SCIENCE FOR POLICY BRIEFS

A demographic assessment of EU remote areas by 2050

Headlines

- By 2050, the main EU wide demographic trend in remote rural areas is characterised by an ageing population, along with a decline of the working age and youth population.

- In 2015, remote rural regions were home to 6.5% of the EU population, representing about 22.6 million inhabitants. Since the 1960s, remote areas have lost more than 5 million people and they are expected to decline continuously in the far foreseeable future.

- The old-age dependency ratio is expected to increase in remote rural areas in all the EU countries by 2050. This might plausibly lead to an increased burden on the working population to maintain the rest of the economically dependent population.

- In terms of gender, there are less women living in remote rural areas compared to non-remote rural, cities or towns. While shares of women in the economically active age classes are typically under 50%, elderly women are overrepresented in most of the remote rural areas.

- Municipalities located in Bulgaria, Spain, Romania, Cyprus and Austria may face the possibly worst-case demographic scenario by 2050 in terms of depopulation and age group trends.
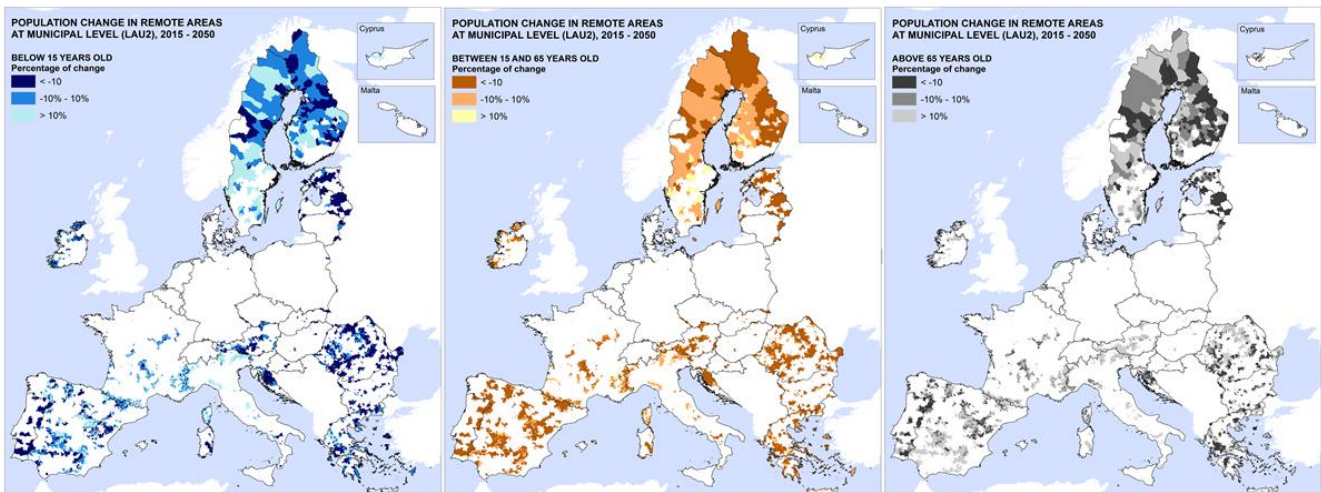
Introduction

This brief focuses on the territorial dimension of remoteness, especially in rural areas. Past and future population trends, age structure, dependency ratios and gender issues in remote rural areas are analysed. Future work will further explore the economic performance (sectoral employment) along with the land-use transformations that characterise remote rural areas.

During the last decades, population living in remote have experienced different demographic challenges such as depopulation and ageing. In many territories depopulation is caused by natural population change, negative net migration or both, while ageing is mainly due to the decline of the birth rate and the raise of life expectancy. A strong relationship exists between both demographic processes that can impact on economic growth, attitudes, social and political behaviours (Goujon et al., 2021).

Moreover, remote areas are traditionally characterised by low density of population along with scarce and probably inefficient infrastructures and public services, lower accessibility (physical and digital) and higher risk of land abandonment (Perpiña et al., 2018). This implies that remote areas might have limited socioeconomic opportunities and developments due mainly to long travelling time to urban centres and associated markets, then, with high costs and less competitiveness (Lange et al., 2013).

