and it is amphitheatrically built on the shores of a lake. Most of the buildings are characterized by a traditional architectural style and there are many small orthodox churches in the city or in a very short distance. The city is surrounded by mountains with beautiful landscapes and remarkable flora and fauna. The wider area is one of the most important habitats for the brown bear (*Ursus Arctos*), which is one of the protected species in Greece and Europe. Furthermore, the Prehistoric Lakeside Settlement of Dispilio and the Eco-Museum are located 7 km from the city of Kastoria, on the south side of the lake. A lake settlement of the Newer Neolithic Period, excavated around the lake, has been excavated there, from the middle of the 6<sup>th</sup> to the middle of the 4<sup>th</sup> millennium BC. The participants in the primary research claimed that there are structures that in some cases are closed because the Ministry of Culture is not



able to hire the required staff. Every year, from 6<sup>th</sup> until 8<sup>th</sup> of January, during Christmas Holidays, there is a traditional carnival festival taking place in Kastoria called “Ragoutsaria” (<https://ragoutsariakastorias.gr/>). All the participants in the research agreed that there is a need to improve the way the tourism potentials are utilized and more tourism activities could be developed in the area. One of the proposals was to organize athletic activities in the lake or in the mountains.

Improvement of **marketing strategies** and branding for quality local **agricultural** or other locally produced products could boost the local economy again. The international interest for circular economy is increasing and it provides good opportunities that would be utilised in the case study area as well. The Product Geographical Indication (PGI) Beans of Kastoria are not usually sold packaged or in a higher price compared to the non-certified beans. The groups of producers and the cooperatives should be better organized and find a link with policy decision makers in order to look for marketing channels and use **modern agricultural marketing techniques**.

The **rational use of water resources for both tourism and agricultural purposes** would be very crucial for local and regional development according to all the local stakeholders. As mentioned above, athletic and other tourism activities could take place in and around the lake. At the same time, the irrigation network should be improved in order to be more effective for the agricultural activities and reduce the cultivating costs of the agricultural holdings. New **irrigation structures** should be constructed and the existing ones should be improved. Although there is an amount of money spent for irrigation structures, the network is still not effective.

Any kind of formal or informal **collaboration initiatives** are traditionally very widespread and effective, as they increase the negotiating power of the participants and enhance their position and their participation in the decision making processes. Although in Greece there is cooperative culture and visionaries is lacking, it could be very useful to develop this kind of culture and get the benefits. A large number of people do not trust cooperatives recently because of the many cases that they were not successful in marketing their products. But they must give a chance for the opportunities they can get.

**Bottom-up** instead of top-down approaches should be applied in policy decision making processes. Regional and local authorities should also enhance their capacity building, because only in this way the policies will be implemented more successfully. Each areas' particular local characteristics will be taken under consideration during the policy design and implementation processes.

The **bureaucracy** must be decreased and the governance structures must become more flexible close to real life needs, in order to improve the effectiveness of interventions.

Incentives like, **job investment opportunities, tax benefits** or other measures should be provided to the existing citizens of the shrinking areas in order to stay in the area or even to attract new ones.

Potential new residents may be: a) people who migrated from the area, b) Greeks moving from other areas, c) immigrants and d) tertiary education students.

## **4 Matching local visions on future pathways of change with potential policy support**

### **4.1 Towards future pathways: enhanced intervention logic along innovative experiences**

There is an extended and deep understanding of the Shrinking characteristics of the CS area of Kastoria coming from the combination of both quantitative and qualitative data. The local stakeholders' interviews and FG results highlighted the trends and the characteristics of the phenomenon presented in the previous chapters and helped in identifying possible future pathways.

The majority of respondents argue that a combination of adaptation and mitigation strategies should be implemented. In the interview no.9 it is emphasized that: "First of all, mitigation policies should be implemented and depending on their success rate, we should consider how the region can adapt to the new situation. At the same time, the strategies should be specific to each local community in the prefecture, as some communities may only need adaptation strategies."

However, some believe that strategies should be focused only on mitigation (interviews 11, 13). Specifically, in FG, the mayor of Argos Orestiko underlined that: "Implementing adaptation strategies in the current situation is a pessimistic scenario. It's like saying we accept the situation as it is and doing nothing to change it. Change will only come if we use mitigation strategies and try to find ways in order to attract new people to settle here."

On the other hand, some others (interviews no. 6, 12 and FG members) argue that strategies should focus on adaptation to the current situation. If this does not happen, the area will lose even more residents and the shrinkage will become more noticeable. If adaptation strategies have a positive effect and achieve the desired results, then adaptation strategies can be combined with mitigation ones.

Based on the different views, it is difficult to determine whether the implementation either of adaptation strategies or mitigation or their combination will have a better result. Another view supported by many experts is that place-based strategies should be applied to tackle shrinkage, as Kastoria has several local features that can be exploited. In particular, they report that the picturesque landscapes created by Mount Vitsi and Grammos and the lakes, natural resources such as flora, fauna and fossils, as well as local agricultural products can be used as a basis for tourism development. On the other hand, they report that social capital is absent. As an example, the Mayor of Argos Orestiko mentioned in the FG: "We have a fossil museum and it doesn't work because there is no employee who is interested in working there and keeping it open."

When organizing relevant interventions, there should be a clear distinction between the role and power of national, regional and local stakeholders and civil society. At the same time, there should be cooperation and coordination between them. Of course, in order for such

interventions to work properly, it is necessary for the residents to be more involved, especially those who live in small and isolated villages. Here we could say that a possible logic of intervention could be based on a bottom up approach, in which organized groups of residents will make serious decisions about the area and the management of funding and cooperate with local and regional authorities in order to implement them. Of course, such a thing has never been attempted in the past and is not preferred by the Greek government, so it isn't easy to make it works. However, it could be a different and innovative intervention logic.

