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Characterisation tool for rural areas

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SHERPA
Rural Science-Society-Policy
Interfaces

CHARACTERISATION TOOL FOR RURAL AREAS



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Sustainable Hub to Engage into Rural Policies with Actors (SHERPA) is a four-year project (2019-2023) with 17 partners funded by the Horizon 2020 programme. It aims to gather knowledge that contributes to the formulation of recommendations for future policies relevant to EU rural areas, by creating a science-society-policy interface which provides a hub for knowledge and policy. Find out more on our website:

www.rural-interfaces.eu

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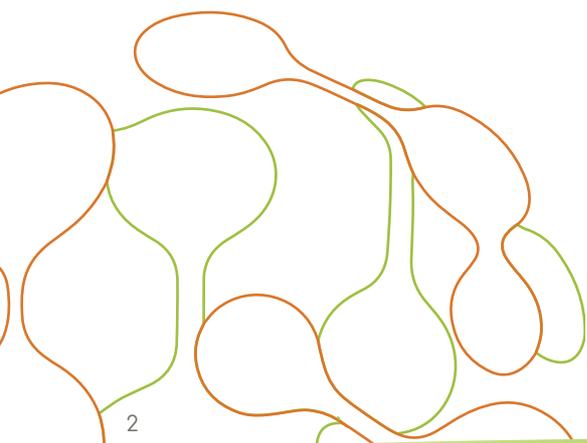


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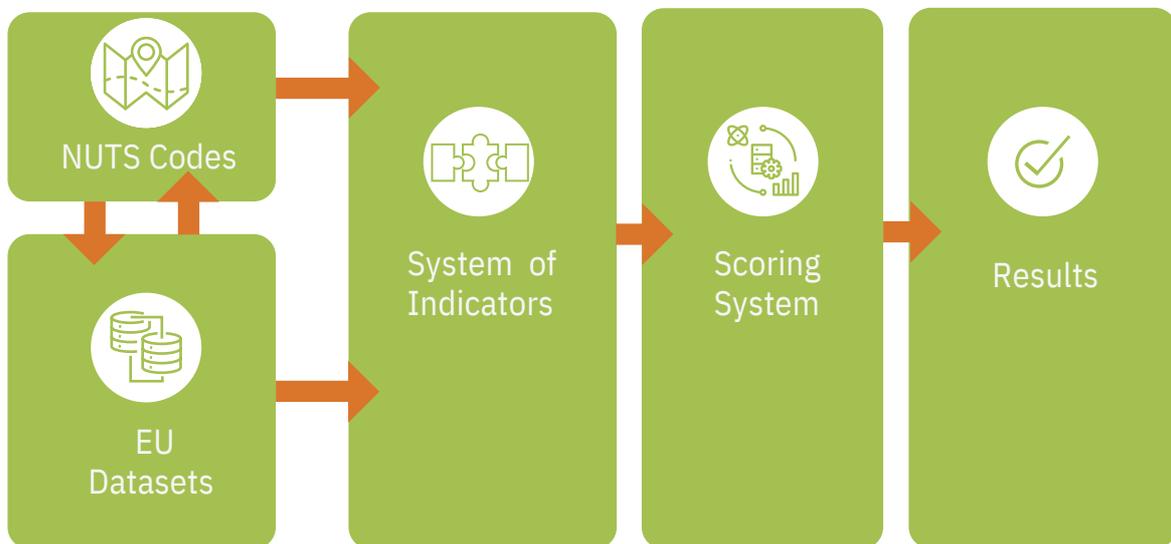


1. Summary

This manual provides key information and instructions on the application and use of the SHERPA Characterisation Tool for rural areas. The tool was developed to examine the characteristics of rural areas in the EU. It consists of an excel file providing information on a set of indicators related to different key topics (e.g. climate, infrastructure, demography) based on data obtained from European databases (i.e. Eurostat, JRC).

The information covers all EU NUTS (Nomenclature of Territorial Units for Statistics) regions and levels, and it is presented in form of a ranking system with four scores (very high, high, medium, low). A visual representation of the information flow of the SHERPA Characterisation Tool is presented in the figure below (Figure 1).

