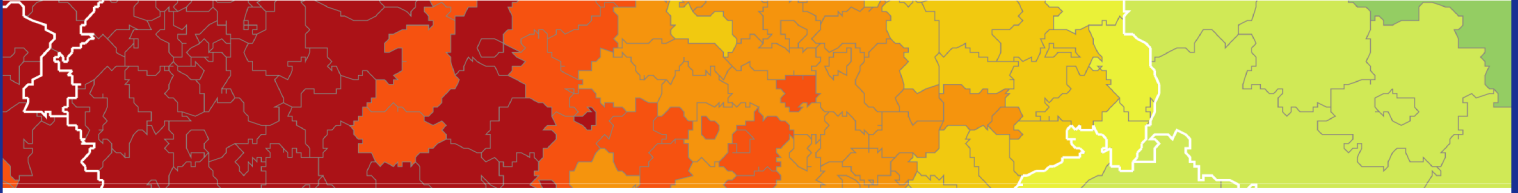


Inspire policy making by territorial evidence



ESCAPE European **S**hrinking Rural Areas:

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

Applied Research

Final Report – Annex 10
Case Study Alt Maestrat, Castellón, Spain

Annex 10

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Final report - Annex 10 - Case Study Report

**Alt Maestrat, Castellón,
Spain**

ESCAPE
European **S**hrinking Rural Areas:
Challenges, **A**ctions and **P**erspectives for
Territorial Governance

Version 21/12/2020

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Abbreviations

AoM	Association of Municipalities
ATMs	Automated Teller Machines, Withdrawing machines
AVANT	Valencian Agenda Against Depopulation
AVFGA	Valencia Agency for Agrarian Promotion and Guarantee
CAP	Common Agricultural Policy
CDR	Center for Rural development (local NGO)
CEDES	Centre of Employment and Economic and Social Development
CLLD	Community-led Local Development
CS	Case Study
E	East
EAGF	European Agricultural Guarantee Fund
EARDF	European Agricultural and Rural Development Fund
ERDF	European Regional Development Fund
EC	European Commission
ESI	European Structural and Investment Funds
ESF	European Social Fund
ESPON	European Territorial Observatory Network
EU	European Union
FGs	Foccus groups
GDP	Gross Domestic Product
ICT	Information and Communication Technology
ITI	Integrated Territorial Investment
LAG	Local Action Group
LAU	Local Administrative Unit
LEADER	Liaison Entre Actions de Développement Économique Rurale
Min.	Minutes
NGO	Non-Governmental Organisation
NGA	Next Generation Access (internet infrastructure, fiber network)
NNW	North/North-West
NNE	North/North-East
NUTS	Nomenclature of Territorial Units for Statistics
NW	North-west
OP	Operational Programme
RIS 3	Research and Innovation Strategies for Smart Specialisation
SDG	Sustainable Development Goals
SGIs	Services of General interest
sq. km	Square kilometre
PA	Public Administration
RD	Rural Development
RDP	RD Programme
SEPAM	Provincial Service of Assistance to Municipalities (SEPAM)
SGIs	Services of General Interest
SSW	South/South-West
UNESCO	United Nations Educational, Scientific and Cultural Organization
U-R	Urban-Rural
W	West
y.o.	Years old
YEI	Youth Employment initiative

Factsheet of Alt Maestrat, Castellón, Spain

Map 0.0: Geographical location of Alt Maestrat in Castellón NUTS 3 unit and in Spain



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

Name: Alt Maestrat (group of LAUs) located in Castellón (NUTS3 unit)

Key Indicators:

Figures refer to 2017 or 2001-2017 unless otherwise specified

Total Population (persons):	6,872
Population Density (persons/km ²):	10.4
Population Change (%):	-15.3
Net Migration (per 1,000):	-10.0
Natural Change (per 1,000):	-143.0
% aged >65:	31.4
% Employed in Agriculture:	19.9 (2011)
GDP (PPS) per Capita:	27,100* (2016)

* NUTS 3 data

Typologies:

- Urban-rural typology: Intermediate region, close to a city¹
- Mountain region: > 50 % of surface²
- Coastal region
- Typology of simple shrinkage (ESCAPE project): Population increase 1993-2033 but decrease in period 2013-2033

¹ According to the Eurostat's urban-rural typology including remoteness, a NUTS3 region is intermediate if the share of population in rural areas is between 20% and 50%, or if having more than 50% of population in rural areas contains an urban centre of more than 200,000 inhabitants representing at least 25 % of the regional population. It is considered close to a city if more than half of the residents can reach a city of 50,000 inhab. driving 45 min.

² 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.

Executive Summary

The concept of “rural shrinkage” has a key demographic component linked to population decline. Although the term is not widely used in the Spanish and EU context, the problem is starting to be politically recognised. The recently created Spanish Government Vice-Presidency of Ecologic Transition and Demographic Challenge and the Valencian Agenda against Depopulation are a sign of that. However, this growing concern has not been translated into tailored policies and strategies to effectively address the problem. Therefore there are only fragmented approaches patching some of its related elements. When examining “shrinkage”, we encounter multi-faceted situations of social and economic decline. It is the underlying challenges and perceptions of this “complex shrinkage” that we try to understand in this research, choosing a CS area located in a wealthy NUTS3 showing opposite population trends and over-average economic performance in the national context.

Background

The *Alt Maestrat* County is located in Valencia Region in Eastern Spain. The area has a population of 6,872 inhabitants, and a population density of 10.36 inhabitants per Km². It includes 9 municipalities grouped in two distinct geographical zones: the inner-mountainous zone and the pre-coastal mountain ranges running parallel to the Mediterranean coast. The economy is based on traditional rainfed agriculture and livestock, small-scale industry and handicraft products, and a large textile company. The services sector is present exclusively in larger municipalities and tourism is limited. The *Alt Maestrat* County has important environmental and cultural assets, but protection figures also entail restrictions, especially regarding land use and environmental protection.

Since 1920s the area has experienced several cycles of rural exodus, a trend intensified between the 1950s and 1970s associated to impact of industrialisation, rapid coastal development, and the collapse of the profitability of traditional agriculture. Those trends have resulted in a transfer of population to industrial and urban areas. The effects of previous migrations have resulted in high ageing and continuous population decrease. During the 2000s the appearance of immigration slowed down and slightly reversed this trend, but since 2010 out-migration rebounded and has been importantly increased as a result of the economic crisis. The entrepreneurial structure, with an absolute dominance of micro and small, family-based enterprises, offers limited job diversity and has scarce capacity to invest in R & D. During the past decades, the region loses population in selective processes of out-migration of the youth and more qualified population that does not find sufficient opportunities to develop their professional aspirations, causing a vicious circle of ever greater abandonment.

Challenges and Problems

Several factors are at the basis of this phenomenon. These are the following:

Living in the “losing side” of a prosperous region

The situation in the mountainous inner rural strip of the region entails important limitations for access to regional centres. Land and development policies have increased the already existing

geographical imbalance fostering investment in coastal and plane areas, attracting rural population and resulting in a concentration of communications, services and economic activity along the coastline. Those urban-coastal regional patterns have resulted in economic marginalisation of the area. Its peripheral position in the north-western corner of Valencia region, bordering with Aragon, even reinforces this disconnection.

Limited services and infrastructure

The conditions of provision of services and infrastructure present deficiencies in the area, due to its deficit or due to its poor quality. Regarding internet services both broadband and mobile coverage show important shortcomings on access and connection speed. Accessibility to public basic proximity services is also worse than in urban areas, and the system does not offer any incentive for professionals to stay in the area resulting in lower service quality due to precariousness and volatility of staff in healthcare, teaching, and administrative sectors. Public transport is merely testimonial and local population is highly dependent on private transport, increasing the cost of living and the risk of social exclusion of those who do not have access to private means.

Bleak future perspectives

The pillars of the local economy are found in traditional sectors with little added value. In comparison to urban areas they offer lower salaries, worse working hours, poorer conditions, and limited job opportunities. The area does not hold universities or relevant higher education extensions, and vocational training suffers important shortcomings. In addition to education and labour-motivated migration, another push to resettle is related with expectations, mainly of younger generations, about lifestyle, socialisation, leisure and cultural offer, which are also perceived as more attractive in urban areas. Population loss and ageing do not generate a favourable social climate to motivate young people to remain or come back and, above all, there is an important cultural stigmatisation of rurality.

Lack of cooperative governance

The area does not act politically as a unit of interest. Only in the past 10 years, municipalities have formed a joint entity to improve service provision, but individualism and local competition result in a lack of strategy and institutional action organised around common interests.

Views

Reverting out-migration is not considered as fully feasible and therefore most actors stress the need for adaptation policies to improve living conditions. Local actors feel as “*second-class citizens while contributing equally to taxes*”. This perception is also reinforced by the legacy effects of past policies and investments resulting in “abandonment” of rural areas. In order to decrease the trend and retain the rural inhabitants that still remain, local actors support the idea of improving the provision of services of general interest to retain the rural inhabitants that still remain.

To overcome shrinkage some aspects are perceived as crucial: developing economic activities linked to local assets; improving transport and telecommunications (essential for businesses and

young people); working together (locally and between administrations) and, last but not least, trigger a cultural shift to put into value rural image.

In the opinion of most people who participated in this study, from local to national level, economic revitalisation needs to be incentivised by tax and legal differentiations for rural areas. Those measures are perceived as the only realistic way to attract the private sector to areas with marked competitive disadvantages. Local, regional and national actors also argue that policy-makers in the different governance levels need to assess the effects of their policies in rural areas (what has been called “rural proofing”) in order to consider their particular needs and challenges and correct rural-urban imbalances.

Future Developments

The current situation shows an uncertain future difficult to escape in the short-term. Several of the factors that have been driving shrinkage in the past are still active. For instance, the misalignment of the local productive fabric with the changing market demand is favoured by the shortage of public investments in local industrial development, infrastructures and SGIs and the concentration of these investments in coastal and urban areas. This process feeds a vicious circle of decreased attractiveness and quality of life in the area. Therefore, the main local complaints are still the lack of investment and targeted territorial development policies. As a result, the population continues to move to better-equipped and more accessible areas.

According to regional and national actors, rural development policy still pivots around the centrality of agriculture and the agri-food sector. Although those sectors offer possibilities in the local context, primary sector activities do not currently attract young generations who are barely interested in traditional agriculture and livestock harder working conditions. In this sense, rural development policy is having a limited effect to retain population and needs a wider scope.

In this shrinking context, there is hope for some counter factors to reverse or at least attenuate this trend. In the opinion of most local actors, the close bonds of the “born and raised” in the area and the 50 to 75 minutes commuting time to centres of services and economic activity could be able to attract population who values the rural quality of life.

1 Diagnosing rural shrinkage and its contexts

1.1 The CS area: introduction

The *Alt Maestrat* is a *comarca* (namely a county) located at the NW border of the province of Castellón (NUTS 3) and, therefore, of the Valencian Community region (NUTS 2) (Map 1.1). It is a mountainous area of small villages where the local economy is based on rainfed farming (cereals, grapes and olives), sheep and livestock breeding (partly recovered after its decadence between the 1960s-70s) and small-scale handicraft cheese industry. Besides the textile industrial sector in Vilafranca, the spa and water bottling industry in Benassal and Catí, the area has very little industry and has the lowest investment levels of the whole region. The tertiary sector is present exclusively in larger municipalities and there are few infrastructures of rural tourism. Both road and ICT communications present shortcomings due to the isolation of the area and the limited bus service,

The relevance of this case lies in the fact that the territory is representative of many characteristics of Southern Europe shrinking rural areas (strong importance of agriculture, mountain conditions, moderate remoteness, etc.). Furthermore, *Alt Maestrat* peculiarities bring interesting insights: its location in an intermediate region where the population increased over the same period of time, and the proximity to relevant industrial clusters and important economic centres. *Alt Maestrat* is therefore in an intermediate position, in the transition area between the wealthy coastal areas and what has been called “The Spanish Lapland” (in Spanish the “Serrania Celtibérica”) due to its low density of population. Due to this characteristics, the CS area has remained invisible for RD policies, although it has been experiencing socio-economic decline and several cycles of rural exodus since the second half of the XIX century.

Furthermore, this ‘invisibility’ seems to be common to rural areas in the region of Valencia, where the problem of population decline and youth out-migration in smaller villages has been overshadowed by the average ‘prosperity’ during the past decades. After the recent political changes “shrinking” has a place in the high-level political agendas. Moreover, there seems to be a consensus between different political parties on the need to act against shrinkage. In this sense, national and regional governments have recognised the problem, an obvious but important first step to deal with it, and second to explore and implement modest initiatives to deal with it.

1.2 The CS area in the contexts of territorial classifications

Although the *Alt Maestrat* is located in an intermediate and coastal region (U-R typology) when looking at a NUTS 3 broad perspective, the CS area is a mountainous area, with a rather steep and rugged relief, located in the NW of Castellón province (map 1.1), at the beginning of the mountain ranges of the Iberian System and at the borders with the region of Aragon (NUTS 2) to the W (map.1.3). Two differentiated subunits of relief run from NNE to SSW: 1) the pre-coastal mountain ranges and corridors on the eastern side of its territory, parallel to the coast, and 2) the inner tabular system. The municipalities on the western side exceed the altitude of 1,000m and, while the eastern ones have a lower altitude. The weather varies greatly depending on the altitude and the situation.

Rainfall ranges from 500 to 700 mm per year and peak rains occur in autumn, especially in the eastern area. The average temperature of January oscillates between 3 and 9°C; and snowfall is abundant in the higher western municipalities. Average summer temperatures range between 20 and 24°C.

As a consequence, *Alt Maestrat*, which represents less than 2% of the province total population but 10% of its surface, is placed in the 'losing' side of what Valencian economists, such as Soler (2004), call a thalassocracy: the concentration of population, communications, services and economic activity along the coastline. This cleavage can be better appreciated by comparing the CS area and NUTS 3 level data in Table 1.2.

Table 1.1: Basic demographic and socio-economic trends behind rural shrinkage

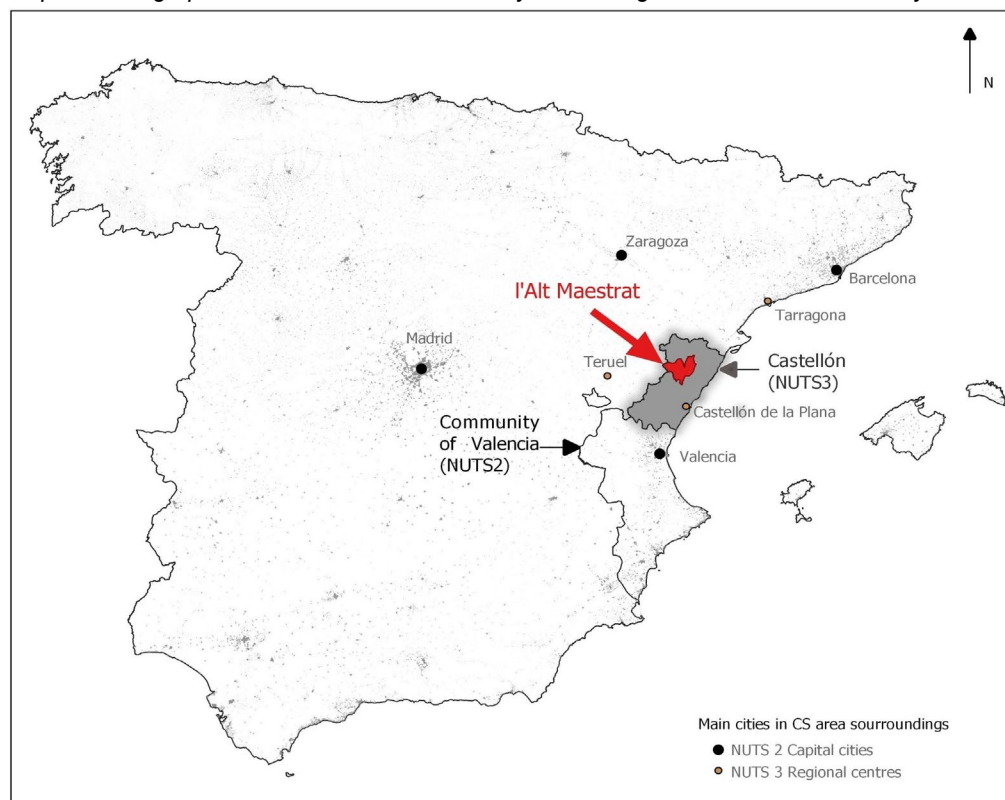
Classifications	Positioning of the case study area
Name	<i>Alt Maestrat</i>
Scale and role in national administration (Y/N and level)	N <i>Alt Maestrat</i> (group of LAUs), Castellón (NUTS 3), Comunitat Valenciana (NUTS 2), Este (NUTS 1)
NUTS 3 unit covered by the CS area	ES522 - Castellon
Regional typologies	
Urban–rural typology	Intermediate regions, close to a city
Coastal regions	coastal region
Mountain regions	> 50 % of surface
Island regions	Other region
Sparsely populated regions	Other region
Border regions	No programme area
Inner peripheries (ESPON PROFECY)	Interstitial
Shrinkage typology	
Typology of simple shrinkage (ESPON ESCAPE)	Population increase 1993-2033 but decrease in period 2013-2033

It is remarkable that the 'losing side' of the thalassocracy in the province of Castellón spreads beyond the CS area, affecting most of the inland areas of the province, highly contrasting with the densely populated coastal areas (namely *La Plana Alta* and *La Plana Baixa* counties). Considering that this 'losing side' embraces most of the NUTS 3 territory, the average population density is approximately 12.5 pop/sq.km, far below the more densely coastal populated areas presenting 250 pop/sq.km (Spanish Geographical Institute; Statistical Portal of the Generalitat Valenciana, 2020). This aspect shows the impact of rural shrinkage in *Alt Maestrat*, which departs from the demographic trends of the rest of the NUTS3 context.

Nevertheless, *Alt Maestrat* has a particularly intense isolation, not only from the “sun and beach” tourism of the coast, but also from the rural tourism node of the northern inner adjoining LAU of *Els Ports*. In addition, it is also disconnected from the functional area of the northern and coastal border with Catalonia region, as well as from the Castellón NUTS3 main economic driver, the tile and ceramic cluster (mostly settled at the inland areas of *La Plana Alta* and *La Plana Baixa*, and southern *l’Alcalatén*).

In this sense, the CS area is an enclave of lower economic potential than neighbouring regions, (due to lower accessibility), having poor access to regional centres. Both the two largest municipalities in the CS area, Albocàsser and Vilafranca, are located at 50-1h15 minutes (respectively) commuting time from the main surrounding urban centres of Castellón, and Vinaròs-Benicarló area (map 1.3). It is an inner periphery also in the ‘relational’ sense, as its disconnection to centres of political and economic activity (green and red in map 1.3) is also related to its peripheral location in the Valencian Community and the inner-border effect with the neighbouring NUTS 2 region of Aragon (which is relevant in a highly decentralised administrative Spanish context).

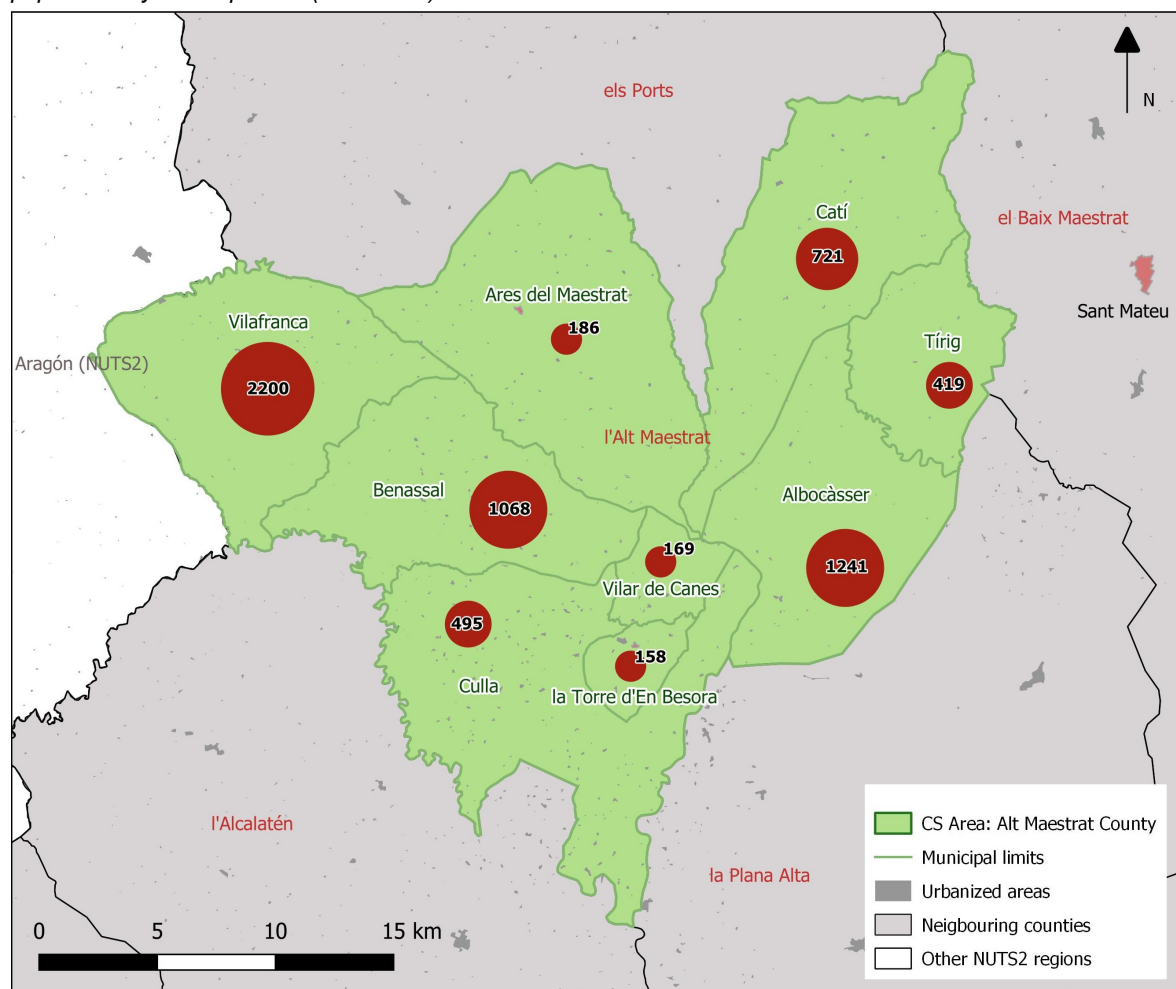
Map 1.1: Geographical location of the case study area in regional and national territory



Source: Own elaboration

Map 1.1 shows the location of *Alt Maestrat* County (red) in relation to the province of Castellón (grey). The area delimited by a black line is the boundary of the territory of the Valencian Community region (NUTS 2).