At the moment, due to the lack of national public funding possibilities for development projects, EU funding appears to be the only source of development in the region. Bureaucracy and lack of capacity and knowledge to deal with EU funds related procedures is an issue. That's why there aren't significant projects and activities that solve directly the problem of shrinkage. Nevertheless, there is also another interesting intervention logic that could play a role as future pathway. The most popular and up-to-date intervention logic is based on the overall technological progress of the region, with the integration of ICT where possible and the development of innovations. Referring to agricultural innovation, smart agriculture is not widely use in the CS area. However, there are some possible solutions, such as the use and treatment of waste in order to produce heat for the needs of farms, the reduction of the amount of the water that is used for the crops and the use technological tools for crop management. Other proposals include the use of digital services, the development of digital commerce, the establishment of wireless broadband access, teleworking and the digitization of cultural and natural heritage documents. In a world increasingly dependent on the internet and technology, such a logic would result in the transformation of the CS into an advanced area that would be more attractive than other rural areas, facilitating the daily lives of residents without being necessary to accomplish high-cost projects and combining the benefits of the countryside with those of technology.

## **4.2 Broadened and more suitable policy support**

It seems that there is a gap in the communication system among administrative levels, both horizontally and vertically. The stakeholders at regional and local level have the feeling that their opinion/suggestions are not taken into consideration in the decision making processes, especially at the stage of policy and program design. In most cases, they are asked to implement policy measures and initiatives, planed at EU and/or national level and their role is limited to undertaking the bureaucratic procedures of implementation. A successful integrated strategy for local and regional development should be adopted to the particular or specific characteristics and special needs of each area. Population shrinkage is a key issue for the CS area of Kastoria in Greece with direct and indirect social and economic impacts. Until now, only the EU and the national government is responsible for policy decision making. The more active participation of the local and regional authorities could improve the effectiveness of policy measures and initiatives. It is not possible to design "tailor-made" policies that respond to the local needs of each particular area at national or EU level, from top to down.

Apart from local and regional authorities, scientific research could provide an input on the policy design processes at national level. Scientific research could identify the degree of each area in the county is affected by the shrinking process, -investigate the deeper reasons, trends and potentials and make justified realistic proposals. GIS and other scientific methodologies could be applied in order to present data and elaborate the problems from the local community to the central government. Some of the departments of the University of Western Macedonia are located in the city of Kastoria and they could lead the scientific research at local level in collaboration with other national or EU Universities and research centres.

A barrier to the policy design and evaluation processes and scientific research in Greece is availability and the quality of the statistical data. According to the interviewees of the current research, most of the surveys and studies carried out are superficial and show a significant lack of primary data. The mechanism that collects and process the primary statistical data should be improved and adopted to the EU methodological standards.

Both Regional and Rural Development are strongly -even not exclusively- depending on the EU funding instruments. The EU policy aim for the economic growth, the reduction of poverty, the reduction of unemployment, improvement of the level of education and social inclusion, is adopted by the national government. All these policy priorities are applied all over the EU Member States, in effect for both urban and rural areas. In most cases, the challenges are more intense in rural areas where population shrinkage is more persistent. There is always an interaction and relation among the above mentioned challenges and population shrinkage. Poverty, unemployment, lack of educational infrastructure and other social problems forces the rural population to leave the countryside and look for better living conditions in urban centres in other parts of the country or even in other countries. At the same time, the reduction of the population in the countryside is a cause of income and employment decline, increase of poverty and reduces the number and quality of social services or educational facilities and infrastructure. This inter-correlation creates a vicious circles that requires sensitive handling from a policy perspective in order to achieve the desired aims. This is why the dilemma between mitigation and adaptation should be solved at a very early stage during the policy decision making process. However, this choice is not able to be made at EU level, not even at national level. Once again, the need for the identification of local special characteristics and particular needs seems to be very crucial for the design and the implementation of policies that affect the economy and the society. Although each Region is required to submit a strategic development plan, it seems that some Regions in Greece did not utilize this chance and they just responded to this regulatory obligation. The lack of past experience and capacity had as a result, the strategic plan to be just a “text” that will be never implemented.

### **4.3 Enhanced governance approaches**

First of all, it must be emphasized that Greece has always a highly centralized governance system. As a consequence, priority setting, allocation rates, decision-making processes are always highly centralised and the entire system is dominated by top-down processes. As a result, policy measures addressing shrinkage are (almost) entirely controlled by the government, with little power to regional or local level and no power given to civil society. Local and regional authorities are aware of the problems and are informing the central government to take action, so they have the ability to influence somehow the decisions made by central government.

However, one of the main problems identified in the current research is the fact that there is a lack of communication among different administrative levels, which dramatically increases complexity of procedures and bureaucracy in rural areas. Additionally, as population is continuously declining in the CS area, the public administration services are increasingly lacking. The residents of the more remote areas have to visit the main urban centre, which is the town of Kastoria, even for basic issues, health problems or education. Attending primary education in many villages is not an option any more unless the family moves to the town of Kastoria since schools are closing due to the significant reduction in the number of students.

There is no clear strategy for the population shrinkage as such. Thinking once again of the vicious circle, the causes and impacts are interrelated. Population shrinkage causes poverty, unemployment, reduction of public (health, education, etc.) facilities/infrastructure and vice versa. At the same time poverty, unemployment and reduction of public infrastructure can force the local population to leave the area and choose another place to make their living. In the first case the population shrinkage is the causal effect, while in the second case it is the result. There are policies that aim at the reduction of poverty, unemployment or promote social inclusion but not the shrinkage itself as an issue. This is something expected, however, this interactive relation makes things more complicated for policy decision makers. Better collaboration among all administrative levels and more active participation of the local and regional actors in the policy design and implementation processes could potentially have as a result more integrated, participatory and effective policies, not only regarding the population shrinkage but also addressing many other challenges that the CS area faces. Moreover, at the EU and national level, as many multi-sectoral programs to counteract the depopulation processes in rural areas as possible should be created.