Figure 1: SHERPA Characterisation Tool information flow



The tool was initially designed to examine the characteristics of rural areas covered by the SHERPA Multi-Actor Platforms. However, the tool can also be useful to researchers, local actors, and policy-makers to deepen their understanding of rural territories and their characteristics across all areas of the EU.

The manual provides a short background context of the SHERPA project, within which the Characterisation tool was developed, followed by an overview of the development process, how to use it and a practical example of its application.

2. Background

The SHERPA characterisation tool was developed as part of the project Sustainable Hub to Engage into Rural Policies with Actors (SHERPA) , a four-year project (2019-2023) funded by the Horizon 2020 programme and implemented by a consortium of 17 partners across the EU. The SHERPA project relies on a network of rural interfaces to achieve its overall objective of gathering relevant knowledge and opinions that contribute to the formulation of recommendations for future policies relevant to rural areas in the EU. The network consists of over 40 Multi-Actor Platforms (MAPs) that bring together a wide variety of stakeholders at local, national and EU levels to exchange ideas and act as an effective and sustainable interface between Science, Society and Policy.

The SHERPA report, [Framework providing definitions, review and operational typology of rural areas in Europe](#), showed that the term 'rural' is widely defined, but there is no consensus on the central components of its definition. One of the difficulties encountered by researchers and policy-makers is to take into account rural areas' diversity and to grasp their characteristics. It is thus necessary to select indicators to characterise rural areas in order to understand the drivers of change and the main trends that affect their development.

A review of the current trends showed that rural areas across Europe exhibit different characteristics, and are defined by their geographical, economic, societal, environmental and cultural background. They have undergone considerable change in recent decades due to several key factors, including socioeconomic changes, pressures on primary production, technological development, economic and demographic change, and policy initiatives at national or EU levels.

Such changes have impacts on the people living in rural areas, including risks of marginalisation. However, due to their diversity, not all rural areas are affected by the same trends. Amongst other factors, they are influenced by their relative remoteness or, conversely, their proximity to urban areas. Thus, identifying the key challenges affecting rural areas in the EU is necessary to tailor and guide public action in such territories.



3. Tool development

The tool was developed following a three-step approach: first step involved defining the topics, a second step focused on selecting the indicators and sources needed, and the final and third step defined the scoring system through which the NUTS 3 Regions were ranked. These steps are further detailed in the following sub-sections..

Figure 2 – Steps for the development of the SHERPA Characterisation Tool



3.1. Selection of topics

In the SHERPA project, over 40 Multi-Actor Platforms (MAP) have been established, the membership of which is a diverse base of stakeholders from science, society and policy. During the first cycle of the MAPs, seven topics were identified as characterising rural areas.

-  demographic shift;
-  climate change and environmental services;
-  shift in production;
-  infrastructures and services;
-  digitalisation;
-  inequalities and wellbeing;
-  land use.

3.2. Selection of indicators

For each one of the seven topics above-mentioned, available datasets at European level were reviewed with the help of the MAPs. Overall, a set of twelve indicators were selected, matching the following conditions: being available for all EU member states and at the spatial resolution of small regions.

The NUTS classification has been used to conduct socio-economic analysis of the regions. This classification is a hierarchical system dividing the economic territory of the EU and UK for the purpose of collecting, developing and harmonising European regional statistics. For the purpose of developing the characterisation tool, the NUTS 3 level, defining “small regions”, was selected as the most appropriate level for specific diagnoses.

To illustrate the topic of demographic shift in rural territories, population density (persons per square kilometer) and old age dependency ratio (proportion of population of 60 and over, to population of 20 to 59) as indicators have been selected. These two indicators were able to capture well the main trends, challenges and opportunities that rural areas face, respectively depopulation and aging. They were both derived from 2019 Eurostat data.

The main challenges highlighted by the MAPs were related to the impact of climate change. For this purpose, the 2012 ESPON data was selected/used, as it captures the aggregated impact of climate change, calculated through the combination of regional exposure to climatic changes and data on regional sensitivity. Potential impacts of climate change were weighted based on a Delphi survey of the ESPON Monitoring Committee and according to the sector impacted: physical (weight 0.19), environmental (0.31), social (0.16), economic (0.24) and cultural (0.1). Climatic changes were derived from comparisons of 1961-1990 and 2071-2100 climate projections from the CCLM model for the IPCC SRES A1B scenario.

