ESPON

EUROPEAN UNION

Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

WORKING PAPER

Is our life good enough?

Measuring territorial quality of life to support a future for all places and bring Europe closer to its citizens

KEY POLICY MESSAGES

- **Good life enablers for the people living in a place matter**

  Measuring good life enablers – good shelter, health, education, mobility, digital infrastructure, work and consumption opportunities, and social and cultural activities – is the first task for policymakers to improve Territorial Quality of Life (TQoL) in all places.

- **Personal flourishing can be measured**

  Life is a matter of maintaining good health, flourishing and fulfilling our aspirations. Measuring citizens' life maintenance and flourishing by means of objective and subjective indicators and integrating a citizen-centric approach is the second important task for policymakers.

- **Community flourishing is important for measuring quality of life**

  In the process of measuring TQoL it is important to include the sense of belonging and how trustful citizens are of others and institutions. Community flourishing is a key domain of the TQoL concept, supporting an inclusive future for all places.

- **Ecological flourishing is key for improving quality of life**

  Keeping our life in harmony with nature is key for a sustainable future for all places, and this requires the measurement of 'ecological' flourishing alongside personal and community flourishing, using new environmental indicators to monitor the health and resilience of ecosystems in urban and rural areas.

- **We get what we measure**

  Measuring TQoL is not just a venture for experts and policymakers. Because 'we get what we measure', policymakers need to ask citizens what they want in life, to validate the use of TQoL indicators. Measurement of TQoL will be implemented by engaging citizens in the design process. This is called a 'citizen-centric' approach and has been suggested by pilot experiences from TQoL measurement living labs in different regions of Europe.

- **Quality of life needs to be integrated in territorial planning practice at different geographical levels and in various policy domains**

  As TQoL is linked to personal, socio-economic and ecological spheres, it should be included in all policies, including sector policies (e.g. transport, environment and agriculture) addressing different domains. Policy coordination and coherence can be achieved by integrating the measurement of TQoL in territorial planning practice at different spatial levels – national, regional and local – using quality-of-life targets and indicators to monitor policy implementation and outcomes in a certain territory.

1. Introduction and policy context

Over the past few years, discussions have taken place on how to measure quality of life (QoL) and how quality-of-life indicators can complement economic and social indicators to measure territorial development. Indeed, measuring progress only by means of gross domestic product (GDP) or income indicators is not enough to address all things that matter in the lives of citizens. Enhancing QoL is a key objective for policymakers at different scales, and it has become more relevant in the policy agenda along with increasing demands for the participation of citizens in the political process.

At European level, several policy documents include references to QoL: cohesion reports, the urban agenda for the European Union (EU) and the Territorial Agenda 2030 are some examples. QoL is mentioned in the *7th Cohesion Report* in relation to social progress, urban ecosystems and green infrastructure, and good governance. The urban agenda for the EU seeks to improve QoL in urban areas using an integrated and coordinated approach. QoL is also mentioned in the territorial agenda as one of the fields in which action is needed to increase citizens' well-being: 'All public policies … should go beyond economic performance, living standards and purely material aspects to include access to quality public services, freedom of movement, and healthy, resilient and high-quality architecture and built environments. They also have a territorial dimension ranging from disparities between neighbourhoods such as social exclusion and urban poverty, to disparities between regions and countries.'

Overall, QoL in Europe varies significantly between regions, and regional differences within European countries can be more significant than the differences measured between countries.

Until now, level of income and standard of living have been used to assess our personal success and QoL. However, with increasing evidence and awareness of climate change and societal challenges, the equation linking growth, prosperity and QoL has been revised, to reduce inequalities and harmful impacts on the environment. Now, because of the COVID-19 outbreak, we are all facing new, important challenges that affect our QoL. The potential changes to our way of life are manifold, as this crisis has spared no territory and has had uneven impacts at global and local levels. As a result, the pandemic may fundamentally change the way we gather together and share space, and shift the way that cities are organised and planned to be more resilient. As mentioned in the territorial agenda 2030, Europe faces major economic, social and environmental challenges, but it also has great potential to improve living conditions in all places and for all people. This crisis offers the opportunity to improve our relationship with nature and to achieve the European Green Deal goals of climate neutrality and environmental protection. The 2021 work plan of the Committee of the Regions (Commission for the Environment, Climate Change and Energy) notes that local and regional policymakers' top priority is to ensure that 'environmental and climate action are our greatest ally … in the formulation of sustainable recovery strategies and … by taking into account the geographical and social characteristics of each territory', leaving no people and no region behind. Indeed, the current crisis emphasises the importance of ensuring a higher resilience of territories to crisis situations – in terms of health and social and economic factors – and the need for 'a better link between health and environment'.

This working paper makes an important contribution by providing a methodology to assess QoL through a place-based and citizen-centric approach based on the results of the ESPON applied research project 'QoL – Quality of life measurements and methodology', recent literature review and taking into account the current European policy processes, in particular the priorities of the Slovenian Presidency of the Council of the European Union. It addresses the concept of territorial quality of life (TQoL), developed by ESPON, and explains how to apply it to any 'place'; depending on the geographical scale of the analysis, this could be a single house or building, a neighbourhood, a city, or a wider area (county, region, nation or the whole European territory). This approach also suggests a participatory process to ensure that the quality-of-life measurement is legitimated by the people, reflecting their life needs and expectations. This working paper is intended to inform and inspire policymakers and stakeholders in relation to how to operationalise and integrate QoL into policy processes at different levels.

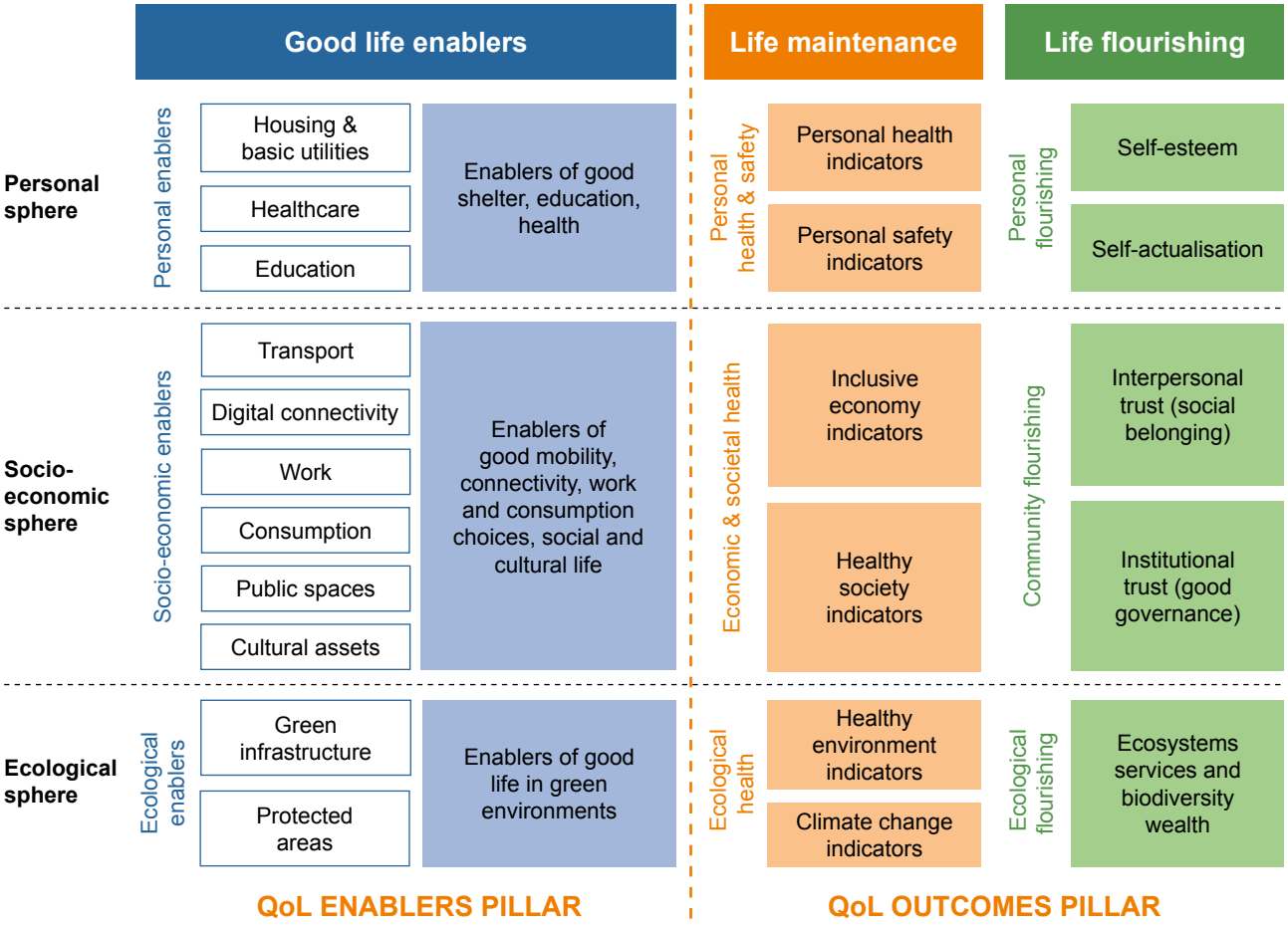
2.
What is territorial quality of life and how should it be measured?