In spite of this challenging situation, remote rural areas present a range of possible opportunities that could focus on restoring biodiversity and counteracting land degradation, promoting

healthy and active ageing lifestyles, the creation of spaces of cultural creativity and fostering employment opportunities. They could also benefit from activities related to sustainable tourism, agri-food, production of natural resource-based outputs and renewable energies in the shift to a low-carbon and climate neutral economy (European Commission, 2019),

The current COVID-19 pandemic has accelerated the need for digitalisation and the emerging technologies that might facilitate the access to essential services (e-health, e-learning, e-commerce, e-governance, etc.) in remote rural areas, improving both the quality of services and the social cohesion (OECD, 2021). The pandemic is also transforming many aspects of the society such as the extended use of teleworking and e-services, as well as the change in housing preferences, i.e. space characteristics and its location (moving out of cities). These circumstances, therefore, might increase the rural attractiveness, contribute to maintain people living in remote rural areas and stimulate the creation of new businesses with good innovation potential and competitiveness (North et al., 2020).

Policies aimed at increasing the share of the working age population along with depopulation mitigation strategies might limit the shrinkage of the resident population in remote rural areas. In this line, in 2018, the European Parliament approved the "Smart Villages Pact" highlighting the need to foster a balanced and sustainable territorial development in rural, mountainous and remote areas (European Parliament, 2018).

Data and methods

In the current analysis, remote areas are defined as areas that are more than 45 minutes driving away from locations that, can be considered as cities or towns. Municipalities are characterised as remote if they are included within the spatial delineation of remote areas, with special attention to rural areas. More than 8,000 municipalities are identified as remote across all EU countries. To characterise remote municipalities, we use of the most recent and the finest spatial resolution data and statistical information available:

1. The LUISA model reference 2020 population projections (grid maps at 1 km^2), in which population size is distributed per 5-year cohorts for every five-year time steps, from 2015 to 2050. Initial results on gender (women ratio vs total population) are also included (Jacobs-Crisioni et al., 2020).
2. Historical population from 1961 to 2011 at the local level1 (Gløersen, E. and Lüer, C, 2013).
3. The Level 1 Degree of urbanisation defined at the local Administrative Units level2.

The analysis combines remote municipalities with their associated information on demographic structure per age groups, aggregated into three main classes: below 15 years old (youth population), between 15 and 65 years old (working population) and above 65 years old (elderly population). The old-age dependency ratio (OADR), defined as a percentage of the total population, is also analysed in order to estimate the pressure on the productive population from the elderly population. The results are presented at different levels of aggregation and administrative boundaries for statistics and mapping purpose.

Results

An overview of the EU remote areas

In 2015, remote areas in Europe covered nearly 29% of the European territory, and hosted 6.5% of the total population (34.2 million people). The total remote area and its proportion differs significantly among countries, ranking from nearby 300 thousand km^2 in Sweden and Finland to less than 1 thousand km^2 in Belgium, Czech Republic, Luxembourg, The Netherlands and Slovakia. In relative terms, at least one third of the area of eight EU countries is defined as remote, with the greatest proportions in Finland, Sweden, Greece, Estonia, Romania, Latvia, Austria and Portugal.

In Figure 1, historical and projected trends of population living in remote areas show a slight and continuous decrease from 1961 to 2050 (decreasing by 4%) while the total population shows a positive trend, increasing by 23% over the same period. Overall, it is expected that by 2050, rural areas will have lost about 6.2 million inhabitants since 1961.

Figure 1: Comparison of the evolution of the total EU and remote population from 1961 to 2050, million inhabitants.
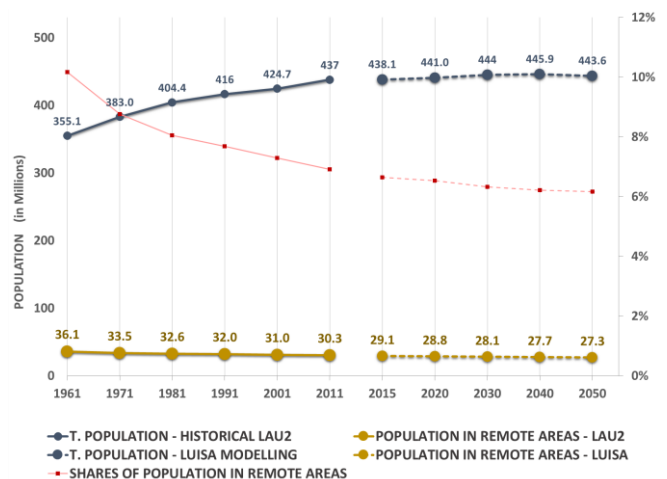
In the EU, the percentage of the total population living in rural remote areas corresponds to about 5% (22.4 million people)

and is expected to decrease in the future (-8% from 2015 to 2050) at a higher rate than rural areas (-6%). This decrease is expected to be particularly pronounced in Latvia, Lithuania and Bulgaria, where population loss in remote rural areas it could exceed 40%.