Cross-sectoral cooperation is also an approach for the design and implementation of more effective policies that correspond to the local special needs. An attempt was made in the CS area, with a memorandum of cooperation signed by three of the main local actors: the Regional and Local Public Authorities, the University of Western Macedonia and the Kastorian Fur Association. Until now, this cooperation does not have to present a great results, but it could be organised in an innovative way and play a vital role in local and regional development. Such initiatives could enhance the “voice” of the local community and

express its interests to the national level public authorities and have an input in policy design processes. At the same time, cooperation between the third sector and municipalities is poor and is getting even looser over time, since it doesn't exist non-governmental or other non-profit organizations related to the CS area. But even if they existed, the restrictions imposed on them by Greek law make it difficult to co-operate with municipalities. Only some agricultural cooperatives seem to exist and they become less and less as time goes on. Furthermore, it should also be noted that there are some entrepreneurs - individuals who carry out individual projects and investments having a small impact on the shrinking process of CS areas.

Another problem is that while EU funding is given to rural areas, the central government does not choose to invest it properly. In other words, there is no proper matching of the needs arising from the decline and the available money given to combat it. Certainly, this is due to the fact that the central government considers that there are more important issues that need to be funded, but also due to the poor communication between local and national stakeholders.

As for agricultural policies (PGP Pillar II) and territorial cohesion policies, interviews with local leaders have shown that there is a gap between them, resulting in a lack of co-operation, apparently due to strict EU-level co-financing rules between the CAP and the structural funds.

An innovative way of integrated and effective management in the context of rural areas decline could be to establish special regional groups dealing with these problems. They should at the same time act as institutions monitoring and evaluating all projects implemented in the CS region. The knowledge gained after the evaluation of projects should be transferred to institutions implementing EU, national and regional projects. Such an institution should also train all entities that want to use public funds. In order to increase the effectiveness of management, an institution should also be established to cooperate with relevant groups and coordinate the implementation of projects at the commune level.

## 5 Policy recommendations

The policy recommendations for the CS of Kastoria are multiple and relate to different areas and branches of activity. First, it is important to identify the policy components for the agricultural sector. In order to be able to utilize the abandoned agricultural lands that have not been cultivated for a long time, the agricultural infrastructures and especially those related to irrigation (dams) in the area have to be improved and completed. In addition, it is necessary to reduce the cost of agricultural supplies, machinery and the energy required in agriculture, so that farming activity will be more profitable and feasible. Significant is the financial support with agricultural programs that concern all farmers and not only young people, with funding to be given as an advance for cultivation practices and not after, as is used to. Because the agricultural land is not abundant in Kastoria, large quantities of products cannot be produced, so the emphasis and investment should be in the quality of products. For this reason, branding of quality local agricultural products, such as beans, apples, cereals and herbs, must be improved, utilizing the opportunities offered by existing certifications framework, such as the protected geographical indication (PGI), the protected designation of origin (PDO), the guaranteed traditional idiosyncratic products (GTIP) and other marketing tools, so that the region could guarantee the name and the related comparative advantage of the local agricultural products.

The economic sector on which the region has been based for years is fur production, which has struggling due to the EU embargo on Russia. For this reason the EU have to re-shape the policies related to this issue and release the embargo. At the same time, the central government will have to greatly reduce tariffs on fur production to help it grow again. In addition, except from organizing summer schools to learn the know-how of fur production, a special school that operates on a permanent basis for this purpose should be created.

Another area for policy decision is that related to efficient governance procedures. Firstly, communication, co-operation and co-ordination between various levels of public administration and governance bodies should be improved. Secondly, it is necessary to improve policy-making processes both at EU, national and regional/local level. The policy must take into account the specific local needs and characteristics of each specific area and be designed to satisfy them in the most effective way. Thirdly, new local formal and informal structures and networks of people living in the areas should be developed, as well as to empower the existing ones, in order to enhance their capacity and involvement in decision-making policies that reflect better their needs for problem solving.

Although Kastoria is an area with a rich historical, cultural and natural background, its tourism sector has not substantially developed, regardless the large number of hotel accommodation in the area. For this reason, it is important to make policy proposals to stimulate tourism in the region. Specifically, Kastoria should create its own story telling that promotes and combines alternative forms of tourism such as winter tourism in the mountainous area of the prefecture through the promotion of interesting tourist trails, sports tourism (rowing, canoeing,



mountaineering, running, etc.) in mountainous and lakeside areas, ski tourism at the ski resort in Vitsi, religious tourism based on the multitude of Byzantine churches and places of pilgrimage, cultural tourism in areas such as fur museum, Byzantine museum, folklore museum, etc. and agritourism - rural tourism. Of course, it is important to connect tourism with the marketing of traditional local products. Thus, it is proposed the cooperation of the tourism industry with the association of fur growers of Kastoria and the various agricultural cooperatives in the area for the promotion of the fur and other local products to tourists.

Improving the quality of life of the residents is an important issue that will maintain the residents in the area. This will happen through the reduction of bureaucracy, the acceleration of all service delivery processes, the integration of information and communication technologies in all aspects of everyday life, the introduction of free training and learning programs for the residents, the improvement of public utility infrastructure and urban interventions (construction/expansion of villages' road network for better and faster connection, urban renaissances projects, modernization of education system, health and welfare structures, etc.). At the same time, it is important for the region to join a special reduced tax regime in terms of heating, energy and businesses, which will provide tax benefits and other financial measures and incentives to be able to keep the people living there and / or attract new people. Furthermore, stronger subsidies should be given to vulnerable groups, the unemployed, those who give birth to more than two children, but also to immigrants from foreign countries for whom a comprehensive and long-term policy plan needs to be designed.

Last but not least, the region will have to invest in other economic activities, to which little emphasis has been given so far. For example, education, designing and locating RES facilities, such as photovoltaic panels in barren areas and wind turbines in the Grammos and Vitsi Mountains, could give birth to a new branch of economic activity and make the region energy-independent. The University of Western Macedonia that is based in the town of Kastoria could be enriched with developing new curriculum or departments. The establishments of new departments that utilize the local resources utilization (Department of Agriculture, Department of Forestry and Natural Environment, Department of Restoration of Byzantine Antiquities, etc.) and the creation of new postgraduate programs in English would attract new Greek or foreign students who could potentially stay and work in the area in the future. In addition, strengthening the university will help conduct scientific research on the area that can be used to better document and illustrate the local problems and that of rural shrinkage in particular and also offer innovative ideas and solutions for economic development to farmers, fur producers and other businesses.