2.1
Is the concept universal and applicable to different territorial scales? What are the common measurement domains?

TQoL is 'the capability of living beings to survive and flourish in a place, thanks to the economic, social and ecological conditions that support life in that place' (ESPON 2021).

To operationalise this concept, ESPON developed a TQoL conceptual map including three dimensions: good life enablers, life survival ('maintenance') and life flourishing. These dimensions cover three spheres – personal, socio-economic and ecological – providing a matrix of QoL measurement domains and sub-domains (Figure 1). Finally, the three vertical dimensions of the measurement scheme can be grouped into two pillars: the QoL enablers (the first dimension) and the QoL outcomes (the other two dimensions).

Figure 1
ESPON TQoL conceptual map



Source: ESPON 2021

In the first pillar, the personal sphere QoL enablers include good shelter, education and health, measured using indicators of availability, accessibility and affordability of housing, basic utilities, education and health services in the territory. The socio-economic sphere QoL enablers include good mobility, digital connectivity, work and consumption opportunities, and social and cultural activities in the territory. Finally, the ecological sphere enablers of good life include the availability and maintenance of green environments (e.g. urban parks and protected natural areas).

In the second pillar, QoL outcomes are measured by means of objectives and subjective indicators and include aspects that are good for life maintenance (a healthy personal life, an inclusive economy, and a healthy society and environment) and life flourishing aspects (the fulfilment of personal aspirations, community flourishing and ecological flourishing).

The conceptual map for measuring TQoL can be used across different territorial levels, with the selection of indicators based on the data available in each context. Furthermore, the selection of indicators representing each domain and sub-domain should be supported by robust reasoning and statistical evidence of their relationship with the QoL aspect to be measured. The use of proxy indicators should be avoided when these are only poorly related.

Scientific validity is the first criterion to apply in the selection of indicators. At the same time this process needs to be validated through a participatory process that engages policymakers, stakeholders and citizens to create ownership. This comprehensive approach can ensure both scientific relevance and legitimacy of the chosen indicators, enhancing the acceptance of TQoL measurement and easing its implementation and use in different policies.

2.2 How does the concept and measurement of QoL differ at national, regional and local levels? What are the possible common indicators?

To visualise the conceptual framework described above, data to measure the different domains and sub-domains of TQoL across Europe at regional level (Nomenclature of Territorial Units for Statistics, level 3) were selected and gathered. The selection of TQoL indicators at European level (NUTS 3), including the reasoning for selection and the limitations of each indicator, is shown in Annex 1.

A system for coding QoL indicators was used to identify available data, and an ESPON TQoL dashboard tool was developed to gather the selected indicators and produce composite QoL indices. A detailed explanation of the methodology used is provided in the following box.

METHODOLOGY

TQoL measurement

The ESPON methodology for measuring QoL at regional level (TQoL dashboard methodology) encompasses five steps:

Step 1: selection of QoL indicators. The indicators should be complementary to the Eurostat, Organisation for Economic Co-operation and Development and United Nations datasets measuring progress towards the Sustainable Development Goals (SDGs); be able to capture the effects of regional policy interventions; and have a high political and communication value. It is important to ensure coherence with current policies and ongoing work on this topic.

Step 2: data harmonisation. Data harmonisation is carried out to render the variables comparable. Highly skewed distributions are transformed (logarithmic and power transformations). Indicators are normalised in a range (0–1).

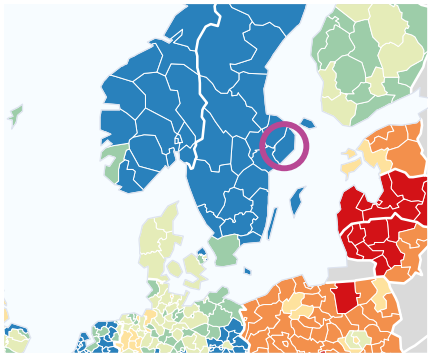
Step 3: weighting QoL indicators. Weighting currently occurs through the hierarchical organisation of indicators in three dimensions, nine domains and 22 sub-domains. The TQoL dashboard tool allows the weight of each indicator within the domains and sub-domains to be amended, for instance after consultation with groups of experts, stakeholders or citizens.

Step 4: indicator testing and validation. To test and validate the indicators, a sensitivity analysis is performed with alternative weights, a comparison is carried out with composite indices and other synthetic indicators of well-being (Directorate-General for Regional and Urban Policy EU social progress index, Hannel QoL index, life expectancy at birth and GDP per capita), and an assessment is carried out with the ESPON QoL Advisory Group. Finally, insights from case studies, suggesting potential changes to the TQoL overall framework, are taken into account.

Step 5: indicator analysis and visualisation. This step is carried out in an iterative loop with steps 3 and 4. Analysis and visualisation lead to a new round of validation and then to a new round of mapping and analysis until the results are sufficiently robust.

The TQoL dashboard tool is provided as a simple application (in Excel), illustrating the methodology used. This allows policymakers and other users to explore the relationship between structural conditions of EU regions (NUTS 3 regions) and different aspects of QoL. It covers the ESPON space (the EU, Iceland, Liechtenstein, Norway, Switzerland and the United Kingdom) and Western Balkans (Albania, Montenegro, North Macedonia and Serbia). The tool enables a comparison between one region and other regions in Europe in a given year, including regional typologies, such as urban-rural. Three examples are presented below for Stockholm, Sweden; Ardèche, France; and Volos, Greece (all regional level, NUTS 3). The tool has the flexibility to use different indicators and different weighting criteria to compute composite indices, depending on the nature of the QoL priorities in the different territorial contexts. The tool can also be used to compare QoL indicators at different territorial scales – European, national, regional and local – depending on the availability of relevant data. Finally, the dashboard can also be applied to a single territorial context to measure and monitor trends in QoL over time in a given region, city, rural or urban area.

Benchmarking of the TQoL index in Stockholm, Sweden (urban region)



Territorial Quality of Life Index, the region in the European context

Comparative position 16 out of 1442

Good life enablers

Personal enablers

- Housing & basic utilities
- Healthcare
- Education

Socio-economic enablers

- Transport
- Digital connectivity
- Work opportunities
- Consumption opportunities
- Cultural assets

Ecological enablers

- Green infrastructure
- Protected areas

Life maintenance

Personal health and safety

- Personal health
- Personal safety

Economic and societal health

- Inclusive economy
- Healthy society

Ecological health

- Healthy environment
- Climate change

Life flourishing

Personal flourishing

- Self-esteem
- Self-actualization

Community flourishing

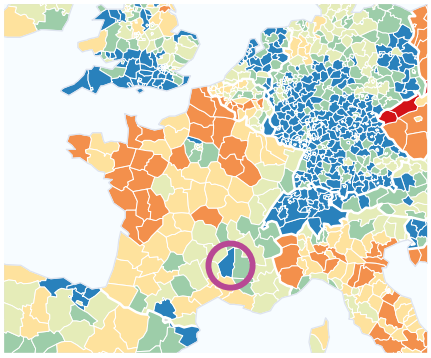
- Interpersonal trust (societal belonging)
- Institutional trust (good governance)

Ecological flourishing

- Ecosystems services and biodiversity wealth

In the European context, Stockholm has an outstanding TQoL (16th out of 1 442 NUTS 3 regions). This region shows very good performance in accessibility to basic services, in particular with regard to access to housing and education, good conditions for digital services, and a high availability of cultural and commercial services and retail opportunities. In addition, Stockholm is in a good position in relation to other European regions in terms of economic and societal health and ecological flourishing, with higher standards for green infrastructure.