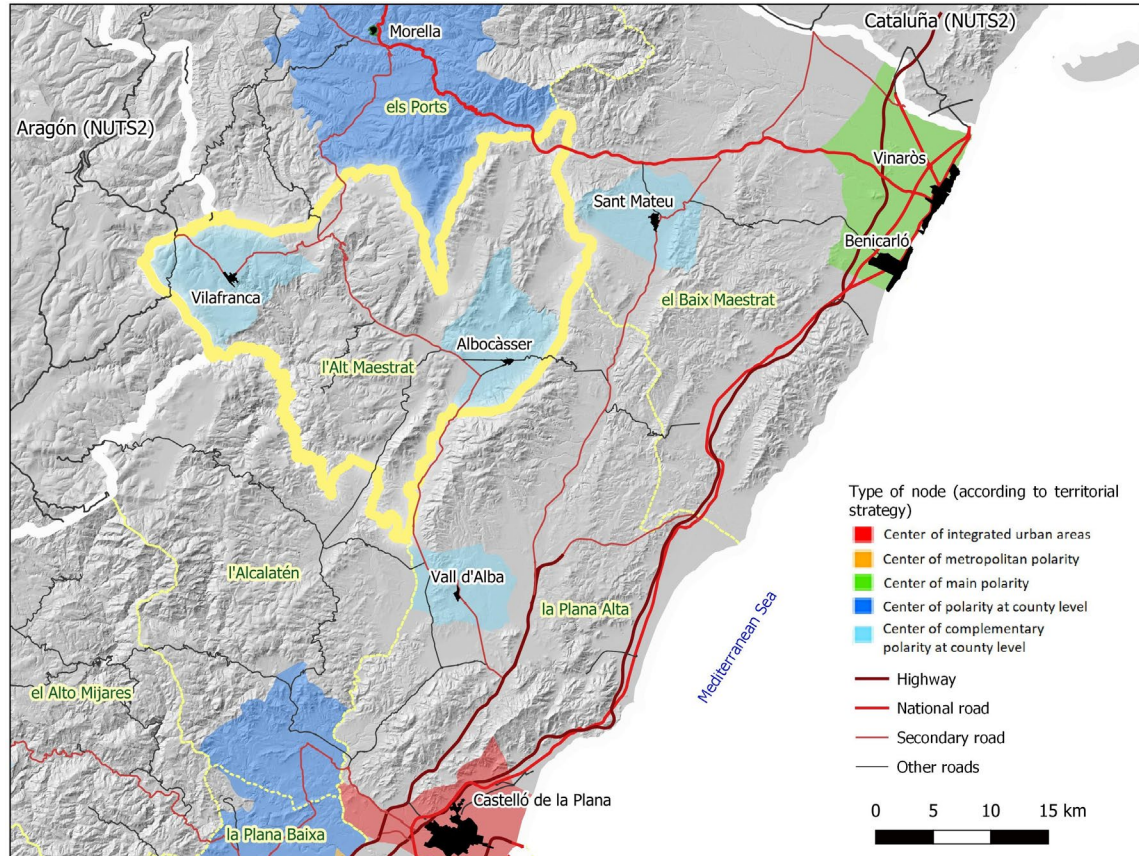
Map 1.2: Location of the case study area within administrative structures (internal administrative divisions), population by municipalities (red circles)



Source: Own elaboration

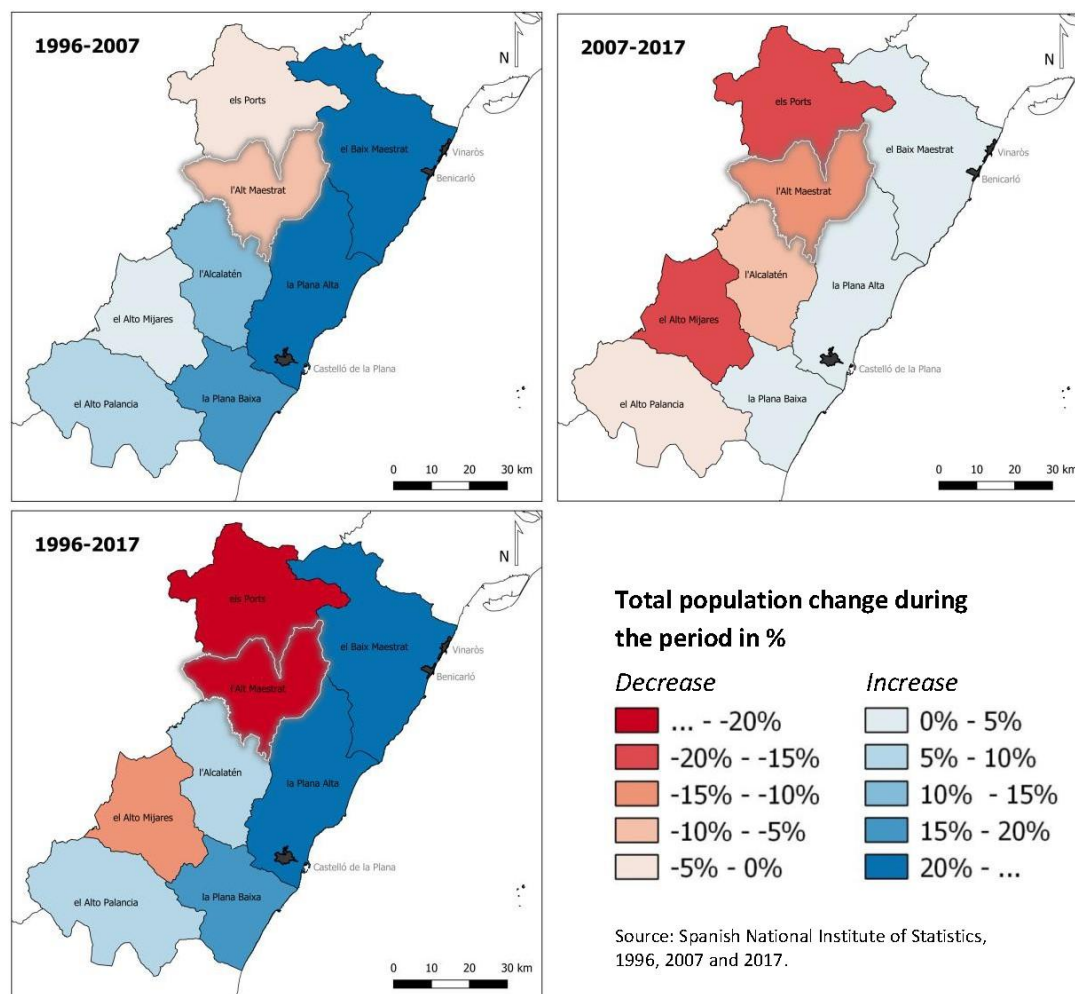
The *Alt Maestrat* County (in green in the map 1.2 in shaded yellow in map 1.3,) is composed by 9 municipalities (LAUs). Even if Vilafranca is the most populated village (2,200 inhabitants in 2019), Albocàsser is the county capital, with 1,241 inhabitants registered in 2019. The other villages shown in the map 1.2, are Benassal (1,068), Catí (721), Cullà (495), Tírig (419), Ares del Maestrat (186), Vilar de Canes (169) and Torre d'En Besora (158), resulting in a total county population of 6,657 inhabitants.

Map 1.3: Location of the case study area in the regional context



Source: Own elaboration (according to territorial strategy of the Valencian Community)

Map 1.4: Total population change of each county of the province of Castelló (NUTS 3) between 1996 and 2017



Source: Own elaboration with data of the Spanish National Institute of Statistics

As shown in the map 1.4, during the last generation *Alt Maestrat* has been strongly affected by depopulation. Simultaneously, coastal and urban area registered a diametrically opposite trend. This unequivocally testifies the migration from the *Alt Maestrat* towards the industrial, services provision and tourism areas and administrative poles located in the plain and the coast that took place in the 1996-2017 timeframe. This is a snapshot of a demographic territorial dynamic and clearly describes shrinkage processes that have been going on for several decades now.

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

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

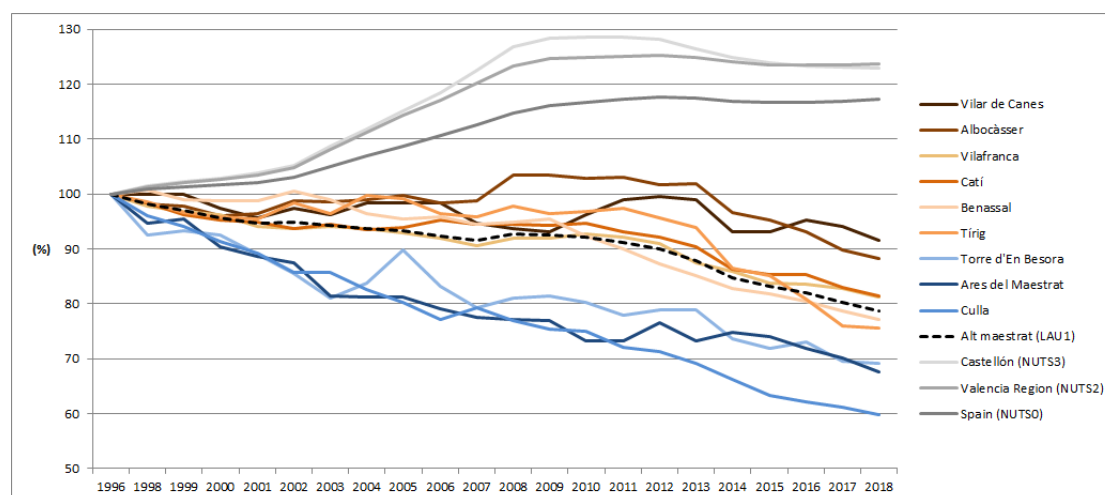
Indicators	Spatial level	Case study area (if available)	NUTS 3	NUTS 2	NUTS 0, Country	EU28
	Name	Alt Maestrat	Castellón / Castelló	Comunidad Valenciana	Spain	European Union
	Code	-	ES522	ES52	ES	EU28
Total population on 1 January – persons (demo_r_pjanaggr3)	2000	8,205	477,024	4,103,816	40,470,182	487 million
	2017	6,872	570,183	4,935,182	46,528,024	511 million
Population change between 2000 and 2017 ([Population 2017-Population 2000] / Population 2000 * 100) – percentage (demo_r_pjanaggr3)	2000–2017	-16.25	19.53	20.26	14.97	4.95
Population density – persons per km² (demo_r_d3dens)	2000	12.37	72.20	177.10	80.20	111.90
	2017	10.36	86.10	213.60	92.70	117.70
Total fertility rate – number (demo_r_find3)	2000	0.97	1.23	1.22	1.21	1.46
	2017	1.33	1.36	1.3	1.31	1.59
Net migration rate (Net migration 2000–2017 / Population 2000 * 100) – percentage (demo_r_gind3)	2000–2017	-2.56	16.35	17.49	12.57	4.54
Population projection (EUROPOP2013) – persons (proj_13rpms3)	2020	6,479	542,434	4,776,588	45,794,208	512 million
	2030	5,620	490,914	4,488,460	44,524,373	518 million
	2040	-	468,536	4,370,088	44,611,450	524 million
	2050	-	461,919	4,369,227	45,543,569	526 million
Working age population (15-64 years old population / Total population *100) – percentage (demo_r_pjanaggr3)	2000	59.02	68.04	69.12	68.66	67.09 (2001)
	2017	58.21	65.69	65.79	65.98	64.98
GDP per capita – purchasing power standard (nama_10r_3gdp)	2000	-	21,700	18,000	18,900	19,800
	2016	-	27,100	23,500	26,700	29,300

Indicators	Spatial level	Case study area (if available)	NUTS 3	NUTS 2	NUTS 0, Country	EU28
GDP per capita – PPS in percentage of EU28 average (nama_10r_3gdp)	2000	-	110	91	95	100
	2016	-	93	80	91	100
Convergence of GDP per capita to the EU28 average (1 + [GDP per capita 2016 - GDP per capita 2000] / GDP per capita 2000) (nama_10r_3gdp)	2000–2016	-	0.85	0.88	0.96	1.00

Source: Eurostat, Regional statistics by NUTS classification (see table names above), Spanish Statistical Office (INE), Statistical Site of the Valencian Government (NUTS2 Statistical Office)

The data clearly testify that during the last generation the population of the analysed area has been shrinking at a fast pace (21% during 1996-2018), in contrast to the provincial, regional and national demographic dynamics which all reveal a homogeneous population growth of approximately 20% (figure 1.1). Figure 1.1 shows how the demographic trends of the CS area are the result of opposite socio-economic and cultural patterns that dramatically differentiate the rural and county scale with the global provincial, regional and national ones.

Figure 1.1: Percentage Population change in Alt Maestrat between 1996 and 2017 (base year 1996)



Source: Own elaboration, based on the census data of the Spanish National Institute of Statistics

A similar pattern is found for the population density indicator, as the NUTS 3 level density triples the one of the CS area. Significantly, the NUTS 2 region not only exceeds up to 14 times the density of CS area, but also doubles the country average. That is an illustrative example of the population distribution within Spain, with clear concentration along the coastline and the centric node of Madrid. That being said, Castellón province, as the less

densely populated of the three NUTS 3 areas integrating Valencian Community (with a high density in the coastal counties of *La Plana Alta* and *La Plana Baixa* as mentioned in section 1.2.), is slightly below the national value.

With regards to fertility rate, we find a considerable continuity at country level and below, always lower than EU28 by 0.2-0.3 points. However in 2000, the CS area showed a significantly lower fertility rate than data for provincial, regional and national levels (approximately by 0.2, a difference that disappears in 2017 due to an increase in CS fertility rate). A closer look at number of live births and number of inhabitants by sex and age groups, let us confirm that, regardless of the higher population in year 2000, the number of births for the two years referred remain almost the same (46 at 2000, 47 at 2017) despite the decrease in female population in productive age by 300 people (from 31.5% to 30,9% of the total female population) (INEbase / Demografía y población, 2020).

With regards to net migration rate for the period 2000-2017, the CS area emerges as the only spatial level with a negative value, far away from the similar data for provincial, regional and national situation that even surpasses the EU28 average.

Focusing on population projection, we can easily identify a tendency progressively declining as we approach to the CS spatial level. At country level, there is an estimated recovery from 2040 onwards, although far below from the constantly growing tendency of the EU28.

With reference to working age population, the CS area, consistently with its higher ageing index, has a lower percentage of working population, but its decline during 2000-2017 is less intense than the other spatial levels.

Finally, regarding GDP related indicators, and despite the lack of indicators at CS area level (due to the absence of legislative, institutional and statistical background for the area within Valencian Community region), we can identify some remarkable trends. GDP at NUTS 3 level clearly exceeds the NUTS 2 and NUTS 0 values for the two referred years, and also the EU28 datum for year 2000. This is a clear reflection of the impact on GDP of Castellón's tile and ceramic industry cluster mentioned in section 1.2.

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

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

Since 1920s the area has experienced several cycles of rural exodus, when the burst of work opportunities in expanding industrial areas attracted population from the rural, traditional and less productive agriculture-based activities towards the new industrial poles. This trend intensified between the 1950s and 1970s associated to the collapse of the productivity of traditional agriculture and the strong expansion of the industrial sector, triggering (at first) and progressively amplifying the ageing of local population. During the 2000s the trend abated

due to a slowdown in out-migration and the appearance of immigration (and despite natural population decrease). However, since 2010, and linked to the global economic crisis, out-migration has importantly increased and, together with natural decrease, is contributing to a continuous trend of population decrease for nearly a century now (more detail is provided in section 2.2 and Figure 2.3).

Table 1.3: Basic demographic and socio-economic trends in the CS area and at national level

		1990 ¹	2001	2011	2017
Total population (number)	<i>CS area</i>	9008	8114	7821	6872
	<i>National level</i>	38,853,227	40,665,545	46,667,175	46,658,447
Ratio of 0-14 y.o. population (%)	<i>CS area</i>	12.74	10.76	10.46	10.39
	<i>National level</i>	20.27	14.62	15.03	15.06
Ratio of female population in productive age (15-45 y.o.) (%)	<i>CS area</i>	32.24	31.95	34.04	30.97
	<i>National level</i>	44.36	46.12	42.60	38.36
Population density (persons/km²)	<i>CS area</i>	13.58	12.24	11.79	10.36
	<i>National level</i>	76.79	80.37	92.23	91.95
Gender balance	<i>CS area</i>	1.05	1.02	0.98	1.00
	<i>National level</i>	1.0406	1.0410	1.025	1.038
Old age dependency rate (%)	<i>CS area</i>	41.34	51.23	49.38	53.95
	<i>National level</i>	20.22	24.47	25.21	28.73
Ageing index (%)	<i>CS area</i>	200.26	280.99	283.01	302.24
	<i>National level</i>	66.15	114.84	113.82	125.93
Crude birth rate (births/1000 persons)	<i>CS area</i> ²	7.35	5.30	6.01	6.84
	<i>National level</i>	10.33	9.99	10.11	8.45
Crude death rate (deaths/1000 persons)	<i>CS area</i> ²	13.77	15.16	17.52	18.04
	<i>National level</i>	8.57	8.86	8.31	9.12
		1990-2001	2001-2011	2011-2017	1990-2017

Population change (%)	<i>CS area</i>	-13.18	-3.61	-12.13	-23.71
	<i>National level</i>	20.11	14.76	-0.02	20.09
Number of arrivals due to migration	<i>CS area</i> ³	4,117	3,112	1,307	5,184
	<i>National level</i> ⁴		6,715,112	3,195,166	
Number of departures due to migration	<i>CS area</i> ³	4,164	2,904	1,761	5,662
	<i>National level</i> ⁴		1,889,623	2,896,639	
Net migration rate (%)	<i>CS area</i> ³	-0.54	2.54	-5.75	-5.45
	<i>National level</i> ⁴		11,87	0,64	

1. *CS area level data for 1990 collected from 1991 Census*
2. *Oldest data available is provided: 1996*
3. *CS are level data for 1990 collected from earliest year available: 1991*
4. *Most recent data available: 1998. Departures from Spain to foreign countries only registered from 2002 (hence affecting the 2001-2011 interval)*

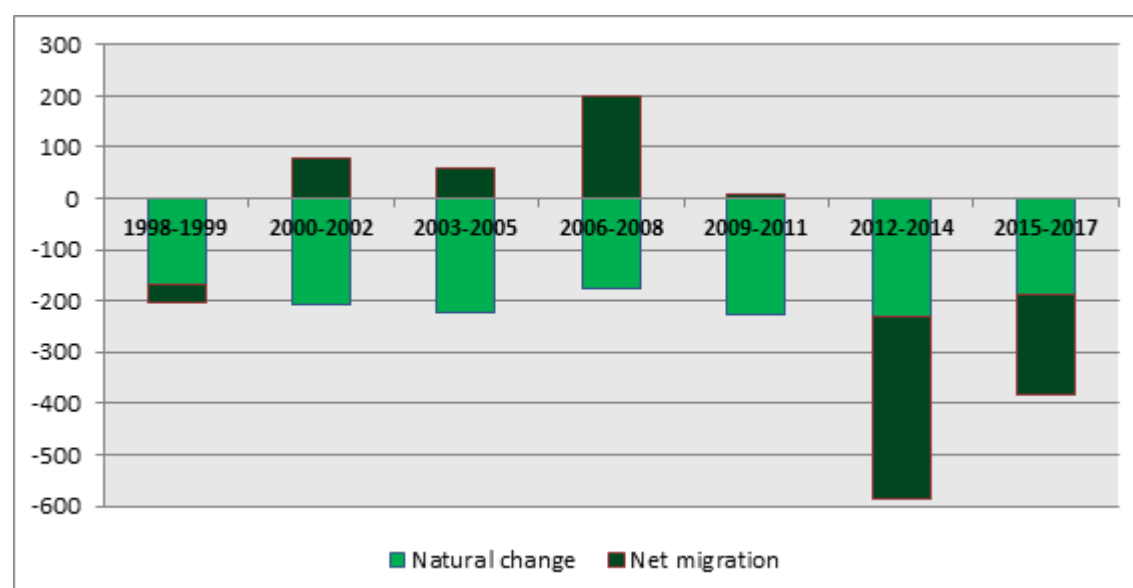
Focusing on the basic indicator for simple shrinkage (table 1.3), we find a population loss in the CS area between 1990 and 2017 of almost 25%. However, that decline, slowed down significantly during the 2001-2011 period. These contrasts with demographic trend at national level, with a 6 million upraise between 2001 and 2011, hence resulting in a 20% increase of total population from 1990 to 2017 (with an inflection point since 2001 and a slight decrease from 2011 to 2017).

In relation with population loss, ageing at the CS area upraises more than 100% from 1990 to 2017, resulting in an elderly population 3 times higher than the 0-14 y.o cohort in 2017. In relation to that, the age dependency rate raises in a lower percentage, partially due to the wider 15-64 y.o interval. Nevertheless, it still doubles its country equivalent rate, potentially affecting the viability of assistance of CS inactive population.

Despite that high ageing index, the crude death rate, even if starting from a higher value in 1990 and increasing more than the one at country level (coherently with a “legacy shrinkage” cleavage situation), does not rise in a significantly intense way. This could be partially explained by the concomitant increase of the life expectancy during those years. In addition, another relevant factor could be the “family reunification” highlighted during the fieldwork, as many of the descendants of the elders who become increasingly dependent, tend to take their relatives with them to urban and coastal areas where they previously migrated (also due to the distance and low availability of nursing homes and elder care in the CS area). Considering the latter, some of the eldest senior citizens from *Alt Maestrat* might spend their last years or months of life in other different areas, probably changing their municipal registration in order to access easily to the SGIs that they intensively require.

With regards to migration rate, the CS area has a slightly positive rate for 2001-2011 period (table 1.3), contrasting with a subsequent decrease of almost 6 points resulting in a 5.8% negative rate from 2011 to 2017. The result is a loss of 5.45% population from 1990 until 2017 due to migration, diverging from the positive rate of Spain (in spite of losing ten points and approaching to a negative rate in 2017, as a result of the departure of 2.9 million people between 2011 and 2017). Figure 1.2 shows the components of population change in the *Alt Maestrat* during the last generation (1998-2017). It shows important legacy effects and different out-migration trends which are related to the wider global context (see section 2.2). The *Alt Maestrat* experienced out-migration until year 2000 (unlike provincial, regional and national trends), when net migration started to increase in line with steep immigration trends at higher spatial scales. However, the effects of the economic crisis attenuated this trend, which reversed in 2010, resulting in an upturn of out-migration to even higher values than during previous decades. The increase of out-migration was also remarkable at provincial, regional and national level until 2015.

Figure 1.2: Natural change, migration and total population change (absolute values) in *Alt Maestrat* between 1998 and 2017



Source: own elaboration from National Institute of Statistics (derived from population change, births and deaths)

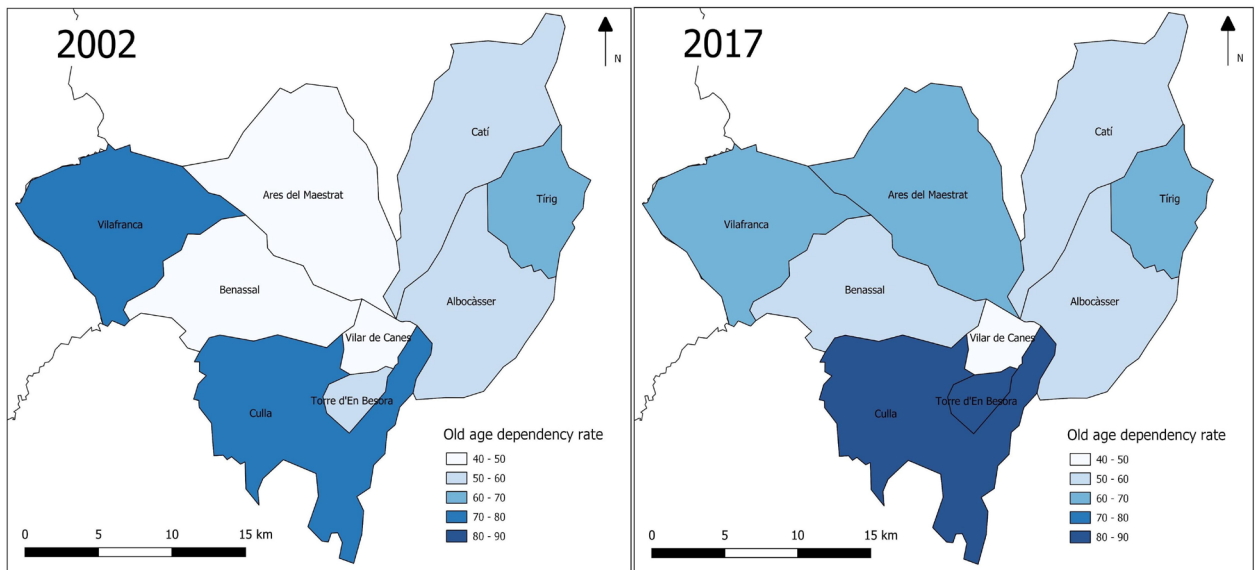
Besides those relevant flows, indicators such as population density portrait a pre-existent cleavage between CS area as a rural shrinking area and the aggregate situation of Spain. Similarly, the ratio of infant population and the ratio of female population in productive age, also show a big disparity between the CS area and the national level. Nevertheless, the divergence tends to reduce in 2017, mainly due to the relative loss of infant and female fertile population at national level.

Furthermore, it should be noted that the ratio of female population in productive age at CS level presents its higher value in 2011. Considering the declining ratio of infant population from 1990 until 2011 and the positive migration rate for 2001-2011 period, this increase might be mostly explained by immigration to the CS area.

As highlighted above, the simple shrinkage process abates between a 2001 and 2011, especially at the latter year. In contrast, it intensifies for the 2011-2017 period. The main event within that period is the economic expansion started at late 1990s and the subsequent economic crisis since fall 2008, with the highest labour market and macroeconomic impact on 2012. Thus, we can observe an important impact of the global economic crisis while analysing migration CS data. However, it is difficult to assess if the economic growth at national and regional level could actually have a sort of 'multiplier' effect and mitigate shrinkage and economic recession in the CS area.

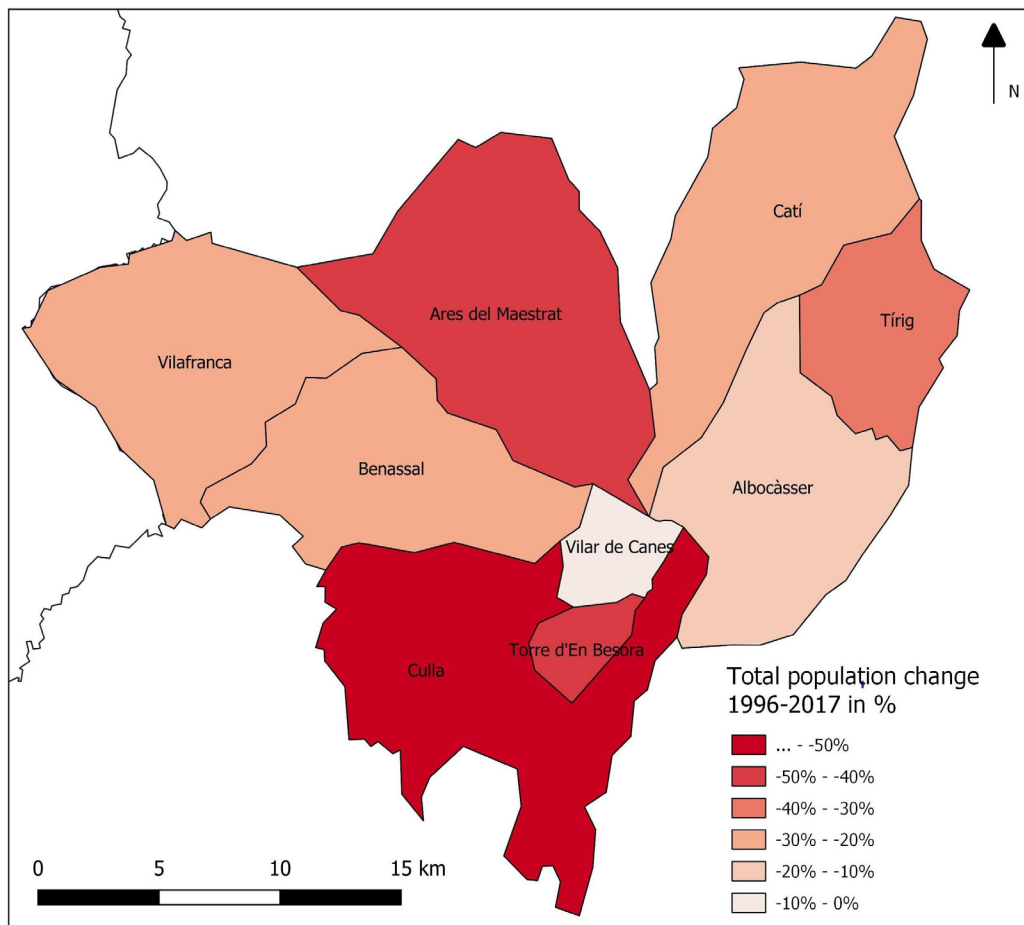
Maps 1.5 and 1.6 illustrate ageing and population change in *Alt Maestrat* and its internal diversity. Shrinking trends in the CS area seem not to be directly related with accessibility, as the more accessible municipalities (Albocasser, Vilar the Canes, Torre d'En Besora, Tírig and Culla) show different shrinking patterns. Vilafranca, the largest and remotest village, is the only municipality that has reduced its *old-age dependency rate* in the past years. The municipalities of Culla, Ares del Maestrat and Torre d'En Besora reveal both the highest rate of depopulation and the highest increase of their *old-age dependency rate* (population over-65s as compared to working age population, 15-64 y.o.). In contrast, Vilar de Canes (one of the smallest municipalities) and Albocàsser register more moderate depopulation trends and a lowest *old-age dependency rate*.