## Conclusions

The Regional Unit of Kastoria (NUTS3) is affected by the shrinking process, whether it is simple and concerns only population shrinkage or it is complex and affects other sectors as well. The shrinkage occurs overall in the CS area, with the rural area being affected more than the urban centre of Kastoria. As shown by the data analysed above, this is attributed to a number of factors such as demographic, economic, social, migration and governance related issues.

In terms of demographic factors, the most important in the CS area are the low fertility rates and the delayed fertility. Regarding the economic reasons, it is concluded that Kastoria is dominated by the spatial specific fur production and export industry, which is constantly declining during the last decade due to the European policy decision of Russian import ban to EU products. Therefore, the region is experiencing an additional local economic crisis (coupled the national one) and has been forced to diversify and facing the option to develop and invest in other sectors of the local economy, such as agricultural production and tourism that have so far served as a complementary source of income. However, the poor past performance of production and marketing of agricultural products, the absence of innovative agricultural production practices and the neglected so far natural, historical, cultural, etc. resources that are related to tourism development have led many residents to leave the area. As for the social causes, it is worth noting that Kastoria is traditionally a conservative society that is not easily receptive to change and especially to the influx of foreigners from neighbouring countries such as Albania and Northern Macedonia. At the same time, an important reason for the repulsion of the population is the lack or low quality of basic social infrastructure and the delays in completion of important infrastructure projects in the area. Regarding immigration flows, many residents migrated mainly abroad, while others to the large urban centers of Athens and Thessaloniki or the Greek islands. In addition, the settlements of migrants seem to be an ambivalent issue by the local population, while those who live in the area are mainly seasonal as agricultural workers.

An important obstacle to the development of the region and the comprehensive management of the shrinkage trends seems to be the problems identified in the governance sphere. The lack of obvious political will and coordination, cooperation and understanding between the various governmental levels (local, regional, national, European) seem to dominate the political discussion among the participants in the research. In addition, civil society has created some informal coalitions and networks to help in the solution of the problem, however their views seem not to be taken into consideration in planning and policy decision making. Lack of own resources of Municipalities and Regional Units also raises an important issue. Thus, it is observed that decision-making in the region and throughout the country follows a top-down approach. At the same time, there is no specific national policy to tackle the decline, nor is there an existing plan for how it should or could be dealt with, apart of sporadic initiatives tied with EU funds availability. Horizontal policies rather than sectoral ones, can

provide an effective solution to the problem. Moreover, while European funding is driven to rural areas, they are either in sufficient or there is a mismatch between subsidies and the local needs of the population. For example, there aren't subsidies available for the drivers of local development such as the tourism industry, the University of Western Macedonia, public infrastructure maintenance, marketing of agricultural products initiatives. EU funds ie for young farmers entrance in the farming activity, which is very good in principle, it is rather misused in the implementation stage. Another serious obstacle to the intergovernmental process and communication is the bureaucracy combined with the serious delays in modernization of public services and procedures.

Summarizing all the above, in order to deal with shrinkage related issues in the CS area, the appropriate policy measures should be taken to adapt to its local characteristics and needs. These include the effective coordination and operation among the governance authorities, the design of a comprehensive policy to tackle with shrinkage, the introduction of innovations in the agricultural and intergovernmental processes, the adoption of a bottom-up approach taking into account the views and problems of civil society, the strengthening of other productive sectors apart from the fur production, the promotion and development of tourism through the rational exploitation of local natural and cultural resources, the proper financing in the areas that need urgent support, the use of proper promotion and marketing tools for local agricultural products, the integration of the region in a favourable VAT regime, the support and reinforcement of the educational infrastructures, an integrated and long-term policy design for new immigrants and refugees, the completion of agricultural investment projects and the development of infrastructure (roads, railways, schools, hospitals, broadband Internet), enabling operation from distance and fast and safe mobility and accessibility to public services.

## **List of Appendixes**

**Appendix 1: Key projects (programmes) impacting shrinkage in the CS area**

**Appendix 2: List of interviews**

**Appendix 3: Pictures of the Focus Group**

## Appendix 1: Key projects (programmes) impacting shrinkage in the CS area

Table 1: Key projects (programmes) impacting shrinkage in the CS area

Name of the project/investment	Basic information: start and end date, funding amount, source of funding, collaboration partners	Description of key measures being addressed by the project
<b>Projects implemented in the previous programming period (2007–2013)</b>		
Irrigation–Flood Projects	2006 – 2012 30millions € National Funding (100%) Western Macedonia Region	Germa Dam with a capacity of 700,000 m <sup>3</sup>
Irrigation–Flood Projects	2008 - 2015 20 millions € Western Macedonia Region and AgioiAnargyroi	Vasiliada – Melissotopos Dam with a capacity of 650.000 m <sup>3</sup>
Road Construction Projects – Egnatia Road	1999–2017 340millions € National Funding (60%) and EU (40%) EGNATIA ODOS S.A.	Construction of the vertical axis Siatista–Hieropigi–Krystallopigi72 km long.
Road Construction Projects – Egnatia Road	1994–2009 933millions € National Funding (50%) and EU (50%) EGNATIA ODOS S.A.	The section of Egnatia Road that crosses Western Macedonia extends from Panagia to Polymylos and has a total length of approximately 110 km.
Flood Projects	2010 – 2017 25 millions€ National Funding (100%) Hellenic Ministry of Agricultural Development and Food	Vraxos Dam with a capacity of1.950.000 m <sup>3</sup>
Land Improvement Infrastructures	2011 – unknown(not finished yet) 70 millions€ Hellenic Ministry of Agricultural Development and Food AKTOR	Theconstructionof Nestorian Dam, which will irrigate 72,000 acres
Irrigation Projects	2009 – unknown(not finished yet) 20 millions€ National Funding (100%) Hellenic Ministry of Agricultural Development and Food	The construction of Dipotamia Dam, which will irrigate 35,000 acres
Road Construction Projects	2012-2014 4.9 millions€ Western Macedonia Region National Funding (100%)	Improvement of District Road 12 (Nestorio-Pine-Peukofito-Xrisi) of Kastoria Regional Unit in Kefalovryso – Xrisi’s Crossing
Road Construction Projects	2012-2014 7 millions€ Western Macedonia Region National Funding (100%)	Construction of District Road 12 of Kastoria Regional Unit in Lianotopi - Pefkos section
Urban Reconstruction Projects	2012-unknown 12.6 millions€ Municipality of Kastoria	9 Urban Reconstruction Projects in the Municipality of Kastoria
Infrastructure Upgrading Projects	2012-unknown 0.9 million € Municipality of Kastoria	Upgrading - Replacement of Vitsi Ski Resort Equipment
School Restoration Projects	2012-unknown	Restoration of the 1st and 8th