Benchmarking of the TQoL index in Ardèche, France (rural region)



Territorial Quality of Life Index, the region in the European context

Comparative position 250 out of 1442

Good life enablers

Personal enablers

Housing & basic utilities

Healthcare

Education

Socio-economic enablers

Transport

Digital connectivity

Work opportunities

Consumption opportunities

Cultural assets

Ecological enablers

Green infrastructure

Protected areas

Life maintenance

Personal health and safety

Personal health

Personal safety

Economic and societal health

Inclusive economy

Healthy society

Ecological health

Healthy environment

Climate change

Life flourishing

Personal flourishing

Self-esteem

Self-actualization

Community flourishing

Interpersonal trust (societal belonging)

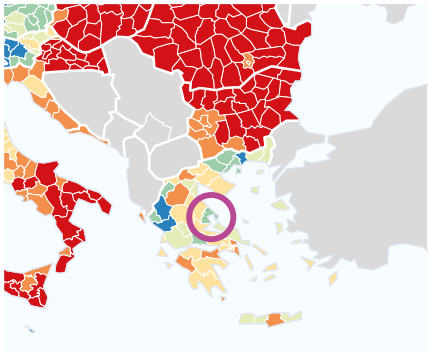
Institutional trust (good governance)

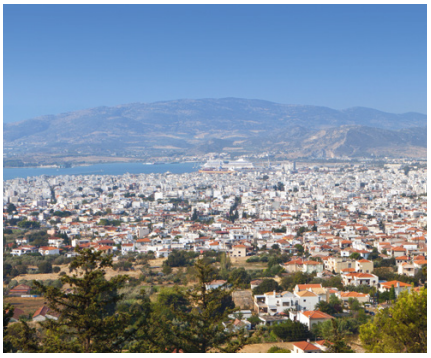
Ecological flourishing

Ecosystems services and biodiversity wealth

Ardèche is a region in the south-east of France. It shows an outstanding TQoL in the European context (250th among 1 442 NUTS 3 regions). This is because of its good performance in the environmental domain and with regard to personal health and safety aspects (low murder rate, low number of traffic deaths). In addition, it has good accessibility to basic services (health, education, housing, transport and jobs) and good digital connectivity. It also performs well in the key socio-economic domain of employment.

Benchmarking of the TQoL index in Volos, Greece (intermediate region)





Territorial Quality of Life Index, the region in the European context

Comparative position 566 out of 1442

Good life enablers

Personal enablers

Housing & basic utilities

Healthcare

Education

Socio-economic enablers

Transport

Digital connectivity

Work opportunities

Consumption opportunities

Cultural assets

Ecological enablers

Green infrastructure

Protected areas

Life maintenance

Personal health and safety

Personal health

Personal safety

Economic and societal health

Inclusive economy

Healthy society

Ecological health

Healthy environment

Climate change

Life flourishing

Personal flourishing

Self-esteem

Self-actualization

Community flourishing

Interpersonal trust (societal belonging)

Institutional trust (good governance)

Ecological flourishing

Ecosystems services and biodiversity wealth

In the European context, Volos has a good TQoL (566th among 1 442 NUTS 3 regions), which is above the European average. Volos is less prominent in terms of economic performance and aspects related to social vulnerability, such as the number of people at risk of poverty. It has also faced unemployment challenges, but performs well in the areas of service provision (healthcare and education), societal networks and interpersonal trust, ecological health and landscape. In addition, natural and cultural patrimonies are very prominent.

2.3 What does quality of life in Europe look like? What patterns emerge in the various dimensions of quality of life? How does my region perform in the European and national contexts?

Map 1 shows the territorial dimension of QoL in Europe (aggregate TQoL composite index) at regional level. This combines QoL enablers (conditions that exist in the territory and that improve QoL), QoL maintenance (as experienced by citizens, in relation to a healthy personal life, healthy economy and healthy environment) and life flourishing indicators (as experienced by citizens in relation to the fulfilment of personal aspirations, community flourishing and ecological flourishing) in one composite index.

The map shows a high QoL in the Nordic countries, in particular in Norway, Sweden and Iceland, but also in Finland and Denmark. Regions located in countries along the 'blue banana' perform well too, especially regions in south-western Germany, Switzerland, western parts of Austria, the Netherlands and the United Kingdom. Overall, the results reflect, to some extent, a centre-periphery pattern, mostly driven by the economic indicators related to health, education and the labour market in the European regions.

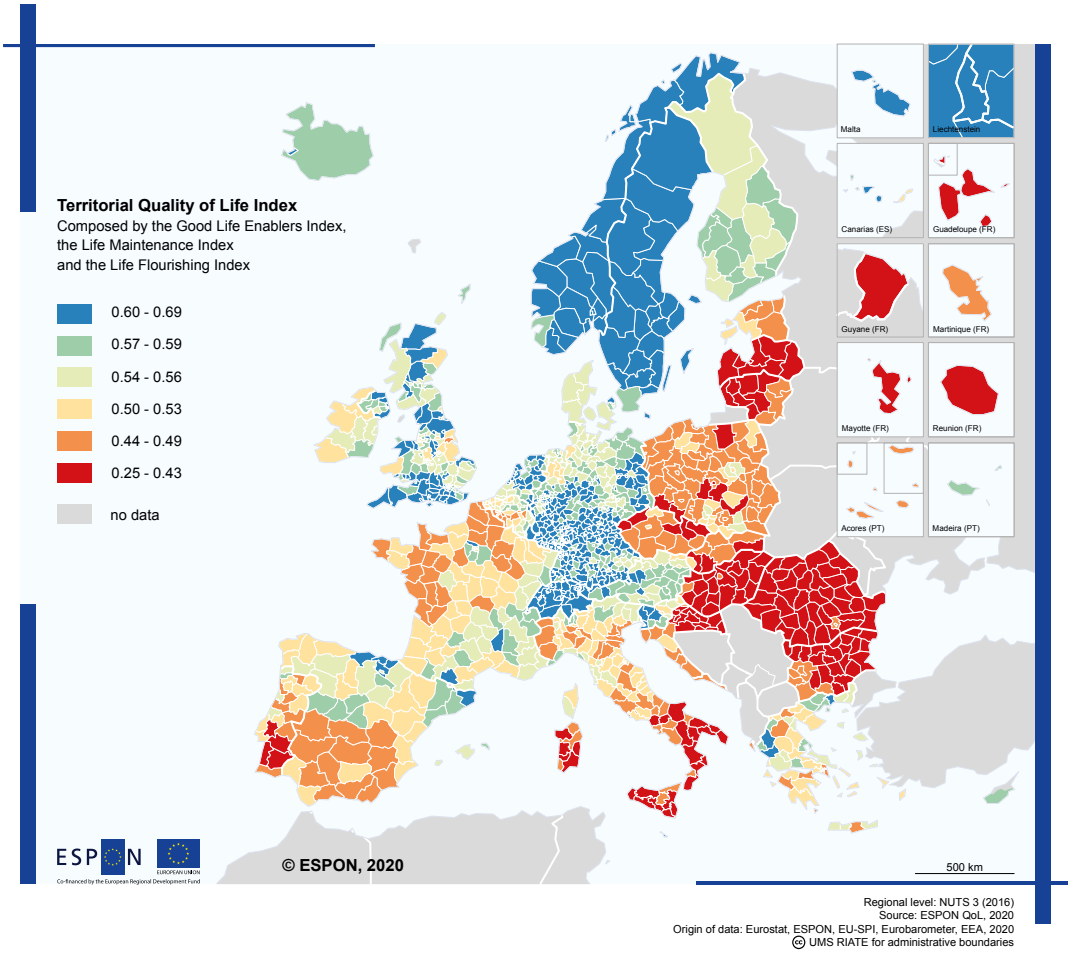
Interestingly, a relatively high QoL has been identified in several regions in the Mediterranean: the Basque Country, Cantabria, Catalonia, Madrid and parts of Castilla León in Spain; eastern Macedonia and Epirus in north-eastern and north-western Greece, respectively; Malta and Cyprus; Liguria, Friuli and Trentino in the northernmost coastal regions of Italy; Slovenia; and the Rhone Valley, French Alps and Occitanie region in south-eastern France.

In general, capital regions and large cities, such as Paris and Brussels, perform better, but, in addition, Warsaw and Krakow perform better than most urban areas in Poland, Lisbon and Porto, Prague, Bratislava, Vilnius and Zagreb.

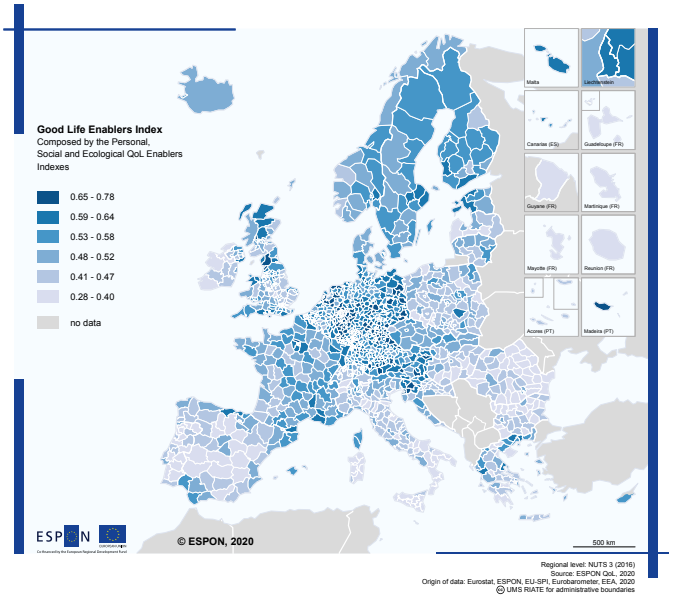
In addition to the composite map, separate maps (Maps 2–4) illustrate the European picture for each QoL dimension: good life enablers, life maintenance and life flourishing, respectively. Several peripheral regions and southern regions perform well in the environmental domains (e.g. ecological flourishing and green infrastructure) and in subjective aspects of life maintenance and life flourishing (e.g. interpersonal trust and self-esteem). However, the good performance in these sub-domains does not fully compensate for the lower performance related to socio-economic conditions. Some rural and intermediate regions have good overall performance driven by the environmental domains; these include the Ardèche region (south of Lyon) and Cantabria (in northern Spain).