There are strong variations in the proportion of national population living in remote rural areas (Figure 2) with Finland, Slovenia Greece and Latvia reporting the highest values (above 20%). Comparing populations living in remote rural areas in a broader context of rural areas, we observe that most of the rural population lives in remote locations in Finland (82%), Slovenia (46%), Greece (57%), Latvia (56%) and Romania (45%), well-above the EU average (16%). On the other hand, The Netherlands, Germany, Czech Republic and Belgium present the lowest remote rural shares in 2015.
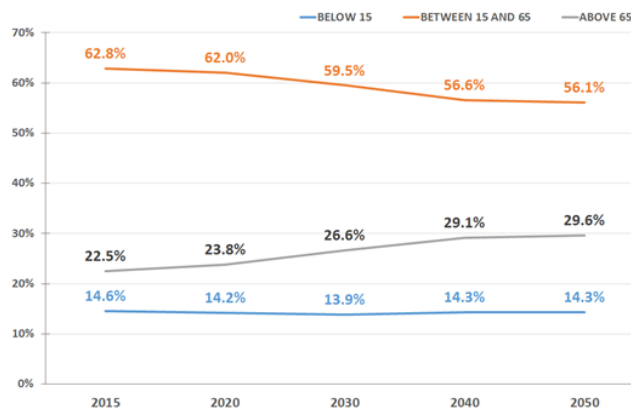
Figure 2: Shares of population living in rural areas compared to the population living in remote rural areas in 2015
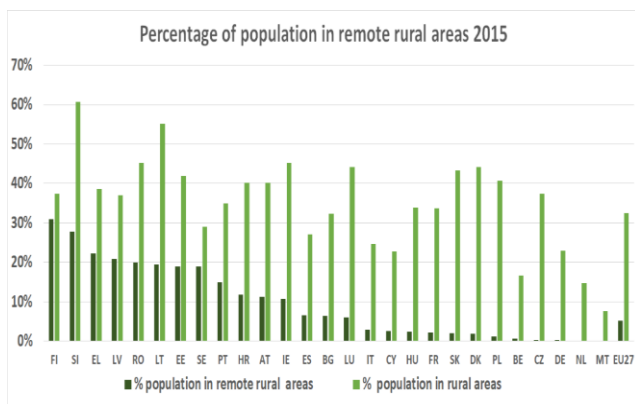
Population per age groups and gender living in remote rural areas

In 2015, more than 22.6 million people were living in remote rural areas, with significant differences in trends regarding the youth, productive and elderly population. In 2015, the youth population accounted for 3.3 million, the productive population was 14.2 million, while the elderly population was about 5.1 million. Figure 3 depicts, between 2015 and 2050, the evident decline of the labour force (6.7 percentage points), with a loss of more than 2.5 million people, contrary to the substantial growth of elderly population (about 7 pp) which represents an expected increment of 1.1 million population aged over 65. The young population is projected to remain rather stable with a small negative trend (0.3 million) over the same period. This effect has a different intensity among EU countries. For instance, in Finland the productive population is expected to diminish by 4.8% and the elderly population to increase 4.5%, while in Slovakia changes to those population classes are expected to be much more pronounced, with changes around -13.2% and +17.1%, respectively.

Figure 3: Share of EU population in remote rural areas per age groups, from 2015 to 2050


Comparing EU countries it is evident that the population living in remote rural areas differs substantially, with Romania, Spain, Greece Sweden, Italy and Finland in the top of the ranking, as they account for more than half of the total EU rural remote population (Figure 4). In terms of relative population per age group, the shares of the youth population in Ireland, Luxembourg and Belgium are above the EU average (14.7%). In the case of productive population, Slovakia, Poland, Luxembourg and Czech Republic present the highest shares, quite above the EU average (62.8%), and as for the group of the elderly, the highest shares are observed in France, Denmark, Portugal and Greece, all scoring well-above the EU average (22.5%).