The shift in production was another topic of concern for local actors. The lack of jobs in some areas is an important challenge throughout Europe, especially in rural areas and even more so in the most peripheral regions. Recent EU projects have shown that there is considerable potential in a more diversified rural economy through the agricultural and forestry sectors as well as through services. Therefore, two indicators to grasp these trends and characteristics were chosen: the purchasing power standard per inhabitant (Eurostat data, 2018) as a proxy for the GDP per capita, illustrating the added-value of the rural economy; and the share of GVA from the agricultural sector, capturing the current level of diversification of the economy (Eurostat data, 2018).

A major challenge in rural areas is the sub-optimal level, or even absence, of basic infrastructures and services. Most services are scarce, with poor levels of accessibility in peripheral areas. This lack of services is particularly problematic when it comes to access to health services, as it was highlighted by local actors. For this purpose, two indicators were selected: hospital beds as the ratio of inhabitants per hospital beds (Eurostat, 2017) and health personnel as the ratio of inhabitants per health personnel (Eurostat, 2016).

Rural areas face substantial barriers that restrict access to high-speed broadband services, and as a result this slows down the digital transition, reducing access to online services, and produces a widening connectivity and digital gap between lagging rural areas and metropolitan areas. Such challenges can be captured by the share of households with broadband access (Eurostat, 2019) and the percentage of individuals who used the internet for interaction with public authorities in the last 12 months (Eurostat, 2019).

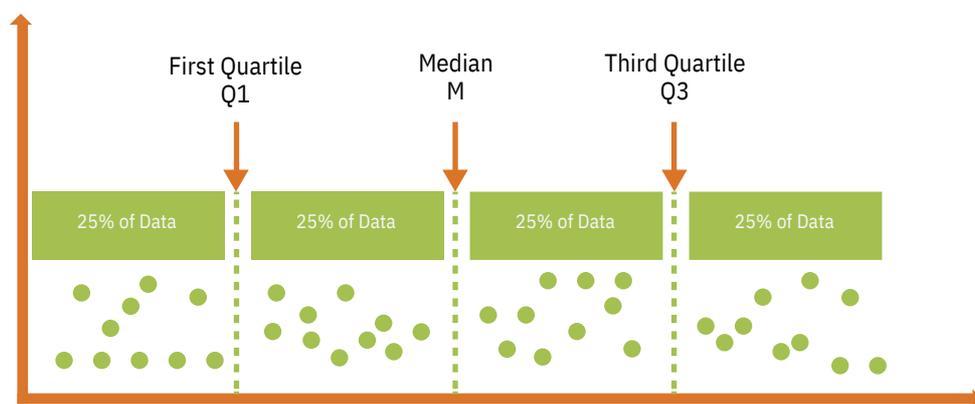
Measuring social disparities and inequalities helps document the well-being of populations. This is particularly important for rural areas, as they face severe and permanent natural or demographic challenges. During the development of the SHERPA Characterisation Tool various specific socio-economic aspects, such as the gender employment gap (Eurostat, 2019) and the proportion of people at risk of poverty or social exclusion (Eurostat, 2019) have been taken into account.

Rural areas face conflicting demands for land-use (agricultural land for food security, land for producing raw materials, artificial areas for housing, transport), leading to significant impacts on the supply of key ecosystem services. In particular, there is a growing rate of conversion of cropland to artificial surfaces due to population growth and a joint occurrence of intensification on productive agricultural land and deintensification of more marginal locations as a result of the globalisation of agricultural markets. Such trends have an impact on the capacity to produce food and can be captured through the share of agricultural land (Eurostat, 2015).

3.3. Ranking of NUTS3 regions

After having consolidated the databases, the median and quartiles for each indicator were calculated. Figure 3 below exemplifies graphically the ranking process.