The maps should be interpreted with caution. Indeed, these European maps at regional level (NUTS 3 regions) were affected by the limited range and, in some cases, inconsistent quality of statistical data available for the first pilot application. In particular, the limited availability of environmental indicators and subjective indicators linked to TQoL aspects of life maintenance and life flourishing means that additional caution is required when interpretating trends at European level. However, the maps are very valuable in demonstrating the application of the conceptual framework and in highlighting the consequences of data gaps, and therefore can contribute to stimulating data collection improvements to make QoL comparisons more reliable. Moreover, the application of the dashboard tool at local level in Barcelona, Wales and Vienna does not have this limitation, as a wide range of detailed data at local level were available and included in the tool.

Map 1
Quality of life in Europe at regional level (NUTS 3)



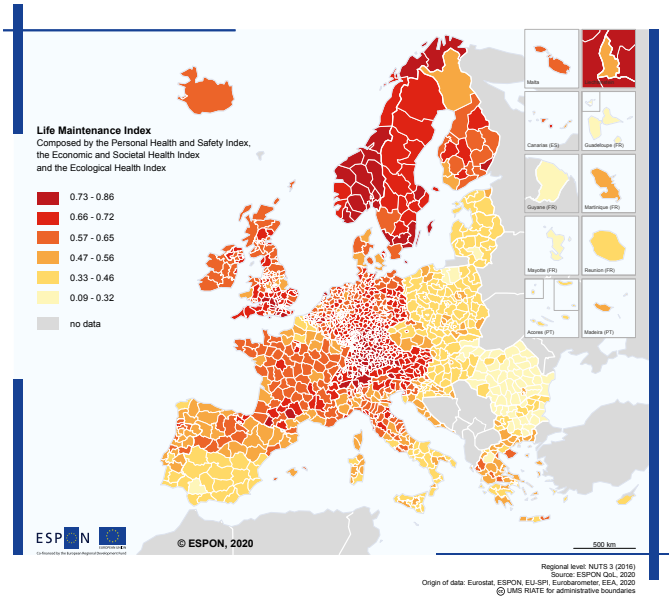
Map 2
Life enablers index (territorial conditions facilitating QoL) in Europe at regional level (NUTS 3)



The QoL enablers dimension reflects the pattern of differences in the accessibility versus remoteness of regions. Sparsely populated areas, inner peripheries and areas with low accessibility, mainly located in Spain, Italy, Romania, Bulgaria, some areas of Greece, France and Poland, seem to perform worse in the European context.

Overall, QoL enablers favour urban and central regions over peripheral rural and sparsely populated areas. Observed patterns related to this dimension are related to different territorial conditions of European regions, such as job opportunities. Therefore, European countries show a large diversity of situations, with some regions performing well and others lagging behind.

Map 3
Life maintenance index (healthy personal life, healthy economy and healthy environment) in Europe at regional level (NUTS 3)

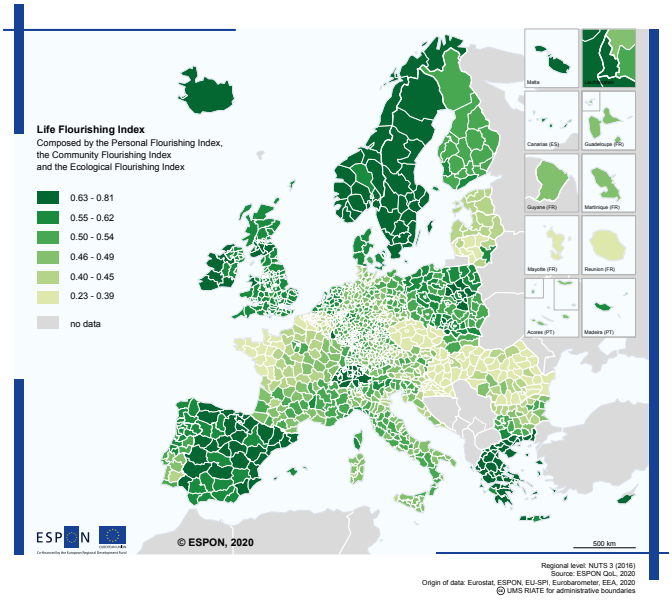


European regions show a large diversity of situations and differences in the life maintenance dimension. The top regions on this dimension are mainly located in southern Germany, Switzerland and Austria, as well as in southern England (United Kingdom), Norway, Sweden (Svealand, Småland and Scania) and Finland.

Low levels of personal health and safety have been identified in eastern Europe and the Western Balkan countries, which are driven by low life expectancy and high death rates as a result of traffic accidents and homicides. Economic health is low in central and eastern European countries, in particular in Romania and Bulgaria, and in the Mediterranean (Spain, Italy and Greece), indicating challenges related to unemployment, gender pay gaps and social aspects (high poverty rates, high rates of early school leavers and poor educational attainment).

Finally, indicators related to environmental health seem to be driven by the air quality and the impact of climate change, with major challenges in regions in the Netherlands, the United Kingdom, France, Spain, Portugal, northern Italy and in dispersed regions in central and eastern Europe.

Map 4
Life flourishing index (fulfilment of personal aspirations, community flourishing and ecological flourishing) in Europe at regional level (NUTS 3)



Overall, Mediterranean and Nordic countries, as well as Poland, the United Kingdom, Ireland and Switzerland, perform well with regard to life flourishing. Low personal flourishing patterns are seen in Belgium, north-west France and parts of Italy, and widely across central and eastern European countries (except Poland).

Low personal flourishing patterns are driven by low self-esteem (represented by high suicide rates and low levels of tolerance towards people with disabilities), observed mainly in Romania, Hungary, Slovakia, Czech Republic and the Western Balkans, but also in the Baltic countries, Finland and Austria.

Community flourishing is related to interpersonal trust, which is generally higher in Mediterranean countries but is also high in Poland and the Nordic countries, and trust in the institutions and quality of government, which is low in most central and eastern European countries and most Mediterranean countries.

Low ecological flourishing patterns are located mostly in France, Italy and the United Kingdom and also in parts of north-west Germany, described based on the value given to ecosystems.

Overall, this dimension must be interpreted with caution because of low data availability.

2.4
How can citizens and public participation be considered in selecting indicators and in the definition of QoL for a certain territory?

Applying the TQoL measurement methodology requires a place-based and citizen-centric approach. This means engaging citizens,[1] experts and policymakers in co-deciding what aspects of, why and how QoL should be measured to enable good life. The approach is 'citizen-centric' if a participatory process is used to engage citizens in the selection of indicators relevant to the place where they live. With this approach, a set of QoL indicators aims to reflect, at different territorial levels (EU, national, regional and local), a shared idea of QoL. However, the selection of indicators to measure QoL is not straightforward as it should reflect the values and priorities of those – institutions, researchers, private businesses, civil society organisations and citizens – involved in the process. In this context, the involvement of civil society is relevant to ensure the freedom of expression and enable citizens' empowerment with regard to policy decisions affecting QoL. To promote the widespread and validated application of QoL measurement, efforts are needed to scale up local experiences, building a European milieu for QoL policy innovation, for instance by the creation of a network of TQoL living labs to implement the approach across European regions and cities.[2]

The living lab concept (originally created for the business milieu) can also be applied to policy innovation. In essence, this is equivalent to seeing the measurement of TQoL as a product, service or application that the public sector (relevant authorities and statistical agencies) delivers in cooperation with the private sector, the third sector and citizens directly (e.g. engaging randomly selected panels in co-design and evaluation). The value created by TQoL living labs will be broader than the value for money considered in the business milieu, for instance the 'territorial sustainability value' includes all forms of value that determine the health and well-being of a population, not only in the short term but also in the long term.