Map 1.5: Old-age dependency rate in each of the 9 municipalities of the Alt Maestrat in 2002 and 2017



Source: Own elaboration

Map 1.6: Total population change between 1996 and 2017 in each municipality of the county



Source: Own elaboration based on the Spanish National Institute of Statistics

1.4.2 Characteristics of complex shrinkage of the CS area

Table 1.4: Economic indicators of the CS area and at national level

		2001	2011	2017
Number of enterprises per 1000 persons (REGISTERED)	CS area	-	28.26	32.45
	National level	28.33	27.88	28.5
Number of enterprises per 1000 persons (ACTIVE)	CS area	-	61.96	68.83
	National level	65.05	68.56	70.55
Number of small-sized enterprises per 1000 persons	CS area	-	28.26	32.45
	National level	27.71	27.29	27.9
Number of medium-sized enterprises per 1000 persons	CS area	-	0	0
	National level	19.45	17.89	17.99
Ratio of SME in the total number of enterprises (%)	CS area	-	100	100
	National level	99.73	99.65	99.66
Ratio of NACE.rev2 A (agriculture) enterprises in the total number of enterprises (%)	CS area	-	8.72	18.39
	National level	-	7.73	8.52
Ratio of NACE.rev2 B-F (industry, construction) enterprises in the total number of enterprises (%)	CS area	-	34.4	27.8
	National level	26.56	20.75	17.21
Ratio of NACE.rev2 G-U (services) enterprises in the total number of enterprises (%)	CS area	-	56.88	53.81
	National level	72.54	72.98	71.28
Ratio of working age (15-64 y.o.) population (%)	CS area	59.01	59.94	58.21
	National level	68.59	67.86	65.98
Ratio of jobseekers/unemployed persons in working age population (%)	CS area	3.57 (2005)	8.43	5.75
	National level	7.23 (2005)	13.36	12.25

At a first sight, with the available economic data it is not obvious to characterise *Alt Maestrat* as an area experiencing economic decline, even if the ageing and working-age migration trends reveal the steady reduction of working-age population during the past years (from 59,94 to 58,21%, ten points lower than the national level). Since the 2008 crisis, this figure is in line with nearly all Spanish rural and urban areas, which experienced the sudden hike of unemployment that triggered a rather high rate of out-migration towards larger metropolitan areas or abroad. However, *Alt Maestrat* area shows clear processes of complex shrinkage, indirectly linked to demographic trends, which emerge when analysing entrepreneurial activity (with data available since 2011 in the Statistical Database of the Valencian Community).

In the CS area, the number of enterprises has remained relatively stagnant in absolute terms but increased in relative terms (per 1,000 persons), which is explained by the loss of population (12.13% between 2011 and 2017).

Despite the shrinkage trend being related to the strong dependence on agriculture and livestock farming, the primary sector shows an increase from 9 to 18% of total companies between 2011 and 2017. What at first glance might just seem a “pouring out” of capital and labour-force from one sector to another actually hides a scarce and reduced diversification of the local production fabric and a downsized average productivity of non-agricultural local companies. The production units in the *Alt Maestrat* are mainly micro-enterprises, as 90.58% of them have less than 10 employees. The absence of large enterprises stands out (except for the Marie Claire, a textile company settled in Vilafranca, which has more than 500 employees).

The increase on the relative number of agricultural enterprises is related to the reduction of the industrial, services and, above all, the building sector. The real estate crisis that emerged between 2007 and 2008 and the resulting collapse of several building companies unleashed the decline of the already small industry and services sectors too, whereas the primary sector appears less affected and has become a "store of value" of the local productive system. The CS area has also shown a slower recovery, as compared to the provincial and regional trends. For instance in *Alt Maestrat*, 2010 total revenues of the industrial sector went down to 1/3 of 2008 figures. In 2014 (last available data) industrial revenues were just slightly above 1/2 of 2008 figures. In comparison, at provincial and regional levels 2014 industrial revenues were already 84% of 2008 revenues, showing a much greater recovery since the beginning of the crisis. This shows how *Alt Maestrat* industrial companies suffered a dramatic decrease in productivity.

Comparing the data of the first trimester of 2012 and 2019, the total number of companies is fundamentally stagnant in *Alt Maestrat* (+2.3%), as the general increase in agricultural enterprises has compensated the decrease in construction. In contrast, except for industry, all sectors have experienced a greater increase at the provincial and regional level (7.33% and 11.27% respectively) for the same period. Similarly, the number of companies in the service sector remained almost stagnant in the CS area (from 124 to 127), while they significantly increased at the provincial and regional level (9.79% and 12.73% respectively), acting as a driving force for economic recovery. In contrast, the building sector, has shown a steeper decrease in *Alt Maestrat* (by 35.9%), as compared to a slight decrease at provincial and regional levels between 2012 and 2019.

Similar trends are also reflected in the data of number of employees by sector of activity between 2012 and 2019: at provincial and regional level all sectors show a significant increasing trend, while *Alt Maestrat* shows a moderate increase (4.56%, compared to the 23.56% provincial and 25.64% regional levels). Furthermore, this increase in *Alt Maestrat* is

limited to the primary (+120%) and services (+11.06%) sectors; while the industrial and the building sectors lose 3.24% and 49.04% of their labour force, respectively.

The economic crisis generated obvious consequences in the employment in *Alt Maestrat*, which are subsequently reflected in the *at-risk-of-poverty rate*, which increased from 11.8% to 15.3%, while decreasing by about 1% point at the provincial and regional levels (between 2013 and 2017).

1.4.3 Broader socio-economic contexts of Shrinkage which may drive population decline

Table 1.5: Contextual indicators of shrinkage in the CS area and at national level

		2001	2011	2017
Ratio of households with broadband access in the total number of households (%)	CS area	-	-	-
	National level ¹	28.5	60.8	82.7
Number of newly-built dwellings per 1000 persons	CS area ²	-	45.34	44.96
	National level ³	4.51	13.43	10.25
Ratio of newly-built dwellings in the housing stock (%)	CS area ²	-	6.41	6.05
	National level	0.85	2.48	1.86
Number of general practitioners per 1000 persons	CS area ²	3.79	3.75	4.52
	National level	4.17	4.85	5.45
Number of hospital beds per 1000 persons	CS area ⁴	2.87	2.56	2.61
	National level	3.59	3.09	2.98
Number of kindergartens per 1000 persons	CS area ⁵	-	-	0.89
	CS area ²	0.42	0.31	0.32
	National level	0.34	0.31	0.3
Number of schools (primary+secondary) per 1000 persons	CS area	0.51	0.42	0.44
	National level	0.42	0.38	0.38
Ratio of population with low qualification (%)	CS area	80.76	66.44	-
	National level	57.35	50.66	51.24
Ratio of population with high qualification (%)	CS area	11.54	8.4	-
	National level	24.9	31.9	36.4
Number of NGOs per 1000 persons	CS area	-	-	-
	National level	1.25	0.84	1.17

1. Oldest data available from 2006

2. NUTS3 data

3. Oldest data available from 2005

4. NUTS3 data + oldest data available from 2005

5. Data available for 2018

The mountainous, rocky and steep geomorphology has markedly influenced socio-economic development in *Alt Maestrat*. The mountain climate, with low average temperatures together with poor soils, results in low average agricultural productivity. Those features limit large-scale

and intensive production of fruit and vegetables which are well-developed in the coastal plain since the mid-twentieth century expansion of intensive farming. However, the area presents more favourable conditions for livestock breeding, due to the presence of pastures and woods.

Due to the transition from a traditional and subsistence agricultural and craftsmanship system to an industry and services based economy, regional urban areas (trade and services hubs) and industrial and agricultural clusters have begun to rapidly and irreversibly absorb both investment and rural labour force (thus population). In the province of Castellón, poles of attraction are located in the plain and coastal areas. Since these are better equipped with land and marine communication ways and more productive agricultural lands, they have been absorbing public and private investments thanks to their more immediate access to national and international markets. In *Alt Maestrat*, this processes led to out-migration since the first decades of the twentieth century, a trend that accelerated between the 1950s and 1970s (Figure 2.3 in Chapter 2.2). It is worth noting that, in comparison to other Spanish rural areas, migrants were able to move to relatively close prosperous areas, which allowed for the maintenance close cultural and family ties (i.e. anecdotal evidence shows that many of out-migrants from Vilafranca live in a neighbourhood of Castellón close to the road heading to Vilafranca to go back to 'their' village for the weekend).

The previous territorial, socio-economic features and development paths have been influencing the location of SGIs investments, extremely evident in accessibility and mobility infrastructures: the *Alt Maestrat* reveals the lowest regional levels of road and broadband accessibility. These territorial unbalances (generated already at the beginning of the twentieth century) have been sharpening the peripherality of the *Alt Maestrat* and a marked dichotomy between this mountainous, rural shrinking area and the economic, cultural and demographic growth of the urban and coastal area. Even if provincial, regional and national governments seem to be more concerned by rural shrinkage in the last years, investments are still reproducing this polarisation effect.

Regarding SGIs, all the CS area is remote from regional administrative centres and hospitals (more than 50 min.), as shown in map 1.3. There are two centres of primary health care in the area, located in Vilafranca and Albocàsser villages. In addition the ratio of general practitioners and hospital beds at NUTS3 level are below the national average. Although interviewees complain about the lack of kindergartens and primary schools (in 4 out of 9 municipalities), the ratio per 1,000 inhabitants seems to perform equal or even better than national averages (which is not necessarily the result of improved service proximity but of lower population). Regarding secondary schools, there are two public centres: one in Vilafranca, the largest village in the county (but located in one extreme of the CS area, and at more than 25 minutes commuting from all other villages in the county, except Ares del Maestrat), and another in Sant Mateu (out of the CS area, similarly at more than 25 minutes commuting time from all other villages, except Tirig). In addition, a private secondary school is

also present in Albocàsser, the second-largest village. Besides, educational services for groups at risk of early school leaving and vocational training are practically absent throughout the county. The limited education and training services reduce the attractiveness and the liveability of the area for families, expose youth population to a risk of dropping out of secondary education and to social and economic marginalisation, as well as to out-migration for study, and afterwards, for work reasons. Furthermore, there is a downward trend on the average level of education in the county throughout last years, which is significantly lower than the national average (table 1.5). When looking in more detail at out-migration for study reasons, 29.1% of *Alt Maestrat* students go to study in a different county and 3.3% in a different region. In contrast, in the province only 5.7% of students follow studies in a different place than their country of origin, and 2.3% in a different region. These data reflect how the rural and peripheral character of *Alt Maestrat* result in higher out-migration pressure for training and academic reasons and act as a centrifugal force for shrinkage (Statistic Database of the Valencian Community, 2020).

Accessibility issues are further intensified due to extremely limited public transport service. There is just one daily route to reach the capital of the province (Castellón). The bus only stops in Vilafranca and Albocàsser (and takes 2h. and 1h.15 min. travel time to Castellón, respectively). By private transport, the same route takes 1h.15 min. /50 min. (respectively). In addition, an on-demand bus service connects the remaining municipalities to Albocàsser (head of the county city), but also only once a day and in coordination with the other Vilafranca-Albocàsser-Castellón bus service. This makes the population of the area essentially dependent on private transport, with the consequent increase in the cost of living and the risk of social exclusion for people who do not have access to private means.

Regarding broadband connections, all main urban nucleus have broadband coverage (except Culla), although most of the remaining residential areas lack access to it. Regarding connection speed, only two municipalities exceed 30% of territorial coverage at 30 Mbps (which is not an exception in rural areas of Castellón province, but very deficient as compared with the coast) (Visor cartogràfic de la Generalitat, 2020). Although the implementation of broadband is rapidly and widely extending in the county, the service still reports malfunctioning or households do not have an adequate connection speed and mobile coverage (which is of growing importance) is also limited.

The scarce accessibility (transport and ICT) is widely considered by all local actors as an essential element impacting on shrinkage. Despite the big efforts of municipal councils to provide public and open internet access, internet limitations hinder the full exploitation of digitisation. In order to solve that, as affirmed by local public actors, all municipalities are working for offering a fibre optic connection service, although obtaining moderate results so far. In addition, digitisation of administrative procedures (e-administration) has progressed significantly in the last years and handling administrative tasks requires less and less displacements. Moreover, local actors consider digital literacy as a priority in order to

maximise the use and advantages of digitisation and, in wider terms, of ICTs in rural areas. However, it should be noted that the elder population, in addition to having more mobility limitations, lacks also suitable digital skills and therefore has more limited access to public services and e-administration (although some public services give support to the elder for online bureaucracy).

Among the contextual indicators of shrinkage (table 1.5), the percentage of new detached houses is remarkable. This is a characteristic feature of all rural Mediterranean areas, in which the construction of new stand-alone houses is widespread. This data is also explained by the importance that the building sector had in the regional economy until the real estate crisis of 2007 (at that time the building sector employed 12% of workers in *Alt Maestrat*, a figure that has now been reduced down to 6%).

Despite the lack of data at county level regarding NGOs, it is worth noting that *Alt Maestrat* presents a modest associativism and cultural activities, almost exclusively in the main centres of the area (Vilafranca and Albocàsser) and which have a limited impact on the territory, although it is difficult to detect the level of involvement of the population.

1.5 Governance framework

First of all and regarding the public sector, it is worth noting that Spain is one of Europe's most decentralised states, where regions, provinces and municipalities have a high-level of autonomy in the frame of its assigned competencies.

In this context, RD funds are managed by the autonomous regions and, according to art.6 of the EU regulation 1305/2013, there is also a strategic RD 'National Framework'. The Spanish RD 'National Framework' establishes the limits between national and regional programs, and the minimum common elements for some specific measures. In addition to the 17 RD regional programs there is also a National RD Programme (with an strategy and measures responding to national criteria).

At national scale, the General Directorate of RD, Innovation and Agri-food training (dependent on the Ministry of Agriculture, Food and Fisheries) is in charge of designing RD strategies and policies and budget allocation between regions. This National Authority coordinates national and regional RD managers through a Committee of Coordination of RD Managers and a National Monitoring Committee.

Besides, the recently created Government's Vice-Presidency of Energetic Transition and Demographic Challenge (since January 2020) puts a spotlight on shrinkage for the coming term, creating a General Directorate of Policies Against Depopulation and the General Secretary for the Demographic Challenge. These are important a political steps towards facing this challenge and a recognition of its importance and priority in the Spanish context. A path that started in 2017 with the creation of a Commissioner with the (unfinished) task of drafting a *National Strategy against Demographic Challenge*.

The regional government (NUTS2) is a powerful actor in the governance framework. It has competencies regarding economic development (at regional level), transport, spatial planning and devolved competencies in health and education.

In addition, the *Valencian Agenda against Depopulation (AVANT Agenda)* has been recently created (in August 2019) and is therefore at an early stage. It is a Regional General Directorate that depends on the regional President's office – a sign of the primary political concern on dealing with shrinkage from a transversal perspective. The *AVANT Agenda* has also established and financed the collaboration between the four regional public universities through the 'AVANT University Chair', which has the objective of promoting research and raising awareness in relation to depopulation.

Similarly, the consideration of the current Regional Government to rural issues is also reflected in the creation of a Regional General Directorate of Rural Development (separated from agriculture and CAP management) and with additional funding. Currently, this General Directorate is the authority in charge of the defining and implementing the Regional RD programme.

In relation to coordination among national and regional governments, there are monthly meetings of the General Directors of Agriculture and RD, working groups of technicians (i.e. for elaborating the RD 'National Framework' during the past programming period) and then the Sectoral Council on Agriculture and RD, which includes the high-level national and regional representatives. The latter political arena is where most important decisions are agreed, such as the criteria for the division of RD budget between regions (which also responds to political alliances). In the on-going elaboration of future 'National CAP Strategic Plan', there are also working groups (by thematic objectives) which include national and regional actors, and also national agrarian and environmental organizations.

In this nested institutional context, the administrative structure, and also the relations and interconnections between policy arenas affect RD and shrinkage decision-making. According to Colomer (2007) the high regional autonomy has had also the unintended effect of promoting competition and rivalry between regions (to obtain financial resources from national government) rather than cooperation. In addition, political opposition (among parties) was also reported by interviewees to generate conflicts between municipal, provincial and regional governments, negatively affecting policy-making and multilevel coordination.

Many interviewees stressed the need of more vertical and horizontal cooperation to face the complex processes related to shrinkage and also regarding EU funds, as its management is shared among different actors on national and regional governments. Concretely, the regional Department of Finance and Economic Model is responsible of ERDF and ESF management (the first fund is managed by the Valencian Institute of Business Competitiveness and the Second by the General Directorate of Labour). For EAFRD, the coordination depends on the Ministry of Agriculture and its management on the regional Department of Agriculture. As

mentioned in section 4.2 this structure is challenging with respect to collaboration and multi-funding.

At Provincial level (NUTS 3), the provincial government (*Diputación provincial*) is also responsible for measures that have a direct impact on shrinkage. Moreover, they are a powerful actor as they have an important budget (less affected during past years economic crisis, if compared to regional governments). However, they have much more limited competences. Their competences encompass the coordination of municipal or supra-municipal services if municipalities cannot provide them; administrative, financial and e-administration assistance to small municipalities (<1,000 inhab.); and promotion of social and economic development and planning in the province. In practice, the provincial government provides legal, economic and IT assistance and other basic or complementary SGLs to rural and small villages. With the aim of supporting municipalities, the Provincial Government can grant municipal works and services according to an annual plan of provincial cooperation. Even though they must do so according to objective criteria, some provincial governments have been acting (at least to some extent) as networks of patronage. It is worth noting that provincial deputies are elected by and among municipal councillors of the province.

Formal cooperation between provincial and local governments is intense and local interviewed actors mentioned active participation in provincial programmes. Provincial Government's measures are well valued by local politicians and stakeholders (the proximity of this administration is possibly a key factor explaining this perception). In addition, in 2010, the area of Economic promotion created a network of Rural Social and Economic Dynamization Agencies (so called CEDES) in 5 rural shrinking areas of the province (co-financed by ERDF), and one is located in the CS area (in Albocasser). The CEDES works closely with local organisations and NGOs for the entrepreneurial development and job placement at local level.

Cooperation between provincial and regional government is weak, although some interviewees also mentioned the recent collaboration and co-funding in specific aspects, such as improving public transport. On the other hand, an ex-manager of previous RD Programmes (from the regional government) mentioned that cooperation and coordination on RD between these institutions is inexistent and that provincial governments act absolutely independently. In the view of the interviewee, the creation of a mechanism for provincial coordination on shrinkage related topics would be worthwhile (including agriculture, RD, education, health, public works and industry). Nevertheless, both formal and informal systems of vertical cooperation have been reported to fail, above all with regional government, therefore it is a pending challenge to improve multi-level governance arrangements.

At the local county level (LAU), regardless of the absence of public administrations with powers at LAU level, in *Alt Maestrat* there exists a voluntary Association of Municipalities (AoM) (so called *mancomunidad*) promoting cooperation of municipalities to provide services. Municipalities are the smallest unit of government and its association results in a new entity

with an independent budget and financial autonomy. AoM are a mechanism for horizontal inter-municipal cooperation.

In *Alt Maestrat*, an AoM was created in 2008 and includes 8 out of the 9 municipalities of the CS area. In its statutes, the municipalities delegate a considerably wide range of competencies (social services, street cleaning, cultural promotion, county roads maintenance, etc.). Hitherto, in practice, the AoM has only assumed and implemented social service provision.

At the municipality level, some municipalities also conduct actions to cope with local rural shrinkage. Municipalities are not the most powerful and well-equipped actors, even if extremely interested, to elaborate and implement mitigation/adaptation-to-shrinkage policies. They have competences regarding urban planning, some social services provision (i.e. nursery schools, elder care assistance, gender equality, etc.), and maintenance of primary schools and rehabilitation of housing.

Halfway, between public and private institutions, the only LAG in the area, *Altmaesports*, implements sub-measure 19.2 of the RDP and actions to promote social and economic development, sustainable repopulation and therefore contributing to territorial cohesion in the area. Even if this organisation clearly and positively impacts RD, localisms and diverging municipal interests were mentioned to compromise some potential benefits of the LEADER. Nevertheless, this initiative has contributed to improve the infrastructures of rural companies and promote the development of rural tourism in the area, especially during the 80's-90's. The formality of the legal structure and the administrative procedures frame the relationships with local and regional public institutions in which *Altmaesports* is embedded. However, within the organisation, relations among members are often based in informal practices.

Regarding the organised civil society, the CDR (RD Centre of the *Alt Maestrat*) is a local RD NGO (based in Albocasser). It is mostly financed by regional government subsidies, with which coordination is achieved through strictly formal channels and practices. On the contrary, the coordination between the CDR and the local public, private and civil society institutions consists of a dense network of assiduous and informal relations. This institution works in strict collaboration with public institutions and local branches of other national NGOs like Caritas and the Red Cross in order to implement projects aiming to support people at risk of social exclusion, through employability programs in rural areas. The coordination and collaboration between CDR and CEDES, Caritas and the Red Cross is informal, intense and well-functioning, although it shows some problematic aspects since these organisations are complex and often reveal overlapping objectives.

With regard to the private sector, Marie Claire Company is a powerful actor as a big job provider in Vilafranca village (having more than 500 employees). The recent economic crisis has resulted in employment negotiations and the shadow of further employment adjustments or the moving of the company to closer urban areas creates local tensions.

Local actors complain from a lack of attention from regional and national authorities, and perceive scarce impact of any policies against shrinkage (in contrast to the well valued provincial measures). As emerged from local actors' interviews, political opposition within and between different administrative levels and their relative governments has often obstructed the planning and implementation of effective RD strategies. Frequently, political short-term profitability interferes with the elaboration of systematic and well-coordinated territorial policies.

All institutions have a strong interest in coping with rural shrinkage. However, local governments do not have enough financial resources or competencies to plan coordinated endogenous strategies against rural shrinkage. On the contrary, regional or national governments have a very powerful position and resources to implement cutting-edge and effective solutions against shrinkage. In the middle, provincial governments appear as actors having more power than local authorities and collaborate with them more closely. Therefore, local, regional and national institutions need to accomplish many improvements towards the integration of local needs and demands and regional and national resources into cutting-edge strategies that could effectively but also efficiently deal with rural shrinkage in the *Alt Maestrat*.

2 Patterns and causalities of rural shrinkage

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

The increase in life expectancy, together with the decrease in birth rates linked to selective out-migration (of labour force and fertile population) between the 1950 and 1980, are the main global factors that have contributed to ageing and depopulation in *Alt Maestrat*. The below section explains how those processes are linked to national context.

During Franco's dictatorship (1939-1975), policies for economic development addressed heavy financial resources towards industrial, tourism and services sectors in specific zones, thus marginalising inland mountainous regions and areas far from metropolitan centres. The development of mass-tourism along the coast, industrial clusters in Madrid, Barcelona, the Basque Country and Valencia and intensive farming in the peri-urban plains attracted population from the more disadvantaged mountainous and inland areas, whose economies were based on traditional and subsistence agriculture, less adapted to the global markets. The industrialisation process, that began in mid-XIX century, and expanded in the 1950s, deprived rural areas from investments and human and social capital (Pinilla, Ayuda and Sáez, 2008). These out-migration dynamics have led to a vicious circle of losing financial, human, social, and cultural capital which have gradually further depleted rural social and productive fabric.

Despite the slowdown of out-migration in rural areas since the end of the 1970s, demographic shrinkage has been mainly driven by negative natural growth and increased ageing. Nevertheless, during the 1980s (and for the first time in Spanish history) rural shrinkage appears to be mitigated by immigration flows of retired Europeans, and also working migrants from South America, North Africa and some Eastern European countries.

After Franco's death (1975), the democratic and constitutional State starts a gradual decentralisation and devolution of competences and financial resources to regional governments. The administrative devolution of the 1980s modified territorial organisation, strengthening medium-sized cities and regional capitals, which continued to attract rural population consolidating the already existing regional disparities. Moreover, counter-urbanisation appeared: population started to move from cities towards neighbouring areas and intermediate towns or close-to-a-city rural areas, escaping from the increasingly overpopulated urban areas and looking for cheaper housing and a more rural lifestyle. Overall, counter-urbanisation resulted in a decline of long-distance rural-to-urban migration and an increase of short-distance movements, attracting internal migrants, often from the same province (Pinilla, Ayuda and Sáez, 2008; see also Figure 2.1 based in data from *Reig, Goerlich, and Cantarino, 2016*).