<b>Name of the project/investment</b>	<b>Basic information: start and end date, funding amount, source of funding, collaboration partners</b>	<b>Description of key measures being addressed by the project</b>
	2.9 millions € Municipality of Kastoria	Primary School Building of Kastoria
Increasing the value of agricultural products	2010 – 2013 1.651.356,54€ EAFRD, Hellenic Ministry of Agricultural Development and Food , ANKAS	Targeted projects to increase the value of agricultural products produced in the Regional Unit of Kastoria
Increasing the value of forestry products	2008 – 2013 240.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food , ANKAS	Targeted projects to increase the value of forestry products produced in the Regional Unit of Kastoria
Differentiation to non-agricultural activities	2009 – 2013 1.239.600 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations, extensions, modernizations of low capacity overnight infrastructure in the Regional Unit of Kastoria
Differentiation to non-agricultural activities	2009 – 2013 800.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations, extensions, modernizations of dining and leisure areas in the Regional Unit of Kastoria
Differentiation to non-agricultural activities	2009 – 2013 300.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations, extensions, modernizations of agrotourism farms in the Regional Unit of Kastoria
Differentiation to non-agricultural activities	2009 – 2013 180.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations, extensions, modernizations of service companies for rural tourism in the Regional Unit of Kastoria
Differentiation to non-agricultural activities	2009 -2013 160.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations, extensions, modernizations of units of crafts, cottage industries, production of traditional art and handicrafts in the Regional Unit ofKastoria
Differentiation to non-agricultural activities	2009 – 2013 660.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations, extensions, modernizations of service companies in the Regional Unit of Kastoria
Differentiation to non-agricultural activities	2009 – 2013 520.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations, extensions, modernizations of production of foodstuffs after the first processing in the Regional Unit of Kastoria
Differentiation to non-agricultural activities	2009 – 2013 120.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Improvement of business infrastructure of Regional Unit of Kastoria for the use of RES in order to meet their needs
Support for the creation and development of small businesses	2008 – 2012 680.000 € EAFRD, Hellenic Ministry of Agricultural Development and	Foundations, extensions, modernizations of craft industries in the Regional Unit of Kastoria

<b>Name of the project/investment</b>	<b>Basic information: start and end date, funding amount, source of funding, collaboration partners</b>	<b>Description of key measures being addressed by the project</b>
	Food, ANKAS	
Support for the creation and development of small businesses	2008 – 2012 40.000 € EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Networking of similar or complementary companies in the Regional Unit of Kastoria
Encouragement of tourism activities	2010 – 2013 20.000€ EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Marking of monuments and landmarks in the Regional Unit of Kastoria
Encouragement of tourism activities	2010 – 2013 40.000€ EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Creation of cycling routes in rural areas of Kastoria
Encouragement of tourism activities	2010 – 2013 71.428,57€ EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Projection and promotion of the comparative advantages of the Regional Unit of fKastoria
Encouragement of tourism activities	2010 – 2013 60.000€ EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Foundations and modernizations of information, organization and promotion offices of rural tourism in the Regional Unit of Kastoria
Basic services for the economy and the rural population	2007 – 2010 40.000€ EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Small-scale infrastructure projects (small land improvement projects, water resources management projects, small access projects to agricultural holdings) in areas in need
Basic services for the economy and the rural population	2007 – 2010 273.521,72€ EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Areas for sports, cultural, educational, environmental activities and social protection and solidarity activities such as preschool child care centers, municipal libraries, conservatories, etc. in the Regional Unit of Kastoria
Preservation and upgrading of the rural heritage	2012 – 2014 253.156,38€ EAFRD Hellenic Ministry of Agricultural Development and Food ANKAS	Preservation, restoration and upgrading of areas in the Regional Unit of Kastoria, such as improvement - marking of paths, plant works, small-scale technical projects for soil protection, landscaping and environmental awareness actions
Preservation and upgrading of the rural heritage	2012 – 2014 287.843,62€ EAFRD Hellenic Ministry of Agricultural Development and Food, ANKAS	Conservation, restoration and upgrading of rural areas that have never had a productive activity in the Regional Unit of Kastoria (such as fountains, bridges, etc.)
Preservation and upgrading of the rural heritage	2012 – 2014 30.000€ EAFRD, Hellenic Ministry of	Preservation, restoration and upgrading of the rural landscape of the Regional Unit