3.
Reflections on COVID-19 and its impact on quality of life in Europe and its regions

The COVID-19 outbreak has brought into sharp focus that life is a matter of survival and does not just consist of growth and flourishing. Since March 2020, the essential foundations of people's QoL have been shaken by the pandemic. Although it is still too early to draw definitive conclusions about the impact of the pandemic on QoL, two main conclusions can be drawn. First, the pandemic has impacted all aspects of QoL to a significant degree. The primary QoL pillar 'good life' has proved to be very relevant to tackling the crisis: quality of housing, accessibility to public services (especially health services and digital connectivity) and the availability of green infrastructure have been key aspects in ensuring that QoL is maintained during the lockdowns implemented in response to the pandemic. Moreover, investment in these sectors is now seen as vital to build a safer and better life for all in the coming months and years. Second, the crisis has drawn public and political attention to the need to improve and ensure good QoL at territorial level and highlighted which domains are relevant to ensuring greater resilience of neighbourhoods and territories in a health, social or economic crisis. This information can be used in the future to establish a dashboard of factors relevant to tackling pandemic crises or other territorial shocks (e.g. the consequences of climate change).

Based on the case studies outlined in Section 5, the following aspects are noted as the most relevant for minimising the impact of the COVID-19 pandemic on TQoL.

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[1] The term 'citizen' in this context is defined as 'an inhabitant of a particular place'. This can be in reference to a village, town, city, region, country or whole continent (e.g. Europe), depending on the territorial context.

[2] A living lab is a systemic approach in which all stakeholders in a product, service or application participate directly in the development process (Bergvall-Kåreborn et al. 2009).

The need for better coordination in cross-border regions

Luxembourg: The countries in the Greater Region have introduced very different national and regional measures that have not been coordinated with their respective neighbouring countries. For people living in territories close to the border, the measures have resulted in huge restrictions on their mobility and also their cross-border freedom of movement, which has had negative impacts on their TQoL. As neighbouring countries and regions have taken very different approaches to adaption to new developments during the pandemic, existing rules frequently change, which is confusing for people who undertake daily or frequent cross-border activities. The need for better coordination in cross-border regions has been addressed at political level in order to implement consistent procedures across several sectors: access to healthcare, education, mobility and transport.

Nova Gorica - Gorizia: The COVID-19 pandemic has created a burden on the cooperation between the two public administrations, interfering with the joint planning of the metropolitan area. A demand for a dialogue at national level to harmonise decisions on the cross-border area has been requested by these cities.

Integration of quality of life in recovery plans and as a policy objective for territorial development

Wales: In the debate about the future direction of the post-COVID-19 recovery, the Future Generation Commissioner called for 'visionary ideas and transformative investment' in the recovery plan, which should include 'a new definition of prosperity, based on well-being, and a fairer, greener way of living'. Among the recommendations is a multi-million pound stimulus package to support the decarbonisation of Wales' housing stock – putting money into new low-carbon affordable housing and launching a national retrofitting programme to improve energy efficiency in existing homes – arguing that the benefits for people's health, the environment, jobs and Wales' housing stock would outweigh the estimated costs. In addition, investments to improve digital connectivity are being promoted, as thousands remain working from home, taking pressure off transport networks and reducing carbon emissions; support is also being provided for the Welsh government's commitment to fund transport improvements for pedestrians and cyclists. Resources should also be transferred so that Wales' natural habitats can be restored, with green corridors linking areas of the country and more investment in the new national forest being planted.

New opportunities and threats related to teleworking and digitalisation for different types of territories need policy attention

Italy inner areas: Many facets of social life, such as working, studying, shopping and general interactions, have been taking place online during the lockdowns. This has had some positive effects, including a reduction in the number of people commuting at rush hours and the over-crowding of public transport, reducing traffic congestion. However, these potential benefits require public administrations and private companies to reorganise the management of their operations. First, teleworking creates new disparities, with significant differences between those who are able to work online and those who carry out activities where their presence and physical contact with other people remain essential. The latter are more restricted in where they can work. Moreover, inner areas lag behind in the development of digital infrastructure, which causes problems such as low coverage, poor access and low quality of services, affecting people and businesses settled in those areas and preventing new settlements from being developed. In addition, personal, psychological and social implications related to the shift to teleworking and the quantity and quality of time devoted to work and to personal and family life need to be analysed.

In any event, this 'new normal' situation widens the range of spatial choices for living, settling, producing and consuming for many. This may create new opportunities for polycentric development, reversing the trend of population decline in inner areas because of the arrival of new inhabitants, for instance young families. Therefore, it is important to identify the needs and expectations of current and potential new inhabitants (such as access to different public services), which may change significantly owing to digitalisation.

4.
Five lessons learned from 10 case studies and examples of good practice in Wales, Barcelona and Vienna

In total, 10 case studies across Europe were carried out, taking into account different territorial contexts and covering a variety of regions: Vienna, Barcelona and Catalonia, Helsinki-Uusima, north-eastern Iceland, Luxembourg, Nova Gorica and Gorizia, Wales, the Netherlands, Latvia and the inner areas of Italy of Lazio and Monti Reatini. The selection includes two large capital cities (Vienna and Helsinki), regions with urbanised and rural areas (Catalonia and Wales), a remote region with a low population density (north-eastern Iceland) and remote areas (inner areas of Lazio and Monti Reatini). Two case studies highlight a cross-border context, although in different settings: Luxembourg, and Nova Gorica and Gorizia. Luxembourg is a highly integrated cross-border region with a long history of cooperation and intense commuting, whereas Nova Gorica and Gorizia are twin cities between Italy and Slovenia. Several case studies include regions undergoing industrial decline (Catalonia and Wales) and coastal regions (Wales, Barcelona and Helsinki).

The case studies addressed current practices in integrating QoL measurements in national, regional and local territorial development strategies, and tested the TQoL measurement methodology developed. The main lessons learned from the case studies and some examples of good practice are presented below.

10 CASE STUDIES

Five lessons learned

1. There is not a 'one size fits all' approach nor a TQoL concept that can be applied in all territorial contexts and at all geographical levels.
2. The ESPON conceptual map on TQoL is a very useful guide for measuring QoL and it can easily be adapted to different territorial contexts and geographical levels.
3. The citizen-centric approach is perceived as useful by the stakeholders interviewed in all case studies, but is difficult to apply in practice.
4. The territorial scale makes a difference for both the concept and the practical measurement of QoL:
   - At **European and national levels**, the main focus is comparing and benchmarking QoL across countries and regions. By doing so, it is useful to apply methods available at international level, such as the social progress indicators. However, this approach is less advantageous for policy monitoring, as the information available is often not detailed enough to analyse the impact of policy actions.
   - At **national and regional levels**, different approaches to policy monitoring are used. Often there is a strong focus on welfare and public service provision (as in Wales and Helsinki). Trade-offs between regional and thematic differentiation are mainly in favour of including more sub-domains and fewer data on local and regional levels (Iceland and Luxembourg).
   - At **urban and metropolitan levels**, approaches could more easily benefit from involving citizens in the definition of QoL, applying the concept to a functional urban region (as in Vienna).
   - **Sparsely populated regions** are a very special case as a result of market mechanisms leading to reduced service provision in some sectors. QoL in such a territorial context needs to capture differences that affect large parts of the territory, although only for a reduced number of people (as in Iceland).
   - The analysis of QoL in a **cross-border** context is very difficult, as different policies, stakeholders and national statistical and governance settings are involved. The ESPON conceptual map on TQoL can be particularly helpful in this context, providing a basis for a shared definition of QoL in cross-border areas.
5. The integration of QoL in territorial policies is closely related to the governance context and processes in which QoL is defined and monitored. Different levels of commitment can be observed. In three case studies – Wales, Finland and Barcelona – there are legal provisions to implement QoL measurement as a basis for policy making.

CASE STUDIES: EXAMPLES OF GOOD PRACTICES

Wales has the most comprehensive policy concept, implemented through legislation, institutional arrangements and a reporting system

QoL covers the full range of public services and many policy fields, including land-use planning and place making, transport, housing, decarbonisation, skills for the future, adverse childhood experiences, and health and wellness. The concept is introduced through comprehensive legislation, QoL-specific institutional arrangements and the setting up and operationalisation of a measurement and reporting system. Wales' scheme is particularly rich in legal and institutional provisions related to QoL (e.g. establishing a Future Generations Commissioner for Wales and a public services board for each local authority area with a collective duty). There is a high degree of acceptance of the concept as a policy instrument and multi-actor commitment.

In Wales, the Well-being of Future Generations (Wales) Act 2015 put in place a requirement on the Welsh government 'to establish national indicators and milestones to help assess progress towards achieving the seven well-being goals, and report on them annually'. The set of indicators was developed in 2015 ('The Wales we want'), with a national consultation on 'How do you measure a nation's progress?'. Many of Wales' indicators are expected to 'help tell a story of progress in Wales against more than one of the United Nations Sustainable Development Goals'. This is carried out through the publication of annual well-being reports.