Figure 4: Breakdown of population living in remote rural areas per each group at country level in 2015, in million people
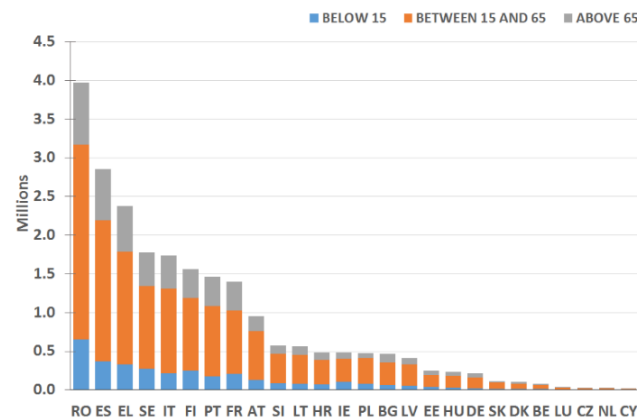
Between 2015 and 2050, as presented in figure 5, the elderly population in remote rural areas is projected to increase more than the expected increase of the EU average (21%). Exceptions are Estonia, Bulgaria, Latvia, and Lithuania. Countries with particularly noteworthy ageing in remote rural areas are Poland, Slovakia, Luxembourg, Ireland and Slovenia, which are expected to see their elderly population expand by more than 60%. On the other hand, in most of the countries, the working-age population living in remote rural areas will experience a decrease deeper than the EU average (-18%). With more than 50% expected decline, particularly noteworthy are Bulgaria, Latvia and Lithuania. Romania, Greece, Spain and Portugal together represent 61% of the total Europe-wide decline in the working class in remote rural areas, together facing a decline of 1.5 million people in economically active age classes. At the same pace that the ageing of the population is expected for many countries, youth population will decline 10% on average, with the exception of Luxembourg, Cyprus, Belgium, Sweden, Denmark, Italy, France, Finland and The Netherlands.

Figure 5: Projected evolution of remote rural population in the EU countries per age groups within 2015-2050, in percentage of change
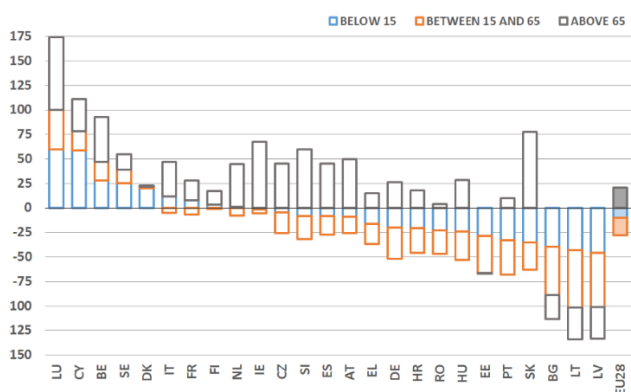
Women generally outnumber men by a small fraction across Europe; in 2015 there were on average 508 women for every 492 men, i.e. women made up 50,8% of the population. In most EU countries, remote rural areas show the lowest share of women compared to non-remote rural, towns and suburbs or cities. Latvia, Slovakia, Romania, Italy, Hungary, France and Cyprus, however, show larger shares of women in rural remote areas than in other rural areas, towns and suburbs. Looking at the ratio of women across different age groups provides a different picture. Figure 6, displaying the ratio of women of age 15-64 per degree of urbanisation and level of remoteness, reveals that men outnumber women in rural remote areas (but also in rural, towns and suburbs) in all EU countries except in Cyprus, Lithuania, Latvia and Portugal.

Figure 6: Proportion of women in the active age group (aged between 15 and 65 years old) by different urbanisation typologies
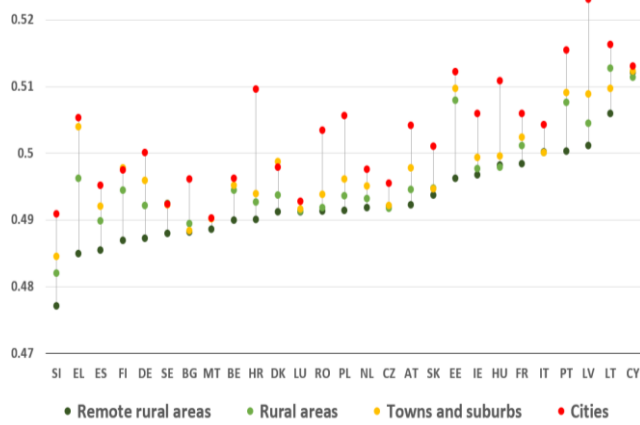
Old-age dependency ratio in remote rural areas vs non-remote areas