Table 2.1: Territorial local and national patterns comparison throughout the recent history

Historical events	Spanish context	Alt Maestrat context
Mid XIX century: Early industrialisation in the main national urban centres and advent of globalisation.	Beginning of industrialisation and urbanisation. Migrations towards Madrid, the Basque Country, Catalonia (mainly Barcelona) and also to America and Central Europe.	Population growth and out-migration towards industrial areas of Valencia and Barcelona and abroad. Conversion from agriculture to livestock farming.
End of XIX century: Improvement of quality of life, health conditions and increase in life expectancy.	Population increase. Out-migration from rural to urban areas continues.	Despite out-migration and gradual birth rate decrease, population increases because of growing life expectancy.
1900-1950: Impact of I World War, Spanish civil war (1936-39) and post-war period of Franco's dictatorship (1939-1950): characterized by the context of the II World War, autarchy and international isolation.	Underdevelopment of rural agriculture and insufficient agricultural supply. Out-migration towards industrial poles (Madrid, Basque Country, and Catalonia) and intensive farming areas. Beginning of rural shrinkage. Urbanisation of industrial areas.	Insufficient agricultural supply. Migration towards industrial areas (Castellón, Valencia and Barcelona) and intensive farming areas. Out-migration of agricultural labour force that hinders the development of the primary sector.
1950-1980: Boost of industrialisation. Franco's dictatorship (1950-1975) development policies: strong investments and urbanisation of coastal and industrial towns. Hydraulic works to create new irrigated areas.	Rural exodus towards the industrial areas of Madrid, the Basque Country, Catalonia and Valencia. Significant increase of urban population and high rural population decrease. Agricultural expansion and productivity increase linked to 'green revolution'.	Collapse of traditional agriculture and livestock economies. Massive rural migration towards the industrial areas of Castellón, Valencia and Barcelona. Sharp increase of coastal-inland disparities. Ageing and progressive reduction in fertility and birth rates.
1980-2009: Beginning of democracy (1978) Devolution and decentralisation. Counter-urbanisation and migration towards metropolitan areas and medium-sized towns.	Sustained increase of population ageing and decreasing fertility rate. Counter-urbanisation of medium-sized and metropolitan areas. Rural out-migration is attenuated by the immigration from Eastern Europe and Southern American countries (during 2000s).	High increase of population ageing. Out-migration towards medium-sized and industrial towns attenuated by immigration from Eastern Europe and Southern American countries (during 2000s).
Since 2009: Global economic crisis, specially impacting the building sector. Recrudescence of out-migration.	Increase in unemployment (especially youth unemployment), increased out-migration to urban areas and other European countries. Negative net migration (to foreign countries) during 2010-2015. Shrinking of middle-sized towns. Ageing and decrease in fertility rate.	Increase in unemployment and high out-migration to regional urban areas (Castellón and Valencia) and other European countries. Further ageing and negative natural growth.

Source: Own elaboration

At the beginning of 21st century shrinkage sharply slowed down (in villages with less than 1,000 inhab.) while larger villages and towns gained population due to positive net migration at national level, that exceeded negative natural growth (Pinilla, Ayuda and Sáez, 2008). This trend was the result of steady economic growth, and the boom of the building sector, which benefited mostly regional hubs and metropolitan areas and, just marginally, rural ones.

In the past decade, the economic activity of rural areas has also changed, mainly as a consequence of the development of tourism and multifunctional activities linked to the primary sector (Ministry of Territorial Policy and Public Administration, 2020). Nevertheless, due to the real estate and subsequent economic crisis, depopulation has been intensifying in rural municipalities and in small and medium cities, mostly due selective out-migration and the return of working migrants to their homeland or to urban areas.

Looking at economic causes of natural population decrease at national level, it is evident that in the last decade the high unemployment, job insecurity, and precarious working conditions, together with the stagnation of the housing market, are clearly delaying of the emancipation of young people, resulting in birth rate decrease and also in late motherhood (the highest in Europe after Italy) (Eurostat, 2020; Spanish Government, 2020a).

Moreover, a negative perception of rurality persists, conveyed by some modernisation theories that portray rural areas as "static and decadent", place of "ignorant and superstitious people" that are misaligned to the urban world. Rural "abandonment" has been considered as an inevitable and indisputable consequence of the industrialisation process, so much that the urban society model has imposed itself as an ideal of modernity in an uncritical way, as a "supreme paradigm of civilisation" (Entrena, 1998). Therefore, rural shrinkage lies in the greater attractiveness and opportunities offered by urban areas for studying, working and enjoying social life, together with a "cultural" stigmatisation of the rurality (Pérez, 2013).

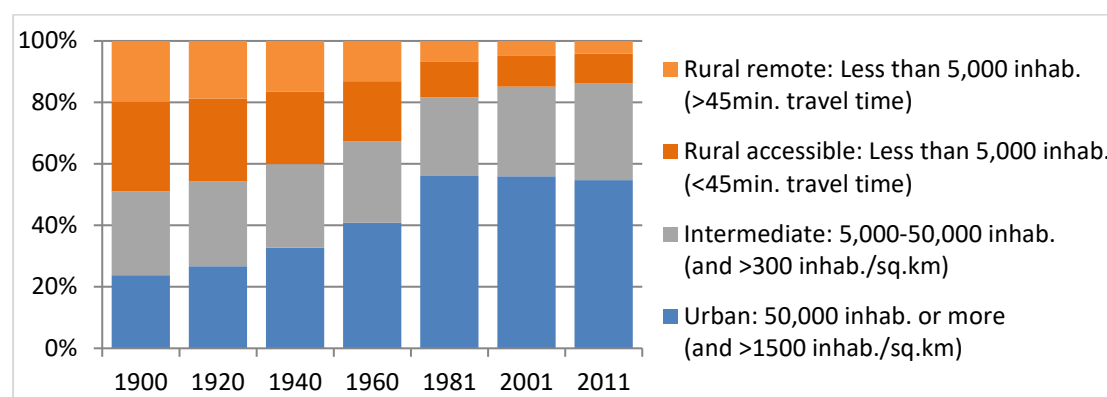
Increasing sparsity and uneven spatial development

It is worth noting that the described process of rural exodus and urbanisation completely and rapidly changed the distribution of Spanish population. While in the 1920s 50% of the total population lived in (rural) villages lower than 5,000 inhab. the percentage decreased to 33% in 1960 and to 18% in 1981. Since 1981, the population living in towns with more than 50,000 inhabitants remained fairly similar while intermediate villages grew in population as a result of suburbanisation processes (Figure 2.1).

At a national level, those processes have had as direct consequences a strong increase in the number of shrinking villages (63% between 2001-2018, 80% since 2011) and the reduction of population density: 48% of municipalities have a density below 12.5 inhab./sq.km and 38% lower than 8 inhab./sq.km (both used thresholds for defining sparsely and very sparsely populated areas in the EU, although at NUTS 3 level). Figure 2.2 shows that sparsity is notably higher than in other Southern European countries.

In the past decade, shrinking has affected not only smaller municipalities but also 70% of county capital centres (5,000-20,000 inhab.) and 63% of middle-sized towns (20,000-50,000 inhab.). The result is a highly uneven population distribution where 90% of the population lives in 30% of country's surface. In addition, although in Spain there are more women than men, masculinisation in smaller villages is evident, as the ratio of men is higher than women in 85% of municipalities lower than 1,000 inhabitants (Spanish Government, 2020a, 2020b). Those trends, together with low fertility rates (as compared to EU average, Table 1.2) pose important future challenges for shrinking areas.

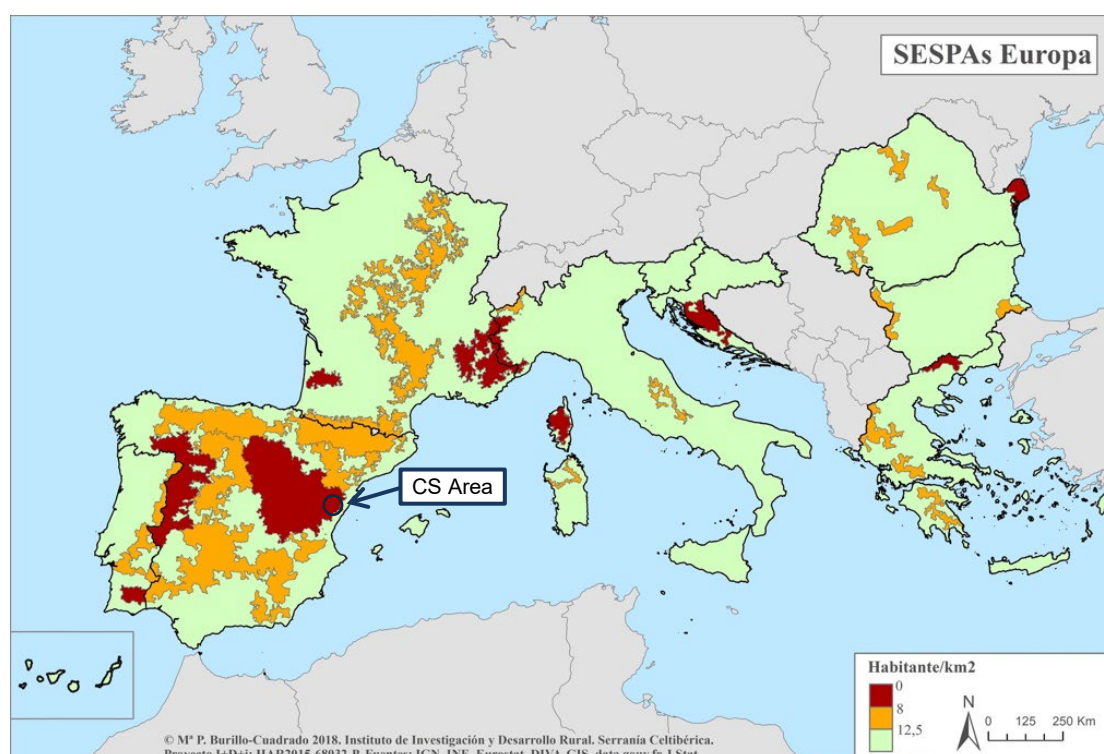
Figure 2.1: Evolution of distribution of population in Spain by size of settlement 1900-2011



Source: Reig, Goerlich, and Cantarino, 2016

Similarly, the Valencian Community is a highly urbanised region that also experiences important regional imbalances due to strong urban concentration. Shrinking in the region, although less intense as compared to the national context, has been strong in the past two decades (1996-2016), especially in the province of Castellón where the CS area is located (Map 1.4). In the Valencian Community, 30% of municipalities have shown a population decrease for the 1996-2016 period (AVANT Database, Regional Valencian Government; cited in Alvarez-Coque, 2020). Shrinkage in the region is clearly linked to accessibility, but it also affects non-remote municipalities. Furthermore, several factors have been found to be underlying causes of shrinkage in the region at local level: low economic dynamism, having less municipal facilities and, last but not least, the neighbouring effect of a more dynamic village (Alvarez-Coque, 2020).

Figure 2.2: Sparsely Populated Areas of Southern Europe



In red: LAUs with density lower than 8 inhab./sq.km, in orange: LAUs with density lower than 12.5 inhab./sq.km

Source: Burillo-Cuadrado and Burillo-Mozota, 2018 (p.20).

2.2 Evolution of shrinkage in the CS area

Alt Maestrat CS area is located at the south-east fringe of the “Spanish Lapland” (the so called *Serranía Celtibérica*), a relatively homogeneous shrinking rural region (with few small urban enclaves) that covers the 13% of the Spanish surface and holds just 1% of the Spanish population (in red, in Figure 2.2). This area has been experiencing continued shrinkage for the past seven decades (except during the 2000s due to the increased immigration at national level). 98% of the municipalities in the area have an average population density of 3.7 inhab/sq.km and its *ageing index* reaches 409% (the population over-65s is more than 4 times higher than children under 15), which is the highest in the entire EU (Burillo-Cuadrado and Burillo-Mozota, 2018). These demographic trends might result in the disappearing of at least half of the municipalities in the coming years (in the absence of any actions to prevent it). These spatial and demographic patterns highlight the extreme relevance of rural shrinkage as a topic of growing importance in the Spanish political arena (see Chapter 3.1 and 3.2).

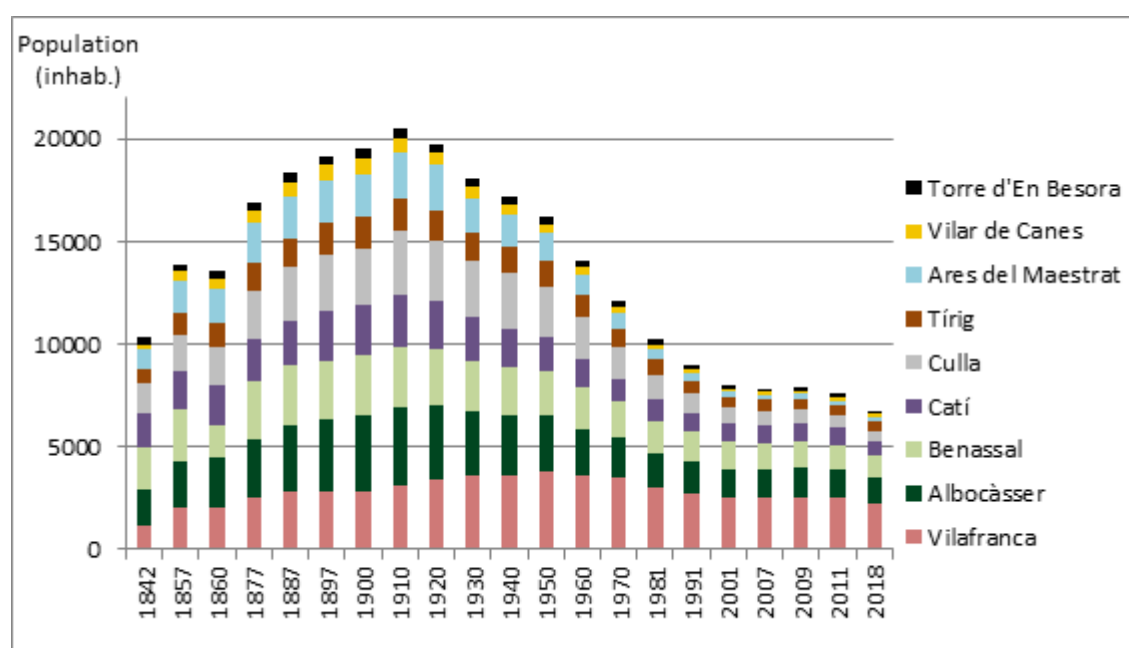
In *Alt Maestrat* extensive livestock breeding (mostly ovine) was the cornerstone of a trade-based textile economy until the 18th century, when the decline of this activity started and the rise of agriculture began. At the same time, as a result of economic development on the coastal plain, the first signs of the current demographic coastal-inland dichotomy and first migratory movements towards the coast emerged. From that moment on, out-migration in the

CS area has uninterruptedly continued. However, until the early 20th century population increased (as a result of the reduction of child mortality and the rapid increase in life expectancy). Although migration towards the coast was already underway, *Alt Maestrat's* population was the highest ever known.

During the early 20th century, the scarcely productive traditional agriculture and livestock activities were not able to sustain, feed and employ the increased population. In addition, local textile industry started to decline and a first out-migration wave drained the area from the youngest labour force, therefore limiting the possibilities to transform the rural economy. All this changes occurred in a general context of social and economic change across the country from a mostly rural to an urban economy.

Figure 2.3 clearly illustrates how demographic shrinkage has been gradual, incessant and occurred in all the municipalities since 1910s, except Vilafranca, where population increased until 1950s when it started to shrink (see peak population and shrinking rate analysis in Appendix 2, tables A2.1, A2.2, A2.3 and A2.4). Furthermore, the census of 1910 and 1930 also reveal that the entire province of Castellón (NUTS 3) was considerably depopulating since the end of the 19th century.

Figure 2.3: Historical demographic trend in the *Alt Maestrat* and by municipality



Source: Own elaboration based on historical data of the Spanish National Institute of Statistics

Alt Maestrat's shrinking rate slightly reduced after the Spanish Civil War (1936-1939), until the 1950s, when the radical and definitive acceleration of population decrease entailed a rupture of the traditional rural system, coinciding with the collapse of the extensive livestock sector and the decline of local rainfed traditional agriculture (Delgado-Artés, 2015). During the 1960s, the decrease of agricultural profitability in *Alt Maestrat* generated unemployment

which, together with a lack of non-agricultural income sources, originated the displacement of the youngest and poorly paid workforce out of the traditional primary sector. Population migrated not only to growing industrial clusters but also to more favourable peri-urban agricultural areas of Castellón, where mechanisation, large-scale and intensive farming allowed for higher agricultural profitability than inner mountainous lands (with rough orography, poorer soils and lower average temperatures) less suited for the then expanding fruit and horticultural sector.

Alt Maestrat, has historically been a border area (with Aragon NUTS 2), mountainous and poorly accessible (specially the western side of the county). These territorial features discouraged public and private investments over the past century, especially during the economic expansion of the 1960s and 1970s. This severely fuelled and propelled shrinkage. In fact, it is between 1950 and 1980 when the sharpest acceleration of the territorial dichotomisation between the coastal and inner areas occurred: the provincial capital (Castellón), and the coastal plain towns dramatically increased their population, while the inland massively depopulated. Already in 1979, academic research identified this early industrialisation as a source of important territorial imbalances (Romero-González, 1979).

Population density indicator shows how between 1900s and today *Alt Maestrat* has undergone a clear process of demographic desertification, generated until 1980s by rural exodus, and afterwards by the dramatic decline on birth rates and increased ageing, together with selective out-migration (mainly of young labour force and students).

During 2000s shrinkage slowed down in the CS area fuelled by the by the widespread economic growth that reduced out-migration and increased immigration from abroad. As shown by figures 1.1 and 2.3, only Albocasser (the better communicated county capital) experienced a moderate population increase. During the last decade shrinkage noticeably rebounded as a consequence of the real estate and subsequent economic crisis, which was relevant for the local economy.

The progressive abandonment that has been taking place for more than a century negatively impacts environmental preservation. In *Alt Maestrat*, migratory waves resulted in the abandonment of the *masos*, a characteristic feature of Castellon's rural mountain areas, consisting in very sparse traditional farmhouses, or small settlements composed by one or few families, which had as positive externality the monitoring, maintenance and preservation of the territory and the environment.

Several factors that have been driving shrinkage in the past are still active. For instance, the misalignment of the local productive fabric and the changing market demand, which is also linked to the limited public investment in industrial development, infrastructures and SGIs (since the end of the XIXth century). This process feeds a vicious circle of decreased attractiveness and quality of life in the area. Furthermore, the main local complaints are still the lack of adequate and targeted territorial development policies and the concentration of

investments in regional coastal and urban area. As a result, the flow of population moving towards better-equipped and more accessible areas still continues.

In this shrinking context, the only emerging counter-factors have been the rise of rural, summer and thermal tourism (such as the Benassal's thermal baths), which have encouraged the settlement population benefiting from these activities and the improvement roads and services (Romero-González, 1979).

It is also relevant to note that the adjoining county of *Els Ports*, with similar contextual conditions and which has experienced similar shrinkage (as shown in Map 1.4) was portrayed by locals as more dynamic and better fitted against shrinkage. The main stated difference was their existing "country spirit" which was reported to be absent in Alt Maestrat (resulting in poor awareness of municipalities' interdependence and localism). Due to this barriers for inter-municipal agreement and coordination, most of the measures are locally unilateral (or adhering to upper instances programmes) and scarcely stable through time.

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

The narratives of local actors regarding causes and characteristics of shrinkage reveal several common points and also coincide with academic and national actors perception. Local actors perceive shrinkage as a demographic, economic and cultural process. Although at least half of the interviewed local actors are aware of demographic legacy effects, their discourse regarding the causes of shrinkage focuses more on contemporary trends.

However, legacy effects are not only perceived as demographic, but as the result of past policies and investment. The already mentioned urban/rural, coast/inland, plain/mountain territorial dichotomy (section 2.2) that has negatively influenced development patterns in the county, has never been pointedly addressed by institutions in order to reduce the existing *territorial imbalance*, but rather the opposite. In this sense, local actors perceive rural shrinkage is deeply influenced by *national and regional policies focused in the development of urban-industrial centres and lack of attention to rural areas*, which also contributes to the negative perception of the rural economic, social and cultural milieu. The limited infrastructures and SGIs, which has been reinforced by progressive austerity policies, have stiffened rural conditions, favoured rural depletion and triggered unstoppable out-migration waves. According the local community, the limited financial, human and infrastructural resources heavily affects personal expectations of development in *Alt Maestrat*, reinforcing the reasons for leaving.

As stated by one academic interviewee, native of Vilafranca, "*the economic and financial crisis in 2007, the related recent welfare cutbacks (since 2011) and the absorption of investments by urban areas (with the purpose of maximising the generated outcome) resulted in higher unemployment rates and a worsening of quality of life in Alt Maestrat, thus triggering*

a wave of selective out-migration (mainly university graduated and high-skilled population) and the recrudescence of demographic shrinkage.” In addition, a municipal secretary affirms that *“local businesses have difficulty maintaining or expanding their business ventures, and often the solution is to move to bordering counties' industrial areas. The same is true about labour force: people move where the work supply is higher”*.

Regarding the discourse of local actors, *legislative and policy perspectives ignoring rural singularities* are identified as an important shrinking cause. According to them, the adoption of the same taxation, bureaucratic and administrative obligations throughout the whole provincial and regional territory have increased and encouraged economic, demographic and social imbalances. In their view, this territorial uniformity imposes excessive burdens and has hindered the creation and survival of the economic-productive fabric, leading to cultural impoverishment and social devitalisation. In many rural areas, the local economy is composed by small businesses, which are affected by the same *legislation and tax requirements* than large companies. These legal barriers harshly hinder business feasibility in rural areas. As one local mayor explains, *“slaughterhouses are barely sustainable in rural scarcely populated areas as they are generally quite small and management costs are relatively high. Regulations are drafted considering large plants in intensive livestock areas.”*. Some of the interviewees believe that shrinkage needs to be addressed through generating the economic return of workers and businesses. Furthermore, the words of one mayor reflect the emphasis on using tax reductions as a tool to reduce shrinkage in rural areas, an idea that emerged in many interviews actors from the local to the national level: *“tax reductions for workers and above all SMEs would hinder depopulation and even attract businesses.”*

In addition, rural public institutions struggle to access funds and programmes that would be strategic for local development, since small municipalities have a simplified administrative structure and limited human and financial resources and infrastructure. Even if this is one of the reasons why they have a wider support from the provincial government, the problem is related to the *extensive and complex technical and bureaucratic requirements for public funded projects* and programs, from the European to the regional level. As an example, when talking about provincial aids for improving internet infrastructure a local mayor mentioned that *“although e-administration is very useful, when applying for grants to improve internet access, those municipalities having better internet connections are favoured, as grants are given in a first come first served basis. Although we were ready to submit the application since the first minute the call got opened, we were delayed due to our worse internet connection”*.

Furthermore, another relevant social aspect is the general believe that parents want their children to leave their villages and work outside the primary sector. In the view of local actors, this image is linked to (and has spread with) industrialisation, globalisation and prominence of urban lifestyle and values. According to them, there is an important *stigmatisation of rurality*, based on stereotypical and derogatory views of rural labour, and the socioeconomic and cultural rural context. Among the several narratives about this feature, a provincial RD agent

affirms that *“when teenagers tell their parents that they want to work in primary sector, the parents answer: why don’t you study an engineering degree?”* The collective image of a successful, prosperous and appealing urban environment and lifestyle has been opposed to the poor, glum and tedious rural one. Rural areas are not part of the ideal models of life, in many occasions, where urban consumption and leisure models dominate aspirations and social values, even for the rural population, generating a greater push towards out-migration. As stated by a local development agent *“the stereotype about rural areas that media convey is typically an old melancholic couple, alone and abandoned in front of the fireplace. With the perpetration of this symbolism and the representation of rural areas as contexts with no professional future and social life, we cannot expect that young people wants to stay or even return.”*

Although some actors mentioned there is a sort of revival of the rural lifestyle in recent years, especially among youngsters (not only from rural areas), there is a consensus on pointing at *youth out-migration* as one of the main drivers of shrinkage. According to local actors, migration of young people is labour-motivated as their profiles (technicians and university graduates) are scarcely demanded in the CS area. Furthermore, salaries, working conditions and business opportunities are fairly limited. If out-migration before the 1980s was driven by urban-rural labour offer imbalances, during the last decades population has moved towards areas offering vocational training and university education. However, a very small segment of those education-induced migrants opt for returning to the *Alt Maestrat* due to the reduced of job opportunities. In addition, as emerged in several interviews and the FGs, vocational training and job opportunities are generally undervalued by parents and high-school students.

Another fundamental aspect that negatively impacts youth out-migration is the *shortage of leisure and cultural life*. This issue is crucial for young people’s decisions about where to settle, which are not only based on economic aspects and career opportunities but also on finding social and cultural amenities, a work-life balance and a high quality of life. Besides, migration of younger generations further negatively impacts on youngsters’ expectations and perceptions of socialisation and leisure.

These dynamics are also generating a *lack of professional turnover* for less qualified tasks and expertise (related to the primary sector, craftsmanship, retail, etc.), which have difficulties to find replacement in the labour market.

According to local actors, *mobility constraints and poor accessibility to SGIs and regional centres*, due to a lack of adequate road and public transport network, the absence of railway connections and reliable broadband infrastructures are also relevant. Local population is highly dependent on private transport and needs to move to access services (as well as to work and study). An employment officer affirms that *“having a private car is essential to find a job. Those who do not have their own vehicle are heavily limited to get a new job since public transport is sporadic and it is not reliable.”*

Related to the previous matter, local population reports a *shortage of basic services* (retail and commodity's shops, health care and social assistance, banking, education, etc.). Regarding public services, some actors perceive they are treated as "*second-class citizens although contributing equally to taxes*". This statement seems to be aligned with the motto: "*being less inhabitants does not detract rights*", that has been used by some civil society organisations (i.e Teruel existe, see section 3.2) and that uses a somewhat utopian approach to draw society's attention to such precarious conditions of rural health services and rural quality of life. In addition, limited elder care services and nursery homes were also mentioned to explain elder out-migration (often for family reunification in closer urban areas) to have better access to the more demanding services they require.