Barcelona is the richest in terms of measurement frameworks and a data haven

The case study of Barcelona is the richest in terms of measurement frameworks such as reports, dashboards and data availability. The Open Data Barcelona portal includes more than 450 datasets that are regularly updated and available in different formats that can be downloaded. There is a very large data stock available and most of it is available at neighborhood level. This is the basis for a large number of initiatives that produce indicators related to QoL. Data are generated through official sources, surveys (including internet surveys) and the use of big data. From this wealth of information, several dashboards (e.g. performance tables per neighborhood by key indicators, the Barcelona Social Observatory and the BCN 0-17 Observatory, which monitor the lifestyles of children and young people) publish indicators and reports on a regular basis.

Vienna is the only case study with a dedicated QoL survey concept

Since 1995, a survey TQoL has been implemented in Vienna. The sample size is large (more than 8 000 people) and the survey is representative at the level of neighbourhoods and social groups. The definition of QoL was developed for the first survey but has been expanded, but always with the aim of enabling comparisons to be made over time. QoL is measured using a set of questions in different domains, such as education, housing, mobility or what the city has to offer. Each of the surveys (repeated approximately every 5 years) focuses on a specific sphere, such as 'work and the reconciliation of work and family life' in 2013. The overall aim is to gain information on the interviewees' individual and subjective assessments of a number of domains, mostly using a scale ranging from 1 to 5. Interviewees are asked about their individual satisfaction with different areas of their life and are also asked to provide a subjective assessment of the situation in the given context (residential area). The results reflect the 'image' of the respective locality among the residents.

The results of the surveys are used to support planning (e.g. of parking zones) and policy making. Elements of the extensive data gathered by the surveys are used in specific policy contexts (e.g. smart city strategy and gender equality monitoring). The ownership of the data lies with the municipality and the data are publicly available after a certain period of time.

Overall, the unique data stock generated since 1995, the focus on subjective data, the strong territorial approach and the use of the data for planning purposes can be considered good practice. However, no comparative data are generated for the surroundings of Vienna; therefore, the information is confined to the administrative borders and does not cover the functional urban area.

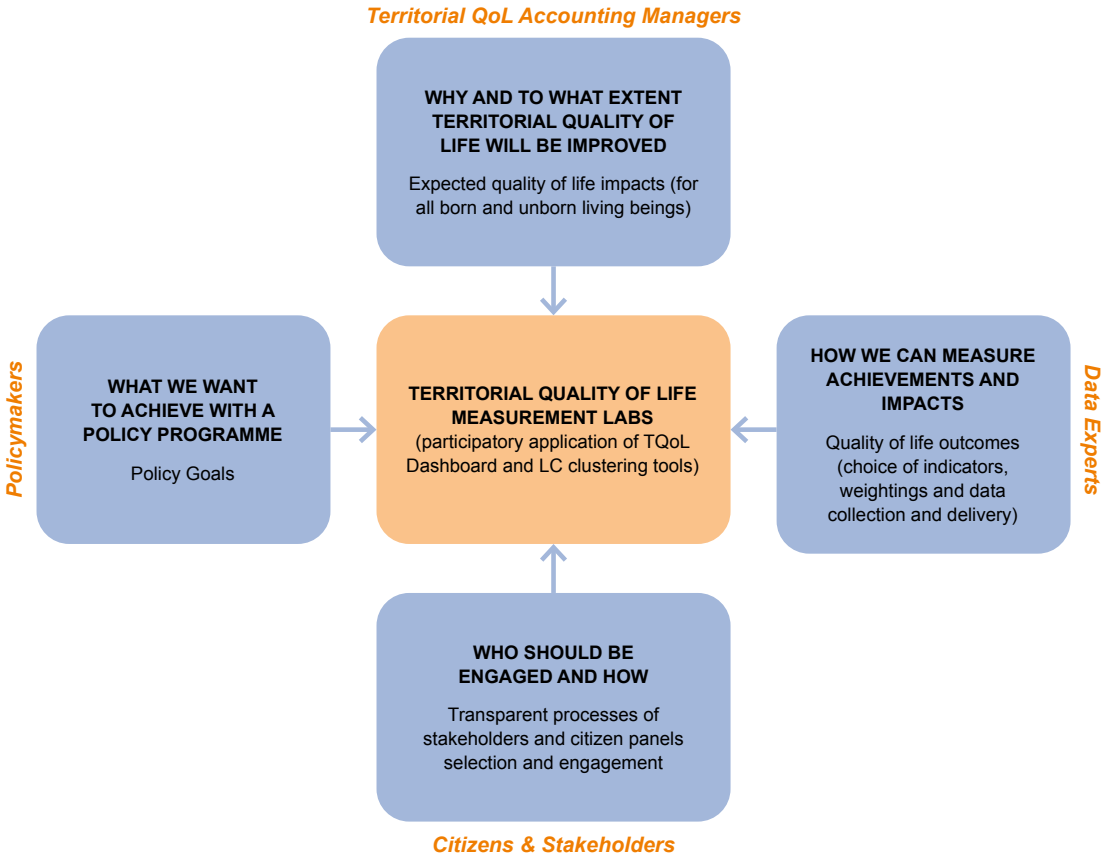
5. Guidance and recommendations for policymakers and practitioners

Taking into account the TQoL model, the analysis of QoL at European, regional and local levels and the results of the case studies, several recommendations emerged to support policymakers and citizens in measuring and improving QoL in their territories:

- **Member States**, as well as **regional and local authorities**, should (a) learn from and capitalise on the experiences and good practices of others when measuring and monitoring QoL in their territories; and (b) integrate TQoL measurement in territorial development plans (as in Wales), ensuring a good fit between planning objectives and the indicators used to measure QoL.
- TQoL should be incorporated systematically into **policy evaluation** to monitor the impact of EU and national funding on QoL inequalities at regional level, including (a) potential negative impacts of austerity policies on good life enablers (e.g. healthcare, education, transport, digital connectivity and housing); and (b) potential positive impacts of investments for facilitating economic recovery on QoL outcomes.
- QoL aspects should be included in the **post-2020 cohesion policy**. In this respect, the TQoL measurement could help to establish a new baseline, linking the cohesion policy with the United Nations SDGs. In particular, regional and local governments need a shorter list of relevant indicators – instead of the existing 231 SDG indicators – and the ESPON TQoL framework can be applied to narrow down such a list to a more operational set of indicators.
- A better **balance between subjective and objective indicators** should be achieved while measuring QoL. Indeed, subjective indicators are under-represented in most of the current practices. This would require an effort of further harmonisation and extension of the surveys already implemented by Eurostat and national statistical offices in Europe.
- A **citizen-centric approach** needs to be implemented in a systematic way. In particular, it is recommended that (a) citizens are involved in the definition of what TQoL means for them; and (b) citizens are involved in TQoL measurement co-design activities (not just in data collection), as this can help to improve the relevance of the indicators and the reporting of results.
- A TQoL **accounting practice** should be developed (this can be based on the application of the outcome-based accountability approach[3]) as a new pilot action to implement the Territorial Agenda 2030, supporting the creation of TQoL measurement labs in Europe. A TQoL measurement lab is a policy innovation milieu where experts from competent institutions (statistical agencies; universities; departments of national, regional and local governments; business associations; and NGOs) work together with citizens and stakeholders to define QoL priorities, test indicators, and monitor and evaluate QoL improvements. This concept is presented in Figure 2.
- TQoL accounting should be implemented by means of a **European platform** that can support the measurement of TQoL and the implementation of a citizen-centric approach across different territories in Europe. The platform should host a **network of living labs**. The ESPON programme could play a leading role in launching pilot experiences and facilitating the network development.

[3] Outcome-based accountability introduces outcome indicators for measuring the QoL of the whole population living in or visiting a territory. The measurement refers to the whole population, from the citizens' everyday lives perspective, not only that of the users of a certain service or facility.

Figure 2
Territorial quality-of-life accounting practice



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Annex 1
Indicators selected to fill the territorial quality-of-life framework at European level (NUTS 3)

Note: the indicators should be aligned with policy goals and consider the policy context in the region or territory.