Figure 3 - Representation of the quartiles used for the ranking



The SHERPA Characterisation tool tests and categorize each NUTS3 region for each indicators, and attributes one of the following labels:

-  Very high for NUTS3 with value \geq Q3
-  High for NUTS3 with value [M;Q3]
-  Moderate for NUTS3 with value [Q1;M]
-  Low for NUTS3 with value $<$ Q1

4. How to use the tool

This section presents a step-by-step overview on how to get the needed information regarding characteristics of the specific rural areas.

4.1. How to access the file

The SHERPA Characterisation Tool is available online on the project [website](#), under the section 'Resources and tools' of the main menu (Figure 4). The tool comes in the format of an [Excel file](#).

Figure 4 – SHERPA Website landing page



Double-click on the .xls file downloaded to launch excel and open the file. The excel file contains the following sheets:

- OUTPUT: it is the interface of the tool where you can include your geographic data (NUTS code) and visualise the score for all indicators. Moreover, this sheet displays the results obtained for the SHERPA MAPs.

MAP name ↓		NUTS code ↓		Demographic shift		Climate	Shift in production		Infrastructure		Digitalisation		Inequalities and well-being		Land-use	
Insert name		BE100		Population density	Old age dependency ratio	Aggregate potential impact to climate change	GDP per capita	Share of GVA from the agricultural sector	Ratio per no. of hospital beds	Ratio per no. of health personnel	Households having access to internet broadband	Interaction with public authorities via internet	Gender employment gap	People at risk of poverty or social exclusion	Share of agricultural lands	
NUTS1 → ION DE BRUXELLES-CAPITALE/BRUSSELS HOOFDSTEDELIJK GEWEST				High	Moderate	High	Moderate	High	Low	Very high	Very high	Moderate	Moderate	Low	High	
NUTS2 → Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest				High	Very high	Very high	Moderate	Moderate	Low	Moderate	Low	Very high	Low	Moderate	Moderate	Low
NUTS3 → Arr. de Bruxelles-Capitale/Arr. van Brussel-Hoofdstad				Low	High	Very high	Low	Very high	Low	Moderate	Very high	Low	Moderate	Very high	High	
MAP PACA sud				Low	Moderate	Low	Very high	Moderate	Low	Very high	Low	Very high	Moderate	Moderate	Very high	
Rural Mapping Bulgaria				Low	High	Very high	High	High	Very high	Very high	Very high	Very high	Moderate	Moderate	Low	
The Danish multi-actor platform				Moderate	Moderate	Moderate	Moderate	High	Moderate	High	Very high	Moderate	Very high	Moderate	Very high	
Multi-Actor Platform Suomi-Finland				Low	Moderate	Moderate	High	High	Moderate	Low	Very high	Moderate	Very high	Very high	High	
Hungarian AKIS Multi Actor Platform				Moderate	Moderate	Moderate	High	High	Moderate	High	Very high	Moderate	Very high	Very high	Very high	
Circular Bio-economy – Lithuania				Low	Moderate	Low	Very high	High	Low	High	Low	Low	Very high	Very high	Moderate	
Eco Ruralis				Low	Low	Moderate	Low	Very high	High	High	Low	Low	Very high	Very high	Moderate	
SVARUN				Moderate	Moderate	Moderate	Moderate	High	High	High	Very high	Moderate	Low	Low	Low	
MAP Rural Scotland				Low	Low	Moderate	Moderate	Moderate	Very high	High	High	High	High	Very high	Very high	Low
Synos, Region of South Aegean				Low	Low	High	Moderate	High	Moderate	High	High	Moderate	Moderate	Low	Moderate	
Greenport Gelderland				Very high	Moderate	Moderate	Very high	High	Moderate	High	High	Moderate	Moderate	Low	Moderate	
Zielone Spiedztwo				High	Low	Low	Very high	High	Moderate	Moderate	Low	Moderate	High	Low	Low	
MAP Alqueva				Moderate	Very high	Low	Very high	Low	Very high	Low	Low	Low	Moderate	Moderate	Moderate	
IDRA				Low	High	High	Moderate	Very high	High	Low	High	High	High	Low	High	
Galician Rural Interfaces				Moderate	Very high	Moderate	Moderate	Very high	High	Low	High	Moderate	Low	High	Low	
Schleswig Holstein				High	High	Low	High	Moderate	Low	Moderate	Very high	High	Moderate	Very high	Very high	
Dee Catchment Partnership MAP				Moderate	Low	Moderate	Very high	High	Very high	Very high	Very high	High	High	High	High	
Development of rural areas in Tuscany				High	Very high	Moderate	High	High	Very high	Low	High	Low	High	Moderate	Moderate	
Regione Emilia Romagna				High	High	High	Very high	High	High	Moderate	High	Low	High	Low	Very high	
Insert name		High	Low	Moderate	Very high	Low	Low	Moderate	High	High	High	High	Moderate	Low		