Besides, the *precariousness and volatility of administrative, healthcare and teaching staff*, in addition of reducing service quality in rural areas gives the population, and especially younger groups, a feeling of scarce interest and low engagement with the territory (as many public staff live outside the CS area). Furthermore, it sustains the perception of lack of professional prospects and future life plans.

The *absence of effective policies and engagement against rural shrinkage* is associated to a lack of interest of regional and national authorities in rural recovery and development. Although there have been some participatory processes linked to territorial development strategies, their disappointing results have originated a certain *mistrust and scepticism towards public institutions*, especially regarding rural shrinkage. Quite the opposite, the provincial government is considered a supportive interlocutor for the implementation of some strategic shrinkage measures (this perception is also explained by provincial government's role of supporting local authorities).

In addition, political, social and local development agents, stress the fact that the lack of strategic perspective in the mid-long-term and deficient multi-level coordination hinder local development and regional socio-economic cohesion. As one member of the AoM explains, "*at the county level there is a lack of collective awareness and most initiatives are unilateral (municipal). Political differences between municipal councils and localisms reduce the efficiency and effectiveness of the collaboration between local authorities. An example is the dispute between Albocàsser and Benassal for the opening of a new high school centre. Everyone wages war on their own, without looking at the whole county.*"

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

Section 3 provides an overview of the policy measures and tools addressing rural shrinkage at different levels. A comprehensive summary of them is provided in table 3.3, at the end of the section. Those policies have been classified into mitigation policies if they contribute to: increase fertility rate (and family policies) or to attract incoming population (young families, qualified workforce, reception policies, replacement migration). However, if they contribute to minimise the negative effects of population decline they are considered adaptation policies (i.e. workforce activation, active ageing, boost local attractiveness, improve SGIs, activation of local capabilities, etc.). However the application of this criterion is not clearcut as some policies may contribute to both aspects and show interrelated aspects.

More detail regarding the ones most directly impacting the CS area is provided in Appendix 1.

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

Due to the highly decentralised Spanish structure, European funds are mostly managed by regional authorities (see governance framework in section 1.5). A coherent vision of national policies related with shrinkage is presented in this section, while regional and local policies are presented in section 3.2.2.

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 inner rural areas and the more urbanised coastal areas. The most important ones are the digitalisation strategies (at EU, national and regional levels), measures supporting regional and rural development (ERDF, Cap Pillar 2 policies, and specially the LEADER, etc.) and ESF employment-related programmes (table 3.1).

The main national framework to address rural shrinkage are the recently agreed *Guidelines of the National Strategy against the Demographic Challenge*, launched in 2019 by the Ministry of Territorial Policy and Public Administration. Those *Guidelines* made important diagnostic and mapping efforts, and compiled a comprehensive overview of the currently on-going national measures related with shrinkage. It also gathered the concerns and suggestions raised by regional governments, local administrations, and some civil society actors. Those guidelines aim at dealing with population shrinkage identifying three main problems: territorial depopulation, ageing, and the effects of seasonal population. In addition, they provide commonly agreed general and transversal objectives and actions: to promote basic service provision; to include shrinkage perspective in the elaboration of norms, plans and programmes; bureaucratic simplification for small villages to ease management; to put into value rural image;

to improve public-private participation to develop new opportunities; and to align the measures in the Strategy with SDG and the Agenda 2030. It also addresses how to use public employment policy tools (mobility and salaries) to address shrinkage and to foster the settling of civil servants in shrinking areas.

Furthermore, the guidelines also set the scene to achieve a Government Pact to make possible the elaboration of a national strategy to face shrinkage. According to the General Secretary for the Demographic Challenge a national strategy is needed to provide a more stable framework to deal with shrinkage in the mid-long term, and to address the cooperation of the involved public administrations (from local to notional level) as each of them has a relevant and specialised role. According to the General Secretary for the Demographic Challenge the main lines for future action are: the re-activation of local economies, improving access to housing (and housing conditions), bureaucratic simplification and adaptation to small villages, and also providing support for shrinking areas to be able to access funding (EU, national or regional funds). All this measures need to be embedded in the general framework of economic decarbonisation and adaptation to climate change to have more resilient rural areas in the future (Cebrian et al., 2020).

Table 3.1: EU financing through ESI funds in Comunitat Valenciana, 2014-2020 (planned and spent budget)

	Thematic Objective	EU financing (budget planned), in M€	National funds (co-financing), in M€	Implemented (3/9/2019)
	ERDF	590	590	227 (19%)
	Information & Communication Technologies	159	159	98.5 (31%)
	R & I	147	147	59.4 (20%)
	Competitiveness of SMEs	107	107	47 (22%)
	Environment Protection & Resource Efficiency	78	78	3.9 (3%)
	Low-Carbon Economy	72	72	17.2 (12%)
	Technical Assistance	27	27	1.4 (3%)
	ESF	177	177	78 (22%)
	Educational & Vocational Training	70	70	67 (48%)
	Sustainable & Quality Employment	52	52	4.2 (4%)
	Social Inclusion	49	49	4.9 (5%)
	Technical Assistance	7	7	1.5 (11%)
	EAFRD	204	180,9 (+65 region's funds)	160 (36%)
	thereof LEADER	12	10 (+11 region's funds)	1.5 (5%)
	YEI (Sustainable & Quality Employment)	2,770 (in Spain)	244 (in Spain)	1,145 (38%)

Source: European commission, ESI funds, data (finance implementation details 2012-2020) updated 3/09/2019. For EAFRD: Financial table, RDP Valencia region, updated the 27/01/2020.

In addition, the *Guidelines of the National Strategy against the Demographic Challenge* consider digitalisation essential for retaining and attracting population. The *National Digital Agenda* addresses three main aspects (i) broadband infrastructure, (ii) public services (e-Government) and (iii) rural digital innovation and skills. The Agenda is jointly led by the Ministry of Economy and Business and by the Ministry of Finance. It involves cooperation between all the Ministries and policies concerned, with the aim of fulfilling the objectives of the Digital Agenda for Europe for 2015-20. Since 2013, several plans and programs have devoted important efforts at closing the urban-rural digital gap: the *Plan 300x100*, 525M€ (395M€ from ERDF); the *Plan 800* (45M€), aiming at covering 90% of settlements below 5000 inhabitants; and the *Connected Schools programme* for public education centres.

Concerning digital innovation and skills, in 2019 the Ministry of Agriculture, Fisheries and Food has launched the *Digitisation Agenda for the agri-food, forestry sectors and rural areas*. The plan defines the strategic lines rural digitalisation (i) reducing the digital urban-rural divide, (ii) fostering the exploitation of data as driving force in the agri-food sector and (iii) boosting business development and rural new business models linked to new technologies. At regional level, digitisation of rural areas has also been promoted, specially by the RIS3 strategy, and also by measures to address infrastructure deficiencies hindering e-learning and mobile learning, (ERDF OP).

Besides, the *National Strategy of Prevention and Fight against Poverty and Social Exclusion 2019-2023* includes measures against social exclusion and rural depopulation: ultra-fast broadband in rural areas, rehabilitating and restructuring rural buildings, adapting the dependency care system to aging and depopulation trends (Spanish Government, 2019).

Regarding *Rural Development Policy*, the province of Castellón is the most rural of the Valencian Community, and 82,9 % municipalities are included in the Rural Development Plan. The CS area's LAG, has a 2.3M€ budget for the programming period. It has engaged in 31 projects in the 2018 call (the LAG with higher number of projects in the region, although with the same budget). It is worth noting that this was the first LEADER call of the current programming period

The *RD Programme of the Valencian Community*, includes the 6 priorities of the RD Regulation 1305/2013. Distributing the budget as follows: Pr. 2: competitiveness and feasibility of agricultural exploitations (239.7 M€; 53.3%); Pr. 4 and 5: Agri Environment and climate (147.8M€; 32.8%); Pr.6: Social inclusion and local development (27M€; 6%); Pr.3: Food chain organization (25M€; 5.5%) and Pr. 1: Knowledge transfer (10.5M€; 2.3%). A more detailed overview of the measures that received more financial support are listed in Table 3.2.

The RDP emphasises aspects clearly related with rural shrinkage: it seeks to support farms with natural limitations and youth-managed businesses, aiming at involving young population into the labour market and local development, promoting activities with higher added value and

sustainable economic value. Other key elements of the RDP strategy are: the support to cooperative farms as a model long-term sustainability of the local agricultural sector, the incentive to productive diversification of farms in a rural area with a depopulation trend through the measure 4.2.1, the construction and maintenance of forest fire-prevention infrastructures and forestry actions to reduce the risk of fires, as a contribution to the support of extensive livestock and the provision of subsidies for the conversion to organic farming practices and methods. The latter is also linked to the *Regional Plan of Organic Production 2016-2020* (which uses a complementary approach to EU funding including regional funding for measures not included in RDP).

Table 3.2: Main RD measures financed in the Regional RD Programme 2014-2020

Measure of the regional RD Programme		Total financing (M€) (EU, national & regional funds)	% of the budget
M4		162.6	36.9%
	M4.1 Agricultural exploitations	62.8	14.3%
	M 4.2. Agri Food industries (transformation, commercialization, & product development)	79.9	18.1%
	M 4.3. Irrigation policies (i.e. drip irrigation implementation)	17.9	4.1%
M6	Young farmers	44.6	10.1%
M8	Investment in forests and improving viability of forests	57.9	13.2%
M10	Agri Environment and climate	68.3	15.5%
M11	Organic farming	70	9.7%
M19	LEADER	52	7.5%
Other	Remaining measures (M1, M3, M13; M16, M20)	31,3	7.1%
TOTAL		440,2 *	100%

Source: Financial table, RDP Valencia region, updated the 27/01/2020 (5th version).

*Detracting from the total budget (450M€) compromises from previous years.

Another important source of funding in the area is related to European policies addressing *Youth Employment*. ESF/YEI funding has had impact in the area (regional *EMPUJU* and *EMCUJU* programmes), subsidising public administrations and companies for the fixed-term recruitment of young qualified (and non-qualified) workers. Although these measures have a fairly favourable impact in *Alt Maestrat*, the short time-frame was criticised as it does not promote long-term stability, neither for the workers, nor for the public administrations. In addition, village councils reported the low number of available candidates, above all among local eligible graduates. Local administrations need to encourage local candidates to join the program so the vacancies do not remain empty.

Also in relation to employment promotion, The Provincial Government (with ESF funding) implements a package of measures to help young unemployed people (16-29 y.o) living small depopulating municipalities to find a job (<5.000 inhabitants, or < 10.000 which have lost population in the past 10 years). It includes measures to foster entrepreneurship and self-

employment (tourism services provision, online commerce and agri-food commerce) and to increase indefinite hiring (providing economic support for companies hiring indefinitely young people for periods longer than 6-months). In parallel, the national government has provided social security benefits for new freelance workers living in municipalities with less than 5000 inhabitants. Regarding regional policies, the CS area has benefited from support to sustainable energy production and consumption systems in small companies (see Annex 1), and more importantly for the creation of 5 agencies for the professional and economic promotion in rural areas, one of them located in the CS area (see section 3.1.2).

Other EU and National initiatives include the *National Depopulation Forum* (initially driven by the *National Network for Rural Development*), to improve knowledge exchange between administrations, economic, social and territorial agents to debate measures to face shrinkage. Finally, the Ministry of Agriculture has implemented measures to support rural women entrepreneurship, with innovation and training programs, with the *Law of shared ownership of agricultural exploitations* removing legal barriers to formally recognizing the participation of woman in agricultural activities, and also increasing support for victims of violence against women.

3.1.2 Regional and local policies directly impacting rural shrinkage

Although the awareness of civil society (primarily) and public institutions (later) about local shrinkage is not recent, few policies against shrinkage have been conducted until now, and the initiative corresponds mostly to the provincial and regional governments. It is worth noting that currently local actors do not perceive the impact of regional or national policies.

At the regional level, the Presidency of the Generalitat Valenciana (Regional Government) is the main department planning specific actions against depopulation. The creation of the *Regional Agenda against Depopulation (AVANT Agenda)*, still at an early stage, is the more explicit strategy to fight depopulation in regional rural areas. The Presidency created during 2019 the *Municipal Cooperation Fund* to fight depopulation. The *Municipal Cooperation Fund* (from the Regional Government) provides since 2015 additional financing to sparsely populated, ageing and depopulating villages municipalities, although funding it is not linked to specific objectives and municipalities decide on how to spend it (Generalitat Valenciana, 2019a, 2019b). Similarly, the *Department of Finance and Economic Model* has taken first steps to provide economic support for the co-funding of public services to municipalities experiencing special financial difficulties in low density areas (Generalitat Valenciana, 2019c).

In addition, the works for the elaboration of the regional *Strategic Plan Against Depopulation*, have been started. The aim is to create a framework to deal with the problem, including concrete proposals, and giving room to discuss the strategy with other public actors (local and provincial governments and organisations).

Regarding economic development, the Regional Government is also providing entrepreneurs with very advantageous loan conditions (0% interest rate and 5-years waiting period to refund)

and support to develop their ideas. In parallel, the project of creating a web platform with detailed information about shrinking villages (housing, touristic values, etc.) to improve the knowledge about those areas is also a measure aiming at adding value to local assets (Cebrian et al., 2020).

Regarding commercial services, the *Plan Against Financial Exclusion* has also subsidized the installation of withdrawing machines and some banking services in shrinking villages (allocating approximately 5M€ of regional funds). Furthermore, the Regional Government is also concerned about the importance of avoiding the closure of feasible small businesses (shops, bars, bakeries, etc.) due to the lack of generational relief. An initiative to face the problem has been to hire 5 local development agents (in the region) to disseminate the information as a way to find relief. As mentioned by the General Director of the Valencian Agenda Against Depopulation “*it is important that a school remains open, but it is important that a bar does not close up in a small village, because it is the only meeting point*” (Cebrian et al., 2020).

Additionally, the RD department of the Regional Government created a service for the promotion of women in rural areas, improved the communication with LAGs and has recently passed the *Law of Land Structures* to promote land mobility and address the noticeable structural problems of Valencian agriculture linked to small-holding, lack of generational relief and land abandonment.

Besides, the *UNEIX plan* seeks to facilitate sustainable mobility, services and infrastructures, and greater competitiveness of the productive fabric through infrastructures and logistics) (Generalitat Valenciana, 2019d). Furthermore, the *Avalem Territori Plan*, aims at improving business and work opportunities in rural functional areas (Hermosilla Pla et al., 2018). It also generated a very exhaustive analysis of SGIs, economic and labour market dynamics at regional and county level, but have not resulted in any actions or impact so far.

The Provincial Government has also deployed several measures especially focused on fighting against rural shrinkage. For instance, the Department of Social Action promoted the Repoblem plan (meaning ‘Let’s repopulate!’), that aims at supplying basic services to small rural depopulating villages, such as: economic support for managing census data; daily home-care and socialisation for sick, elder and disabled people; subsidies for the provision of social services, nurseries, primary schools; free public on-demand transport to hospitals and health centres; business dynamization and promotion of employment; installation of high-speed broadband; sport events, organisation of fairs, environmental education and cultural activities. Beyond those specific measures, the *Provincial Service of Assistance to Municipalities (SEPAM)* provides legal, economic and technological assistance to the municipalities, especially to those with the lowest economic and management capacity.

Moreover, regarding the smaller villages the Provincial Government provides economic support for: 1) the creation of municipal spaces and infrastructures for entrepreneurs in small (less than 5,000 inhabitants), rural and isolated villages; 2) the creation of rural multiservice stores for municipalities of less than 200 inhabitants; 3) a plan for a digital access service to the local

administration (for municipalities with less than 20,000 inhabitants), 4) cultural activities (in villages with less than 5,000 inhabitants) (Diputació de Castelló, 2017).

Furthermore, the provincial government created 5 agencies for economic promotion (with ERDF funds) in rural areas (so called CEDES agencies). One of them is located in the CS area. The agencies offer working and meeting spaces for local entrepreneurs, job placement, vocational training, entrepreneurship promotion and consultancy services to local businesses. The area of youth policy implements projects against youth unemployment, especially in the rural depopulating areas (see section 3.1.1).

In addition, the Rural Development service has been working with private actors (agricultural and agri-food producers and hospitality sector) during the past 10 years in weaving the network "Ruta de sabor!" ("Tasty Route"), a strategy to increase added value and improve marketing of local agri-food products and gastronomy in Castellón province.

The *Castellón 135* plan has financed since 2018 public works and infrastructure maintenance in the villages of the province, according to the priorities of the municipal councils. As the *Territorial Cooperation Fund* (of the Regional Government) it is not shrinkage focused programme, although both aim to provide essential services and to overcome the main territorial deficiencies that lead to depopulation and rural shrinkage.

At the local level, the AoM of *Alt Maestrat* (see section 1.5) provides mainly social welfare services (offering home-assistance to the elderly, women, disabled, families, children and dependent populations). Besides, maintenance of road infrastructures and public lighting will be assumed soon. This AoM increases feasibility and financial sustainability of SGIs provision, up-scaling it to a supra-municipal scale, but keeping it close to the citizens.

In addition, some municipalities have founded companies for the management of electricity supply, tourism promotion, bottling and distribution of mineral water. In addition, in some cases municipalities have occasionally subsidised schooling of children, rental assistance or municipal jobs in order to adapt or mitigate shrinkage.

The LAG, *Altmaesports*, implements projects promoting the improvement of infrastructures and basic services, the creation of co-working spaces, start-ups and the promotion of innovation and diversification of companies, through the transformation and commercialisation of local agri-food products. They have also projects for the durability of local shops over time, to consolidate the tourism sector, and to organise empowering and awareness-creation events related to energy efficiency. The LAG also enhances local networking involving the main public, private and civil society actors of the area.

The CDR, together with Caritas and the Red Cross, has successfully focused on the integration of people at risk of social exclusion and on improving their quality of life in rural areas through a wide-range of training programs, social and environmental projects, and activities addressed to reduce inequalities and to revert out-migration (i.e. the promotion of employment, early-morning childcare, educational tutoring, children camps, work training, neuropsychological rehabilitation

or cognitive stimulation for the elderly, psychological support, and delivery of food and essential goods to groups at higher risk of social exclusion.

Table 3.3: Mitigation & Adaptation Policies – Alt Maestrat (LAU), Castellón (NUTS 3), Valencian Community (NUTS 2), and Spain.

	National	Regional	Local (Provincial or municipal)
Mitigation – Simple Shrinkage	<ul style="list-style-type: none"> ❖ Increase of paternity leave to make it equal to the 16-week maternity leave (progressive application until 2021) ❖ Rehabilitating rural buildings (National Strategy of Prevention and Fight against Poverty and Social Exclusion) ❖ Rural woman support: Law of shared ownership of agricultural exploitations; innovation and training programs and support to victims of male violence. 	<ul style="list-style-type: none"> • Rural woman training programme: to foster women empowerment, entrepreneurship and communication skills, to create new job opportunities. The programme is led by FADEMUR, the regional branch of a national rural women association. 	<ul style="list-style-type: none"> ▪ Social Housing ▪ Local tax reduction & aids for families ▪ Baby bonus in villages <1000 inhabitants ▪ Grant for children in the local school (Culla) ▪ Early morning assistance in public primary and secondary schools
Adaptation – Complex Shrinkage	<ul style="list-style-type: none"> ❖ Guidelines of the National Strategy against the Demographic Challenge ❖ EU Youth Employment (YEI) ❖ Social Security benefits for freelance workers in villages <5000 inhabitants. ❖ National Digital Agenda <ul style="list-style-type: none"> ○ Plan 300x100 (2018-21) – 300 Mbps for all population centres. (ERDF) ○ Plan 800 – remaining settlements <5000 inhab. ○ Connected Schools programme (ERDF) ❖ Digitization Agenda for the agri-food, forestry sectors and rural areas. ❖ National Strategy of Prevention and Fight against Poverty and Social Exclusion ❖ Subsidies for the promotion of self-employment, social economy and corporate social responsibility ❖ Study about adopting tax differentiation for rural areas (Min. of Finance) 	<ul style="list-style-type: none"> • AVANT Agenda and Agenda against depopulation <ul style="list-style-type: none"> ○ Increased funding for shrinking villages ○ Plan against Financial Exclusion (installation of ATM in shrinking villages) ○ Initiative to foster generational relief of local bussinessess ○ Loan facilities (low interest rate and 5-years waiting period to refund), support and guidance to rural entrepreneurs • YEI/ESF 2014-2020 OP: <ul style="list-style-type: none"> ○ Public hiring of under 30 ○ Entrepreneurship and skills development in small or shrinking villages • Subsidies for vocational training and employment in tourism sector • Subsidies for the hiring of local (municipal) employment and development agents. • ERDF 2014-20 OP: <ul style="list-style-type: none"> ○ Sustainable energy production and consumption systems in small companies • Fostering and implementation of renewable energy in small companies • Infrastructural improvement for e-learning and mobile learning 	<ul style="list-style-type: none"> ▪ ESF 2014-2020 OP: <ul style="list-style-type: none"> ○ Full-time indefinite hiring of under 30 in shrinking villages in the private sector ▪ ERDF 2014-20 OP: <ul style="list-style-type: none"> ○ Remote control of municipal buildings and street lighting (smart villages) ▪ Renovation and replacement of outdoor public lighting ▪ Provision of public wireless networks in rural villages ▪ SEPAM (administrative, legal, economic and information support to municipalities) ▪ CEDES (Centre of Economic and Social Development) in rural areas <ul style="list-style-type: none"> ○ Workshops and mentoring for rural entrepreneurship. ○ Identification of innovative socio-economic experiences in rural spaces ○ Co-working spaces in rural areas ▪ Subsidy for a Tourism Promotion Plan (for 4 villages of the CS area) ▪ Castelló “a Tasty route”. Database of gastronomy, cultural events and provincial tourist establishments.

	<ul style="list-style-type: none"> ❖ National Depopulation Forum (civil society, raise concern) ❖ <i>Correos market</i>: online marketplace for local food and handicraft products 	<ul style="list-style-type: none"> • Extension of the broadband of 30 Mbps • Aids for the improvement of rural roads • EARDF 2014-2020 RD Programme: <ul style="list-style-type: none"> ○ Agri food industries development ○ Agricultural exploitations ○ Young farmers support ○ Organic farming • Valencian Plan of Organic Production • LEADER 2014-20 OP: <ul style="list-style-type: none"> ○ Creation of new business activities ○ Creation and promotion of territorial brands, local high quality products ○ Promotion territorial heritage, recovery of local cultural assets, creation of tour packages ○ Improvement of infrastructure and basic services for the population ○ Promotion of energy efficiency and environmental awareness • Law of Land Structures, measures and tax benefits for triggering mobility of land • Subsidies to depopulating municipalities and associations of municipalities at financial risk • Subsidies for maintenance municipal psychopedagogical offices in schools • Provision of medical emergency service (ambulance in Vilafranca) 	<ul style="list-style-type: none"> ▪ Association of Municipalities social services provision (elderly, women, disabled, families) ▪ Subsidies for summer cinema or musical entertainment and sports events ▪ Subsidies for rural multi-service stores ▪ 5 day-centres for elder care (1 in CS area) ▪ Grants for taxi transport to the doctor ▪ Subsidies addressed to the primary care programs in social services ▪ Adapted transport for people with functional diversity (Vilafranca) ▪ Home delivery of meals to elder (NGOs) ▪ CDR (Centre of Rural Development) <ul style="list-style-type: none"> ○ Active ageing & health ○ Education, training & environmental awareness ○ Job orientation & Local development projects ○ Social assistance
STRATEGIES AND FUTURE PLANS			
Mitigation – Simple Shrinkage	<ul style="list-style-type: none"> ❖ National Strategy against the Demographic challenge 	<ul style="list-style-type: none"> • Regional strategy against depopulation • Web platform to increase knowledge and value resources of shrinking villages • Rethinking RDP policy 	<ul style="list-style-type: none"> ▪ Tourism & agri-food development ▪ Elder care development
Adaptation – Complex Shrinkage		<ul style="list-style-type: none"> • UNEIX plan (regional mobility plan) • Avalem Territori plan (territorialised employment policies) 	<ul style="list-style-type: none"> ▪ Elder care development and nursing homes ▪ More SGIs, public transport & accessibility ▪ On-demand transport

Source: own elaboration

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

In Spain, the subject of rural shrinkage has received growing attention in the media and political discourses in the past 2-3 years. As shown by Ortiz-Miranda (2019) mentions to “rural depopulation” in national and regional press have skyrocketed from 9 (in 2013) to 581 (June 2018 - June 2019). In addition, two prominent books have also been widely echoed in the media: “*The Empty Spain. A travel through a country that never was*” (Del Molino, 2016), about the Spanish low populated areas and their contrast with highly urbanised areas, and “*The last ones. Voices from the Spanish Lapland*” (Cerdà, 2017), where the author travels to know about the histories of the ‘remainers’ lying behind the current statistics of extreme depopulation (mentioned in section 2.1).

This growing attention might be explained by the raising social awareness and civil society organisation around shrinkage. A civil society Platform called *España vaciada* (literally: The Emptied Spain) was created in 2019 channelling social concerns of shrinking rural areas, and the topic has been in the pre-electoral political debates. In the national elections, a civil society platform from a depopulated region, *Teruel existe*, (Teruel does exist) got one Member of Parliament who has afterwards accepted to bring the voices of ‘The Emptied Spain’.