Name of the project/investment	Basic information: start and end date, funding amount, source of funding, collaboration partners	Description of key measures being addressed by the project
	Agricultural Development and Food, ANKAS	of Kastoria (such as environmentally degraded areas, tree plantations with endemic species, etc.)
Preservation and upgrading of the rural heritage	2012 – 2014 40.000€ EAFRD Hellenic Ministry of Agricultural Development and Food ANKAS	Conservation, restoration and upgrading of the rural areas of the Regional Unit of Kastoria which have only been productive in the past and have been reinforced to make them visitable and showy (such as mills, oil press, wine press)
Preservation and upgrading of the rural heritage	2012 – 2014 20.000€ EAFRD, Hellenic Ministry of Agricultural Development and Food, ANKAS	Interventions in existing buildings of Regional Unit of Kastoria for their transformation into museums, collections and exhibits related to folklore, rural and cultural heritage
<b>Projects implemented in the current programming period (2014-2020)</b>		
Road construction projects in the Regional Unit of Kastoria	2018–2020 160.000 € EAFRD (50%) National Funding (50%)	Node marking on the provincial road network and the boundaries of the provincial road to Klisoura and Argos Orestiko
Rehabilitation projects in the Regional Unit of Kastoria	2019 – unknown 1.2 millions€ European Regional Development Fund EU and national funding (100%)	Restoration of the Holy Monastery of Tsouka and the shaping of the surrounding area
Airport upgrade works	2018–unknown (not finished yet) 15 millions € EU and national funding (100%)	Design, construction (expansion and upgrade), financing and commercial operation of Kastoria Aristotle Airport
Supply of three project machinery for the Regional Unit of Kastoria.	2019 0.65 million € Western Macedonia Region National Funding (100%)	Supply of a new tractor, a land former (Grader type) and an excavator loader (JBC type) to meet the needs of the Kastoria Regional Unit.
Bio-waste management activities of the Municipality of Kastoria and Orestidos	2019-2020 748.745,75 € National Funding (50%) Cohesion Fund (50%)	The projects concern the supply of the necessary equipment (special bins and waste containers) for the development and sustainable management of urban bio-waste collection programs and the awareness and information of citizens about their participation in the proper implementation of bio-waste systems and home composting.
<b>Ongoing projects</b>		
Water supply projects in the Regional Unit of Kastoria	2019-2022 12.33 millions€ Municipality of Kastoria Western Macedonia Region	Replacement of the internal water supply network of the city of Kastoria and the addition of new water tanks in the area of the existing tanks.



<b>Name of the project/investment</b>	<b>Basic information: start and end date, funding amount, source of funding, collaboration partners</b>	<b>Description of key measures being addressed by the project</b>
Flood protection and natural disaster recovery infrastructure	2019-2022 11.13 millions€ Municipality of Orestidos National Funding (100%)	2nd phase of flood protection projects on the Aliakmonas River from the tributary of Stravopotamos (Galesavo) to the Amoudara Bridge on the borders of Orestis Municipality
Road Construction Projects	2020–2023 70millions € EU and national funding (100%)	Construction of Klisouras tunnel and on either side of road connections
Support for small-scale infrastructures (road construction within the settlements)	2020 - 2022 230.491,86€ EAFRD (50%) NationalFunding (50%)	Improvement of the Internal Road Construction of the settlement of Kranohori, Municipality of Nestorio
Investment support for public use in leisure facilities, reconstruction of settlements, tourist information and small-scale tourist infrastructure	2020 - 2021 348.025,20 € EAFRD (50%) National Funding (50%)	Routes - Trails in the Greater Area of Saint Nicholas and Tourist Information in Kastoria
Infrastructure to support Entrepreneurship in the Regional Unit of Kastoria	2019-2021 1 million € Western Macedonia Region National Funding (100%)	Projects to improve access to roads leading to businesses, the creation of parking spaces at the Vitsi ski resort, as well as the construction of tubular techniques to drain rainwater.
Preservation of cultural traditions or other elements of the region, highlighted through local events	2020 44.001,06 € EAFRD (50%) National Funding (50%)	"Korestia" Cultural Event
Enhancing cultural heritage: museums' support	2020 51.000 € EAFRD (50%) National Funding (50%)	Supply of equipment of Folk Museum of Argos Orestiko
Enhancing cultural heritage: strengthening associations through the provision of musical instruments, traditional costumes	2020 29.184,68 € EAFRD (50%) National Funding (50%)	Supply of costumes and musical instruments of the Department of Philharmonic
Strengthening the cultural heritage in the region	2020 - 2023 31.570,40 € EAFRD (50%) National Funding (50%)	Strengthening Folklore, Culture and Religion of the Greater Kastoria Region
Environmental awareness: information activities, organization of meetings, workshops, design of information and promotional material.	2020 33.842 € EAFRD (50%) NationalFunding (50%)	Environmental Awareness Program on Civil Protection, Environment and Ecological Consciousness in Secondary Education
Enhancing cultural heritage: strengthening associations through the provision of musical instruments, traditional costumes	2020 57.194,15 € EAFRD (50%) NationalFunding (50%)	Supply of traditional costumes and equipment to two cultural associations and one folklore
Enhancing cultural heritage: museums' support	2020 48.856 € EAFRD (50%) National Funding (50%)	Enhancement of the Digital Museum of Traditional Fur Art

<b>Name of the project/investment</b>	<b>Basic information: start and end date, funding amount, source of funding, collaboration partners</b>	<b>Description of key measures being addressed by the project</b>
Prevention of forests from fires and other natural disasters and catastrophic events	2020 – 2022 50.429,67 € EAFRD (50%) National Funding (50%)	Construction of a water storage reservoir for the forest firefighting needs of the wider Vitsi area
Prevention of forests from fires and other natural disasters and catastrophic events	2020 – 2022 136.000 € EAFRD (50%) National Funding (50%)	Development of Actions by the Greek Police for the prevention of fires and other natural disasters in forests in the prefecture of Kastoria

## Appendix 2: List of Interviews

Number	Position / competence of the interviewee	Type of the organisation represented by the interviewee			Location	Date (yyyymmdd)	Conductor	Note
		Sector*	Territorial scale**	Relation to the CS area ***				
<b>Conducted interviews</b>								
1	Former Secretary General for Agricultural Policy (2014-2019)	1	1	2	Telephone interview	20191206	Eleni Papadopoulou	
2	Former Deputy Minister of Rural Development and Food (29.08.2018 - 09.07.2019) and present MP of Kastoria Prefecture	1	1	1	Kastoria (at her office)	20200307	Eleni Papadopoulou	
3	Member of the Parliament of the Prefecture of Kastoria	1	1,3	1	Telephone interview	20200305	Eleni Papadopoulou	
4	President of the Economic Chamber of Kastoria	6	4	1	Kastoria (at his office)	20200307	Eleni Papadopoulou	
5	Head of the Kastoria Hoteliers Association	4	3	1	Kastoria (at his office)	20200307	Eleni Papadopoulou	
6	Professor at the University of Western Macedonia in Kastoria	2	2,3	1	Telephone interview	20191118	Eleni Kalantzi	
7	Regional Vice Governor of Kastoria	1	2	1	Kastoria (at his office)	20191118	Eleni Papadopoulou	