The old-age dependency ratio (OADR) represents the proportion of people above 65 years old relative to the economically active population aged between 15 and 65. In 2015, across the EU there was on average 1 person over 65+ per 3.44 working age persons. Taking into consideration variations between degrees of urbanisation and the level of remoteness (Figure 7) we can clearly see that remote rural areas have fewer active people per retiree (2.78 on average) than other rural areas (3.32), well below the average of cities (3.74) or towns and suburbs (3.39). This distinction between remote and non-remote areas is particularly strong in Cyprus, Denmark, Finland, France and Ireland.

Figure 7: Old-age dependency ratio in remote rural areas vs non-remote in 2015
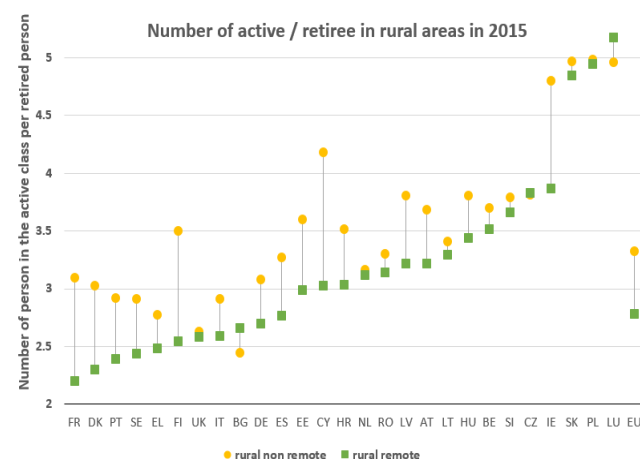
Potential societal implications relative to very low number of actives per retirees are evident in remote rural areas, especially in France, Denmark, Portugal and Sweden where less than 5 active persons per 2 retirees can be found. Looking into the future, the number of actives per retiree is expected to further decrease across EU countries; on average, reaching values below 2 by 2050. Remote rural areas are likely to remain the most affected in the future with higher discrepancies between the active and retires population that could reach quite problematic levels (less than 3 active persons for every 2 retirees) particularly in Portugal and Germany.

Population trends at the local level: age groups and dependency ratios

The heterogeneity at the local level is highlighted by large differences in demographic patterns and its evolution (see figure in the cover page). Almost 8,000 EU municipalities (8.2% of all EU municipalities) are located in remote areas. The data is clustered in three classes based on the change by age groups, namely: population decline (<10%), fairly stable population (between -10% and +10%) and population growth (>10%). The general pattern for the elderly population group indicates that ageing will affect the majority of municipalities (67%) with an average increase of more than 45%. A decrease in the share of elderly population is expected to occur only in a few geographical areas, mainly in the northern half of the Iberian Peninsula, the south-eastern parts of France and Greece, in Finland and Sweden, and close to the Balkans mountains. Despite the important dissimilarities within countries, a common decline pattern at local level can be found in the other two age groups (youth and working age population), especially along the border between Portugal and Spain, North Croatia, western parts of Austria and Greece, the northernmost municipalities in Finland, Sweden, Estonia and Latvia, and in the vicinity of the Carpathians in Romania, the Balkans and the Rhodopes mountains in Bulgaria.

Similarly to the OADR, the total dependency ratio expresses the ratio between the economically dependent population (youth and elderly population) and the working population. Figure 8 presents the results at municipality level. The higher the percentage (red colours), the higher the pressure on the productive population. Clear patterns, therefore, can be seen in the central and northern part of Portugal, Spain, Greece and Ireland while more disperse in the other countries.

Zooming in on the elderly population, the number of retirees relative to the total population varies widely across individual municipalities, with locally very significant deviations from national averages. This is particularly the case in Bulgaria, Cyprus, Spain and France where numerous municipalities display very high proportions of their total population above the retirement age, exceeding 80% in some cases. At the EU scale, almost 700 municipalities (mostly in Bulgaria, Spain and Cyprus) have more than 60% of their population retired, hosting at most only 45 thousand people.