- NUTS: this sheet contains the list of NUTS (Nomenclature of territorial units for statistics) 2020 classification codes covering all EU Member States.

	A	B	C			D		
1	Code 2016	Country	NUTS level 1			NUTS level 2		
2	AT	ÖSTERREICH						
3	AT1		OSTÖSTERREICH					
4	AT11		OSTÖSTERREICH			Burgenland		
5	AT111		OSTÖSTERREICH			Burgenland		
6	AT112		OSTÖSTERREICH			Burgenland		
7	AT113		OSTÖSTERREICH			Burgenland		
8	AT12		OSTÖSTERREICH			Niederösterreich		
9	AT121		OSTÖSTERREICH			Niederösterreich		

- DATA: this sheet contains all data obtained from EU databases that were used for the calculation of the indicators.

Indicator	Population density												
Unit	Persons per square kilometre												
GEO/TIME	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
EU27_2020	101,5	101,8	102,2	102,5	102,8	103	103,2	103,4	103,9	104	104,2	104,3	104,6
EU28	108,9	109,2	109,7	110,1	110,3	110,6	110,8	111	111,5	111,7	111,9	112,1	112,4
EU27_2007	109,3	109,6	110,1	110,4	110,7	111	111,2	111,4	111,9	112,1	112,3	112,6	112,8
BE	328,7	329,9	331,2	332,5	333,5	334,2	334,9	335,7	336,4	336,8	338	339,2	340,7
BE1	5977,4	5936,5	5905,6	5898,8	5902,5	5899,7	5896,6	5912,3	5927,9	5928,3	5974,3	6033,5	6119,3
BE10	5977,4	5936,5	5905,6	5898,8	5902,5	5899,7	5896,6	5912,3	5927,9	5928,3	5974,3	6033,5	6119,3
BE100	5977,4	5936,5	5905,6	5898,8	5902,5	5899,7	5896,6	5912,3	5927,9	5928,3	5974,3	6033,5	6119,3
BE2	430,5	432,6	434,7	436,7	438,2	439,5	440,7	441,9	442,9	443,5	445	446,2	447,8
BE21	573,4	575,8	578,5	581,1	582,7	583,8	585	586,2	587,2	587,7	589,1	590,6	593,4
BE211	968,9	971,6	975,1	978	978,6	978,2	978,1	977,4	977,1	976,3	976,8	978,5	983,3
BE212	591,9	594,2	596,8	598,8	601,2	603	604,6	607,4	609,7	611,5	613,3	615,1	617,3
BE213	284,7	286,9	289,2	291,6	293,7	295,7	297,7	299,6	301,2	302	303,9	305,2	306,7
BE22	312,3	314,5	316,9	319,2	321,3	323,1	324,8	326,6	328,2	328,9	331,2	332,8	334,4
BE221	408,9	411	413,7	416,5	418,8	420,6	422,3	424,2	426,2	427	430,2	432,1	434,3



5. Tool applications

The key evidence we can extract from the results obtained for the territories of the SHERPA MAPs, is that the MAPs represent a diversity of socio-economic and environmental contexts. Actually, the MAPs cover both low (Bulgaria, Finland, Lithuania, Romania, Greece, Spain) and very high (Netherlands) population density, while also representing the diversity of territories in terms of population aging. Some areas will be very highly affected by climate change compared to the European average (France, Bulgaria, Finland, Spain, Italy) while others will not be as much (Denmark, Lithuania, Germany, Poland).