8	President of Fur Association	4	3	1	Kastoria (at his office)	20191118	Eleni Papadopoulou	
9	Head of the agricultural cooperative of Kastoria	5	4,5	2	Kastoria (at his office)	20191118	Eleni Papadopoulou, C.Papalexioi	
10	Agriculturist, Producer and Trader of agricultural supplies, pesticides and fertilizers	5	4,5	1	Kastoria (at his factory office)	20191118	E. Papadopoulou, C. Papalexioi	
11	Urologist - Andrologist - Surgeon at Kastoria and Thessaloniki	4	4	2	Thessaloniki	20200321	V. Emmanouilidis	
12	Head of the Association "The Keleton" for residents of Kastoria that "migrated" to Thessaloniki	7	3	2	Thessaloniki	20200321	O .Lioganou	
13	Member of the European Parliament for Greece	1	1	2	Skype Interview	20200403	Eleni Papadopoulou	

### Appendix 3: Pictures of the Focus Group









## References

- ANKAS (2015). Περιοχές LEADER. [online] [cld.agrotikianaptixi.gr](http://cld.agrotikianaptixi.gr). Available at: <http://cld.agrotikianaptixi.gr/index.php/lags/budget/EL%20-%202015> [Accessed 14 Mar. 2020].
- ANKAS (2020). ΑΝΑΠΤΥΞΙΑΚΗ ΚΑΣΤΟΡΙΑΣ. [online] [www.ankas.gr](http://www.ankas.gr). Available at: <http://www.ankas.gr/> [Accessed 15 Sep. 2020].
- Bassiouka A. (2011). The demographic identity of mountainous areas of Greece, Master's Dissertation Thesis, Environment and Development of Mountain Areas, National Technical University of Athens.
- Civil aviation service (2018). Υπηρεσία Πολιτικής Αεροπορίας - Αερολιμένες - Κρατικός Αερολιμένας Καστοριάς "Αριστοτέλης" (ΚΑΚΤΑ). [online] [www.ypa.gr](http://www.ypa.gr). Available at: <http://www.ypa.gr/our-airports/kratikos-aerolimenas-kastorias-aristotelhs-kakta> [Accessed 6 May 2020].
- Dide Kas (2020). Διεύθυνση Πρωτοβάθμιας Εκπαίδευσης Καστοριάς – Καραολή 10 Καστοριά Τ.Κ 521 00 – Τηλ: 24670 55270 – fax: 24670 55275 – email: [mail@dipe.kas.sch.gr](mailto:mail@dipe.kas.sch.gr). [online] [Kas.sch.gr](http://dipe.kas.sch.gr). Available at: <http://dipe.kas.sch.gr> [Accessed 15 May 2020].
- Egnatia Road (2019). Egnatia Motorway S.A. [online] [egnatia.eu](http://www.egnatia.eu). Available at: <http://www.egnatia.eu> [Accessed 15 Dec. 2019].
- ESPON (2017). Shrinking rural regions in Europe, Policy Brief.
- European Commission (2018). Krokos Kozanis PDO. [online] European Commission. Available at: [https://ec.europa.eu/info/food-farming-fisheries/food-safety-and-quality/certification/quality-labels/eu-quality-food-and-drink/krokos-kozanis\\_en](https://ec.europa.eu/info/food-farming-fisheries/food-safety-and-quality/certification/quality-labels/eu-quality-food-and-drink/krokos-kozanis_en) [Accessed 17 Jun. 2020].
- European Commission (2019). ESIF 2014-2020 Finance Implementation Details | Data | European Structural and Investment Funds. [online] [cohesiondata.ec.europa.eu](https://cohesiondata.ec.europa.eu). Available at: <https://cohesiondata.ec.europa.eu/2014-2020/ESIF-2014-2020-Finance-Implementation-Details/99js-gm52> [Accessed 5 Jun. 2020].
- European Investment Bank (2019). EIB Group survey on investment and investment finance 2019 Country overview, Greece.
- European Structural and Investments Funds (2019). NSRF 2014 - 2020 2nd Progress Report. [online] [ec.europa.eu](https://ec.europa.eu). Available at: [https://ec.europa.eu/regional\\_policy/sources/docgener/guides/blue\\_book/blueguide\\_en.pdf](https://ec.europa.eu/regional_policy/sources/docgener/guides/blue_book/blueguide_en.pdf) [Accessed 24 Nov. 2019].
- General Secretariat for Agricultural Policy and Community Resource Management (2019). Αρχική | ΠΡΟΓΡΑΜΜΑ ΑΓΡΟΤΙΚΗΣ ΑΝΑΠΤΥΞΗΣ (ΠΑΑ) 2014 - 2020. [online] [www.agrotikianaptixi.gr](http://www.agrotikianaptixi.gr). Available at: <http://www.agrotikianaptixi.gr/el> [Accessed 20 Jan. 2020].
- Giannakidis, S. (2019) "What really applies with the 'absorption' of the NSRF in Western Macedonia" (published in Greek).