Figure 9 reflects which municipalities may face the possibly worst-case demographic scenario by 2050, through 4 demographic criteria: 1) depopulation greater than 20% between 2000 and 2050; 2) decline in the working population; 3) decline in the youth population; and 4) increase in the elderly

population. About 1.5 million people are currently living in 900 remote rural municipalities that meet all four criteria. They are mainly located in Bulgaria, Spain, Romania and Austria.

Figure 8: Total dependency ratio at municipality level across remote areas in 2015
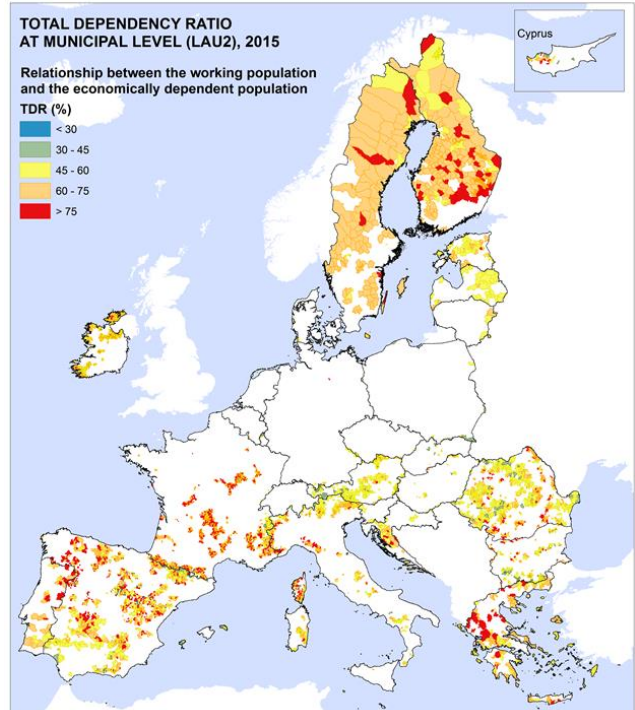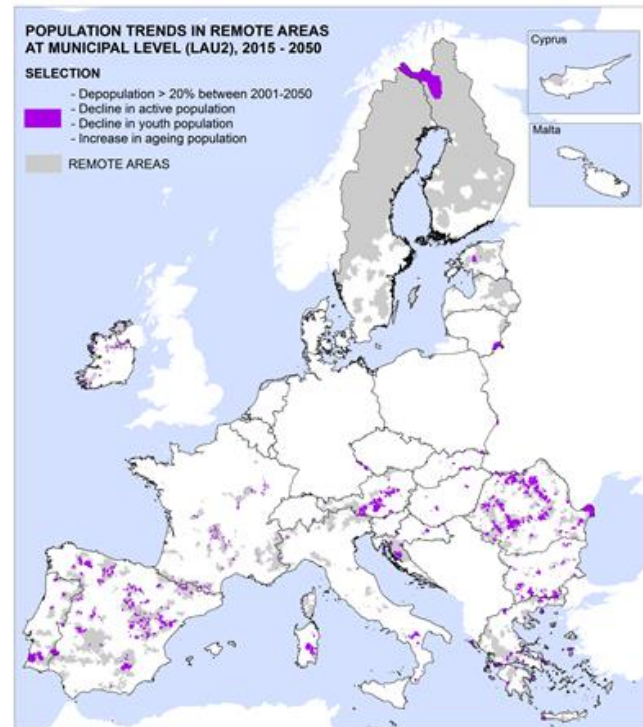

Figure 9: Selection of EU population municipalities that meet worst-case demographic criteria (considering depopulation and age group trends) between 2015 and 2050

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Disclaimer

The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

The European Commission is working on an official report entitled 'From Lonely Places to Places of Opportunities'. This report will characterise places based on different territorial dimensions. Concepts such as remoteness, connectivity, accessibility and atracctiveness will be used to analyse the geography of the lonely places and to boost the transformation of challenges into opportunities in those territories.

In this context, this policy brief has been conducted by JRC B.3 – Urban and Territorial Development Unit. It is framed under the **Knowledge Centre for Territorial Policies** and centred on the application of the LUISA Territorial Modelling Platform.
https://knowledge4policy.ec.europa.eu/territorial_en
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