Rural economies are also diverse: from territories with a high Gross Domestic Product (GDP) per capita but a moderate Gross-Value Added (GVA) from the agricultural sector (Denmark, Germany) to territories with a low GDP but a high agricultural GVA (Bulgaria, Romania). The results also show how diverse the access to basic services and the degree of digitalisation are across Europe. Moreover, some MAPs have a relatively high proportion of people at risk of poverty compared to the European average despite having a higher GDP per capita (Germany), while the other end of the spectrum is also represented (Czech Republic), highlighting different levels of inequalities.

Interestingly, the MAPs also cover territories that have a very high share of agricultural lands but a low GVA from the agricultural sector (Denmark), and territories with an agricultural sector that represent a low share of land but a high share of GVA (Spain).

Figure 5: Characterisation of rural territories for each MAP of the first cycle.

	Demographic shift		Climate	Shift in production		Infrastructure		Digitalisation		Inequalities and well-being		Land-use
	Population density	Old age dependency ratio	Aggregate potential impact to climate change	GDP per capita	Share of GVA from the agricultural sector	Inhab. per no. of hospital beds	Inhab. per no. of health personnel	Households having access to internet broadband	Interaction with public authorities via internet	Gender employment gap	People at risk of poverty or social exclusion	Share of agricultural lands
VENUS	High	Moderate	High	Moderate	High	Low	Very high	Very high	Moderate	Moderate	Low	High
MAP PACA sud	High	Very high	Very high	Moderate	Moderate	Low	Moderate	Low	Very high	Low	Moderate	Low
Rural Mapping Bulgaria	Low	High	Very high	Low	Very high	Low	Moderate	Very high	Low	Moderate	Very high	High
The Danish multi-actor platform	High	Moderate	Low	Very high	Moderate	Low	Moderate	Low	Very high	Moderate	Moderate	Very high
Multi-Actor Platform Suomi-Finland	Low	High	Very high	Very high	High	Very high	Very high	High	Very high	Low	Moderate	Low
Hungarian AKIS Multi Actor Platform	Moderate	Moderate	Moderate	Moderate	High	Moderate	High	Very high	Moderate	Very high	Moderate	Very high
Circular Bio-economy – Lithuania	Low	Moderate	Low	Moderate	High	Moderate	Low	Very high	High	Moderate	Very high	High
Eco Ruralis	Low	Low	Moderate	Low	Very high	Low	High	Low	Low	Very high	Very high	Moderate
SVARUN	Moderate	Moderate	Moderate	Moderate	High	High	High	Very high	Moderate	Low	Low	Low
MAP Rural Scotland	Low	Low	Moderate	Moderate	Moderate	Very high		Very high	High	Moderate		Low
Syros, Region of South Aegean	Low	Low	High	Moderate	High	High	High	High	Moderate	Very high	Very high	Low
Greenport Gelderland	Very high	Moderate	Moderate	Very high	High	Moderate	High	High	Very high	Moderate	Low	Moderate
Zielone Sqsiedztwo	High	Low	Low	Very high	High	Moderate	Moderate	Low	Moderate	High	Low	Low
MAP Alqueva	Moderate	Very high	Very high	Low	High	Very high	Low	Low	Low	Moderate	Moderate	Low
IDRA	Low	High	High	Moderate	Very high	High	Low	High	High	High	Low	High
Galician Rural Interfaces	Moderate	Very high	Moderate	Moderate	Very high	High	Low	High	Moderate	Low	Low	Low
Schleswig Holstein	High	High	Low	High	Moderate	Low	Moderate	Very high	High	Moderate	Very high	Very high
Dee Catchment Partnership MAP	Moderate	Low	Moderate	Very high	High	Very high	Very high	Very high	High	High	High	High
Development of rural areas in Tuscany	High	Very high	Moderate	High	High	Very high	Low	High	Low	High	Moderate	Moderate
Regione Emilia Romagna	High	High	High	Very high	High	High	Moderate	High	Low	High	Low	Very high

Currently, other ways to use the SHERPA Characterisation tool are being explored. This tool can be a resource for several other purposes, for instance clustering territories with similar characteristics, comparing areas with different features, identifying challenges at local level, supporting brainstorming or definition of strategies for private businesses, local administrations, NGOs and other actors.

If you need support or you want to know more about the tool please contact us at:

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