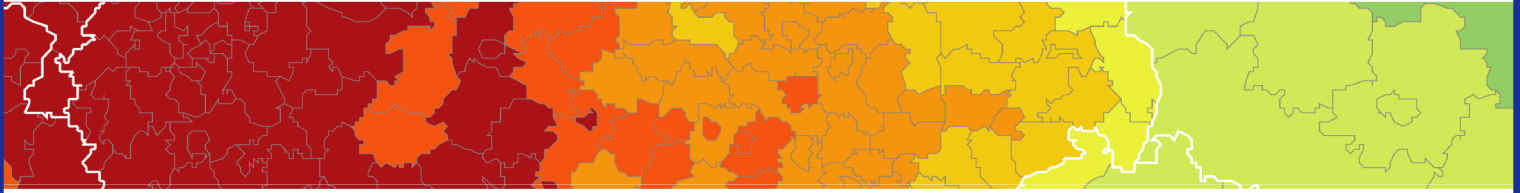
- Ilkos, B. (2013). History of Kastoria. [online] istorikakastorias. Available at: [istorikakastorias.blogspot.com](http://istorikakastorias.blogspot.com) [Accessed 29 Nov. 2019].
- International Organization for Migration. (2008). International Organization for Migration. [online] Available at: <https://greece.iom.int/el> [Accessed 30 Oct. 2020].
- Kolonas, C. (2020). "Lignite phase-out: The plan of the Commission for Western Macedonia and Megalopolis". Published in: <https://www.euro2day.gr/news/economy/article/2010646/apolignitopoihsh-to-shedio-komision-gia-d-makedoni.html>
- Kovats (2012). Factors of population decline in rural areas and answers given in EU members state's strategies, *Studies in Agriculture Economic* 114, 49-56  
 Margaras V. (2019), "Demographic trends in EU regions", EPRS - European Research Service.
- Ministry of Health (2019). Service Newspaper - General Hospital of Kastoria. [online] [www.kastoriahospital.gr](http://www.kastoriahospital.gr). Available at: <https://www.kastoriahospital.gr/> [Accessed 13 Mar. 2020].
- Ministry of Labour, Social Security and Social Solidarity (2017). Guide to Beneficiaries of actions for the promotion of employment in municipalities – Unemployment pockets through the new public benefit programs character 8 months. [online] OAED. Available at: <http://www.oaed.gr/documents/10195/1214512/%CE%9A%CE%9F%CE%99%CE%9D%CE%A9%CE%A6%CE%95%CE%9B%CE%97+%CE%A3%CE%95+%CE%9F%CE%9B%CE%9F%CE%A5%CE%A3+%CE%A4%CE%9F%CE%A5%CE%A3+%CE%94%CE%97%CE%9C%CE%9F%CE%A5%CE%A3+%CE%9F%CE%94%CE%97%CE%93%CE%9F%CE%A3+%CE%A5%CE%9B%CE%9F%CE%A0%CE%9F%CE%99%CE%97%CE%A3%CE%97%CE%A3+%CE%A0%CE%A1%CE%9F%CE%93%CE%A1%CE%91%CE%9C%CE%9C%CE%91%CE%A4%CE%9F%CE%A3.pdf/c1d4aef4-10f4-47a0-8781-1b58150af5be>. [Accessed 14 Jan. 2020].
- Ministry of Rural Development and Food (2019). Local action groups. [online] ead.gr. Available at: [https://ead.gr/wp-content/uploads/2019/09/%CE%9F%CE%9C%CE%91%CE%94%CE%95%CE%A3-%CE%A4%CE%9F%CE%A0%CE%99%CE%9A%CE%97%CE%A3%CE%94%CE%A1%CE%91%CE%A3%CE%97%CE%A3\\_6\\_2019.pdf](https://ead.gr/wp-content/uploads/2019/09/%CE%9F%CE%9C%CE%91%CE%94%CE%95%CE%A3-%CE%A4%CE%9F%CE%A0%CE%99%CE%9A%CE%97%CE%A3%CE%94%CE%A1%CE%91%CE%A3%CE%97%CE%A3_6_2019.pdf) [Accessed 20 Jan. 2020].
- Municipality of Florina (2019). Our economy. [online] visit florina. Available at: [http://www.visitflorina.com/p/blog-page\\_5.html](http://www.visitflorina.com/p/blog-page_5.html) [Accessed 18 Jun. 2020].
- Municipality of Kastoria (2020). Παγκουτσάρια Καστοριάς. [online] ragoutsariakastorias.gr. Available at: <https://ragoutsariakastorias.gr/> [Accessed 18 Feb. 2020].
- OPEKA (2019). Organization of Welfare Benefits and Social Solidarity. [online] OPEKA. Available at: <https://opeka.gr/> [Accessed 20 Feb. 2020].
- Polyzos, S. (2016). Regional Development. [online] TVXS - TV Χωρίς Σύννοπα. Available at: <https://tvxs.gr/news/>.

Regional Directorate of Primary and Secondary Education of Western Macedonia (2018).  
Map Data of Western Macedonia. [online] Pde.sch.gr. Available at:  
<https://dmaked.pde.sch.gr/media/maps/index.html> [Accessed 5 May 2020].

Special service for the management of the operational program of the region of western  
Macedonia (2016). Western Macedonia OP. [online] [www.espa.gr](http://www.espa.gr). Available at:  
<https://www.espa.gr/en/Pages/staticOPWesternMacedonia.aspx> [Accessed 18 Feb. 2020].

University of Western Macedonia (2019). Schools and Departments. [online] Πανεπιστήμιο  
Δυτικής Μακεδονίας. Available at: <https://uowm.gr/> [Accessed 13 Mar. 2020].

Western Macedonia (2019). Economy of Western Macedonia. [online] visit west Macedonia.  
Available at: <https://www.visitwestmacedonia.gr/el/> [Accessed 26 Feb. 2020].



### **ESPON 2020 – More information**

ESPON EGTC

4 rue Erasme, L-1468 Luxembourg - Grand Duchy of Luxembourg

Phone: +352 20 600 280

Email: [info@espon.eu](mailto:info@espon.eu)

[www.espon.eu](http://www.espon.eu), [Twitter](#), [LinkedIn](#), [YouTube](#)

The ESPON EGTC is the Single Beneficiary of the ESPON 2020 Cooperation Programme. The Single Operation within the programme is implemented by the ESPON EGTC and co-financed by the European Regional Development Fund, the EU Member States and the Partner States, Iceland, Liechtenstein, Norway and Switzerland.