Echoing these social concerns, in January 2020, a national Government’s Vice-Presidency of Energetic Transition and Demographic Challenge was created, reflecting the growing political concerns about shrinkage and demography. The recently created General Directorate of Policies Against Depopulation and the General Secretary for the Demographic Challenge are the tools to address the topic in the coming years at national level. At national level, the discourses related to public policy evolve around different topics: the need to consider the social and environmental benefits of public policies (and not only economic ones), the equality of access to services and equality of opportunities in rural areas; the importance of changing the image about inner, remote and depopulated areas and also about their inhabitants; and the need to abandon fragmented approaches to deal with shrinkage and also the need for transversal approaches tailored to regional needs (Cebrián et al. 2020).

In this context, rural ‘topics’ are more than ever in political agendas and new narratives regarding rurality are emerging (or starting to be more visible). The mentioned civil society platforms use the term ‘*emptied*’ Spain, instead of ‘empty’, stressing the responsibility of past policies and development models on causing depopulation (centralised policies, population quotas for services, subordination of rural functions to urban development, etc.). However, this latter term is controversial and has some academic detractors that prefer to talk about an ‘empty’ Spain, shifting the focus to current trends and the fact of Spain being always a rather depopulated country.

At national level, the interviewed stakeholders from women and small farmer’s civil society organizations agree on the need for a joint vision/common strategy to address shrinkage, so that all policies, funds, resources, by all rowing in the same direction. For these reason,

stakeholders value the first steps taken by the Government since 2017 to address rural shrinkage (guidelines and diagnosis) and specially maps of population density and ageing as useful tools to communicate and show a territorial picture of the problem. Nevertheless, most actor agree on the limited advances obtained and the need for more political attention as there are no specific policies addressing shrinkage.

In the interviews, two key discourses emerged: the need for 'rural proofing' and the need for transversal approaches when dealing with shrinkage. Firstly, the subject of using a 'rural lens' (also known as 'rural proofing') emerged repeatedly (from the national to the local level), in order to include rural particularities/diversities. Many interviewees perceive that policy-makers have an urban-biased view disconnected from rural realities. This fact results in laws and policies not taking into account its impact on rural areas and imposing additional barriers, contributing to increase the already important regional imbalances. Civil society organisations' stakeholders also advocate for more participation to find ways to respond to rural needs.

Secondly, the need for transversal approaches was stressed due to the complexity of shrinkage and its wide and interrelated policy levers (taxes, health, education, social services, industry, economy, etc.). Some interviewees recalled the attempt to implement a wider rural development perspective in the Law 45/2007 for Sustainable Development of the Rural Milieu (passed but never developed and implemented, one of the reasons is possibly that it coincided with the beginning of the economic crisis). Similarly, most national and regional interviewees strongly agreed (and stressed) the need for a rural strategy that goes beyond CAP and LEADER. According to most interviewed stakeholders there are instruments to act against depopulation but action cannot focus only on agriculture, because even in areas with profitable agriculture there are depopulation problems linked to the lack of services, family conditions and social fabric that people need for living. As mentioned by one interviewee, implementing such a transversal perspective needs higher political commitment and power, going usually beyond the competences of one Ministry. Interviewees suggested as possible solutions to assign shrinkage competencies to the President's Office or the need for a wider political and social commitment and a National Pact against Shrinkage.

Regarding Rural Development Policies, stakeholders perceive EU RDP (including LEADER) had a moderate impact against depopulation. However, they also noted it is possible that the situation without the CAP (and ESI funding) would be worse. The reasons mentioned are: need of adequate measures and specific objectives linked to depopulation, need to focus on enhancing local communities and local governance (CLLD and LEADER initiatives), excessive focus on agriculture and agri-food related activities, need to support family farming (valuing positive social and environmental externalities), need to hear rural and young people's needs, and also to include gender perspective (to tap into the potential of women self-employment and also because limited availability of services affects more to women with family responsibilities).

Regarding the administrative framework for its implementation, although subsidiarity was perceived as important to adapt RD Plans to regional needs, some interviewees mentioned the need to strength national guidance (with a national RD programme that has more content and budget, or at least with a more powerful national framework) to achieve common objectives regarding measures against depopulation and rural development, and to reduce the important disparities introduced by regional decisions.

At regional level, the Regional Government is giving more importance of rural development and depopulation policies (see section 3.1.2). Regarding the LEADER, both regional government and LAG managers agree that the lack of continuity of the LEADER program (from 2014-2018) has been an important drawback, the 4-year discontinuity caused problems of planning, management, important bureaucratic burdens and broke previous innovation dynamics.

Regarding governance, there is a consensus across national, regional and provincial stakeholders on the need for coordination and joint work. Again, stakeholders identified the need for a strategy considering horizontal and vertical linkages among all administrative levels (looking at different competencies and possibilities for action at each territorial level) to produce coherent and efficient results. On the one hand, national (and some provincial) stakeholders mentioned the need for a stronger national guidance. In addition, regional stakeholders also highlighted the need for more coordination at Regional Government level to work more united and have a transversal and effective strategy against depopulation. On the other hand, local stakeholders argue for developing policies at the lowest possible level (including more participation) so that objectives can be tailored to regional realities and implemented responding to local needs.

Service provision was considered one of the key challenges to address shrinkage. In some Spanish rural areas, nurses and doctors have to attend 20 or more villages, which notably reduces the quality of the service. A national actor stressed the need to fully rethink some aspects of service provision to improve their quality (perhaps introducing new ICTs and a mobile on-demand): *“Some people live in a part of our territory paying taxes as everyone but suffering strong inequality of access to a health service that we need to guarantee. Maybe the problem is that the health system was designed in the 80s when demography was different, and with the same ‘formula’ we try to adapt it to the current situation. After 30-40 years the situation is very different, and maybe we need to rethink it more deeply: how do we provide those services in the 21st century, how do we guarantee health services? Maybe new technologies could help. Maybe we do not need a doctor coming one our every three days if there is no one seek, but we need a mobile service on demand.”*

The AoM formula is considered crucial to maintain SGIs management in local institutions (which would otherwise be managed by the provincial governments) and to plan policies that are more suited to small villages’ needs.

At all levels and from different sectors (public, private and civil society) many actors advocate for a fiscal differentiation for rural areas in order to attract economic activity in the area.

Other recommendations for future policies include: introducing positive differentiation for family farming (according to economic size and not surface); fostering more integral advice to primary sector companies and to rural entrepreneurs, above all in smaller and outermost villages with less resources; fostering land access and generational relief; favouring the formation and strengthening of all kinds of associations in rural areas (cultural, agricultural, etc.) and especially of rural woman. Some stakeholders stressed the importance of encouraging rural woman (as a driving force developing many activities, experiences and innovation in rural areas, and because they fix population and are eager to work), arguing their work needs to be given more visibility, support, and tax incentives. In addition, it was also stressed the need to rethink the use of new technologies as a means of 'bringing closer' rural areas and a need to revert the 'negative' image of rural areas and activities, creating awareness and educating about rural values.

3.3 Local responses to shrinkage

3.3.1 Coping strategies

Local stakeholders consider facing shrinkage requires a national and regional response, departing from the existing fragmented and insufficient policies. Actions implemented so far at all administrative levels have had very little effect or impact (due to the already mentioned limited capacity of local actors, see section 1.5 and 2.3). Local stakeholders' perspectives do not eminently envisage mitigation, since this is not considered fully feasible, however mitigation is perceived as a possible evolution of successful adaptation policies. Local actors (as well as with national ones) support the idea of improving the provision of SGIs to retain the remaining rural inhabitants, improving their quality of life (adaptation) and laying the foundations for long-lasting development (mitigation). In addition, they also consider essential to discuss and come up with innovative formulas for managing the low density of population (adaptation).

However, local governments have limited competences and financial capacity to address the SGIs problem. The created AoM for service provision (section 1.5) and its gradual increase of budget, personnel and active competencies, is an existing successful mechanism to address these limitations, motivated by the aim to improve service delivery to citizens by pooling resources and being more cost-effective. Furthermore, it provides the possibility of adapting service provision to functional areas which do not always fit with administrative LAU divisions.

On the other hand, the provincial government, together with municipalities, has been responsible for some key initiatives contributing to adapt to the limited SGIs availability. Besides the local policies illustrated in the chapter 3.1.2 that have an impact on demographic

and socioeconomic patterns, strategies directly facing shrinkage include the implementation of four “Family-break Units” in the area, offering day care services for elderly people. It is seen as a very necessary yet insufficient measure in terms of schedule and diversity of assistance. In addition, the on-demand rural taxi service to reach healthcare centres in Castellón (for villages <than 5,000 inhabitants) is very well valued (although a local mayor mentioned that its efficiency could be even improved). Other local initiatives include family policies: implementation of early morning assistance in public primary and secondary schools and a baby bonus of 600€ for children born in municipalities with <1000 inhabitants, financed by the Diputación, and the programs of the CDR mentioned in chapter 3.1.2.

Local perspectives and aspirations tend to go beyond short-term views and political measures against shrinkage (such as providing job and accommodation in order to attract population), asking for action at higher political levels. Most interviewees share the vision that initiatives to attract free-lance or internet home-workers could potentially reduce shrinkage (due to commuting distance to centres of economic activity), and one local mayor mentioned the idea of developing a project to attract retired foreigners. However, there are not existing local (or any other) initiatives to attract population. Although municipalities cannot individually face this problem, some collective initiatives could contribute to increase the area “attractiveness.

Promoting economic development is seen as the best strategy to retain young people, on the one hand increasing entrepreneurship to trigger endogenous development, and on the other by providing incentives to the private sector. Regarding the first, the provincial government’s creation of a rural network of 5 CEDES (section 3.1.2) has had remarkable impact as well as the initiatives of the CDR. Regarding tourism promotion, some actions have been implemented with provincial funds: grants for hiring professionals for municipal tourist offices (which have benefited 6 municipalities of the CS area) and the creation of a tourism inter-municipal association (so called “Human Land”) for tourism marketing, organisation of activities and events. Although the initiative has made important efforts to value and revitalise local tourist resources, a local mayor criticised the limited approach comprising only four municipalities of the CS area, again linked to a lack of collaborative “county spirit”.

The discourse of having differentiated taxation and legislation for rural areas (such as retail multi-service stores and slaughterhouses) has recurrently appeared in interviews at all levels (from national stakeholders to local mayors). This is seen as a means to rebalance territorial inequalities and attract investment by providing incentives that counteract the existing rural disadvantages. Furthermore, the Diputació is studying a system to differentiate and adapt taxation to rural and shrinkage areas (within its limited competencies).

In addition, another measure that does not directly tackle shrinkage but diminishes its consequences for the public administration services, is the degree of administrative digitalisation with the key support of the *Provincial Services of Assistance to Municipalities* (SEPAM), making Castellón (NUTS3) one of the most advanced Spanish provinces on that issue. The provincial support service is highly valued by interviewees from the public sector.

Furthermore, the Provincial Government has provided extensive training for municipal civil servants (regarding register on inhabitants, accountancy programs, transparency, electronic office, 'in' and 'out' bureaucracy registration, central of purchasing contracts for equipment and services, and total disappearing of paper in inter-administration communication).

Similarly, the existing grants for organising cultural and sports activities in villages < 5,000 inhabitants provide the possibility of increasing leisure offer overcoming, to some extent, municipal limitations. For instance, the village of Vilafranca shows a regular and diverse cultural annual programming. Other smaller villages (such as Vilar de canes, with only 169 inhabitants), also offer some regular sports and cultural activities which are well valued by young people.

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

Although funding from European, National, and Regional levels has resulted on measures to deal with shrinkage which cover the CS area, the general perception of most local actors is that they are non-existent. This is, on the one hand, due to the absence of any specific shrinkage policy (few measures use shrinkage or village size as a criterion to prioritise funding) and on the other hand, due to the limited capacity of the existing fragmented policies to address shrinkage.

At European level (as already explained in section 3.1.1, and partly in 3.1.2) different instruments and funds have been channelled to the CS area for RD, infrastructure improvements, and economic promotion (such as the CEDES). However, the lack of prioritisation criteria linked to shrinkage (except in the YEI) has resulted, according to the interviewees, in limited impact, except for the CEDES initiative.

In addition, it is impossible to find public data regarding the implementation of European Policy measures at provincial (NUTS3) level, and even less at the level of CS area. This information is not required by European authorities what makes fairly difficult to analyse the territorial impact of EU policies in the region. One of the reasons behind is probably to avoid internal territorial disputes about funding; the other is unfortunately that such analyses are not conducted by the region. Furthermore, it is impossible to assess if RD policy is having a sound impact in rural shrinking areas or if, similarly to past policies, it is favouring larger intensive and more advantageous agricultural areas. When looking at measures receiving most funding (Table 3.1, section 3.1.1), it is possible to envisage that remote rural areas may only be benefiting from support to young farmers, investment in agricultural exploitations, and to a limited extent from grants to highly competitive grants to agricultural industries (oil, meat and dairy sectors) and to organic farming.

In this context, the only visible RD measure for local actors is the LEADER approach, which is considered an effective model for place-based policies, notwithstanding it is too rigid. Although the LEADER approach is the only measure which can be genuinely considered of RD it only comprises 7.5% of the budget (2.3 M€ for each LAG). Regarding the LEADER,

several hindrances were remarked: the requirement of a preliminary fund provision from potential beneficiaries (excluding small start-ups and entrepreneurial projects); its excessive delay, related to EU late approval of regional RD programme in July 2015 (one year after its initial submission); the discontinuity with the previous period (LAGs were fully renewed, losing of previous infrastructure, capacities, know-how and networking), which resulted in additional delay and the final launch of the first LEADER call in 2018 (resulting in a 4-year interval of inaction). A similar problem happens with the annual renewal of ESF plans and programs (section 3.1.1), a fact that scarcely helps to settle down population. In addition, the RD measure for LAG's cooperation actions could report important benefits and learning exchanges, but its funding is insignificant in the region.

Both national and European RD policies need to facilitate a higher integration of local perspectives in order to align EU-set objectives with territorial needs, capacities and aspirations, as the LEADER does, even if more funding and greater strategic and participatory vision is needed. The National Government has presented the general guidelines for a National Strategy, but it is disconnected from local particularities. There is room for improving multilevel strategic planning against rural shrinkage: setting of achievable objectives for the short, medium and long term, specifying which resources could be used, which administrations are responsible for, which tools are available or need to be developed, and what contexts and groups need to be targeted.

Further collaboration and coordination between regional and provincial RD actions is also demanded, also for industry, health and education. As it happened in Navarra (Spanish NUTS2) without important legislative development or financing, rural shrinkage prism should be transversally integrated in policy-making (Generalitat Valenciana, 2017). In Aragon (the neighbouring NUTS2) rural depopulating areas has been delimited in order to dedicate greater political and budgetary attention to them. The process was very participative, although the initiative is still being implemented.

Multilevel governance between regions and with the State should be strengthened, also with the support of partnerships with research institutes and universities; public/public, public/private and private/private networking and knowledge transfer should be fostered (between different generations and territories). These are changes in style and forms of collaboration rather than concrete proposals.

In addition, the 2007 State law on sustainable RD (not implemented) included tools to improve vertical and horizontal cohesion between administrations, fostering public and private partnerships and strategic planning. The project to adapt or develop the regulation could be retaken as it resulted from wide consensus among national and regional RD actors.

Similarly, public transport service is fairly absent. Collaboration between administrations and legislative flexibility could contribute to improve transport and accessibility of the CS area. Furthermore, on-demand transport solutions for other purposes could benefit in the entire area and contribute to improve youth quality of life.

The simplification of exigent bureaucratic and technical requirements and the increase of allocated funds would contribute to deal with the under-financing of infrastructure crucial for local development.

The weak social capital and “self-esteem” and the limited collaboration among local actors result in a lower capacity to absorb funds and to fully exploit new opportunities, hindering the development of local economic alternatives or attracting external actors. In this sense, the support of higher level actors, mainly provincial, and CLLD to trigger a change in the rather “defeating” discourse would be a relevant policy approach.

From a more economic focus, investments in the crucial primary sector lack a mid- long term feasibility analysis, and have scarcely targeted the potential added value linked to diversification and marketing of “zero-kilometre” and organic products. That lack of inner coordination, prospect and diversification, reduces the potential multiplier impact of an already low economic activity. Agricultural Cooperatives, which contribute importantly to profitability of primary sector activities up-scaling production, have a strong corporatist and a short/mid-term approach and their capacities regarding innovation, diversification and marketing are limited.

3.3.3. Local visions concerning future pathways and available policy support

In this shrinking context (section 2.3), local actors do not have the capacities, nor the tools to face shrinkage. On the other hand, EU (and other higher-level) policies are not being effective to stop shrinkage, although without them the situation would possibly be worse as they are contributing to alleviate some territorial imbalances.

Regarding innovative solutions, the provincial government is willing to implement smart cities principles and tools in rural territories (i.e. implementation of smart-technologies for public services in low density rural areas such as smart water supply, lighting, waste collection, etc.). At the same time, the provincial council is also working on digitalisation infrastructure, which is nowadays a basic requirement for any innovative activity.

According to interviewed actors, the EU-promoted idea of multifunctionality of rural areas continues to pivot around the centrality of agriculture and the agri-food sector. However, traditional farming activities do not attract currently young generations that are barely interested in traditional agriculture and livestock as they imply long working times and isolation during transhumance and grazing. In this sense, this policy is having a limited effect to retain population. Without innovative solutions this strategy offers less and less opportunities for rural areas due to decreasing agricultural profitability, since only large exploitations can resist the harsh competition. In this context, there is a need to develop tools that promote agricultural generational relief so young rurals can develop new ideas, agri food industry, adding value and modernising the sector to make it profitable in the CS area. However, the cultural barrier of farmers not perceiving farming as a desirable future for their children and farmer’s reluctance to give entrance to non-family members, are also limiting factors.

The core aspiration of most local actors to deal with shrinkage is to establish tax (mostly national) and legal differentiations for rural areas, and finding rural solutions for making things convenient for the private sector (supplies, infrastructure, bureaucracy, etc.). This is seen as the only way to generate fixed jobs and economic dynamism, compensating for the missing possibilities as compared to urban areas (SGIs, human resources, clusters, etc.).

Out-migration dynamics are also generating a lack of professional turnover, above all for less qualified jobs (related to the primary sector, retail, etc.). Solutions to improve working conditions, promoting entrepreneurial and innovative culture to support the return of technicians and high-skilled profiles could compensate labour market mismatches.

In the area, shrinkage is influenced by a poor educational and vocational training diversity. Improving its quality, adapting it to the local labour market and identifying skills gaps, also through e-learning facilities, could reduce out-migration of rural youth. The lack of affordable, reformed houses for rent or sale (at least in some villages) makes youth and young couples settlement and emancipation harder, so that housing policy is crucial to face shrinkage. In combination with accessibility policies, housing is strategic to attract people looking for rural quality of life (around 1h driving from urban and periurban areas).

Communication, transport, mobility, broadband and accessibility issues in *Alt Maestrat* would also need to be addressed and represent the core of a strategy against shrinkage according to local actors. There is a need to look at the CS area rethinking spatial planning to solve inter-municipality transport in order to maximise access to SGIs, to promote an acceptable standard of living and to encourage economic development. Furthermore, this issue is also perceived as crucial to retain the young population, since socialising in rural areas tightly depends on mobility.

AoMs are seen as a fruitful model to deal with local adaptation to shrinkage, though improving the management and provision of SGIs, despite their limited budgets. This is thanks to a deeper knowledge and a closer bond with their territory. Financially helping them to manage more competencies over time would further reduce trips of rural citizens. In this sense, from 2020 onwards all the municipalities in the region will receive further competencies and funding from regional and provincial levels.

Regarding governance, wishes and recommendations from a bottom-up perspective include:

- The need of a joint county vision that allows to undertake strategic actions to promote the CS area, and to develop a commonly agreed development plan based in local assets. Most actors are aware that working together at supra-municipal level would produce a greater impact and overcome localisms and competition among villages.
- Local actors generally report a lack of multi-level governance arrangements and coordination, as well as asymmetry on decision-making, which results in higher-level institutions ignoring local realities and views of territorial planning. Vertical and horizontal coordination needs to trigger bottom-up participation and encompass local perspective.

The RD departments of every institution need to raise the awareness of other departments about rural shrinkage and integrate rural perspective in sectorial policies.

- Furthermore, previous promoted participatory dynamics resulted in a sense of “fatigue”, discontent, defeatism and mistrust towards higher-level institutions. In this sense, it is important to ensure commitment, capacity ,political will, and financial provision at all levels to find consensus, or at least compromises, leading to satisfactory results.

In general, more rigour and local actor’s participation is needed when designing, defining and planning territorial strategies in order to plan effective mid/long-term resilient strategies. Shrinkage strategies need a joint work and vision of all the administrations. Authorities at each administrative scale are complementary, so as possibilities of action.

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

4.1 Towards future pathways: enhanced intervention logic along innovative experiences

As already mentioned, adaptation pathways were considered more feasible, although the preferred strategy includes mitigation or the combination of both. Adaptation actions comprise improving services and quality of life of remainers (seriously worsened in the last decades as a consequence of depopulation) in order to reduce out-migration. Mitigation actions can be grouped in three broad subjects: (1) developing economic activities linked to local assets, (2) improving access to services and transport (increased population will result in improved services as well), (3) attracting newcomers (based in homeworking and smart-working) and weekday commuters to Castellón, adding value to “slow living”.

The genuine linkage and commitment to the territory of the “born and raised” people in the area is considered far more important and long-lasting than the intermittent and usually temporary attraction of subsidiary immigration through publicly supported programs of benefits and concessions (i.e. public employment, free housing, subsidies, etc.).

Some on-going initiatives are considered effective to reduce the impact of shrinkage:

- “Castelló Ruta de Sabor”, impulsed by the provincial administration, involves 110 local food producers and hospitality activities at NUTS3 level, to boost gastro-tourism and added value of local agri-food products .
- A goat cheese cooperative (Catí and Torre d’En Besora) represent a successful agri-food project. The high-quality handcraft cheese is well valued and marketed in surrounding biggest cities, such as Valencia and Castellón.
- 1-2 years programmes of vocational training about forestry, gardening, and building conducted in Vilafranca had strong impact as many participants are now employed in the area.
- The construction of eolic plants, started after debates regarding its visual and environmental impact. Nevertheless, it opened stable employment possibilities for skilled young people with higher studies or professional training. Vilar the Canes is trying to impulse (in negotiation with other municipalities) a publicly funded and managed Eolic plant and pellet factory (using forestry by-products). The aim is to favour electric self-sufficiency (for public services, houses and local companies), generating income and qualified jobs.
- Cross-NUTS2-border cooperation and agreement with Aragon NUTS2 has been fruitful to avoid the shutdown or reduction of Vilafranca high school. The result is a win-win approach, students from Aragon have a closer high-school and Vilafranca has maintained local 16-to-18 population in the village.

Local actor's discourses regarding future pathways evolve around the need to foster economic dynamism in the area, but also arguing that this is possibly not enough, as depopulation is also linked to a "decadent image of the people remaining in a rural area". Therefore, economic or agricultural decline alone cannot fully explain depopulation. Leisure and socialisation opportunities are crucial for young people, sometimes even more than job possibilities and professional achievement. Related to this, local actors agree on the need to trigger a shift on perception about rural life, through raising awareness and promoting rural/village values and assets among rural and urban population, providing models of rural success (specially to rural youth) and making rural leisure and consumption models attractive.

Regarding local assets, the discussed local development model should pivot around diversification and innovation in agricultural and agri-food SMEs, promoting endogenous, entrenched and high added value products (i.e. almonds, hazelnuts, dairy, etc.), organic farming and zero-kilometre products. In addition, these activities can be well complemented with rural tourism, which can be a source of income and employment, taking advantage of some local assets: gastronomy and food culture, thermal facilities (Benassal), landscape and hiking possibilities, cultural heritage (cave paintings classified as UNESCO world heritage, old iron mine, traditional and historical architecture, culture, etc.). Rural tourism must then be implemented to ensure solvable demand, train workers and also to increase lodging possibilities. Promoting rural tourism will also need joint action at county level to overcome competition among municipalities.

In this sense, the innovative initiative *Correos Market* (a recently launched initiative of the national Post Service) offers an online marketplace for local food and handicraft products and has been launched with a powerful advertising campaign and message (using #yomequedo, #I remain) where remainers explain their choice and share their reasons to remain, so providing a positive image of rural areas

In addition, the increasing and unattended demand for elder care services (home assistance, accompany them, take-home food services, elder care home) could represent a shrinkage strategy (as well as a urgent need) at least in the short/middle-term, since it would attract carers and settle population. The CEDES is already providing training in assistance to the dependent people in order to address the existing demand, and the AoM is also working to increase elder care service provision, despite the limited budget.

The Regional Government is considered a key powerful actor, since it has the capacity to negotiate strategic solutions to keep minimum basic services in rural areas, such as the exemplary public-private collaboration with some banks for the provision of withdrawing machines.

In addition, and although it did not emerge during the interviews, it is worth mentioning "The Celtiberian Serrania" approach (in which the CS area is included), where civil society organisations are working against depopulation trying to get EU recognition as Sparsely Populated, Mountain and Rural Remote Region and obtain more access to the ESI Funds.

The territory covers 63.098 km², distributed across ten different NUTS 3 regions, has a population density <8 inhab./sq.km but due to administrative borders only two of them are classified as sparsely populated.

4.2 Broadened and more suitable policy support

All actors denounce a lack of policy support to address shrinkage at all levels. However, it was difficult for stakeholders (even for the ones involved in EU programme implementation) to be specific on how to improve EU policy support and recommendations about EU policies improvement were rather general.