Dim.	Dom.	Sub-dom.	What should indicators describe in this sub-domain?	Selected indicators based on data availability	Rationale of indicator choice	Limitations of selected indicators and improvements
QoL enablers	Personal sphere	Housing and basic utilities (b11)	WHAT: ▪ indicators of the availability and affordability (market prices and social housing) of houses and housing space ▪ indicators of the quality of the housing stock and built environment (e.g. with respect to planning standards) ▪ indicators of availability and affordability (prices and taxes) of energy, water supply and sewage, and waste collection and treatment services. WHY: The availability and affordability of good housing and basic utilities is a pre-requisite for choosing to settle/live in a place.	Sanitation conditions (percentage uncollected sewage and percentage sewage treatment)	It aims to represent household conditions regarding the sewage system	The indicators used focus on the quantity of services available because of data availability. More information is needed in relation to quality perception and satisfaction with household conditions (sanitation, heating and cooling systems, isolation and housing affordability).
				Households lacking adequate heating	It aims to represent the lack of basic utilities (heating)	
				Household overcrowding	It aims to represent living conditions (overcrowding)	
				Burdensome cost of housing	It aims to represent the affordability of housing	
		Health (b12)	WHAT: ▪ indicators of the availability, accessibility and affordability (prices and taxes) of health infrastructure and services ▪ indicators measuring the quality of the infrastructure and services. WHY: The availability or accessibility of hospitals and other healthcare facilities in a reasonable time threshold is a basic need for life.	Availability of hospital beds	It aims to represent the availability of basic health services such as hospital beds.	The indicators used focus on the quantity of services available because of data availability. More information is needed in relation to quality perception or satisfaction with health services accessibility.
				Accessibility of health services (pharmacies, doctors and hospitals)	It aims to represent the availability of health services using as a proxy the percentage of the area cathegorised as 'highly accessible' to pharmacies, hospitals and doctors.	
		Education (b13)	WHAT: ▪ indicators of the availability, accessibility and affordability (prices and taxes) of education infrastructure and services ▪ indicators measuring the quality of the infrastructure and services. WHY: The availability or accessibility of primary, secondary and high schools in a reasonable time threshold is a basic need for households with children to settle/live in a place.	Accessibility of education (primary and secondary schools)	It aims to represent the accessibility of education using as a proxy the percentage of the area cathegorised as 'highly accessible' to primary or secondary schools.	The indicators used focus on the quantity of services available because of data availability. More information is needed in relation to quality perception or satisfaction with the accessibility (commuting time, transport mode, etc.), availability and affordability (such as budget assigned to education) of educational centres.

Dim.	Dom.	Sub-dom.	What should indicators describe in this sub-domain?	Selected indicators based on data availability	Rationale of indicator choice	Limitations of selected indicators and improvements
QoL enablers	Socio-economic sphere	Transport (b21)	WHAT: ▪ indicators of the availability, accessibility and affordability (prices and taxes) of transport infrastructure and services ▪ indicators measuring the quality of the infrastructure and services. WHY: Transport infrastructure and services are a pre-requisite for people to move around and travel from/to their place of living.	Access to high-level transport infrastructure	It aims to represent the accessibility of transport services using as a proxy an index evaluating the accessibility of main transport infrastructures (airports, ports, highways).	The indicators used focus on the quantity of services available because of data availability. More information is needed in relation to quality perception or satisfaction with the accessibility, availability and affordability of transport infrastructures and services.
		Digital connectivity (b22)	WHAT: ▪ indicators of the availability and affordability (prices) of ICT connections ▪ indicators measuring the usage and quality of the ICT connection. WHY: Good broadband connection is a pre-requisite for accessing web and online interaction opportunities.	Efficiency of digital networks	It aims to represent the quaility of ICT connections.	More information is needed in relation to quality perception or satisfaction with the availability and affordability of ICT connections.
				Internet at home	It aims to represent the availability of the internet at home.	
				Online interaction with public authorities	It aims to represent peoples' willingness to use ICT connections.	
		Work (b23)	WHAT: ▪ indicators of the availability and accessibility of jobs (workplaces) ▪ indicators measuring the quality of the workplaces (e.g. safety and comfort, respect of urbanistic standards and maintenance). WHY: The availability or accessibility of job opportunities within a reasonable commuting time is a pre-requisite for participating in the labour market. The quality of workplaces influences the quality of employers'/employees' lives.	Labour market accessibility (accessibility of jobs)	It aims to represent the accessibility of jobs using as a proxy the number of people living within 4 hours of driving of their workplace.	More information is needed in relation to quality perception or satisfaction with the accessibility, availability and quality of jobs.
		Consumption (b24)	WHAT: ▪ indicators of the availability and accessibility of shops and other services (e.g. entertainment) and online delivery ▪ indicators measuring the quality of consumption places (e.g. safety and comfort, respect for planning standards and maintenance). WHY: The availability and accessibility of shops and service facilities within a reasonable time threshold influence the range of consumption choices. The same is true for online deliveries.	Accessibility of commercial services (shops and banks)	It aims to represent the accessibility of consumption using as a proxy the percentage of the area cathegorised as 'highly accessible' to shops and banks.	The indicators used focus on quantity of services available because of data availability. More information is needed in relation to quality perception or satisfaction with the accessibility, availability of consumption places (shops, entertainment, etc.).

Dim.	Dom.	Sub-dom.	What should indicators describe in this sub-domain?	Selected indicators based on data availability	Rationale of indicator choice	Limitations of selected indicators and improvements
QoL enablers	Socio-economic sphere	Public spaces (b25)	WHAT: ▪ indicators of the availability and accessibility of public spaces ▪ indicators measuring the quality of the maintenance of public spaces. WHY: Good public spaces facilitate social life.	Not relevant at NUTS 3 level	Not relevant at NUTS 3 level	Not relevant at NUTS 3 level
		Cultural assets (b26)	WHAT: ▪ indicators of availability, accessibility and affordability (prices) of cultural assets (e.g. heritage sites and museums) ▪ indicators measuring the usage and the quality of maintenance of the cultural assets. WHY: The availability and accessibility of cultural assets and options within a reasonable time threshold widen the range of QoL experiences.	Availability of cultural landmarks (UNESCO World Heritage sites)	It aims to represent the availability of cultural spots.	The indicators used focus on the quantity of services available because of data availability. More information is needed in relation to quality perception or satisfaction with the availability and afordability of cultural spots.
				Accessibility of cultural services (e.g. cinemas)	It aims to represent the accessability of cultural spots.	
	Ecological sphere	Green infrastructure (b31)	WHAT: ▪ at a wider territorial scale, this includes indicators of connectivity of green areas (e.g. woods and meadows) and the preservation of the agricultural mosaic ▪ at city level, this includes indicators of urban green areas (urban parks, street trees, gardens, etc.). WHY: The availability and accessibility of green spots are key for health, sport and relaxation activities in the city and for maintaining biodiversity.	Availability of natural areas	It aims to represent the availability of green areas (forests, herbaceous vegetation, wetlands and inland waters).	The indicators used focus on the quantity of natural areas available because of data availability. More information is needed in relation to quality perception or satisfaction with the availability and quality of green areas and the landscape.
				Farmland abandonment (percentage abandoned land)	It aims to represent the deterioration of land using as a proxy the percentage of abandoned land.	
		Protected areas (b32)	WHAT: Indicators of availability and accessibility of natural protected areas (i.e. areas where flora, fauna and landscapes are preserved, which makes protected areas different from other green infrastructure). WHY: Accessible protected areas augment opportunities to live in contact with nature.	Existence of protected areas	It aims to represent the availability of protected areas.	The indicators used focus on the quantity of protected areas available because of data availability. More information is needed in relation to quality perception or satisfaction with availability and affordability of protected areas.

Dim.	Dom.	Sub-dom.	What should indicators describe in this sub-domain?	Selected indicators based on data availability	Rationale of indicator choice	Limitations of selected indicators and improvements
Life maintenance	Personal health and safety	Personal health (m11)	WHAT: bjective and subjective outcome indicators of the status of personal health, nutrition and physical activity. WHY: Being in and perceiving good health – body and mind – status is a fundamental QoL ingredient.	Life expectancy at birth	It aims to represent the populations' health using life expectancy as a proxy.	More information is needed in relation to the satisfaction with or perception of personal health, nutrition or physical performance.
		Personal safety (m12)	WHAT: bjective and subjective outcome indicators of personal security and safety against accidents. WHY: Living in and/or perceiving that one lives in a safe place are also fundamental for people's QoL.	Standarised traffic accident death rate	It aims to represent road safety.	More information is needed in relation to personal safety perceptions of different aspects (while driving, at home, on the streets, etc.).
				Standarised homicide death rate	It aims to represent the population's general safety using the murder rate as a proxy.	
	Economic and societal health	Inclusive economy (m21)	WHAT: Mostly objective outcome indicators related to unemployment and employment rates, gender employment and salary gaps, job security, work dignity, disposable income distribution, inequality of financial/real estate wealth of households (personal savings, house ownership, etc.). WHY: ▪ An inclusive economy, low unemployment rates and high work security and dignity are key ingredients for people's QoL. ▪ The sub-domain does not include GDP or local productivity indicators, only aspects of earning and wealth distribution, equity and economic cohesion in the territory. Local productivity indicators are obviously important for local/regional development strategies, but the TQoL 'inclusive economy' indicators focus on the spillover of economic progress in terms of benefits for citizens. They are complementary to GDP measurement – an orthogonal, not a collinear, factor.	Household disposable income per capita	It aims to represent disposable income.	More information is needed in relation to job security, work dignity, personal savings, etc.
				Gender employment gap	It aims to represent job equity.	
				Unemployment rate	It aims to represent employment performance.	