- One of the existing limitations is the lack of an agreed definition of rural shrinkage that allows legislators and managers to act on identified areas (both at EU and national level). The steps made in the CAP-post 2020 to use shrinkage as a criterion to allocate resources and execute specific activities is of great significance for rural and depopulating areas. This is a first step needed to diagnose the affected areas in order to be able to take measures to attenuate or revert the situation as fast as possible. In addition, budget allocation in some cases responds to some extent to political alliances. In this sense, the identification of shrinking areas could also contribute to overcome budget path-dependencies, especially regarding decision-making on how RD budget is shared between regions.
- Responding to shrinkage is challenging due to its multifactorial nature (even more considering the high Spanish decentralisation). There is consensus at all levels (and especially among RD national and regional experts) on going beyond the CAP and RD Policies to face shrinkage and abandoning sectoral perspectives. According to an ex-RD Program manager *“RD policy is like a shipwreck survivor in an island trying to empty a flooding with a bucket. There is a need for a wider perspective than agriculture and rural tourism, they are not enough. Most RD agri food industrial measures are addressed to micro-scale or handicraft initiatives. It is important to think on industry as well, as a source of stable employment... or fiscal incentives, rent policies, and also improving services, schools, health centres, else the people leave.”*
- Furthermore, ERDF is not perceived as being currently addressed to shrinkage or having a positive impact in rural areas. improvement of rural living. As mentioned by some national and regional interviewed policy-makers, in the Spanish policy context it has been generally considered that actions for rural areas should be financed by EARDF, an approach which lacks a wider vision of rurality. Including shrinkage criteria in ERDF could help to align both structural policies, and to establish a mechanism to address the missing link between regional and RD policies. Similarly, ESF/YEI projects have included criteria to address young beneficiaries of shrinking villages, which seems a successful path to follow, although its impact has been limited as they do not

guarantee or promote long-term stability of jobs, which is a key aspect that requires future policy support.

- From the perspective of local actors, the LEADER is a well valued program, and above all, its approach. However, regional LAG and RDP managers argued on the one hand, for the need of a longer-term continuity of the LEADER programme (see section 3.3.2). The discussion with local actors also pointed out the need to include local actors perspectives through enhanced participation and place-based strategies. With regard to the LEADER, bureaucratic burden and the need for private initial investment were also identified as barriers for local initiatives.
- CLLD (other than LEADER) could be a useful tool to deal with shrinking, however it is not implemented in the region of Valencia. One of the reasons mentioned during the interviews were the objections of the the Paying Authority to allow LAGs to manage ERDF funds. There is an issue of lack of confidence related to possible mismanagement by LAGs and subsequent delays in payment or any other bureaucratic problems.
- Although the multi-fund approach (in 2014-2020) is a step towards a more integrated use of ESI funds (as compared to previous programming periods), in the Valencian Community complementarity is nonexistent. Surely, in an ex-post evaluation it will be possible to justify some complementarity of approached, although they are not the result of joint actions or decisions. The fragmentation and lack of coordination between managing authorities, departments and sub-departments of Public Administration are a barrier to multi-funding. Another barrier is competitiveness inside the Public Administration as the different administrations and departments aim at getting as much funding as possible in their own programmes. A real complementarity between ESI funds is needed to have an integrated approach dealing with shrinkage. One way could be to work it better during OPs programming.
- In principle, as compared with the current programming cycle, the Post-2020 CAP includes as key-element a needs-based approach to achieve defined targets, providing more subsidiarity to countries on how to achieve them. The National Government is taking the work of elaboration of the CAP post-2020 strategy as an opportunity to rethink RD Policy and conducting some debates with national and regional stakeholders. Although this approach is expected to provide more flexibility to achieve the established objectives adapting RD programmes to national and regional singularities, it poses difficulties to address one of the identified problems: the need to have a national plan or framework which makes possible in practice to achieve a more harmonised (or at least coordinated) implementation of RD Policy. In addition, although rural shrinkage is intimately related to 'Objective 8: vibrant rural areas' (where LEADER is also included), in the current works it is being dealt with in 'Objective 7: support generational renewal' (at least in the Spanish National Strategic Plan working groups).
- The fiscal incentives for rural areas recurrently mentioned by the interviewees need to be analysed regarding EU limitations and legal barriers for territorial differences, as they

offer an important potential to compensate some barriers for local economic development which otherwise make the private sector reluctant to face the limitations of establishing businesses in rural areas (or at least in the less advantageous ones).

- There is a need to continue the simplification of EU legislation, and reducing legal barriers to foster policy effectiveness. Currently, actors with less administrative or financial capacity are not having the capacity to access EU funds. Furthermore, the huge bureaucratic burden results in a tendency to continue business as usual.
- The negative perception of rurality was identified at all levels as one of the reasons underlying rural shrinking and lack of generational relief. Broadened policy support could help to trigger an image shift toward more socially shared and “valued” rural perception.

In addition to recommendations made by the interview stakeholders some additional policy recommendations arising from the analysis of the authors of the report after being discussed with the interviewed experts are also provided:

- In the case of Spain, the average size of the NUTS2 and NUTS3 is currently an important limitation on implementing effective territorial policies against shrinkage. There is an urgent need to gather and harmonise data at a more disaggregated territorial level than NUTS3. As many European funds are allocated based in NUTS2/3 criteria, when a shrinking area is experiencing stronger economic and demographic shrinkage than the average of the region or province in which it is embedded, funds and policies related to shrinking may not reach those targeted areas. Furthermore, shrinking areas where there is strong out-migration to wealthier cities within the province will not be reflected by provincial averages, as regional centres counteract the statistical trends of the province as a whole. This could be the case of Castellón province (classified as intermediate region regarding the U-R typology), with an important territorial differentiation between the wealthy industrial and touristic coastal areas and the inner shrinking rural areas. This problem is linked to the administrative organization of the Spanish State and it is therefore difficult to change, even in the long-term. However the use of grid or LAU statistics could be useful tool to reflect a more realistic shrinkage picture. Furthermore, as previously mentioned (section 3.3.2) if the requirement of monitoring and following-up the impact of RD measures at a lower territorial scale would exist, member states will then have sound information and indicators providing the possibility of tailoring measures to local realities.
- The decentralised administrative structure in Spain is posing important challenges to implement effective measures against shrinkage at local levels and one of the main reasons of fragmented approaches and territorial disparities. Coordination and joint action are crucial for transversal and effective shrinkage approaches. EU policies should include measures to facilitate cooperation between public, private and civil society actors within and between countries, e.g. for good practices exchange regions or countries with highly decentralised governance.

4.3 Enhanced governance approaches

As previously mentioned (1.5 and 3.3.2 sections), there is important scope for improvement of multi-level governance arrangements at most levels. Although there are several public strategies, programmes and actions to address shrinkage, coordination among them is fairly inexistent. Two missing links were stressed: the lack of coordination among provincial and regional governments regarding RD strategies; and the general demand of a place-based approach and participation of local stakeholders in the planning and implementation of shrinking strategies. Both could result in improving governance responses to shrinkage.

At the local level, two governance aspects should be noted:

- The first one is that regardless of the absence of public administrations with powers at LAU level, there is an AoM for SGIs provision. In the case of the *Alt Maestrat* this type of inter-municipal cooperation has resulted in evident positive outcomes for the management of social services. The success of such organisations tightly depends on the territorial cohesion between the participating municipalities, the absence of political interference and the adequate balance between the budget and the services provided. This type of governance setting is extensively used in Spain, so it seems transferable to other areas. In the CS area, it has proved useful to address municipalities' budget limitations and scaling-up service provision in areas with low population density. It is a more flexible alternative than 'forced' merging and aggragation of municipalities and it provides the possibility of adapting service provision to functional areas which do not always fit with administrative LAU divisions.
- The second aspect that was stressed is the lack of "county spirit" which was mentioned to hinder a sort of collaborative local response to shrinkage. Providing means or support to the more active and organised local 'associations' such as the AoMs or the LAGs could lead to a change, enhancing local networks and collaborative governance as a way to initiate joint action towards implanting mitigation approaches.

Planning and implementing measures does not necessarily imply the creation of new local institutions or further economic-financial resources endowment. Some institutions that already exist overlap in competencies, projects and objectives. It is necessary to be more efficient and better spend the available resources. The AoMs already have technicians and skills for the planning and implementing of local development plans. So it is essential to promote a long-term perspective, and one way is to involve already committed associations.

Furthermore, collaboration and joint work between different administrative scales authorities is needed to develop effective strategies against rural shrinkage. Local actors argue the need for place-based strategies and participatory efforts to include local perspectives, as the most effective way to meet local needs and expectations and to use local knowledge to capitalise on territorial strengths. There is a need to collaborate on agreed priorities against in a coordinated way. In any case, with many institutions having competences regarding

shrinkage, efforts to establish the adequate administrative level to manage each competence would also be beneficial.

Rural and urban areas need to collaborate due to the functional complementarity between these spaces. Therefore it is necessary to work on strategies including all local actors (both urban and rural), taking advantage of synergies, coordinating the different existing local perspectives and integrating them into regional or national rural development plans. Furthermore, planning cannot overlook the rural-urban linkages and the complementary (even if often unidirectional) relations in the case of *Alt Maestrat*. Functional areas and their social, economic, cultural, or even identity relations are the main and nuclear unit in territorial planning and should constitute the final and basic territorial level for the implementation of actions and measures against shrinkage, therefore not necessarily the county or any other administrative scale are the most adequate.

5 Policy recommendations

There was consensus at all levels on the need to have tools to address shrinkage in the long-term. In addition, although the priority of shrinkage in European and Spanish high-level political agendas is starting to rise, the impact of targeted policies seems to have been limited up to date. In this sense, EU policies could support the incipient national and regional ones, and ideally contribute to continuity and effective long-term planning.

Based in the previous national, regional and CS background, some recommendations are provided on key aspects or policy-options which could be useful to target shrinkage in a more effective way:

- There is a need to improve governance mechanisms to look at sectoral policies through a rural prism. Initiatives entailing public/public collaboration (multi-funding, Inter-ministerial, inter- departmental and inter-administrative) represent initial steps towards more coherent and effective governance approaches, especially in highly decentralised context such as the Spanish one.
- Fragmented policies are not effective to deal with shrinkage. The multi-factorial causes of shrinkage require integrated socio-economic policies (social, health, education, technology, industry, rural development, etc.) embracing its complexity.
- In addition, services policies need to be deeply rethink so to adapt to the 21st century. Most services policies were created in different demographic conditions and trying to adapt them to shrinkage with the same ‘formula’ is not proving to be effective. Furthermore, new technologies could play a key role to guarantee basic services.
- Public administrations need to use their available incentives to aim at attaching and attracting public workers to rural areas, as this bonds improve the quality of services and also because the public sector is an important source of employment.
- There is a need to match RD programmes with real local needs. On the one hand, increasing CLLD and the relevance of the LEADER program, as the current better suited measure for RD from a bottom-up approach. On the other hand, monitoring and following-up the impact of RD measures at a lower territorial scale, to better assess RD policy and inform decisions; else there is a risk that RD policies do not have the desired impact and continue to increase regional imbalances.
- The negative rural image, linked to a poor “self-esteem” or “inferiority feeling” is a deeply rooted cultural barrier. There is a need elaborate communication strategies and education campaigns, e.g. providing attractive models of rural success, and put into value rural activities, assets, and sustainable rural models of consumption as the basis to overturn the common perception of rural areas and attract younger generations.

- Youth policies, as a cornerstone to reverse shrinkage, need to go further than employment and training, and consider mobility and transport, broadband accessibility, leisure, social life, and quality of life as key aspects.
- There is also a need to reinforce social capital and networks in rural areas and so local actors have the capacity and find channels to be more involved in local territorial development, identify common interests and envisage joint actions towards shared future perspectives.

Regarding how shrinkage is defined:

- There is a need to have criteria to identify shrinking areas. Some possible indicators used in the CS context were: population change, population size, or a combination of them. Those indicators are useful at a level lower than NUTS3, else there is a risk that regional population dynamics in 'prosperous' NUTS3 make shrinking invisible due to opposite trends (as it happens in Catellón province). Another option could be using a participative approach (as it was done in Aragon region).
- Using the criteria of "shrinking more than one generation" (i.e. past 20 years) is problematic for the CS area. In Spain, there was a general positive net migration trend until 2010, when it drastically shifted as a consequence of the economic crisis. Although attenuated, this positive net migration was also experienced in 2000-2010 in the CS area, which has been shrinking for a century.

In the CS area, some policy levers regarded as most influential can be summarised in the following:

- Improvement of basic proximity services (health-care, child-care, elder care and education) to improve quality of life of remainders.
- Boosting educational options (vocational, entrepreneurial and distance training) to help matching skills to local reality and reduce early youth out-migration.
- Improving public transport, mobility, and roads, to improve employability and access to leisure (i.e on-demand services or alternatives).
- Improving online communications, to foster remote working, ICT based companies' development, improve the logistics of conventional companies, as well as online sales of the primary sector. Mobile coverage is essential for young people.
- Developing rural opportunities and new generation of the agri-food industry, and gastro-tourism, breaking the land-tenure barriers.
- Promoting tax and legislative differentiation for rural areas, to attract new businesses and compensating some of the inherent rural disadvantages and costs.
- Revitalising the real estate market and a plan for house renovation and improvement could increase the availability of housing at a lower price.

Conclusions

Alt Maestrat is experiencing a long-lasting out-migration, started already in the second half of the XIX century as a consequence of the national process of industrialisation and the appearance and development of the main industrial and urban poles. The present depopulation is mainly related to the constant out-migration, especially between the 1950s and 1980s, when the population massively migrated towards industrial urban plain and coastal areas that offered well-remunerated jobs and better SGIs. This outflow of the young and fertile generations generated a constantly negative demographic natural change (which is also influenced by the marked decreasing trend in birth rate since the 1970s) and a gradual population ageing. Despite the U-turn of migration during 2000 (thanks to the immigration from Western Europe, Northern Africa and South America), local population started again to shrink, markedly after 2010, linked to impact of the global economic crisis. This last wave consists mainly of youngsters who migrate for post-secondary education and subsequent job placement. So the CS area is being both impacted by legacy effects of uninterrupted out-migration since early 20th century and the current one, linked to limited education and professional opportunities.

The misalignment of local productive fabric with regional, national and global socio-economic development trends is more than evident. Local activities, basically linked to the primary sector, handicraft products, with the exception of a large textile company (with more than 500 employees out of the 6,657 inhabitants of the CS area), have scarcely and slowly adapted to the changing dynamics and demands of the even more globalised markets, and forced population over sixteen y.o to leave the area. In addition to education and labour migration, another push to resettle is related with expectations, mainly of younger generations, about lifestyle, socialisation, leisure and cultural offer, which are perceived as more attractive in urban areas.

According to local actors, accessibility to SGIs represents a key issue both for families and businesses. *Locals* are highly dependent on private transport, and frequent and long-lasting displacements for living. In this sense, road network and especially public transport are considered extremely inefficient and insufficient. In addition, despite the progressive digitisation of public administration and administrative procedures, the widespread digital illiteracy and the inadequate availability of broadband are limiting access to internet and online services. Regarding governance perceptions, local actors criticise the lack of coordination among public institutions and, above all, the multi-level governance arrangements. It is generally considered that national and regional spatial development models have continuously favoured industrial and urban areas. Even after the democratisation of public institutions and the devolution of competencies in the 1980s, the county has remained on the margins of national and regional development plans and investments which have increased territorial imbalances.

Nevertheless, national and regional public authorities seem to be aware of the need to elaborate policies to deal with rural shrinkage, even though most of these concerns have just materialised in strategic documents and intentions. Furthermore, grants have been assigned to shrinking villages by the regional government in the last three years; however those measures would need to be targeted to achieve specific shrinking objectives. On the contrary, provincial and municipal institutions, have proven to be particularly implicated. Adaptation policies have been implemented by the provincial council in order to improve key services, such as the provision of social assistance and the accessibility to healthcare services to the groups in situation of dependency (children and the elderly) or the hiring of local development and tourism agents by local councils. In addition, regional government has also granted the installation of ATMs. However, these actions, albeit essential, produced limited outcomes. An association of municipalities has been created to improve service delivery by pooling local resources and obtained remarkable results. The LEADER/CLLD approach is also considered to have produced satisfactory impacts in local development. Furthermore, local actors broadly agree that this model could be successfully extended to the public management of other crucial services, such as tourism planning, public transport, waste management or public lighting. Nonetheless, political local rivalries need to be overcome and multilevel cooperation in spatial planning must be fostered.

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

Table A1: Adaptation and mitigation policies and programmes

Name of the project/investment	Basic information: start and end dates, funding amount, source of funding, collaboration partners.	Description of key measures being addressed by the project; how the project relates to the issue of population decline (including whether it is primarily supporting rural shrinkage mitigation or adaptation); and the policy impact (how has the project helped to face the challenges presented by rural shrinkage)
On-going and implemented projects in the current programming period		
REGIONAL PUBLIC INSTITUTION'S POLICIES		
EMCUJU grants	PO ESF of the Valencian Community 2014-2020. From 2017 on.	Occupational Program for the fixed-term hiring of qualified (vocational or academic) under 30 y.o. people by local entities and public administration. It generates opportunities for employment for third grade graduated young in public administration for at least one year. Facilitate the return of young generations in rural areas.
EMPUJU grants	PO ESF of the Valencian Community 2014-2020. From 2018 on.	Subsidies program aimed at provisionally hiring of young people in local public administration (town councils, councils, associations and their autonomous bodies).
Grants for vocational training	LABORA (public regional employment service) budget for 2019	One course in hospitality and rural accommodation management. Granted training mainly directed to unemployed people, with the involvement of companies or organisations, which are obliged to hire the participants.
Municipal Cooperation Fund for the fight against depopulation aid	A total of 3,000,000 € assigned in 2019. Albocàsser (43,190€), Ares del Maestrat (10,477€), Benassal (39,500€), Catí (29,819€), Culla (22,795€), Tírig (20,119€), Torre d'En Besora (9,178€), Vilafranca (65,380€) and Vilar de Canes (€9,769).	In the framework of the AVANT agenda against depopulation, this grant aims to guarantee the capital adequacy of the municipalities of the VC affected by shrinkage, and strengthen their local autonomy on the basis of the principle of subsidiarity, financing their activity globally so that they can have the adequate endowment for the provision of local services.
Specific grant of the Municipal Cooperation Fund for the fight against depopulation	Total 3,000,000 €. Albocàsser 48,641 €, Ares del Maestrat 11,682 €, Benassal 44,482 €, Catí 33,530 €, Culla 25,564 €, Torre d'En Besora, la 9,963 €, Vilar de Canes 10,801 €, Vilafranca 73,519 € in 2018.	Direct financing for municipalities with the following characteristics: less than 20 inhab. /km2, 0% of population growth rate in the last 20 years, -10% of natural growth in the last 20 years, aging rate higher than 250%, dependency index higher than 60%, negative immigration rate in the last year, functional areas with a population density equal to or less than 12.5 inhab. /km2 and municipalities with less than 120 inhabitants. Funding for running expenses, public works and services.
Municipal Cooperation Fund of the Valencian Community	Albocàsser 28,865 €, Ares del Maestrat 7,812 €, Benassal 26,490 €, Catí 20,260 €, Culla 15,739 €, Tírig 14,017 €, Torre d'En Besora 6,976 €, Vilar	Financing of municipalities and minor local entities of the Valencian Community. Smaller municipalities received a higher score in the competitive selection for access to funding.

	de Canes 7,356 €, Vilafranca 43,865 €. In 2019.	
Implementation of Medical Emergency Assistance Services (SAMU) in Vilafranca	2019	Provision of medical emergency service in the inland of the <i>Alt Maestrat</i> . This way the time to reach emergency service is considerably reduced in the whole county and a more accurate and close health service is provided to local population.
Installation of ATMs in 120 municipalities and districts that do not have financial services	The measure is part of the Plan against the Financial Exclusion, prepared by the Valencian Institute of Finances and the Valencian Agenda against Depopulation (Avant), and coordinated by the Presidency of the Generalitat. Total: 7,400,000 € for the 2019.	The contract, to which financial institutions can compete, will cover the supply, installation, technical support and maintenance of ATMs through a lease. Entities that provide the service may also offer a financial advisory office for these municipalities, which is one of the issues that score the most when awarding the specifications. The aim is providing a service so that the citizens of these municipalities have the same financial opportunities as the other municipalities and stop the “financial exclusion”. The municipalities involved are Ares de Maestrat, Culla and Tírig in the <i>Alt Maestrat</i> .
24kw biomass boiler installation for heating	VC ERDF 2014-2020. Timeframe: 2015-2017. Budget: 7,200 €.	Biomass boiler installation, polyfuel, for heating in detached house. One action in Albocàsser. The aim is to stimulate the spread of sustainable production and consumption methodologies, with a low environmental impact and the optimization of the use of financial resources and raw materials.
Change of oil burner for biomass burner oven bread in Catí.	VC ERDF 2014-2020. Timeframe: 2016-2017. Budget: 6,050 €	The aim is to stimulate the spread of sustainable production and consumption methodologies, with a low environmental impact and the optimization of the use of financial resources and raw materials.
Solar installation of 38 m2 for dairy industry for QUESOS DE CATI COOP.V. in Catí	VC ERDF 2014-2020. Timeframe: 2015-2017. Budget: 25,399 €.	Fostering and implementation of renewable energy (including hydro, geothermal and marine) and integration of renewable energy storage (conversion of electricity into gas and renewable hydrogen infrastructure).
Boiler installation biomass (pellet) of 13.5 kw for heating in Catí	VC ERDF 2014-2020. Timeframe 2015-2017. Budget: 4,895 €	Biomass and renewable energy use promotion.
Pellet boiler installation 12 kw heating with domestic 100l dhw	VC ERDF 2014-2020. Timeframe: 2015-2017. Budget: 4,938 €	Biomass and renewable energy use promotion in the <i>Alt Maestrat</i> .
PROVINCIAL PUBLIC INSTITUTION'S POLICIES		
5 CEDES centres for work and economic promotion	1 of them is in Albocàsser. It is an initiative promoted and supported by the Provincial Council of Castellón and it has been funded by the European Regional Development Fund of the European Union (ERDF) for the	It provides citizens with a wide range of programs and services in the following areas: training, promotion and job creation; new Information and Communication Technologies; equal opportunities; international relations; business support and assistance. Its mission is to strengthen and coordinate current municipal programs, through the creation of wealth and employment, as well as the cohesion and promotion of development opportunities in the inland of Castellón. As general objectives it intends promote a balanced development; improve the management, qualification

	construction and equipment of these centres.	and resources of municipal social services; enable spaces for common development and exchange of methodologies and tools encourage the use of new technologies and training for employment.
The OFISAM centres (headquarter in Castellón) and 6 more territorial branches. One of them in Benassal	Initiative of the Diputació. Public Administration - Provincial Service of Assistance to Municipalities (SEPAM)	It provides legal, economic and information assistance to the Municipalities, especially those with lower economic and management capacity.
Project for the improvement of public lighting in 24 municipalities from the province of Castellón with less than 20,000 inhabitants.	Torre d'En Besora and Vilar de Canes are the only municipalities of the <i>Alt Maestrat</i> involved in the program: Sustainable Growth PO ERDF 2014-2020, within thematic Objective 4 - Low Carbon Economy, Objectives specific OE 431 - Energy efficiency in building and Infrastructure and public services. In 2019 the budget was 25,017.09 € from ERDF and 4,561.15 from municipalities.	Renovation and replacement of outdoor public lighting, with more efficient lamps and adaptation to current regulations. It implies a save of public funding and energy, with positive outcomes on the environment and municipal budgets.
Singular Smart Cities project	ERDF 2014-2020, OT 4 - Low Carbon Economy. In 2019 the budget and the municipalities involved were 5,215.58 € in Ares del Maestrat and 4.496,58 € in Vilar de Canes.	Implementation of a system of information, communication and remote control oriented to the smart regulation and management of municipal buildings and street lighting.
Grants for the Tourism Promotion Plan of Alt Maestrat Human land	110,000 € in 2018 to the Inter-municipal Association Catí, Culla, Benassal and Ares del Maestre	Funds for the promotion of tourism marketing and the organisation of activities and events in the area.
Subsidy for the hiring of professionals in the municipal tourist information offices.	6,400 € in 2018 for each municipality: Albocàsser, Ares del Maestrat, Benassal, Catí, Tírig and Vilafranca.	Funds for the hiring of municipal tourism development agents in some municipalities of the <i>Alt Maestrat</i> .
Baby bonus for municipalities with less than 1000 inhabitants	600€ per children born in Since 2016-until now.	A one-time grant of 600€ for every children born (or adopted) in municipalities with less than 1000 inhabitants. Although beneficiaries in the whole province have been limited.
Grants for running expenses	The Castelló 135 Plan in 2017 funded Albocàsser 15,000 €, Ares del Maestrat 21,355.58 €, Benassal 28,500.00 €, Catí 34,500 €, Culla 34,500 €, Tírig 14,269.34 €,	Funding from the provincial council to each municipality of the province for the running and general expenses of each municipality, with the aim to guarantee financial sustainability of each municipality, mainly the smaller ones, and also maintaining all public services.

	Torre d'En Besora 23,960.56 €, Vilafranca 8,000 €, Vilar de Canes 9,560.50 €, Association of Municipalities of the <i>Alt Maestrat</i> 30,000.00 €	
Grants for public works	The Castelló 135 Plan in 2017 funded Albocàsser 90,000 €, Ares del Maestrat 68,644.42 €, Benassal 56,500.01 €, Catí 80,500 €, Culla 80,500 €, Tírig 15,730.66 €, Torre d'En Besora 56,039.93 €, Vilafranca 244,280.06 €, Vilar de Canes 60,439.50 €.	Funding from the provincial council to each municipality of the province for the realisation of public works, crucial for local development and the provision of public local services.
<i>Unitats de respir familiar</i> (Family Break Units)	From 2014, it is a network of 12 centres for the care of dependent people in several municipalities, among which 5 in the CS area. The budget is 75,545 € (for all 12 municipalities)	The municipalities have made available to this service a fully equipped, accessible, infrastructure. The Diputació hires people who cover the service and ergonomic equipment adapted to the user's profile based on their degree of disability or dependence. It allows an improvement in the quality of life of the elderly, their caregivers and family members, also encouraging the permanence of these people in their usual environment. It provides comprehensive and individualised socio-sanitary assistance and family support, in order to improve their level of personal autonomy while remaining in their environment.
Subsidies for municipalities with less than 5,000 inhabitants, for the provision of discretionary transport services by taxi, for medical purposes	In 2020 the budget is Torre d'En Besora, Vilar de Canes and Ares del Maestrat 2,500€ each, Tírig 3,476 €, Culla 4,027€, Catí 5,929€, Benassal 8,661€, Albocàsser 9,860€ and Vilafranca 16,000€	It provides ODT and adapted to physically challenged people from home to health centres. It is completely free for users. This service helps the elderly to access health services with no cost and physical efforts. It serves a population that is almost isolated since few elder people own private transport means.
Subsidies for the creation of early morning school assistance in public primary and secondary centres in municipalities with less than 10,000 inhabitants.	The budget in 2020 is 4,260 € for the morning school of Albocàsser.	Morning school assistance is a service offered by the school primarily to reconcile the working life of fathers and mothers who need to leave their children before school hours begin. Available just in the high-school of Albocàsser.
Provincial Strategy for the Promotion of Employment, Entrepreneurship and Local Economy 2020-2021. Rural Entrepreneurship Program (2020-2021). Implemented by the CEDES of Albocàsser and directed to the whole <i>Alt Maestrat</i>.		
Rural Entrepreneurship Forum	Event of promotion of rural entrepreneurship. Workshop about challenges and opportunities of creating companies, attracting and retaining talent in rural areas and coping with rural depopulation. Creating a meeting point between entrepreneurs, institutions and agents of the entrepreneurial ecosystem interested in sharing their experiences and knowledge around rural entrepreneurship, as well as make visible the different successful entrepreneurial initiatives arisen in rural environments.	
Identification of	Study on the identification of innovative socio-economic experiences in rural	

economic initiatives of the new rurality	spaces, from the perspective of social innovation and the Economy for the Common Good, which could reveal potential synergies between municipalities and territories, as well as productive sectors and specialisations	
Challenges and opportunities for rural entrepreneurship	Meetings between entrepreneurs of different generations, sectors and stages of development of their projects, for the exchange of ideas and experiences, market trends, new business opportunities, creation of synergies and promotion of collaborative projects, etc.	
Collaboration Program LEADER Aid	Actions aimed at disseminating the LEADER RD aid program and to provide the tools and knowledge necessary to carry out the plan of viability of interested persons through workshops and courses adapted to the requirements of each call.	
Collaborations and networks with entities and organisations	Collaboration with agencies and organisations specialised in key sectors for the RD: organic farming and livestock, forestry sector, agri-food sector, agro tourism, tourism, active tourism, experience tourism.	
<i>Emprende</i> (start-up) program x 10. First steps	Promotion of rural entrepreneurial projects, through guided tutoring by specialist and professionals from the main business areas, through personalised counselling sessions. The entrepreneurs will meet with the assigned experts in order to receive a roadmap of actions to be carried out in each of the key aspects for greater guarantees of success.	
Women entrepreneurship and management	It develops specific actions with a gender perspective and is transversally applied in different programs, in coordination with the technical areas of Initiative and Business Development and of Information and Communication Technology in the CEDES. This action is designed to technically support women with business ideas, freelance professionals, executives and entrepreneurs.	
Co-working spaces in rural areas	Provision of co-working spaces in rural areas, at the CEDES' headquarters, in order to facilitate the start-up of new companies and/or professional offices in rural areas by allowing their installation.	
MUNICIPAL OR COUNTY PUBLIC INSTITUTIONS' POLICIES		
Adapted transport for people with functional diversity	Municipality of Vilafranca. It is currently implemented.	"Door to door" transport service that picks up users at their residency and carries them wherever they need. It facilitates accessibility and reduces possible architectural and urban barriers that could hinder the autonomy of users.
"Eat at home" program	Implemented for 10 years by the municipality of Vilafranca in collaboration with the association of municipalities of <i>Els Ports</i> , the Red Cross and the elderly residence of Vilafranca	Service for the elderly provides for the delivery of the lunch at home. The user pays half the cost and the other half the municipality of Vilafranca. This service guarantees a balanced meal to those elder people who need it. On the other hand, the contact that Red Cross volunteers have with the elderly provides on-going care, company and lets them know their needs first hand.
Old age home of Vilafranca	Collaboration between the regional department of Health, Social and Equality and the municipality of Vilafranca from 2016.	It currently has 64 places (usually full), of which 25 are arranged by the Generalitat and 19 are a day stay unit. The Vilafranca elder centre follows an open and participatory model and organises numerous activities throughout the year that promote the integration of residents in society and their ageing in an active way. The old age house for the elderly offers the possibility for adult dependent people to stay in the area and not be forced to migrate to the cities where relatives live in order to be assisted. Moreover, it facilitates the realization of daily tasks for the families of people who need continuous assistance. It represents a social and cultural revitalisation service for the elderly in the area.
Grants for families with children in the school of the	Culla municipality.	Grant for having children in the school of the village, grant of 300-500€/year (depending on children age), not linked to any other conditions.

village (in Culla)		
Participatory Local Development Strategy of the <i>Altmaesports</i> LAG (LEADER)		
Improvement of infrastructure and basic services for the population	From 2018 on the budget dedicated to this objective is 114,800 €	Cover the lack of construction and maintenance of infrastructure and basic services. Local actors consider it essential to provide the territory with basic infrastructure and services so that the quality of life is the best possible.
Sustainable repopulation of the territory	From 2018 on the budget dedicated to this objective is 58,800 €	Promoting actions to maintain current rural population (avoid the emigration of young people) as well as attract new settlers in villages with the greatest rurality problem to guarantee their liveability.
Encouragement of local commerce and products	From 2018 on the budget dedicated to this objective is 485,300 €	The territory is endowed with several high quality products, however they are scarcely promoted and known and under-consumed. This objective tries to promote local products and, above all, boost their local consumption.
Reinforcement of local entrepreneurship and business competitiveness	From 2018 on the budget dedicated to this objective is 340,000 €	Improving the productive fabric through the implementation of new businesses as well as better competence of existing companies. Providing entrepreneurs with tools in order to create new companies as well as improve of the existing ones making them more competitive and generate more employment.
Defence and recovery of cultural heritage	From 2018 on the budget dedicated to this objective is 143,000 €	Promote the recovery of local cultural assets. Recovering of the innumerable elements of the local cultural heritage for its durability and the enjoyment of future generations.
Mitigation and adaptation to climate change	From 2018 on the budget dedicated to this objective is 500,000 €	Implementing actions in companies that mitigate the effect of climate change as well as enhancing the value and better management of natural resources in the territory, focused on a better use and management of natural resources.
Enhancement of the heritage of the territory	From 2018 on the budget dedicated to this objective is 89,011.11 €	Creation of thematic spaces in the territory for the enhancement of its assets. Many heritage elements are not catalogued nor arranged to be enjoyed by locals and the visitors. It is necessary to create some thematic space that values these resources.
Promotion of rural tourism	From 2018 on the budget dedicated to this objective is 186,000 €	The territory has great potentials in rural tourism but is not efficiently and effectively organised and managed, so local businesses are not taking advantage of tourism. The aim is to promote coordinated tourism actions to obtain a greater efficiency in the provision of services.
Establishing synergies with the tourism sector	From 2018 on the budget dedicated to this objective is 153,000 €	Local high quality products are not known enough in the territory and in closer areas. Synergies can be set with catering establishments in order to jointly promote local products and their consumption.
Boost territorial brands	From 2018 on the budget dedicated to this objective is 227,000 €	The territory is very little known out of it. The creation of identification marks for its tourism promotion and marketing abroad is proposed, in order to attract new tourists and make the territory and its products known.

Appendix 2 – Population evolution in the CS area

Table A2.1: Evolution of population in Alt Maestrat, by villages (1842-2018), peak population (marked in orange).

Year	Vilafranca	Albocàsser	Benassal	Catí	Culla	Tírig	Ares del Maestrat	Vilar de Canes	Torre d'En Besora	Alt Maestrat (CS area)
1842	1189	1716	2108	1660	1405	696	953	268	335	10330
1857	2001	2262	2589	1815	1766	1101	1536	461	347	13878
1860	2076	2425	2591	1891	1920	1098	1698	493	345	14537
1877	2569	2834	2780	2092	2333	1350	1915	597	453	16923
1887	2770	3290	2902	2175	2598	1441	2006	723	466	18371
1897	2810	3485	2860	2415	2830	1509	2064	734	463	19170
1900	2856	3644	2926	2444	2819	1565	2031	728	476	19489
1910	3146	3731	2940	2567	3110	1635	2178	691	538	20536
1920	3392	3626	2710	2398	2904	1471	2228	569	456	19754
1930	3565	3203	2431	2083	2771	1362	1714	508	421	18058
1940	3631	2939	2318	1878	2661	1297	1556	499	387	17166
1950	3828	2674	2209	1656	2443	1215	1371	432	391	16219
1960	3600	2270	2023	1335	2085	1057	1052	352	314	14088
1970	3523	1933	1771	1110	1555	887	733	289	297	12098
1981	3032	1647	1581	1021	1210	760	466	244	295	10256
1991	2748	1509	1458	923	953	635	340	202	240	9008
2001	2570	1353	1374	850	733	549	235	183	190	8037
2007	2480	1381	1328	861	669	551	218	178	180	7846
2009	2521	1447	1340	859	637	554	216	175	185	7934
2011	2479	1385	1223	829	609	519	212	187	176	7619
2018	2227	1234	1084	742	504	435	190	172	157	6745

Source: National Institute of Statistics: Census database since 1842.

Table A2.2: Evolution of population in Alt Maestrat, by villages (1842-2018), as % of peak population

Year	Vilafranca	Albocàsser	Benassal	Catí	Culla	Tírig	Ares del Maestrat	Vilar de Canes	Torre d'En Besora	Alt Maestrat (CS area)
1842	31	46	72	65	45	43	43	37	62	50
1857	52	61	88	71	57	67	69	63	64	68
1860	54	65	88	74	62	67	76	67	64	71
1877	67	76	95	81	75	83	86	81	84	82
1887	72	88	99	85	84	88	90	99	87	89
1897	73	93	97	94	91	92	93	100	86	93
1900	75	98	100	95	91	96	91	99	88	95
1910	82	100	100	100	100	100	98	94	100	100
1920	89	97	92	93	93	90	100	78	85	96
1930	93	86	83	81	89	83	77	69	78	88
1940	95	79	79	73	86	79	70	68	72	84
1950	100	72	75	65	79	74	62	59	73	79
1960	94	61	69	52	67	65	47	48	58	69
1970	92	52	60	43	50	54	33	39	55	59
1981	79	44	54	40	39	46	21	33	55	50
1991	72	40	50	36	31	39	15	28	45	44
2001	67	36	47	33	24	34	11	25	35	39
2007	65	37	45	34	22	34	10	24	33	38
2009	66	39	46	33	20	34	10	24	34	39
2011	65	37	42	32	20	32	10	25	33	37
2018	58	33	37	29	16	27	9	23	29	33

Source: National Institute of Statistics: Census database since 1842.

Table A2.3: Population change (%) by periods in Alt Maestrat, and by villages (1842-2018)

Year	Vilafranca	Albocàsser	Benassal	Catí	Culla	Tírig	Ares del Maestrat	Vilar de Canes	Torre d'En Besora	Alt Maestrat (CS area)
1842-1857	68.3	31.8	22.8	9.3	25.7	58.2	61.2	72.0	3.6	34.3
1857-1860	3.7	7.2	0.1	4.2	8.7	-0.3	10.5	6.9	-0.6	4.7
1860-1877	23.7	16.9	7.3	10.6	21.5	23.0	12.8	21.1	31.3	16.4
1877-1887	7.8	16.1	4.4	4.0	11.4	6.7	4.8	21.1	2.9	8.6
1887-1897	1.4	5.9	-1.4	11.0	8.9	4.7	2.9	1.5	-0.6	4.3
1897-1900	1.6	4.6	2.3	1.2	-0.4	3.7	-1.6	-0.8	2.8	1.7
1900-1910	10.2	2.4	0.5	5.0	10.3	4.5	7.2	-5.1	13.0	5.4
1910-1920	7.8	-2.8	-7.8	-6.6	-6.6	-10.0	2.3	-17.7	-15.2	-3.8
1920-1930	5.1	-11.7	-10.3	-13.1	-4.6	-7.4	-23.1	-10.7	-7.7	-8.6
1930-1940	1.9	-8.2	-4.6	-9.8	-4.0	-4.8	-9.2	-1.8	-8.1	-4.9
1940-1950	5.4	-9.0	-4.7	-11.8	-8.2	-6.3	-11.9	-13.4	1.0	-5.5
1950-1960	-6.0	-15.1	-8.4	-19.4	-14.7	-13.0	-23.3	-18.5	-19.7	-13.1
1960-1970	-2.1	-14.8	-12.5	-16.9	-25.4	-16.1	-30.3	-17.9	-5.4	-14.1
1970-1981	-13.9	-14.8	-10.7	-8.0	-22.2	-14.3	-36.4	-15.6	-0.7	-15.2
1981-1991	-9.4	-8.4	-7.8	-9.6	-21.2	-16.4	-27.0	-17.2	-18.6	-12.2
1991-2001	-6.5	-10.3	-5.8	-7.9	-23.1	-13.5	-30.9	-9.4	-20.8	-10.8
2001-2009	-1.9	6.9	-2.5	1.1	-13.1	0.9	-8.1	-4.4	-2.6	-1.3
2009-2018	-11.7	-14.7	-19.1	-13.6	-20.9	-21.5	-12.0	-1.7	-15.1	-15.0

Source: National Institute of Statistics: Census database since 1842.

Note: value higher than -10% marked in light orange, peak value marked in dark orange.

Table A2.4: Yearly population change (%) in Alt Maestrat, and by villages (1842-2018)

Year	Vilafranca	Albocàsser	Benassal	Catí	Culla	Tírig	Ares del Maestrat	Vilar de Canes	Torre d'En Besora	Alt Maestrat (CS area)
1842-1857	4.6	2.1	1.5	0.6	1.7	3.9	4.1	4.8	0.2	2.3
1857-1860	1.2	2.4	0.0	1.4	2.9	-0.1	3.5	2.3	-0.2	1.6
1860-1877	1.4	1.0	0.4	0.6	1.3	1.4	0.8	1.2	1.8	1.0
1877-1887	0.8	1.6	0.4	0.4	1.1	0.7	0.5	2.1	0.3	0.9
1887-1897	0.1	0.6	-0.1	1.1	0.9	0.5	0.3	0.2	-0.1	0.4
1897-1900	0.5	1.5	0.8	0.4	-0.1	1.2	-0.5	-0.3	0.9	0.6
1900-1910	1.0	0.2	0.0	0.5	1.0	0.4	0.7	-0.5	1.3	0.5
1910-1920	0.8	-0.3	-0.8	-0.7	-0.7	-1.0	0.2	-1.8	-1.5	-0.4
1920-1930	0.5	-1.2	-1.0	-1.3	-0.5	-0.7	-2.3	-1.1	-0.8	-0.9
1930-1940	0.2	-0.8	-0.5	-1.0	-0.4	-0.5	-0.9	-0.2	-0.8	-0.5
1940-1950	0.5	-0.9	-0.5	-1.2	-0.8	-0.6	-1.2	-1.3	0.1	-0.6
1950-1960	-0.6	-1.5	-0.8	-1.9	-1.5	-1.3	-2.3	-1.9	-2.0	-1.3
1960-1970	-0.2	-1.5	-1.2	-1.7	-2.5	-1.6	-3.0	-1.8	-0.5	-1.4
1970-1981	-1.3	-1.3	-1.0	-0.7	-2.0	-1.3	-3.3	-1.4	-0.1	-1.4
1981-1991	-0.9	-0.8	-0.8	-1.0	-2.1	-1.6	-2.7	-1.7	-1.9	-1.2
1991-2001	-0.6	-1.0	-0.6	-0.8	-2.3	-1.4	-3.1	-0.9	-2.1	-1.1
2001-2009	-0.2	0.9	-0.3	0.1	-1.6	0.1	-1.0	-0.5	-0.3	-0.2
2009-2018	-1.3	-1.6	-2.1	-1.5	-2.3	-2.4	-1.3	-0.2	-1.7	-1.7

Note: value marked in light orange if -1% or higher, peak value marked in dark orange.

Appendix 3 – Interviews conducted with stakeholders/experts

Table A3.1: List of Interviews

Number	Position / competence of the interviewee	Type of the organisation represented by the interviewee			Location	Date (yyyymmdd)	Conductor
		Sector*	Territorial scale**	Relation to the CS area ***			
Conducted interviews							
1	Coordinator of the local Rural Development NGO	5	4	1	Albocàsser	2019/10/11	Giuseppe Scardaccione and Adrián Ferrandis
2	LAG	6	4	1	Albocàsser	2019/10/11	Mar Ortega and Jorge Velasco
3	Mayor of a municipality of the Alt Maestrat	1	5	1	Vilafranca	2019/10/18	Mar Ortega and Giuseppe Scardaccione
4	Municipal and AoM secretary	1	5	1	Albocàsser	2019/10/24	Jorge Velasco and Mar Ortega
5	Mayor of a municipality of the Alt Maestrat	1	5	1	Albocàsser	2019/10/24	Jorge Velasco
6	Mayor of a municipality of the Alt Maestrat	1	5	1	Tírig	2019/10/24	Mar Ortega
7	Mayor of a municipality of the Alt Maestrat and former rural development provincial department	1	5	1	Torre d'En Besora	2019/10/24	Giuseppe Scardaccione
8	Local employment and economic development agent	2	4	1	Albocàsser	2019/10/24	Giuseppe Scardaccione
9	Professor, researcher and member of a depopulation and development of rural areas centre	3	1	2	By phone	2019/12/10	Jorge Velasco and Giuseppe Scardaccione
10	Professor, researcher and member of a local depopulation and development of rural areas forum	3	3	1	Castellón	2019/12/12	Jorge Velasco and Giuseppe Scardaccione
11	Provincial department of rural development	1	3	2	Castellón	2019/12/12	Jorge Velasco and Giuseppe Scardaccione
12	Professor, researcher and member of the regional depopulation policies board	3	2	2	Valencia	2019/12/17	Jorge Velasco and Giuseppe Scardaccione

13	Regional rural development department	5	2	2	Valencia	2019/11/21	Jorge Velasco and Giuseppe Scardaccione
14	Small farmers union and association of farmers	5	1	2	By phone	2019/12/20	Mar Ortega
15	National association of women in rural areas	5	1	2	By phone	2020/01/07	Mar Ortega
16	National General Directorate for Rural Development, Innovation and Forest, Ministry of Agriculture, Fisheries and Food	2	1	2	By phone	2020/02/11-13	Mar Ortega
17	Former General Director of Rural Development Programme	2	1	2	By phone	2020/03/31	Mar Ortega
Initial Focus Group	Invited attendees by position/competence, sector and territorial scale: 14 attendees (5 majors of municipalities, 6 local development and employment agents, 2 from a local hospitality businesses associations, and 1 from a rural development forum) Note: we presented the project and conducted an initial focus group discussion about shrinkage perception and measures to address it.				Albocàsser	2019/10/11	Adrian Ferrandis, Mar Ortega, Giuseppe Scardaccione and Jorge Velasco
Final Focus Group	Invited attendees by position/competence, sector and territorial scale: 8 attendees (1 from a rural tourism development project, the manager of the provincial LAGs federation, 1 work agent of the local centre of economic and social revitalisation, 3 technicians of the Alt Maestrat's association of municipalities, the technician of the provincial rural development department and the local development agent of Ares del Maestrat).				Albocàsser	2020/01/10	Adrian Ferrandis, Mar Ortega and Giuseppe Scardaccione

*1=public administration, 2= public services, 3= other public, 4= private, 5= civic, 6= partnership of sectors, 7= other

** 1=national, 2= NUTS-2, 3= NUTS-3, 4= LAU-1, 5 = LAU-2

*** 1=within, 2= outside

Appendix 4 – Photographs of the CS area

Figure A4.1: Geographical characterisation and landscape



Figure A4.2: Livestock farming plant



Figure A4.3: Rainfed agriculture plot



Figure A4.4: Landscape and surroundings of Vilafranca with an ancient pastoral post



Figure A4.5: Pedra en sec (dry stone), traditional construction technique in the Alt Maestrat An ancient pastoral refuge



Figure A4.6: Pedra en sec (dry stone) wall



Figure A4.7: Rural tourism apartment in the countryside of Vilafranca



Figure A4.8: Medieval bridge on the border between the Valencian Community and Aragon (both NUTS2)

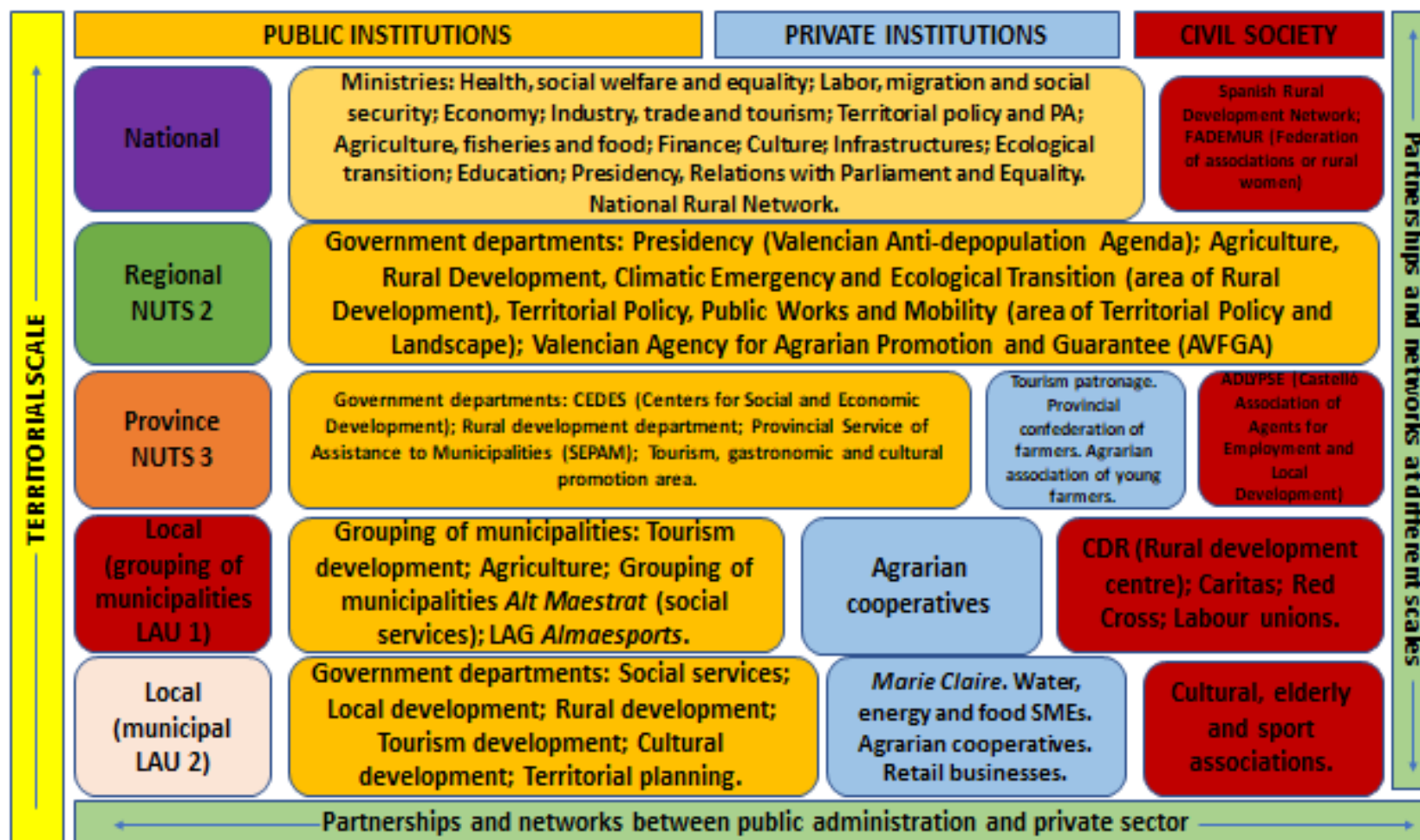


Figure A4.9: Focus groups



Appendix 5 – Institutional framework

Figure A5.1: Institutions in the CS area



Source: Own elaboration

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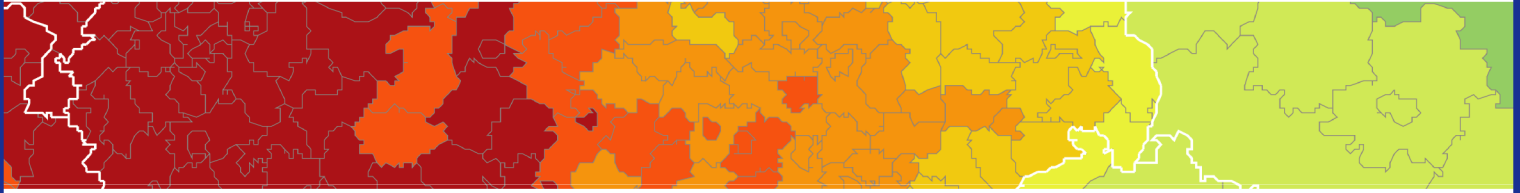
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