Dim.	Dom.	Sub-dom.	What should indicators describe in this sub-domain?	Selected indicators based on data availability	Rationale of indicator choice	Limitations of selected indicators and improvements
Life maintenance	Economic and societal health	Healthy society (m22)	WHAT: Mostly objective outcome indicators related to social disparities (population at risk of poverty, working poor families, social security coverage and work–life balance). WHY: A healthy and not too unequal society influences QoL by reducing sources of stress and tensions.	People at risk of poverty rate	It aims to represent the financially vulnerable population.	More information is needed in relation to social security coverage and work–life balance.
				Early leavers from education (aged 18–24 years)	It aims to represent the educational level of the population.	
				Tertiary educational attainment (aged 25–64 years)	It aims to represent the educational level of the population.	
				NEET (aged 15–24 years)	It aims to represent the educational/labour level of the population.	
	Ecological health	Healthy environment (m31)	WHAT: Objective and subjective outcome indicators related to the status of the environment (air quality, water quality, noise pollution and soil contamination) WHY: A healthy environment prolongs life expectancy, reduces morbidity and influences people's subjective well-being	Air quality	It aims to represent air quality using as a proxy an air index that considers the main pollutants (particulate matter, nitrogen oxides and sulfur oxides).	More information is needed in relation to quality perception or satisfaction with air and noise pollution, water quality and soil contamination.
		Climate change (m32)	WHAT: Objective and subjective outcome indicators related to greenhouse gas emissions, decarbonisation of the economy (economic activities, public and individual transport, housing, etc.), vulnerability, presence and persistence of risks, adaptation and access to DRR policies and means (resources, plans and protection infrastructures), awareness and climate-friendly behaviour. WHY: ▪ Lower greenhouse gas emissions contribute to reducing climate change risks for present and future generations. ▪ Resilience to extreme events is fundamental to reduce peoples' vulnerability and exposure to the harmful effects of climate change. ▪ Climate-friendly awareness will result in more sustainable consumption habits and lifestyles.	Aggregate expected impact of climate change by 2070	It aims to represent the impact of climate change.	More information is needed in relation to quality perception or satisfaction with aspects related to decarbonation of the economy, the greenhouse effect and access to DRR policies, among others.
				Population covered by sustainable action plans	It aims to represent resilience to climate change using the population covered by sustainable action plans as a proxy.	

Dim.	Dom.	Sub-dom.	What should indicators describe in this sub-domain?	Selected indicators based on data availability	Rationale of indicator choice	Limitations of selected indicators and improvements
Life flourishing	Personal flourishing	Self-esteem (f11)	WHAT: Mostly subjective outcome indicators related to recognition and respect from others, self-respect and social tolerance (e.g. respect for minorities, disabled people and LGBT people). WHY: Self-esteem is a pre-requisite for living a good life.	Standardised suicide death rate	It aims to represent self-respect using the suicide death rate as a proxy.	More information is needed in relation to social tolerance for different aspects (e.g. minorities) and self-perception.
				Attitudes towards people with disabilities	It aims to represent tolerance to others using a survey about tolerance to people with disabiities as a proxy.	
		Self-actualisation (f12)	WHAT: ▪ mostly subjective outcome indicators of self-realisation of one's full potential (e.g. life satisfaction with jobs, mate acquisition, parenting, utilising, developing abilities and talents, and pursuing goals) ▪ objective labour market indicators of jobs matching with skills and competences. WHY: A purposeful life is also a key ingredient of a good life.	No data available at NUTS level	No data available at NUTS level	More information is needed in relation to quality perception or satisfaction with current jobs, civil status (single, in a relationship, married, etc.) and goals achieved.
	Community flourishing	Interpersonal trust/ societal belonging (f22)	WHAT: Objective and subjective outcome indicators of interpersonal trust (social capital). WHY: The sense of belonging to a community and interpersonal trust influences the QoL perception and experience.	Population believing that voluntary work is very important	It aims to represent the perception of community activities using the voluntary work perception as a proxy.	More information is needed in relation to quality perception or satisfaction about the local community.
				Population participating in associative activities (organisational work or participatory events)	It aims to represent a population's willingness to participate in community activities.	
		Institutional trust/ good governance (f21)	WHAT: Objective and subjective outcome indicators of institutional trust (governance). This category also includes active citizen participation as a means to build or rebuild trust in policy making. WHY: Trust in institutions is a key factor for the quality of community life.	European quality of government index	It aims to represent the quality of government.	More information is needed in relation to quality perception or satisfaction with government institutions (local, regional and national).
				Trust in the administration	It aims to represent a population's perception of the administration.	
				Quality and accountability of government services	It aims to accountability of government services.	
				Corruption index	It aims to represent the corruption level.	

Dim.	Dom.	Sub-dom.	What should indicators describe in this sub-domain?	Selected indicators based on data availability	Rationale of indicator choice	Limitations of selected indicators and improvements
Life flourishing	Ecological flourishing	Biodiversity wealth (f31)	WHAT: Indicators measuring the quantity and variety of ecosystems services in the territory, sustaining QoL perpetuation for all living species (biodiversity). WHY: ▪ The quantity and quality of ecosystem services is key to ecological flourishing, and indirectly to preserving peoples' health and reducing the risks of pandemic outbreaks. ▪ The world of living subjects offers a web of dynamics, living and unfolding creative relationships for constant development.	Invasive alien species	It aims to represent the ecosystem quality using the number of invasive alien species as a proxy.	More information is needed in relation to quality perception or satisfaction with biodiversity and policies aiming to preserve the ecosystems.
				Ecosystem services net value (supply – demand)	It aims to represent the value of ecosystems.	

Note: dim., dimension; DRR, disaster risk reduction; dom., domain; ICT, information and communications technology; LGBT, lesbian, gay, bisexual and transgender; NEET, not in education, employment or training; sub-dom., sub-domain.

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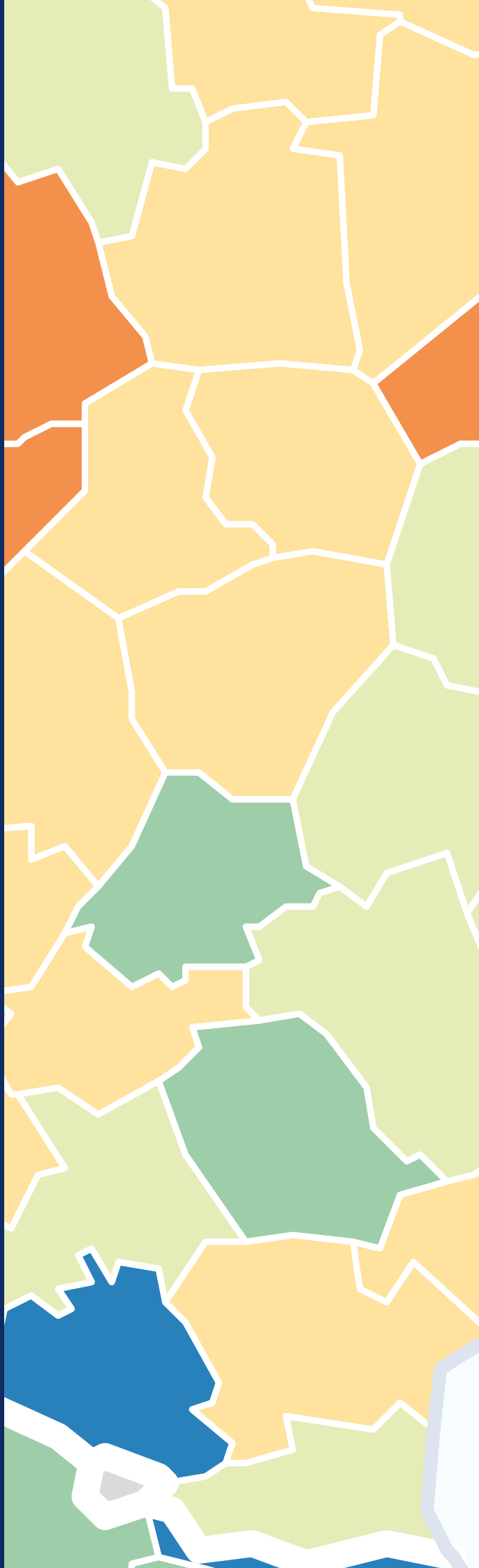

ESPON 2020

ESPON European Grouping of Territorial Cooperation (EGTC)
4, rue Erasme, L-1468 Luxembourg
Grand Duchy of Luxembourg
Phone: +352 20 600 280
Email: info@espon.eu
Website: www.espon.eu

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Editorial team:
Sandra Di Biaggio (ESPON EGTC) and Carlo Sessa
(The Institute of Studies for the Integration of Systems)

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